

INSEE

Gross National Income Inventory 2010

France - ESA 2010

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List of abbreviations and acronyms

ACOSS	Agence centrale des organismes de sécurité sociale - Central Agency for Social Security Organisations
ACPR	Autorité de contrôle prudentiel et de résolution - Supervisory and resolution authority
AIF	Alternative investment funds
AMF	Autorité des marchés financiers - Financial markets authority
ANPEEC	Agence nationale de participation employeur effort construction - National employer participation agency effort construction
ARS	Agence régionale de santé - Regional health agency
ASF	Association Française des données financières - French Association for Financial Data
BdF	Banque de France - Bank of France
BEA	Bureau of Economic Analysis
bn	Billions
BNC	Bénéfices non commerciaux - Non-commercial benefits
BoP	Balance of Payment
BPM	Balance of Payments Manual
CAF	Caisse d'allocations familiales - Family allowance
CFC	Consumption of fixed capital
CGE	Compte Général de l'Etat - General State Account
CIF	Collective investment funds
CIF	Cost, insurance and freight
CNAF	Caisse nationale des allocations familiales - National family allowance fund
CNAM	Caisse nationale de l'assurance maladie - National Health Insurance Fund
CNF	Comptabilité Nationale Française - French National Accounts
COFACE	Compagnie française d'assurance du commerce extérieur - French foreign trade insurance company
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption by Purpose
COM	Collectivité d'outre-mer - Overseas collectivity
CROUS	Centre régional des œuvres universitaires et scolaires - Regional Center for University and School Works
CSL	Compte satellite du logement - Housing satellite account
CSM	Conseil Supérieur de la Mutualité - Superior Council of Mutuality
DARES	Direction de l'animation de la recherche, des études et des statistiques - Direction of the animation of research, studies and statistics
DGFIP	Direction générale des finances publiques - General Directorate of Public Finance
DGTrésor	Direction générale du Trésor - Treasury Department
DOM	Département d'outre-mer - Overseas department
DREES	Direction de la recherche, des études, de l'évaluation et des statistiques - Research, Studies, Evaluation and Statistics Directorate
e.g.	for example
EAP	Enquête annuelle de production - Annual production survey
ECEIS	Enquête complémentaire sur les échanges internationaux de services - Complementary survey on international trade in services

EDP	Excessive Deficit Procedure
EEA	European Economic Area
ERE	Equilibre ressources emplois - Supply and Use Table
ESA	European system of accounts
ESA	Enquête sectorielle annuelle - Annual sector survey
ESANE	Elaboration des Statistiques ANnuelles d'Entreprise - Compilation of annual business statistics
etc.	et cetera
EU	European Union
FADN	Farm Accountancy Data Network
FDI	Foreign Direct Investment
FFSA	Fédération française de l'assurance - French Insurance Federation
FINESS	Fichier national des établissements sanitaires et sociaux - National file of health and social establishments
FISIM	Financial intermediation Services Indirectly Measured
FOB	Free on board
FTE	Full-time equivalent
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GIPT	Groupement interprofessionnel pour la valorisation de la pomme de terre - Interprofessional group for the promotion of potatoes
GNI	Gross National Income
GNIS	Groupement national interprofessionnel des semences et des plants - National interprofessional group of seeds and plants
GOS	Gross Operating Surplus
HBS	Housing Business Survey
HCF	Haut conseil de la famille - Family High Council
HFCE	Household final consumption expenditure
HORECA	Hotellerie, restauration, café - Hotel, catering, coffee
i.e.	that is to say
ICT	Intermediate Consumption Table
IEDOM	Institut d'émission des départements d'outre-mer - Issuing Institute for Overseas Departments
IES	Intermediate enterprise system
IFRS	International Financial Reporting Standards
Insee	Institut national de la statistique et des études économiques - The national institute of statistics and economic studies
IOT	Input Output Table
IRCEM	Institution de prévoyance et retraite collective des employés de maison - Pension plan and collective retirement for domestic workers
IT	Information Technology
KAU	Kind of Activity Units
MSA	Mutuelle sociale agricole - Agricultural social mutual
n.e.c.	not elsewhere classified

NACE	Nomenclature statistique des Activités économiques dans la Communauté Européenne - Statistical classification of economic activities in the European Community
NAD	National accounts department
NAF	Nomenclature d'activité française - French activity classification
NPISH	Non-Profit institutions serving households
ODAC	Organismes divers d'administration centrale - Various central government agencies
ODAL	Organismes divers d'administration locale - Various local government bodies
OECD	Organisation for Economic Co-operation and Development
OED	Observatoire économique de la Défense - Defense Economic Observatory
OFATS	Outward Foreign Affiliate Statistics
OFDT	Observatoire français des drogues et des toxicomanies - French Monitoring Center for Drugs and Drug Addiction
ONF	Office National des Forêts - National Office of Forests
PCG	Plan comptable général - General chart of accounts
PIM	Perpetual inventory method
PMU	Pari mutuel urbain - Urban mutual betting
R&D	Research & Development
RATP	Régie autonome des transports parisiens - Self-governance Paris transport
REGAFI	Registre des Agents Financiers - Register of Financial Agents
Rev.	Revision
RICA	Réseau d'information comptable agricole - Farm Accounting Information Network
RoW	Rest of the World
SAA	Statistiques agricoles annuelles - Annual agricultural statistics
SA-WDA	Seasonally Adjusted - Working Day Adjusted
SIREN	Système d'Identification du Répertoire des ENtreprises - Business Directory Identification System
SIRENE	Système d'Identification du Répertoire des Entreprises et de leurs Etablissements - Identification System of the Directory of Companies and their Establishments
SIRET	Système d'Identification du Répertoire des ETablissements - Directory Identification System institutions
SIRUS	Système d'immatriculation au répertoire des unités statistiques - Registration system in the directory of statistical units
SMIC	Salaire minimum de croissance - Minimum wage
SNA	System of National Accounts
SNCF	Société nationale des chemins de fer - National Society of Railways
SOES	Service de l'observation et des statistiques - Observation and statistics service
SUB	Supply and Use Balance
SURFI	Système unifié de reporting financier - Unified financial reporting system
TICPE	Taxe intérieure de consommation sur les produits énergétiques - Internal consumption tax on energy products
TIEA	Table of Integrated Economic Account
UCITS	Undertakings for collective investment in transferable securities
UESL	Union des entreprises et des salariés pour le logement - Union of companies and employees for housing
UHF	Unit of Homogenous Production

UNEDIC	Union nationale interprofessionnelle pour l'emploi dans l'industrie et le commerce - National labor union for employment in industry and commerce
URSSAF	Union de recouvrement des cotisations de sécurité sociale et d'allocations familiales - Union for the collection of social security contributions and family allowances
VAT	Value Added Tax

1 OVERVIEW OF THE SYSTEM OF ACCOUNTS

1.1 Introduction

The French National Institute of Statistics and Economic Studies (INSEE) is a Directorate-General of the Ministry for the Economy and Finance. INSEE's mission is to collect, analyse and disseminate information on the French economy and society across the entire French territory. INSEE operates with total professional independence.

In particular, INSEE is responsible of:

- population censuses and the publication of population figures of France,
- surveys of general interest to businesses or households,
- measure the main economic indicators that affect France (including national accounts),
- directories of the social security number, the general voter file, the national system identification directory and the directory of companies and their establishments (SIRENE) including the identifiers system of identification of the directory of companies (SIREN) of companies and SIRET of their various establishments.

In INSEE, the Department of Studies and Economic Syntheses (Dese) has for main mission to realise and to coordinate into INSEE works, accounts, macroeconomic studies and models to better understand the evolution of the French economy in its international environment.

1.1.1 Organisation of the accounts

In Dese, the National Accounts Department (DCN) at INSEE has a staff of around 60. It is responsible for the methods and concepts of the national accounts, especially with regard to interpreting the European ESA 2010 manual. It produces and disseminates the annual and quarterly non-financial accounts.

For the annual accounts, it produces syntheses and carries out statistical adjustments. It coordinates the work of the national accounting units outside the National Accounts Department (Business Statistics Directorate at INSEE, Directorate-General of Public Finances - DGFIP, Directorate-General of the Treasury, Banque de France). The data from these units are semi-prepared in the form of intermediate systems. However, the financial accounts are produced almost entirely by the national accounts department at the Banque de France. The INSEE National Accounts Department validates these semi-prepared data and the Banque de France data. It then performs the transition to the national accounting concepts and makes any corrections to the method based on the data from these intermediate systems. It also carries out assessments based on various sources, especially on consumption.

A specific team, distinct from the annual accounts team, produces quarterly accounts. They are constructed from short-term economic indicators taken from many different bodies. These indicators are calibrated by performing econometric relations on the annual accounts. Quarterly accounts and annual accounts are entirely consistent in gross value terms.

The National Accounts Department coordinates contributions from national accounting units outside the Department. Overall, there are about 175 national accountants, or approximately 130 full-time equivalents, not to mention the producers of the primary sources and the various indicators. The organisation of the Department is given below.

1.1.2 Organisation of the National Accounts Department

Head of Department

Alongside the Head of Department:

1. one deputy in charge of conceptual expertise on public administration accounts;
2. one deputy in charge of sustainable development goals and specific projects;
3. one person responsible for secretarial duties in the Department.

Four divisions whose roles and composition are described below.

Note that the main sources from outside the Department are given for each unit, to make comparisons easier between different organisations, as it is sometimes difficult to distinguish between those who are preparing primary sources and those who are actually compiling the national accounts. Staff numbers are given in brackets for each division.

“Concepts, methods and assessment of national accounts” division (8 FTE)

The division is responsible of Interpretation of SNA 2008 / ESA 2010, improvements to assessment methods, studies on the quality of accounts, experimental assessments, backcasting of the national accounts and IT assistance and support. The division is also responsible of dissemination of national accounts: putting tables, publications and other documents online, preparing international questionnaires and dissemination to international bodies and updating national accounts data in INSEE’s non-specialised publications.

“Integration of goods and services” division (16 FTE)

The division is responsible of Input-Output Table in current and constant price based on supply and use balances (ERE, “équilibres ressources-emplois”) from INSEE’s Business Statistics Directorate, and other units of the National Accounts Department. The division is also responsible for estimating household consumption based on many sources (professional bodies for instance) and some from satellite accounts. The division produces the employment accounts bases on censuses, administrative sources and business statistic surveys for changes, distribution by sector and working time. The division is responsible for calculating purchasing power parities based on price readings taken by the INSEE Ile-le-France Regional Office or by external contributors (for construction and equipment), administrative sources used by INSEE (Demographic and Social Statistics Directorate) covering civil service salaries.

“General integration of accounts” division (16 FTE)

The division is responsible of the integrated economic accounts. It is responsible for the non-financial accounts of each institutional sector as well as the non-financial balance sheets. The General Government accounts are based on the intermediate system from Directorate-General of Public Finances, the non-financial enterprise accounts are based on Annual Business Statistics (ESANE) produced by the INSEE Business Statistics Directorate and various sources for wealth. The financial corporation accounts are based on intermediate systems from the Banque de France and the Prudential Supervisory and Resolution Authority (ACPR). The division is also responsible of household and NPISH accounts. The main information for household accounts comes from a summary of accounts from different sectors.

“Quarterly accounts” Division (15 FTE)

The division is responsible of quarterly input-output tables and quarterly sector. The quarterly accounts associate each item in the national accounts with a monthly indicator or quarterly, available quickly and corresponding as closely as possible to the concept and scope of the accounting item. This association is carried out at an intermediate level of aggregation: for example, production by automobile, the exports of agricultural products, etc. The basic idea of quarterly accounts is to "adapt" the indicators to the annual accounts: by estimating the statistical relationship between the annualized indicator and the account in the past corresponding, assuming that this relationship observed on annual data remains relevant when it is applied to quarterly data.

1.1.3 Approaches used

All the data, accounts and tables made public by INSEE under the heading of the national accounts form what is called Base 2010 - ESA 2010 is the conceptual framework of reference. In principle, Base 2010 does not diverge from ESA 2010.

To measure GDP, the French national accounts apply the three approaches – production, income, expenditure – used traditionally. They are used in a complementary rather than a competing fashion, the aim being to find convergence as early as the choice of statistical sources. However, on the one hand production and income approaches and on the other hand demand approach are used autonomously until the final synthetic phase, where an input and output table is used as an accounting framework.

The GNI notified to the European commission is different from the GNI published by INSEE (Base 2010). The GNI notified to the Commission is corrected for drug activities not included in the published GNI and for the territory of Mayotte, which only obtained the status of Outermost Region (OR) of the European Union in 2014. Mayotte is included in the published GNI and excluded from the GNI notified to the European Commission (for 2010).

The objective of this inventory is to be as close as possible to the notified GNI while remaining close to the way national accounts are compiled. As the adjustment for drug-related activities is based on the use of specific sources, it is possible to accurately determine the impact of drug-related activities in all national accounts transactions. This is why we were able to integrate this activity into the inventory. On the other hand, the activities in the territory of Mayotte are not distinguished in all sources of information. Mayotte is somehow implicitly taken into account. We have therefore decided to present the figures including Mayotte in the GNI inventory and in the Process Table and to provide a relatively detailed estimate of Mayotte's contribution to the GNI (see 1.1.4 Economy territory and the chapter 7). In the rest of the document, the aggregates are by default consistent with the “GNI of the inventory” in Table 1.1.

Table 1-1 From the notified GNI to the GNI published, EUR (billion), 2010

	GNI	GDP
GNI notified to the European Commission	2 039.8	1 999.0
+ Mayotte	1.5	1.5
GNI of the inventory	2 041.3	2 000.5
- Narcotic Drugs	2.0	2.0
GNI published (base 2010)	2 039.3	1 998.5

1.1.4 Economic territory

The economic territory covered by base 2010 of the national accounts includes, under § 2.05 of ESA 2010:

- Metropolitan France
- French Overseas Departments (DOM)
 - Guadeloupe,
 - French Guiana,
 - Martinique,
 - Réunion,
 - Mayotte.

The Overseas Collectivities (COM) do not form part of the economic territory. Admittedly, in some of these territories, military bases (in French Polynesia) or scientific bases (in the French Southern and Antarctic Lands) have been established. They are then included in the French economic territory in the capacity of territorial enclaves (ESA 2010, § 2.05-d). The exclusion of the COM from the economic territory conforms to the European Commission's decision of 26 July 1991 (91/450/EEC, Euratom) and to the European Commission regulation 109/2005.

The case of Mayotte requires clarification (*see Annex to Chapter 1: the weight of Mayotte in the GNI presented in the inventory*): Mayotte became a French department in 2011 and only obtained the status of Outermost Region (OR) of the European Union in 2014. Consequently, Mayotte has only been included in GNI, which is submitted to Eurostat for budgetary needs (with GNI largely determining the apportionment of Member States' contributions to the EU budget), since 2014, and not for the previous years. On the other hand, the national accounting data themselves have included Mayotte throughout the entire period covered by the national accounts (1949 to the present day). Consequently, the economic activity of Mayotte has been incorporated into the estimation of the GDP and GNI published on insee.fr throughout the entire 1949-2015 period.

However it is possible to provide the impact of Mayotte in the different approaches of GDP. The contribution of Mayotte in the production approach of GDP (*see table 1.2*) reached 0.07% of the GDP, or EUR 1.5 billion. The output of goods and services is estimated at EUR 3.8 billion and the intermediate consumption at EUR 2.3 billion.

Table 1-2 Contribution of Mayotte in the production approach of GDP, 2010

	Billion	%
	of EUR	of GDP
Output of goods and services at basic price	3.8	0.2
- intermediate consumptions	2.3	0.1
= Gross value added	1.4	0.1
+ taxes on products	0.1	0.0
- subsidies on products	0.1	0.0
= contribution to GDP Gross domestic product (GDP)	1.5	0.1
+ Balance of the primary incomes with the rest of the world	0.0	0.0
= contribution to Gross national income (GNI)	1.5	0.1

In the income approach (see table 1.3), the impact on GDP mainly concerns compensation of employees (EUR 0.9 billion) and to a lesser extent gross operating surplus and mixed income.

Table 1-3 Contribution of Mayotte in the income approach of GDP, 2010

	Billion	%
	of EUR	of GDP
Compensation of employees (domestic)	0.9	0.0
+ gross operating surplus	0.3	0.0
+ mixed income	0.3	0.0
= Gross domestic product at factor cost	1.5	0.1
+ taxes on production and imports	0.1	0.0
- subsidies on production and imports	0.1	0.0
= contribution to GDP Gross domestic product (GDP)	1.5	0.1
+ Balance of the primary incomes with the rest of the world	0.0	0.0
= contribution to Gross national income (GNI)	1.5	0.1

In the expenditure approach (see table 1.4), the impact mainly concerns final consumption of households (EUR 0.8 billion) and government (EUR 0.8 billion).

Table 1-4 Contribution of Mayotte in the expenditure approach of GDP, 2010

	Billion	%
	of EUR	of GDP
Final consumption expenditure	1.7	0.1
of private households	0.9	0.0
of non-profit institutions serving households	0.0	0.0
of the government	0.8	0.0
Gross fixed capital formation	0.2	0.0
Changes in inventory and acquisitions less disposals for valuables	0.0	0.0
Balance of exports and imports	0.0	0.0
+ Exports	-0.2	0.0
- Imports	0.3	0.0
= contribution to GDP Gross domestic product (GDP)	1.5	0.1
+ Balance of the primary incomes with the rest of the world	0.0	0.0
= contribution to Gross national income (GNI)	1.5	0.1

1.1.5 Supervision and control systems

During each accounting campaign, the French national accountants carry out a systematic analysis of revisions to the series that they produce. This analysis, which is a key feature of quality control, has several aims:

- to identify revisions that are abnormal in scale and/or important;
- to determine the origin of these revisions: changes made by source data producers, change in national accounting method, etc.
- to ensure that these revisions are indeed justified and, if not, to adjust the spontaneous estimates to ensure the coherence of the series over time.

These systematic analyses of revisions and their origins provide a detailed diagnostic of the reliability of the different sources supplying data and thus help to identify the main risks associated with the quality of the source data used by the national accountants. Agreements are in place to govern exchanges of information (content and data transmission timetable) between the national accountants and their main suppliers: DGFIP, Banque de France, Balance of Payments, etc. These agreements are reviewed regularly (about every 5 years). Exchanges of data inside INSEE (especially with the Business Statistics Directorate) are not covered by agreements as they are systematic exchanges of information, framed in some cases through formal meetings (e.g. ESANE-National Accounting steering committee), in order to guarantee the quality and timely delivery of data.

Particular attention is also paid to documenting production processes in very comprehensive methodological notes. This systematic documentation is a fundamental component of the process of monitoring the quality of accounts: it requires a rigorous and transparent description of the production process, and makes knowledge transmission easier when staff are moved around, something which

happens often: most national accountants are in post for about 3 to 4 years before joining other Directorates within INSEE or moving into one of the Ministerial Statistical Offices.

There is no specific documentation of the supervisory controls on national accounts performed by management, neither regular procedure to prepare quality reports on statistical sources. Nevertheless, many notes are written by the staff during the validation period of the accounts. They address all the most important points of control and allow performing internal audits on the collection and the compilation of our sources.

The methodological notes for the national accounts for base 2010 are available on the national accounts page of the website. The methodological notes for base 2005 and base 2000 can also be accessed *via* the INSEE website. The INSEE website also gives access to the notes on analyses of revisions published every year.

1.1.6 Several audits performed on the national accounts production process deserve to be described

Audit 1 - Until 2010, business statistics used by national accounts was produced in a device comprising a first step of producing aggregates according to the own concepts of business statistics and a second element, the SIE (Système intermédiaire d'entreprises), putting these data in coherence with national accounts concepts. The SIE allowed, for example, the conversion of exercise durations (e.g. reduction to one year of the results of legal units declaring income earned within a 18-month period), the reclassification of tax items reported as expenses in business accounts, corrections in sector classifications, field supplements, etc. In 2010 (exercise accounts 2008) a new statistical device for structural business statistics, ESANE, was set up to replace the previous system, including much of the processing previously performed in the SIE but not all of it. Additional tools were implemented by national accountants to perform former SIE operations that had not been taken aboard by Esane. Different audits in this context were conducted by INSEE:

Audit 1.a. - An audit on relationships between ESANE and national accounts was conducted in 2012-2013. This audit focused on both the adequacy of Esane data to the needs of national accounts and the evaluation of the efficiency of the data transmission device from the business statistics directorate toward the national accounts department on several aspects: communication, respect of delivery timetables, quality of estimates and impact on the working methods of national accounts. This audit led firstly to the establishment of a steering committee comprising the management of the business statistics directorate and the national accounts department, so that the needs of users and producers constraints are shared and taken into account. It was also decided to develop a new device, IECN (ESANE national accounts interface) to secure the processing carried out by the national accountants downstream ESANE. IECN is supposed to facilitate the homogeneity of treatments on business statistics by various national accountants, to improve traceability, to ensure a better sharing of information between producers and users of business statistics.

Audit 1.b - In 2015-2016, the business statistics unit in charge of producing Esane conducted a self-assessment of its production process, under the supervision of the Cosaq (Strategic Committee for Quality at INSEE) that had mandated that self-assessment, especially on the validation phase of the data. This self-assessment helped to set up an action plan to improve the monitoring of transmissions to the national accounts department, to better monitor controls as well as the resolution of detected problem and the methodological documentation.

Audit 2 - Comparative study of data on wages paid by firms, produced firstly by business statistics (Esane) and secondly by ACOSS (Central Agency for Social Security Entities). Esane relies on company statements to the tax authorities; ACOSS produces employment and wages statistics derived from firms statements to public agencies collecting social contributions. National accountants rely on the ACOSS data to produce the provisional annual account (first accounts published in N for the year N-1, *see the chapter 2*) and the quarterly accounts of non-financial corporations, then on Esane for semi-final (first revision of accounts published in N for the year N-2) and final accounts (second revision of accounts published in N for the year N-3), a production process that generates revisions between provisional and semi-final accounts. The aim of this study was to understand the differences on both levels and growth rates of payroll measured by both sources. The study has allowed targeting field differences and differences in statistical methods. In particular, it challenged some methodological choices made in Esane to impute statements to companies for which no statement is available, but that are deemed economically active. The imputation method was modified following this audit.

Audit 3 - The department of national accounts carried in 2014 a study on the quality of the allocation of legal units into national accounts institutional sectors. Indeed inconsistencies between the fields of various registers may generate double counting or omissions (when a legal unit is considered part of two institutional sectors simultaneously, or is absent of all registers). A focus group was created to try to resolve upstream the issue of allocating each legal unit to the relevant institutional sector. The group has set up a process to accurately determine the outline of the institutional sectors. As a result for every legal unit an institutional sector variable was introduced in the SIRUS directory (Statistical register of the business statistics directorate) to ensure a consistent institutional sector recording between different sources. This variable is updated annually using information from the SIRENE administrative directory (legal register for all enterprises and their establishments), lists of financial units held by the Bank of France, the AMF (Financial Markets Authority) or the general directorate of public finances.

The SIRUS directory is intended to be the reference in terms of the field of business statistics and is the statistical complement to the computer system for the directory of businesses and their establishments (Sirene). Sirius is intended to be the reference for all applications and statistical sources in the enterprise domain.

It contains all the market production units and all the employer units to constitute the reference for business statistics and employment statistics. For all these units, it records characteristics such as turnover, sector classification, number of employees, thanks to updates from a multitude of sources.

This directory includes both legal units (legal units, establishments) and statistical units (profiled enterprises and their contour, groups and their contour). Profiling a group of companies consists in defining the statistical observation structure of the group that seems the most appropriate for an observation of economic activity that is situated in the "real" sphere. This operation, called "profiling", is justified in the case of large groups present in several fields of activity. The units thus defined are called profiled enterprises: they are groupings of legal units of a group enjoying a certain autonomy of decision, in particular for the allocation of their current resources.

Sirus has for objective:

- the pooling of statistical units;
- the management of business-related statistical information;

- the measurement of the statistical burden on enterprises (the time spent by enterprises responding to surveys to complete questionnaires).

It also makes new information available and exclusively accessible through this directory. For example, in December 2008, a decree implementing the French law on the modernisation of the economy (LME) defined the enterprise using the definition of the European regulation and calls for the classification, for the purposes of statistical and economic analysis, of enterprises into four categories (microenterprises, small and medium-sized enterprises, mid-cap enterprises, large enterprises).

1.2 The revisions policy and the timetable for revising and finalizing the estimates; major revisions since the last version of the GNI Inventory

Each year, in May of year N, the accounts for N-3 (definitive), N-2 (semi-definitive) and N-1 (provisional) are updated. Years N-4 and earlier, which are considered definitive are not revised again until the next benchmark revision. The two last benchmark revisions was in 2014 for the reference year 2010, and in 2018 for the reference year 2014. The next benchmark revision will be in 2024 for the reference year 2020.

Quarterly accounts are updated each time they are published; these revisions can potentially affect all the data series, given that a calibration-fitting econometric method is used to produce the quarterly estimates. Almost the three quarters of these revisions (2.3%) were due to conceptual innovations in ESA 2010, in particular the capitalisation of R&D (causing a rise of 2.1%). The remaining revisions can be explained by new data sources, improvements in the methodology and changes introduced to allow for the lifting of reservations outlined in ESA 1995. When ESA 2010 was implemented, the GDP (2010 base) was revised upwards by 3.2% for 2010 (table 1.5).

Table 1-5 Sources of revisions of GDP level for 2010

	Billion of EUR	% of GDP
GDP in 2005 base	1 936.7	100.0
Impact of ESA 2010	45.5	2.3
R&D created by market producers	27.7	1.4
R&D created by non-market producers	13.8	0.7
Expenditure on weapons systems	3.3	0.2
Expenditure on databases	1.2	0.1
Development of output for own final use	0.5	0.0
Non-life insurance	0.2	0.0
Allocation of output of the central bank	0.6	0.0
Other	-1.8	-0.1
Impact of alignment with structural business statistics	8.6	0.4
Methodological adjustments	9.7	0.4
Household activity in leasing services	5.0	0.3
Recording of tax on car registration certificates	1.7	0.1
Other	2.0	0.1
GDP in 2010 base	1 998.5	103.2
Narcotic drugs	2.0	0.1
GDP (of the inventory)	2 000.5	3.3

1.3 Outline of the production approach

The characteristic integration of the French approach comes within the very process of preparing the accounts, since for example goods, services accounts, and institutional sector accounts have many starting points in common. At the same time, the information sources on which the national accounts are based have a pronounced institutional character. This does not mean that the entire national accounts information system consists of data from institutional units: to take an example from the opposite direction, simply consider the statistical data on foreign trade in goods, which, for the non-EU share of trade, are based on identifying cross-border movements of goods. In addition, there are sources that are specific to each approach to GDP. In addition, all types of source are used in monitoring and validation procedures. The main sources for the accounts, however, concern institutional units and they are for the most part common to all three approaches.

These are by nature accounting sources, which traditionally means that income that is made available to economic agents can be measured. The availability of balance sheet data, which are required by accounting standards, is fundamental in the process of evaluating capital formation – in fixed assets and in changes in inventories – as operated by the institutional sectors.

The business statistical information system, which is based on corporate accounting data, also contains a large section on the sales that enterprises achieve. The breakdown of these sales by activity and product is the starting point for approaching GDP by production. In France, goods and services accounts use the framework of an input-output table, and sales by product are also decisive in producing product balances (supply and use balances) which are able to validate the expenditure approach when it is autonomous, or which can be used instead of this approach if need be.

The sum of the gross value added by all institutional sectors is the basis for the calculation of gross domestic product, with the balance of taxes less subsidies on products forming the intermediate step in this calculation. According to the concepts of ESA 2010, the gross value added is measured at basic prices (table 1.6). This means that the figures for gross value added by the various activities and for their output exclude taxes on products, but include any production subsidies they receive. Taxes and subsidies on products are those that depend on the volume or value of the goods produced or sold.

Table 1-6 GDP production approach, 2010

	Billion of EUR	% of GDP
Output of goods and services at basic price	3 544.8	177.2
- intermediate consumptions	1 741.9	87.1
= Gross value added	1 803.0	90.1
+ taxes on products	213.2	10.7
- subsidies on products	15.7	0.8
= GDP: Gross domestic product	2 000.5	100.0
+ Balance of the primary incomes with the rest of the world	40.8	2.0
= GNI: Gross national income	2 041.3	102.0

The diversity of information systems across the institutional sectors

Registers

Public registers managed mainly by the Prudential supervisory and Resolution Authority (ACPR) give an exhaustive description of financial corporations (S.12), excluding the case of financial auxiliaries.

An overwhelming majority of General Government units (S.13) are identified through registers managed by fiscal authorities (the Directorate general of public finances - DGFIP).

Besides all enterprises (not only corporations but also unincorporated enterprises, associations, foundations), whatever their size, are legally required to register in an exhaustive file, SIRENE, from their creation. SIRENE, which contains information on the main activity of each unit, thus allows identifying:

- financial auxiliaries classified in S.12 that cannot be identified through registers managed by financial authorities;
- the tiny minority of units classified in S.13 that cannot be identified through registers managed by DGFIP: these are mainly corporations - or groups of corporations engaged in the same economic activity - controlled by central or local government units that national accountants have considered to be non-market on a case-by-case analysis;
- units classified in S.15.

Units identified in SIRENE that are not classified in S.12, S.13 or S.15 are allocated to S.11 if they are corporations or to households (subsector S.14A if they are unincorporated enterprises). The subsector S.14A is divided between:

- S.14AA: non-financial unincorporated enterprises
- S.14AB: financial unincorporated enterprises.

Main data sources

Financial corporations (excluding financial auxiliaries) are legally obliged to give detailed information to financial authorities that INSEE uses to build national accounts.

All public units identified through DGFIP registers must send their accounts each year to DGFIP: these accounts are used by INSEE to build national accounts.

All other economically active entities, whatever their size, are legally obliged to send their annual accounts to DGFIP each year, an information used by INSEE to compute national accounts. However, this constraint is binding only for market producers since the calculation of their income tax is based on these accounts. For non-market producers (S.15 units) that pay no income tax this obligation remains theoretical and national accounts thus prefer to use information from both surveys and administrative data (records on social security contributions paid by these entities on wages paid to their workers).

The other exception is that very small units may opt for very simplified fiscal obligations, provided their turnover does not exceed a very low threshold (in practice these units cannot have employees): in that case national accounts only have information on their turnover, their taxes being calculated as a fixed proportion of their turnover.

Of course, accounts transmitted to DGFIP by market units do not cover the case where they decide to hide their activity to avoid taxation. In most cases, national accounts use the accounts transmitted to DGFIP and add an estimate of the value added generated by hidden activities based on fiscal audits (*see 1.7 Overview of the allowances for exhaustiveness*).

However, there are exceptions to this general method, for sectors where a large part of the economic activity is assumed to be hidden or/and where other data are assumed to give a good estimate of total activity. National accounts then prefer to use other data to give an overall picture of the corresponding fields of activity. This is notably the case for the agricultural activities, the production of housing services, the production of social work services. In particular, in agricultural activities, most quantitative data are available. The Ministry of Agriculture and also some specialised offices (FranceAgriMer, the National Forestry Fund and inter-professional bodies) provide quantitative data on surface areas, yields and quantities of all vegetable products, on animal products, on slaughtering (corrected for external trade), on gross domestic output of livestock, on wine production, on fuelwood, on fishing and aquaculture.

Transition from the basic data sources to national accounts concepts

As described above national accounts heavily rely on accounting data provided by either private or public entities. This is made possible by the fact that the accounting framework is very precisely defined by law for all units.

The private accounting framework (“Plan comptable général” - PCG) provides very detailed information that allows computing not only corporations’ income but also their output, intermediate consumption and value added. All units, whatever their size, must transmit to DGFIP accounts elaborated according to PCG concepts: for the smaller units the account recording is somewhat simplified but the information provided remains sufficient for national accounts. Enterprises that produce accounts according to other accounting frameworks - e.g. IFRS for quoted corporations - must also transmit to DGFIP accounts elaborated according to PCG concepts.

For public units the situation is the same: public accounting standards derived from the PCG are legally binding. They follow accrual accounting principles (even though they may deviate in some cases from national accountants’ concepts and practice).

Of course, conceptual corrections are necessary to make private and public accounting data consistent with the ESA 2010 framework. Corrections are for example necessary for the valuation of inventories, the recording of flows linked to financial leasing, the recording of expenditures on software or R&D, the recording of expenses on insurance premiums, FISIM... They are performed by national accountants on accounting sources.

Moreover an important work of reconciliation of data between different sources has to be implemented and it has an impact on the estimate of value added and hence GNI. For example, the amount of taxes collected on corporations by fiscal authorities that is given by public accounts data does never spontaneously match with the total amount of taxes paid by corporations that can be found in their accounts. The basic assumption is that corporations record the right figures for their total expenses but do not necessarily allocate them correctly between different subcategories: taxes and intermediate consumption for example. Hence, to bring taxes paid and collected consistent between different institutional sectors, the discrepancy between taxes paid and collected is typically reported on the

estimate of intermediate consumption of corporations, which has a direct impact on the estimate of their value added.

1.4 Outline of the income approach

The income approach is closely intertwined with the production approach since they are both based on the same sets of private and public accounting data. Hence, the income approach can be adequately described in a similar way as the production approach as described above. In particular, the same adjustments for exhaustiveness are performed on both approaches in a consistent way for the corresponding variables: output and intermediate consumption in the production approach, wage compensation, taxes, subsidies, gross operating surplus and mixed income in the income approach.

GDP and GNI can be calculated as follows in terms of the income generated within France:

Table 1-7 GDP income approach, 2010

	Billion of EUR	% of GDP
Compensation of employees (domestic)	1 040.2	52.0
+ gross operating surplus	588.1	29.4
+ mixed income	122.4	6.1
= Gross domestic product at factor cost	1 750.7	87.5
+ taxes on production and imports	295.1	14.8
- subsidies on production and imports	45.3	2.3
= GDP: Gross domestic product	2 000.5	100.0
+ Balance of the primary incomes with the rest of the world	40.8	2.0
= GNI: Gross national income	2 041.3	102.0

For the activities for which exhaustive accounting data are available the different components of the income approach (gross operating surplus and mixed income, wage compensation, taxes and subsidies on production) are given by accounting data. The adjustments made by national accountants to accounting data aim at:

- 1) ensuring the transition from private or public accounting frameworks to national accounts concepts and
- 2) reconciling data obtained through the different accounting sources (this is especially true for taxes that are registered as receipts in public accounts and as expenses in private accounts, but the amounts do not spontaneously match between the different sources; the same remark is of course valid for subsidies).

An exception is however made for non-market activities (performed mainly by General Government entities or NPISH): gross operating surplus cannot directly be obtained from accounting data since output is calculated as the sum of production costs, including the consumption of fixed capital (CFC). Gross operating surplus is thus equal to CFC and is obtained in a statistical way based on the permanent inventory method (PIM): basically gross operating surplus is derived from past investment flows by types of assets and assumptions (shared at international level) on the service life of various types of assets.

The case of other activities (i.e. when accounting data do not provide an exhaustive picture) is very different: output and value added are estimated through survey data in the production approach. Other

data sources are used to estimate wage compensation (surveys or administrative data from public entities collecting social security contributions paid on wages) as well as taxes and subsidies on production (public accounting data). Gross operating surplus and mixed income are then estimated as a residual.

1.5 Outline of the expenditure approach

The availability of detailed and exhaustive accounting data for almost all economically active units - a feature rather specific to France - lead French national accountants to give a dominant role to the production approach and the income approach (which, once again, are closely intertwined). Hence, the components of the expenditure approach are in practice adjusted to ensure the consistency between the gross value added given by the expenditure approach and the one given by both the production and the income approach.

The expenditure approach is based on autonomous sources, different from the accounting data used for the production approach and the income approach. These various sources are VAT records, regulation authorities (e.g. for gambling or communication services), social security reimbursements (for health services), car registration files, surveys on retail trade performed by subcontractors, employers' federations for a given sector (e.g. clothing)...

The expenditure approach can be summarise as in the table 1.8:

Table 1-8 GDP expenditure approach, 2010

	Billion of EUR	% of GDP
Final consumption expenditure	1 601.2	80.0
of private households	1 085.4	54.3
of non-profit institutions serving households	39.6	2.0
of the government	476.2	23.8
Gross capital formation	437.9	21.9
GFCF on dwellings	131.3	6.6
GFCF on intellectual property products	95.9	4.8
Other GFCF	213.8	10.7
Changes in inventory and acquisitions less disposals for valuables	-3.2	-0.1
Balance of exports and imports	-38.6	-1.9
+ Exports	520.5	26.0
- Imports	559.1	27.9
GDP: Gross domestic product	2 000.5	100.0
+ Balance of the primary incomes with the rest of the world	40.8	2.0
= GNI: Gross national income	2 041.3	102.0

An analysis is also performed to ensure that the levels of consumption in the expenditure approach are globally consistent with data of the Households budget INSEE survey. The conclusion is rather positive but the figures cannot be exactly the same: the scope of products covered by the survey does not exactly match the scope of households' final consumption in national accounts, the survey gives estimates by product and/or consumption function of the consumption of residents whereas the level of consumption in national accounts for a given product of consumption function covers consumption on the economic territory (either by residents or non-residents).

An analysis of corporations' balance sheets is also performed to ensure that the level of GFCF in the expenditure approach is globally consistent (not product by product, but by large groups of products) with private accounting data. The estimates of changes in inventories stem from private and public accounting data (after adjustment for ensuring a valuation consistent with national accounts concepts).

The expenditure approach relies on the balancing of supply and use product by product on a relatively detailed scale (139 products) within the supply and use table framework, both in current prices and in previous year prices.

Balancing is performed in a manual way and not in an automatic one: balancing is often ensured by adjusting intermediate consumption estimates (P.2) since direct information on the breakdown of intermediate consumption by product is rather poor, but this is not systematic. When deciding to adjust or not intermediate consumption to ensure balancing on a given product, national accountants check whether this would lead or not to breaks in the structure of input-output tables. If yes, they rather try to adjust other operations – often GFCF since the breakdown of GFCF by detailed product is not that precise.

Although the expenditure approach is adjusted to be made consistent with the total gross value added of institutional sectors derived mainly from accounting data (but also surveys for farming, forestry and fishing, or for social work) in the production and income approaches, it plays a significant role in the transition to GDP. For that purpose, theoretical VAT rates (that are given by fiscal experts from the ministry of finances) are applied to intermediary and final uses of the expenditure approach, differentiated by product and by type of use. So the way the total value added is allocated by product and type of use in the expenditure approach has an incidence on GDP and hence on GNI.

1.6 The balancing or integration procedure, and main approaches to validation

As already mentioned above, the availability of accounting data for all enterprises justifies that national accountants give a dominant role to the production. The income approach is deducted or combined with the production approach because the accounting sources used in the national accounts provide data on both production and factors of production. Nevertheless, the income approach presents a strong adjustment for the gross operating surplus (*see table 1.9*). This adjustment corresponds to imputed rents whose production and symmetrically final consumption expenditure are estimated from surveys. In this particular case, the income approach is balanced on these data estimates of production and final consumption expenditure.

The expenditure approach is adjusted to ensure consistency with the two other approaches. However, this adjustment is not “blind” since the compilation process relies on the balancing of supply and use product by product at a detailed level (139 products). Hence, in the annual production process national accountants have to ensure that this detailed balancing is reasonably feasible: if not, it might be the sign that something went wrong in the compilation process of the accounting data used for the production and income approaches. In that case, national accountants have to go back to these primary data to check that there are no errors.

There is no automatic balancing. Moreover, all the manual balancing is performed after expertise.

Table 1-9 Balancing adjustments in the different approaches of GDP, 2010

	Billion EUR	% of GDP
Production approach		
Output of goods and services at basic prices	-0.1	0.0
Intermediate consumption	-0.4	0.0
Taxes less subsidies on product	0.0	0.0
GDP	0.3	0.0
Expenditure approach		
Final consumption	0.0	0.0
Gross fixed capital formation	2.4	0.1
changes in inventories	0.6	0.0
Acquisitions less disposals of valuables	0.0	0.0
Exports	0.0	0.0
Imports	0.0	0.0
GDP	3.0	0.1
Income approach		
Compensation of employees	0.0	0.0
Gross operating surplus	180.6	9.0
Mixed income	0.1	0.0
GDP	180.7	9.0

1.7 Overview of the allowances for exhaustiveness

The estimates for exhaustiveness in the GDP is disaggregated into N-classes. For the GDP, the total estimate of EUR 118.3 billion (5.9% of GDP) is divided into N1 (hidden activities by units without an existence in law), N2 (illegal production, drugs, prostitution), N3 (household's own-account production), N4 (units not present in business statistics), N6 (hidden activities by legal units) and N7 (benefits in kind and production for own final use of market entities that are not capitalised in their accounts).

Table 1-10 Estimates for exhaustiveness in the GDP, 2010

	Billion of EUR	% of GDP
N1: hidden activities by units without an existence in law	15.8	0.8
N2: illegal production, drugs, prostitution	2.6	0.1
N3: household's own-account production	4.7	0.2
N4: units not present in business statistics	2.4	0.1
N6: hidden activities by legal units	51.9	2.6
N7: benefits in kind and own-account production (market entities*)	40.7	2.0
TOTAL	118.1	5.9

(*): that are not capitalised in their accounts.

Since the dominant approaches are those based on accounting data transmitted to fiscal authorities, it is essential that national accountants ensure a proper (although necessarily imperfect) adjustment for the case of entities that hide their activity to avoid taxation.

In the case of activities hidden by legal units, national accountants base their allowances for exhaustiveness on the analysis of fiscal units. National accountants have detailed (firm-level) information and can identify:

1. legal units that were audited and those that were not audited and
2. for audited units, the hidden activity (as discovered by fiscal auditors) as a percentage of declared activity.

Of course, national accountants do not base their calculations on the total amount of fraud since not all types of fraud correspond to hidden activity. Moreover considering the average rate of hidden activities on audited legal units for a good proxy of total hidden activity as a percentage of total declared activity would exaggerate the total amount of hidden activities: fiscal auditors target their efforts on firms for which fraud is more likely. Hence, an econometric model is used to control for this selection bias and avoid overestimating the amount of hidden activities. Of course, these hidden activities also result in VAT fraud. The total allowance of exhaustiveness linked to hidden activities of legal units (including VAT fraud) amounts to EUR 51.9 billion in 2010 (type N6). This adjustment is directly performed on the combined production and income approaches. The fact that the expenditure is adjusted to the value added of the combined production and income approaches after adjustment of hidden activities by legal units ensures that the expenditure approach takes into account these hidden activities.

Of course, the case of legally declared units does not encompass all cases of hidden activities since households may engage in market activities or employ people without registering. Adjustments thus have to be performed to take accounts of this form of hidden activities. However, the information available is small in the absence of fiscal audits. These adjustments are based on sector analysis produced by experts or economic research and cannot be considered to be as precise as those based on the analysis of fiscal audits. They amount to EUR 15.8 billion in 2010 (type N1) and are concentrated on specific sectors (construction of dwellings, food services, domestic services...).

The second largest amount of allowances for exhaustiveness is the N7-type one: EUR 42.3 billion. A large part corresponds to own-account production by firms, especially on software and R&D. For software, the estimate is based on the exploitation of detail wage-data that allow to identify workers that may spend (part of) their worktime on developing software for internal use. For R&D, the estimate is based on the R&D survey (consistent with OECD provisions regarding this issue). A smaller part of the total N7-type adjustment corresponds to income in kind and is mainly based on data from the labour cost survey.

The N3-type adjustment amounts to EUR 4.9 billion in 2010 and corresponds to the own-account production of households (mainly farming products and construction services).

The N4-type adjustment amounts to EUR 2.4 billion in 2010 and correspond to legally registered and declared activities but that are not included, for various reasons, in structural business statistics. This is in particular the case of food services produced for students in universities, and of bets on horse races.

The N2-type adjustment amounts to EUR 2.6 billion in 2010: it covers the case of production and trafficking of narcotics, and smuggling of tobacco. No adjustment is made for prostitution since it is assumed to be already covered by N6-type adjustments obtained through the analysis of fiscal audits. No adjustment is made either for smuggling of alcohol given the relatively low level of taxes and duties on alcohol consumption in France. Adjustments made to take into account narcotics (both production and trafficking)

and smuggling of tobacco are based on a demand-side approach using data from a public office specialised on these matters, the French Observatory on narcotics and addictions (Observatoire français des drogues et toxicomanies - OFDT).

1.8 The transition from GDP to GNI

Data sources for the transition between GDP and GNI come mainly from the Banque de France, which is by law responsible for the production of balance of payments estimates.

The balance of payments used to establish the benchmark year level (2010) is consistent with the BPM5. National accounts department makes all the adjustment to follow ESA 2010. The transition from the GDP and the GNI is showed in the table 1.11.

Table 1-11 From the GDP to the GNI, 2010

	Billion of EUR	% of GDP
GDP : Gross domestic product	2 000.5	100.0
+ Compensation of employees received from the rest of the world	13.4	0.7
- Compensation of employees paid to the rest of the world	1.0	0.1
- Taxes on production and imports paid to the Institutions of the EU	2.0	0.1
+ Subsidies granted by the institutions of the EU	8.9	0.4
+ Property income received from the rest of the world	135.9	6.8
- Property income paid to the rest of the world	114.4	5.7
= GNI: Gross national income	2 041.3	102.0

To estimate the wages and salaries paid in France to non-residents, the balance of payments uses data provided by social security funds, which provide information about the payroll subject to contributions (chosen to estimate item D.11) and the contributions paid to the social security funds (chosen to estimate item D.12). The sum of the two provides an estimate of the compensations paid to the rest of the world (item D.1). No specific adjustments made on these data since social security funds' accounts are kept on an accrual basis, hence consistent with ESA 2010.

To estimate the wages and salaries paid from outside France to French residents working outside France, the balance of payments relies on "mirror" data, i.e. estimates of compensations paid to French residents, which are provided by the balances of payment of other countries.

Regarding flows associated to taxes and subsidies on production (D.2 and D.3), the estimates are based on public accounts data. Budgetary data (based on a cash approach) are restated to make them compliant with the principle of recording on an accrual basis.

Regarding property income flows (D.4), the primary data comes from Balance of Payments (BoP) estimates. Corrections are however applied to these data to ensure consistency with ESA 2010 concepts. For example, these corrections aim to ensure that property income flows are recorded before taxes, that interest flows are recorded on an accrual basis, or that property income flows associated to collective investment funds do include retained earnings.

RoW estimates do not include estimates of withdrawal of income for resident households owning a secondary residence abroad (or symmetrically non-resident households owning a secondary residence in France). The investigations carried out in 2014 and 2015 in the framework of cross-cutting reserve I on "cross-border property income" in ESA 1995 showed that not accounting for these flows (which probably leads to a slight overestimation of French GNI) had a very small impact as a percentage of total GNI.

Reinvested earnings are estimated by exploiting the accounts of French and foreign direct investment enterprises. However, although the dividends of the invested resident enterprises that are paid out to their direct non-resident investors and, above all, the dividends of the invested non-resident enterprises that are paid out to their resident direct investors over a given year are known, at least in part, during the weeks following their payment, this is not the case for reinvested earnings, whose amounts cannot be determined until the French companies have published their annual accounts and made known the results of their subsidiaries and foreign holdings. On the whole, therefore, direct investment earnings are not definitively established until around 15 months after the end of the reference year. They are initially subject to a statistical estimation.

The balance of payments survey on the foreign subsidiaries of French enterprises is based on the social accounts of direct foreign subsidiaries. Consequently, it does not report on cases of indirect holdings. However, the balance of payments carries out systematic research on the reinvested earnings of the indirect subsidiaries of the major French groups on an annual basis by comparing French direct investment earnings abroad with the net current (consolidated) results of the group's share declared by French groups in the framework of the OFATS (outward foreign affiliates) survey. The two approaches produce very similar orders of magnitude.

1.9 Main classifications used

Production approach

The classification used in the production approach is basically the Nace rev.2, i.e. the one given in ESA 2010. More precisely, production accounts by homogenous branch of activity are elaborated at the A*129 Nace rev.2 level. The only deviation to standard aggregate levels of Nace rev.2 is that French national accountants choose to distinguish market and non-market branches within A*129 levels given different principles of valuation of output for market and non-market activities. This is relevant only for ten A*129 branches (the ones where there is a significant non-market activity). Hence, in practice, production accounts are elaborated for 139 branches (A*139 level in national classification). In the specific case of households' consumption the compilation level is far more detailed (between groups and classes of Nace rev.2).

Annual production accounts are typically published at the A*88 and A*38 levels that are defined at the international level. Quarterly accounts are published at a less disaggregated level since they rely on less detailed data sources. However they do not use the internationally-defined A*21 level, but a national aggregate level in 17 branches (A*17) that seem more appropriate for economic analysis given the structure of the French economy. The table below gives the bridge table between A*38 and A*17.

Table 1-12 Bridge table between A*38 and A*17

A*17	A*38
AZ	A
C1	CA
C2	CD
C3	CI, CJ, CK
C4	CL
C5	CB, CC, CE, CF, CG, CH, CM
DE	B, D, E
FZ	F
GZ	G
HZ	H
IZ	I
JZ	JA, JB, JC
KZ	K
LZ	L
MN	MA, MB, MC, N
OQ	O, P, QA, QB
RU	R, S, T, U

Production and income approach

The classifications used for operations and institutional sectors are typically the ones given in ESA 2010. The only deviation is that French national accountants distinguish a few subsectors within the households considered as producers:

- S.14A Unincorporated enterprises, of which:
 - S.14AA non-financial unincorporated enterprises
 - S.14AF financial unincorporated enterprises
- S.14B “Pure” households: this case covers the activity of households as employers or as producers of real estate services.

Expenditure approach

The classification by type of non-financial assets used in the expenditure approach is the one given in ESA 2010. The classification by products is the A*139 derived from Nace rev.2 already described for the production approach. As regards the publication levels, they are the same as those described for the production approach (A*88, A*38, A*17). The classifications used for the transition from GDP to GNI are the ones given in ESA 2010.

1.10 Main data sources used

There is no statistical information system that can be applied indifferently to all units within the scope of the national accounts. For this reason it is convenient to use a breakdown of the economy into institutional sectors to highlight the specific features of each source.

Non-financial corporations and unincorporated enterprises

Those units whose main function is to produce non-financial market goods and services are non-financial corporations and (non-financial) unincorporated enterprises.

Companies constitute institutional units in their own right and form the non-financial corporations sector. Unincorporated enterprises, however, are not distinguished from the households to which they belong and they therefore belong, indirectly, to the household sector. However, in the statistical observation system used by the French national accounts, enterprises in these two categories are first known through the declaration that they make to the tax authorities, which is picked up in ESANE, the annual business statistics system (*see 10.1.1 Esane*).

Financial corporations and unincorporated enterprises

The units whose main function is to provide finance and insurance undergo a prudential check organised by the law. They are required to provide the monitoring bodies with accounting documents, and these are the main source of information for the national accounts. Financial auxiliaries and financial unincorporated enterprises, for their part, are monitored via ESANE.

General Government

The main function of General Government is the redistribution of income and wealth, and also the provision of some non-market services. Information on units in this sector is easily accessible: for those that are under the supervision of elected assemblies, this information is largely in the public domain; other information is under the responsibility of the administration. All in all, information on General Government is all centralised by public accountants, and is transmitted to the national accounts department.

For calculating GDP, a knowledge of the operations of General Government is necessary not only to evaluate the contribution of the relevant units to the value added of the economy, but also to put a figure on the operations – taxes and subsidies – that appear in the expressions that define this aggregation.

In addition, because of the qualities of exhaustiveness and reliability that are recognised in information originating in General Government, their data play a leading role compared with the accounts of units in other sectors. The evaluation that appears in the spontaneous accounts of a set of agents for a transaction that they have carried out with General Government may therefore be adjusted after being compared with their own records of the transaction: this is the case for taxes, subsidies and social contributions.

Households

Households are a specific case. While their main function is to consume, their production activity is nevertheless significant: for market production, this is carried out for the most part in the fairly unorganised framework of enterprises that are not constituted as companies, and so they are monitored by ESANE. There is also production for households' own consumption, and this is obtained through a functional type of approach.

In general, other household operations are known mainly not through information from sources derived from the households themselves, but through the intermediary of data from agents who are the counterparties in these operations. Thus we sometimes say that the household account is drawn up “to mirror” other accounts. However, a considerable proportion of household consumption is known via the participation of households in household surveys of their spending: this is the case notably for dwelling services. They are extrapolated using population census data, which are the prime source of information on the household population.

Not profit institutions

In France, non-profit institutions are generally identified systematically for administrative purposes. Nevertheless, the frequent movements that affect their demographics make it difficult to make any regular statistical enquiries into the scope of those that should perhaps be classified in the NPISH sector. Knowledge of their operations is therefore gained indirectly with a globalising procedure for a base year, depending of each activities of NPISH (social action; leisure and youth; sports; cultural; non-vocation foundations; political parties; the unions of employees...), developed annually using indicators.

Rest of the world

Lastly, the balance of payments sets out the boundary of the national economy as it records the operations that bring together the resident institutional units classified in the sectors presented above and the rest of the world. It is from the balance of payments that operations are taken in order to evaluate the transition from Domestic Product to National Income.

Annex to Chapter 1: The weight of Mayotte in the GNI presented in the inventory

Mayotte became a French department in 2014. Before that date Mayotte, is therefore not part of the economic territory of France within the meaning of European Commission's decision of 26 July 1991 (91/450/EEC, Euratom) and the European Commission regulation 109/2005. However, in the 2010 base year, published for the first time in 2014, the national accountants have chosen to integrate Mayotte over the whole duration of the series in order to have consistent time series over time (from 1949 to the present day). In doing so, France has corrected the GNI notified to the European Commission in order to comply with European regulations.

Mayotte was the subject of a specific estimate for certain national accounts aggregates (value added of non-financial corporations in particular), as this territory was not included in the source data: the accountants therefore made an estimate based on *ad hoc* sources. On the other hand, the national accounts treatments (accounting transition) were not subsequently distinguished between Mayotte and the rest of the territory. In addition, the territory of Mayotte was included in most of the other sources, such as financial corporations or General Government. Under these circumstances, Mayotte cannot be considered to have been specifically estimated in all dimensions of the national accounts compilation process.

However, the purpose of this inventory is to present the entire GDP compilation process, by tracing the various stages of estimation from data sources to national accounts aggregates. It was therefore undesirable to artificially show Mayotte in the production process.

Nevertheless, it was possible to estimate the weight of Mayotte *a posteriori* by "reinterviewing" the different sources used by the national accountants, in order to provide users with the most complete information on the weight of Mayotte in the different components of the process. This is what is presented in this annex.

The impact on GDP and GNI are considered to be identical, the flows between France and Mayotte in terms of primary income (compensation of employees, property income) are considered to be negligible. Thus the impact on GNI and GDP are estimated at EUR 1 489 million. The following tables present the impact of Mayotte in the three approaches to GDP.

The table 1-13 shows the impact of Mayotte in the production approach, and the value of aggregates with or without Mayotte. The weight of Mayotte in the total output (at basic prices) is 0.11 % or EUR 3 754 million. In final, the weight of Mayotte in GDP is 0.07 % or EUR 1 489 million.

Table 1-13 Mayotte in the production approach, 2010, in EUR (million)

	Amounts in the inventory	Estimation of Mayotte	Territory without Mayotte	Weight of Mayotte in the aggregates (%)
Output of goods and services (at basic prices)	3 544 834	3 754	3 541 080	0.11
+ Intermediate consumption (at purchasers' prices)	1 741 853	2 305	1 739 548	0.13
= Gross value added (at basic prices)	1 802 981	1 449	1 801 532	0.08
+ Taxes on products	213 185	105	213 080	0.05
- Subsidies on products	15 686	65	15 621	0.41
= Gross domestic product	2 000 480	1 489	1 998 991	0.07

The table 1-14 shows the weight of Mayotte in the income approach. The compensation of employees amounts to EUR 925 million, i.e. 0.09 % of total compensation of employees.

Table 1-14 Mayotte in the income approach, 2010, in EUR (million)

	Amounts in the inventory	Estimation of Mayotte	Territory without Mayotte	Weight of Mayotte in the aggregates (%)
Compensation of employees	1 040 212	925	1 039 287	0.09
+ Gross operating surplus	588 076	276	587 800	0.05
+ Mixed income	122 386	260	122 126	0.21
+ Taxes on production and imports	295 146	126	295 020	0.04
- Subsidies	45 341	98	45 243	0.22
= Gross domestic product	2 000 480	1 489	1 998 991	0.07

In the income and production approaches, which describe the formation of value added from the point of view of the resident sectors, the components of two distinct territories add up when describing the two territories as a whole. This is not the case in the expenditure approach. Let us assume that a given good is “exported” from France (excluding Mayotte) to Mayotte for final consumption by households (in Mayotte). In France as a whole (including Mayotte), it is final consumption expenditure, whereas in France excluding Mayotte it is an export, and from Mayotte's point of view an import and the corresponding final consumption are recorded.

The table 1-15 shows the weight of Mayotte in the expenditure approach. For the reasons indicated above, the components of Mayotte cannot be interpreted as a description of the economy of Mayotte. It is the difference between the French territory excluding Mayotte on the one hand and including Mayotte on the other. In particular, exports are negative because of the important weight of trade in goods between France excluding Mayotte and Mayotte.

Table 1-15 Mayotte in the expenditure approach, 2010, in EUR (million)

	Amounts in the inventory	Estimation of Mayotte	Territory without Mayotte	Weight of Mayotte in the aggregates (%)
Total final consumption expenditure	1 601 203	1 708	1 599 495	0.11
<i>Household final consumption expenditure</i>	1 085 397	868	1 084 529	0.08
<i>NPISH final consumption expenditure</i>	39 623	0	39 623	0.00
<i>General Government final consumption expenditure</i>	476 183	841	475 342	0.18
+ Gross fixed capital formation	441 068	236	440 832	0.05
+ Changes in inventories	-3 856	0	-3 856	0.00
+ Acquisitions less disposals of valuables	681	0	681	0.00
+ Exports of goods and services	520 472	-166	520 638	-0.03
- Imports of goods and services	559 088	289	558 799	0.05
= Gross domestic product	2 000 480	1 489	1 998 991	0.07

2 THE REVISIONS POLICY AND THE TIMETABLE FOR REVISIONG AND FINALISING THE ESTIMATES; MAJOR REVISIONS SINCE THE LAST VERSION OF THE GNI INVENTORY

2.1 The revisions policy and the timetable for revising and finalising the estimates

INSEE produces two systems of accounts: quarterly accounts and annual accounts. Quarterly accounts are compiled from indicators, by econometric calibration on past annual accounts, while the annual accounts assess quantities directly, seeking coherence across all sources.

With this double system of accounts INSEE currently formally produces six GDP evaluations for year n:

- at the end of January of T+1, with the “First Estimates” for Q4 of year T (sum of the four quarters of year T);
- at the end of February of T+1, with the “Second Estimates” for Q4 of year T;
- around 25 March of T+1, with the “Detailed Figures” for Q4 of year T;
- at the end of May of T+1, in the form of the provisional annual accounts; this account and the revised accounts for the two preceding years are incorporated into the quarterly accounts system for the “Second Estimates” for Q1 of year T+1;
- at the end of May T+2, in the form of the semi-definitive annual accounts;
- at the end of May T+3, in the form of the definitive annual accounts.

In practice, the first three estimates are based only on work done on the quarterly accounts, before the annual accounts are compiled. As a result, these estimates are all very similar. It is therefore more accurate to consider that the double system of accounts in fact means that INSEE produces four successive assessments for year T (*see figure 2.1*). The provisional annual accounts is produced jointly from the two systems, with the “goods and services approach” using the quarterly accounts system with elements taken from the annual accounts, and the “income approach” and the compilation of the sector accounts being taken from the annual accounts system. However, concerning non-financial corporations and unincorporated enterprises (S.11+S.14AA), the production and operating accounts are constructed from elements of the goods and services approach in the quarterly accounts.

Figure 2-1 The sequence of accounts, link between quarterly and annual accounts, publication

Years Months	T			T+1								
	10	11	12	1	2	3	4	5	6	7	8	9
Dissemination annual accounts	T+30 First estimate Q3 (T)	T+60 Second estimate Q3 (T)	T+85 Detail figures Q3 (T)	T+30 First estimate Q4 (T)	T+60 Second estimate Q4 (T)	T+85 Detail figures Q4 (T)	T+30 First estimate Q1 (T+1)	T+60 Second estimate Q1 (T+1)	T+55 Detail figures Q1 (T+1)	T+30 First estimate Q2 (T+1)	T+60 Second estimate Q2 (T+1)	T+85 Detail figures Q2 (T+1)
Compiling of annual accounts	definitive accounts (T-2)			Semi-definitive account (T-1)			provisionnal account (T)					
Dissemination of annual accounts	provisionnal T Semi-definitive (T-1) definitive (T-2)											
Adjustment of quarterly accounts	Years T, T-1, T-2											

The definitive annual accounts for T-2, semi-definitive accounts for T-1 and provisional accounts for T are prepared in sequence (which constitutes an “accounting campaign”) and they are disseminated simultaneously with the publication of the provisional accounts at the end of May T+1, and not as and when they are produced. The last two years published, T and T-1, may be revised.

2.1.1 Dissemination of quarterly accounts

The three publications of quarterly accounts

From January 2016, three estimates of the quarterly national accounts are published for each quarter (see table 2.1):

- The “first estimate” is issued less than 30 days after the end of the quarter. It covers quarterly growth in gross domestic product (GDP) and transactions on goods and services (output, value added, consumption, investment, foreign trade, changes in inventories, etc.). This is an advance estimate: some indicators are not available for the entire quarter. Econometric techniques are used to forecast missing information.
- The “second estimate”, issued less than 60 days after the end of the quarter, updates the first estimate, incorporating indicators that have become available; in particular, foreign trade by geographic area and use of funds accounts are added. This may result in revisions to growth and its composition, especially the breakdown between foreign trade and changes in inventories.
- The third publication, the “detailed figures”, is issued less than 85 days after the end of the quarter. It updates the second estimate for GDP quarterly growth and goods and services transactions. It also provides a first estimate for agent accounts (households, enterprises, General Government, etc.).

In addition to quarterly and annual growth rates, these publications include the “growth overhang” of the different aggregates for the current year. The growth overhang of a variable for year T corresponds to the growth rate that would be obtained for the variable between year T-1 and year T if the variable remained at the level of the last known quarter until the end of year T.

Figure 2-2 Calendar of quarterly accounts

Q+30 days *	Q+60 days *	Q+85 days *
First estimate	Second estimate	Detailed figures
Description of quarterly growth in gross domestic product (GDP) and transactions on goods and services (output, value added, consumption, investment, foreign trade, changes in inventories, etc.). Production accounts at level A17 (see chapter 9).	Update of estimate at Q+30 Calculation for Eurostat of some aggregates not available at Q+30 days (employment, working time, wages)	Update of estimate at Q+60 Detail of agent accounts (households, enterprises, General Government, etc.)

* Number of days after the end of the published quarter Q

Since the first quarter of 2019, detailed quarterly accounts are published at 60 days. Each quarter, they are only two publications at 30 and 60 days.

Content of the publication¹ for quarterly accounts

The published data are seasonally and working day adjusted (SA-WDA). So that, changes from one quarter to another reflect only cyclical events; they cover the last three years; volumes are chain-linked to the previous year's price; changes are proposed in relation to the previous quarter (over the last four quarters) or the previous year for annual figures (annual change for completed years or growth hangover for current years).

Each estimate results in the publication of the main indicators in the "Informations rapides" collection, available on the INSEE website and in paper format. A double page gives the main aggregates with comments; this brief publication is accompanied by supplementary tables, eight pages of tables for the first and second estimates, around twenty for the detailed results; a brief analysis of the revisions accompanies these two publications:

- "Informations rapides" (first and second estimates and detailed figures):
 - Gross domestic product and its components (contributions to GDP growth and changes in volume);
 - Margin rates of non-financial corporations, household disposable gross income, purchasing power of household disposable gross income;
 - Main components of output, consumption and gross fixed capital formation;
 - Household and non-financial corporation ratios;
 - General Government expenditure, revenues and net borrowing.
- Supplementary tables for the first and second estimates (thirteen tables); quarterly and annual changes cover the last three years:

¹ For more details go to "Principaux indicateurs-Tablex complémentaires-Note de revision" on the INSEE's website): <https://insee.fr/en/statistiques/4259558?sommaire=4241822>

- Supply and use balances for goods and services in volume (by level and by change), in value (by level and by change) and in price (by change),
- Output and value added, by branch at level A17 of the classification, changes in volumes and prices.
- Supplementary tables of the detailed figures (thirty-nine tables); these include the thirteen supplementary tables from the first and second estimates, to which are added, always with quarterly and annual changes over the last three years:
 - Household consumption expenditure, imports, exports and growth fixed capital formation for non-financial enterprises, detailed by product at level A17 of the classification, with changes in volumes and prices;
 - Inventory changes at level A17, as a contribution to GDP growth and by value;
 - Breakdown of GDP by the “income” approach and distribution of value added by institutional sector, by value;
 - For non-financial enterprises: details of production costs (including manufacturing branches), breakdown of margin rates (including companies), details of company operating account and income account, by change; main ratios of company accounts;
 - For employment, by branch of activity at level A17, by change: actual employee working time, hourly volume of work by employees, hourly productivity, payroll; payroll all branches combined by institutional sector;
 - For households, by change: income account and purchasing power; ratios;
 - General Government accounts at current prices, level and changes

Over 100 Excel files are available to the public on the INSEE website. In addition, updated macro-economic database (BDM) is available on the INSEE website, where results are shown in the form of time series. About 2 850 series were deposited in the BDM when the detailed figures were published (1 170 for the first estimates and 2 050 for the second). For further details, see *Macro-economic database BDM* on the INSEE’s website².

2.1.2 Revisions of quarterly accounts

Quarterly accounts may be revised from one publication to another, due to:

- extrapolations being replaced by indicators that were not previously available (*see table 2.1*);
- revisions to gross indicators, in the previous quarter or earlier quarters (*see table 2.1*);
- revision of coefficients for seasonal adjustments when new data are taken into consideration or when previously published data are revised;
- revisions to models for seasonally- and working day-adjusted data;
- once a year in May, fitting the new estimates to the annual accounts and the revision of calibration models;
- benchmark revisions (*see 2.2 Major revisions due to the transition from ESA 1995 to ESA 2010*).

When seasonal adjustments are updated, quarterly data must be revised across the entire period (from 1978). However, revisions are minimal for the years with definitive annual accounts. In May of year T+1, the annual accounts publish definitive accounts for year T-2, semi-definitive accounts for year T-1, and

² For example: <https://www.insee.fr/en/statistiques/series/110403627>, <https://www.insee.fr/en/statistiques/series/103167972>, <https://www.insee.fr/en/statistiques/series/103167863>

provisional accounts for year T; the quarterly accounts incorporate the new annual data when the second estimates for Q1 of year T+1 are compiled.

The seasonally adjusted raw series in the annualised quarterly accounts are therefore fitted to the annual accounts. The only difference between an annualised quarterly account and an annual account lies in the adjustment for working days.

Table 2.1 shows the change in availability of the main indicators used according to level of account, first estimate, second estimate or detailed results; if the indicator is not available, the aggregate is extrapolated; an available indicator may be definitive, or revisable.

Table 2-1 Revision of indicators (quarterly accounts)

Main indicators used	First estimate	Second estimate	Detailed results
Foreign Trade			
customs statistics	extrapolation	available revisable	available revisable
balance of payments	extrapolation	available revisable	available revisable
import and export price indices in industry	extrapolation	available revisable	available revisable
unit value indices of foreign trade in agricultural products	extrapolation	extrapolation	available definitive
physical foreign trade in electricity	extrapolation	available revisable	available revisable
Production			
industrial production index	limited circulation	available definitive	available definitive
agricultural and transport statistics	extrapolation	extrapolation	available definitive
turnover indices (from VAT returns)	extrapolation	available revisable	available revisable
production price index in industry and certain services	extrapolation	available definitive	available definitive
Gross fixed capital formation			
vehicle registrations	available revisable	available revisable	available revisable
turnover indices (from VAT returns) in industry	extrapolation	available revisable	available revisable
quarterly housing production index	extrapolation	available revisable	available definitive
non-residential building starts	extrapolation	available revisable	available revisable
Household consumption			
trade surveys by the Banque de France	available definitive	available definitive	available definitive
statistics from public bodies	extrapolation	extrapolation	available revisable
panellist	extrapolation	available definitive	available definitive
turnover indices (from VAT returns)	extrapolation	available revisable	available revisable
consumer price index	available definitive	available definitive	available definitive
Household consumption of goods published monthly	available definitive	available definitive	available definitive
Taxes			
monthly collection of State revenues (DGFIP*)	none	available definitive	available definitive
local tax issue statement (DGFIP)	none	available definitive	available definitive
data from Social Security accounting body (ACOSS*)	none	available definitive	available definitive
Employment, wages, working time			
quarterly statistics on payroll employment	extrapolation	available revisable	available definitive
Labour activity and employment conditions	extrapolation	available revisable	available definitive
ACOSS	extrapolation	available revisable	available definitive
sick leave, maternity leave and accidents at work	extrapolation	available revisable	available definitive
Social contributions			
ACOSS	extrapolation	available revisable	available definitive
old-age insurance and family allowance funds	extrapolation	available definitive	available definitive
unemployment benefits	extrapolation	available definitive	available definitive
other social protection bodies	extrapolation	extrapolation	available revisable
DGFIP	extrapolation	available revisable	available definitive

2.1.3 Dissemination of annual accounts

The publication of annual accounts

The annual accounts for year T are produced three times, in line with the availability of the sources. The provisional accounts are prepared in spring of year T+1, the semi-definitive accounts at the beginning of T+2, and finally the definitive accounts in autumn of T+2. Thus, the definitive T-2, semi-definitive T-1 and provisional T annual accounts are prepared in sequence, between autumn of year T and spring of year T+1. They are disseminated simultaneously, however, when the provisional accounts are issued at the end of May T+1, and not gradually, as they are compiled (see table 2.2).

Table 2-2 Timetable of three successive compilations of annual accounts (year T)

	Year T	Year T+1	Year T+2
Preparation	T+4 months Provisional account for year T	T+13 months Semi-definitive account for year T	T+22 months Definitive account for year T
Publication	End* of May of year T+1 (i.e. at T+5 months) - provisional accounts for year T - semi-definitive for year T-1 - definitive for year T-2	End* of May of year T+2 (i.e. at T+17 months) - provisional accounts for year T+1 - semi-definitive for year T - definitive for year T-1	End* of May of year T+3 (i.e. at T+27 months) - provisional accounts for year T+2 - semi-definitive for year T+1 - definitive for year T

* Mid-May until 2015, end of May from 2016

A General Government account is prepared ahead of the provisional and semi-definitive national accounts, as two notifications have to be made in March and September to the European Commission, in the framework of the excessive deficit procedure (EDP). From March, a pre-provisional account is drawn up. This account is revised very little for the provisional accounts for the whole economy; a few data items, such as the FISIM, are not available in March, and are estimated for the purposes of the notification. Similarly, a semi-definitive advance account (or revised provisional account) is prepared in September for the notification.

Content of the publication for annual accounts

A comprehensive and detailed set of tables, dating back to 1949, is available on the INSEE website. The topic “annual national accounts” on the INSEE website is divided into nine sub-topics:

- Annual national accounts (1 table on the introductory page)
- Resources and uses of goods and services (110 tables)
- Branch activity (143 tables)
- Institutional sectors (20 tables)
- Public finances (25 tables)

- Various household data (6 tables)
- Financial and non-financial assets and liabilities (90 Excel tables)
- Input and output tables and integrated economic accounts (178 Excel tables)
- Specialised accounts (16 Excel tables covering agriculture).

Over 550 Excel tables are available to the public on the INSEE website, and for almost half of these an HTML version is provided. Around 60% of the tables can be accessed from the date of publication of the accounts; and following the addition of the non-financial balance sheets, which are prepared a little later, and the overall economic tables (input and output tables) for the last three years, 90% are up to date at the beginning of July. At this stage, only the financial accounts and the General Government spending by function are missing, and these are published in the autumn. The tables can be provided by value at current prices, by volume at the previous year's price and chain-linked to the previous year's prices, by change and by price. All the published data are available for the three years of the current campaign, T-2, T-1 and T, but data are also available for past years, with the longest series dating back to 1949 (1978 for balance sheets). These are in the form of Excel and HTML files³.

“Resources and uses of goods and service” section gives access to a very detailed set of results on resources and uses of goods and services (output and intermediate consumption, household consumption, gross fixed capital formation, changes in inventories and foreign trade).

“Branch activity” section includes output, intermediate consumption, value added, compensation and employment. They are broken down according to two levels of the classification of activities: into 38 items and 88 items. Gross fixed capital formation and consumption of fixed capital are broken down into 38 branches. Fixed capital is split into gross and net capital, by assets and by branch (38 items).

The accounts of institutional sectors and their sub-sectors, non-financial corporations and unincorporated enterprises, financial corporations, General Government, households and, lastly, non-profit institutions serving households, are described in full.

Public finances are a specific topic. Debt according to the Maastricht definition is broken down by sub-sector and by financial instrument; different tables shed light on the public deficit (e.g. transition from deficit to debt variation); General Government expenditure is given by sub-sector and by function; this section includes taxes, social contributions, and the different categories of tax at a very detailed level. Prior to dissemination in May, the first results of the General Government accounts, notified to the European Commission in the context of the excessive deficit procedure at the end of March, appear in a specialised publication in the “Informations Rapides” collection, to complement the quarterly issue on the Maastricht debt. To retain the consistency of all the data published in May of the previous year on the INSEE website, only a few key tables are updated. The publication is in fact fully updated two months later when the provisional annual accounts are disseminated.

Financial accounts are organised into well-defined institutional sub-sectors. Balance sheets and changes in balance sheets, financial and non-financial, are given by institutional sectors and by assets.

The input and output tables and integrated economic accounts (which include product supply and use balances, the table of intermediate input, the production and operating accounts of the branches, at levels

³ For example: <https://www.insee.fr/en/statistiques/series/110329231>, <https://www.insee.fr/en/statistiques/series/110325649>, <https://www.insee.fr/en/statistiques/series/110317700>

A17 and A38 of the classification of activities and products) are published by year from 1949. The symmetrical input-output table is published annually with the definitive version of the accounts, since the 2010 accounts.

Accounts relating to the “Agriculture” branch, which are prepared differently from the national accounts, are included under the heading “**Specialised accounts**”.

As for the quarterly accounts, **an explanatory note on the revisions** is also provided for each publication; revisions apply to the accounts for years T-2 and T-1.

Alongside dissemination of the accounts on the INSEE website, various four-page analyses are published in the Insee Première collection: usually three issues in May are devoted to the publication of the annual accounts, a general four-page document on the national accounts, a second document on General Government accounts, and a third on household consumption. Later, towards the end of June, commentaries and fact sheets are produced on the results of the annual accounts in the annual edition of The French economy, part of the Insee Références collection. In autumn, an issue of Insee Première is published to accompany the publication of the balance sheet.

2.1.4 Reviews of the annual accounts linked to data sources

Revisions to the annual accounts are made on the one hand by using new sources as they become available and on the other by applying adjustments between these different sources to ensure their consistency.

For the provisional accounts, transactions in goods and services and transactions in the production and operating accounts of non-financial enterprises (corporations and unincorporated enterprises) are measured together with the quarterly accounts, based on short-term indicators.

For the semi-definitive and definitive annual accounts, annual accounting sources on enterprises are available in the form of corporation tax returns provided by the Directorate-General of Public Finances, DGFIP, complemented by annual business surveys; consistency between the two sources is ensured by the ESANE system (*see 10.1.1 Esane*).

The following paragraphs describe revisions to accounts in value, by institutional sector. In addition, for accounts in volume, there are updates to price indices.

Revisions to the accounts of non-financial enterprises (S.11+S.14AA)

The use of ESANE business data instead of short-term indicators is the main source of revisions to the semi-definitive and definitive accounts. With ESANE, annual corporate turnover can be expressed in terms of branches and products. Estimates of transactions on goods and services are based on the construction of a “supply and use balance” for each product, incorporating this new measure of production.

When the semi-definitive accounts are prepared, not all the accounting variables are applied and a few tax returns are missing, although the main ones have been incorporated into the ESANE system. When the definitive data are delivered, all the variables are available and the supplementary tax forms are included. In addition, in order to prepare the definitive accounts, those responsible for the supply and use balances and for the accounts of non-financial corporations evaluate the ESANE data; any errors that are detected, depending on their importance, can either be corrected in the ESANE database, or adjusted further downstream, to be included in the national accounts. Supplementary tax forms, full exploitation of the variables and the correction of errors may require a revision to be made between the source data provided

for a definitive account, and the semi-definitive data. However, this revision has less impact on the accounts than the first revision, during the transition from the short-term indicators used for the provisional accounts to the accounting data in business statistics.

Revisions to the accounts of banks and insurance companies (S.12)

Accounts of insurance companies (S.128)

The provisional accounts for the insurance sector are produced from partial data provided by the FFSA (French federation of insurance companies) as the accounting data for insurance companies are not available in spring T+1 when the accounts for year T are compiled. Many items in the sector S.128 accounts are therefore estimated from indicators: this is particularly the case for output, intermediate consumption, wages and property income.

The ACPR (Prudential supervisory and resolution authority) and the DREES (Directorate for Research, Analysis, Evaluation and Statistics, Ministries for Health and Social Affairs) provide insurance companies' accounting statements for year T in the autumn of year T+1, when the semi-definitive accounts are compiled. Thus, major revisions may be necessary between the provisional and the semi-definitive accounts. These data are not revised for the definitive accounts, which are therefore very similar to the semi-definitive accounts.

Accounts of banks (S.121, S.122, S.123.S.124, S.125)

Banks submit their accounting data to the Banque de France via SURFI (unified financial reporting system) by March T+1 (accounts for year T), hence these data can be used when the provisional accounts are compiled. For the most part, these data require little adjustment. The accounts may be modified, however, when a bank is late in submitting its data, or when there are modifications to private accounts.

In addition, some establishments, such as those managing investment funds and securitisation funds (sectors S.123, S.124, S.125), do not have the same reporting obligations for their accounting statements; their data are in fact only available in time for the semi-definitive accounts and their provisional data are based on estimates.

Revisions to the General Government accounts (S.13)

The General Government accounts are compiled by INSEE, the Directorate-General of Public Finances (DGFIP) and the public finance offices FIPU1 (summary of public finances) and FIPU2 (forecasting corporate taxes and social contributions) of the Treasury (DGTrésor).

When the public finance data are notified to the European Commission in March and the provisional accounts are produced, some data are estimated. However, the semi-definitive version of the General Government accounts is very close to the definitive version as it is compiled entirely based on accounting documents.

The revision of tax data or subsidies affects the accounts in other institutional sectors.

Central government (S.1311)

For the notification at the end of March and the provisional accounts, the State account is known in full and is compiled based on data on the definitive execution of the budget. This is also the case for around

forty of the 700 most important miscellaneous central government bodies (ODACs), whose accounts are prepared in accordance with an accounting procedure.

The provisional accounts (in May) require very little revision after the pre-provisional accounts prepared for the March notification. Only a few pieces of information, from FISIM for example, have become available in the meantime.

For subsequent versions of the accounts, and especially the semi-definitive accounts, the DGFIP further refines the analysis of the accounting data; in particular, it checks that accounting between sub-sectors is reconciled before applying transfers and the classification of transactions for the purposes of national accounting. The ODACs are completed. Revisions to tax credit estimates can have an impact on the State account, especially when the semi-definitive accounts are compiled.

Local government (S.1313)

The information used here is based on a summary of data from the accounting balances of the departments, regions, municipalities, and miscellaneous local administrative bodies (ODALs). The data from accounting entries are then subject to national accounting concepts. For the most part, it is the DGFIP that constructs the provisional accounts for local administration bodies; the DGTrésor estimates miscellaneous local administrative bodies.

The main revisions made when the semi-definitive accounts are being compiled because of the inclusion of data that were not available when the provisional accounts were prepared. This is the case for some ODALs or financial leasing (impact on investment).

The definitive accounts are similar to the semi-definitive accounts, as the revisions mainly relate to reclassifications of transactions during the shift to the national accounting concepts and have only a marginal impact on the deficit.

Social security funds (S.1314)

Concerning expenditure, for the notification at the end of March and the provisional accounts, rates of change in benefits are available for the main schemes and these are applied to the semi-definitive accounts of the previous year. Forecasts are made for the other schemes. Concerning revenues, change in income received is available, and for some items, changes resulting from the Treasury's macro-social hypotheses are applied.

The Treasury does not have the accounting balances available sufficiently early for them to be fully exploited when the provisional accounts are being prepared; they are used, however, to correct changes in the major expenditure and receipt items, and to take into account any impact on the deficit. Taxes are also based on the accounting balances.

Most of the revisions are made when the semi-definitive accounts are produced, as these include the accounting balance. For the definitive accounts, the main revision results from the more in-depth analysis of fixed assets of hospitals, which has a main impact on investment.

Revisions to household accounts (S.14)

Household accounts are compiled partly to “mirror” the other accounts. As a result, revisions here correspond to revisions in the other institutional sectors (employers) for the different components of the compensation of employees.

Output of dwelling services is reviewed for the semi-definitive and definitive accounts in accordance with new data from the satellite account for housing. The same is true of the outputs of agricultural and agri-food goods, which are revised according to new data from the agriculture account. Social action data (child-minders and home helps) are also revised by the DREES⁴ for the semi-definitive and definitive accounts. Payrolls paid by households as employers (domestic services) are revised by ACOSS for the semi-definitive and definitive accounts.

Revisions to accounts of non-profit institutions serving households (S.15)

Compiling the accounts for non-profit institutions serving households (NPISH) is based on over sixty indicators, supplied by a large number of different bodies: Directorate for Research, Analysis, Evaluation and Statistics (DREES), Ministries for Health and Social Affairs, Family allowance fund (CAF), Family advisory service (HCF), Central Agency for Social Security Organisations (ACOSS), Directorate for the Coordination of Research, Studies and Statistics (DARES, Ministry of Labour and Employment) are the major ones. When the provisional accounts are prepared, more than a third of the indicators are available. The rest (63%) are extrapolated. Virtually all of the remaining indicators are included for the semi-definitive accounts, with a few revisions to the indicators available for the provisional accounts. There are therefore more revisions between the first two versions of the accounts than for the transition from the semi-definitive to the definitive accounts, with this impact due mainly to the updating of some indicators.

2.1.5 Policy for major revisions

In the vocabulary used by the French national accounting system (CNF), the term ‘base’ refers to a fixed set of concepts, classifications and methods. A benchmark revision is called a “change of base”. Since the CNF was created in the 1950s, there have been many changes of base (benchmark revisions): 1956, 1959, 1962, 1971, 1980, 1995, 2000, 2005, 2010 and 2014. The bases are traditionally identified by the years of reference defining the series at constant prices. The early base changes gave rise to substantial revisions of the concepts used in a system that was still under construction. Base changes used to be implemented about every ten years but now the intervals are becoming shorter (around 5 years).

A change in base year provides the opportunity to revise the evaluations in the accounts, by carrying out investigations to improve some of the methods, by introducing new sources, new classifications or new concepts, by correcting mistakes, and also by applying European regulations intended to harmonise the accounting framework for countries of the European Union. The aim is to refine the way the level of each aggregate is determined. For the time a base is in place, the same conceptual processes and classifications, the same statistical sources are maintained, ensuring that annual change in each aggregate is properly measured in relation to the accuracy of its level.

⁴ The Directorate of Research, Analysis, Evaluation and Statistics (DREES, Direction de la Recherche, des Etudes, de l’Evaluation et des Statistiques) is a branch of the French central public administration producing statistics and socio-economic studies in the fields of health, social action and social protection.

Without looking at the entire history of base changes, here we consider the benchmark revision in 1995 and 2005, the next section is about the passage from base 2005 to base 2010.

Switch from base 1995 to base 2000

The change from base 1995 to base 2000 included few conceptual changes, the same classifications were maintained, but there were special efforts to improve evaluation.

The main conceptual change in base 2000 concerned the breakdown by user of financial intermediation services indirectly measured (FISIM), which had a considerable impact on GDP. On a smaller scale, the second change involved measuring forestry output not by tree felling as previously, but continuously, throughout the growth of the forestry assets, in the form of work in progress.

A very important methodological change in base 2000 consisted of using statistics for non-financial enterprises, organised in the framework of the Intermediate enterprise system (IES), as the basis for evaluating output (including trade margins), value added and income in the non-financial corporations and unincorporated enterprises sectors and for calculating GDP. Thus the value added calculated spontaneously in the IES, now had to be used in the adjustments applied in order to align the three approaches to GDP.

With base 2000, new statistical sources were brought in to evaluate investment in software, social action and the volume of non-market output.

Lastly, new evaluations were carried out based on a better use of available sources, especially concerning adjustment for fraud and undeclared work, interest flows and international trade in transport services. The use of data from “satellite accounts” made it possible to revise evaluations in the housing and healthcare fields. Consistency between the “Rest of the world” account and current transactions in the balance of payments was improved.

Switch from base 2000 to base 2005

The change to base 2005 was notable as it included some major adjustments.

Firstly, the national accounts used information from the new structural business statistics system, ESANE. The ESANE system combines administrative fiscal and social data and survey data from a sample of enterprises questioned about their activities via a specially designed questionnaire. This system replaced the unified system for business statistics (SUSE) used in base 2005. The switch to ESANE led to changes in 2008 in some values, notably the level of output per branch of activity, and the valuation of changes in inventories. More indirectly, the new business statistics led to a review of levels of household consumption or GFCF.

The change in base enabled accounts to be fitted to some sources that had been modified since base 2000 had been applied, following revisions to series or changes in method. This refitting concerned in particular data from the satellite account for housing, customs and the balance of payments.

Some new evaluations and methodological changes specific to the national accounts resulted in a review of the level of certain aggregates. This was the case, for example, for evaluations of the account for non-profit institutions serving households (NPISH), for the re-estimate of undeclared activity or VAT rates, and also for measuring financial intermediation services indirectly measured (FISIM).

Lastly, when base 2005 was introduced, the national accounts adopted the new French classification of activities and products, NAF Rev. 2, 2008. Although the change was barely perceptible at the most aggregated levels, this switch nevertheless overhauled the distribution of branches of activity and products within the economy.

2.2 Major revisions due to the transition from ESA 1995 to ESA 2010

2.2.1 Changes introduced by ESA 2010 with no impact on GNI and GDP

The distinction between head office operations and holding companies cannot be entirely based on activity classification. Thus, the business statisticians have developed an algorithm to distinguish holdings companies from head office corporations and to classify them into non-financial corporations (S.11) or financial corporations (S.12).

Another important conceptual change, which is in line with the 6th edition of the balance of payments manual, covers foreign trade in goods where the description is now based not only on Customs authorities observing physical flows at the borders, but also on the notion of transfer of ownership. The way custom work abroad and merchandise trade are dealt with has therefore been changed.

Lastly, several of the ESA 2010 provisions affect the General Government account, especially the new system for dealing with cash payments that public-sector firms make into it when their commitments to employees regarding pensions, and tax credits, are transferred. Several cash payments have been made in France since 1997 (France-Telecom, EDF-GDF and La Poste payments). Previously, these payments were all recorded as government revenue in the year the payment was made, thus improving the General Government deficit for that year; they are now considered as an advance for the payment of pensions in the future, and their recording as government income is staggered over the pension payment period. Payable tax credits used to be recorded as lesser tax revenue; they are now all recorded as expenditure (whether the taxpayer benefits in the form of a tax refund by the tax authorities or a tax reduction). In addition, they are now all recorded when the authorities recognise the beneficiary's claim, whenever the payment is in fact made.

2.2.2 Changes introduced by ESA 2010 having a potential impact on GNI and GDP

The 2014 major revision was primarily intended to implement the new European System of Accounts (ESA 2010). However, all previous calculations and results were also revised and new findings and data were integrated into the French national accounts. This resulted in corrections in the entire time series from 1949.

With ESA 2010, the scope of fixed assets was extended to include in particular the output of **R&D activity, databases and military weapons systems** (vehicles, submarines, tanks, ballistic missiles with a highly destructive capability considered to be a permanent deterrent, etc.). The corresponding expenditure by enterprises and General Government (acquisition of military material, purchase or own-account production of R&D databases or services) is now considered as GFCF for accounting purposes rather than intermediate consumption.

For market producers, ESA 2010 also recommended adding to **production for own final use**, the fixed capital used, when this production is evaluated by the sum of production costs.

Concerning the treatment of insurance companies, ESA 2010 introduced two major innovations. The **activity of reinsurance** companies, which had previously been consolidated with that of direct insurers,

was now considered separately. In addition, the measurement of **the production of insurance services** was changed. Henceforth this was based on expected pay-outs instead of compensation actually paid. Thus, production, which corresponds to the margin generated by insurers, is calculated by subtracting every year the expected claims from the premiums collected and income derived from investing technical provisions.

The table 2.3 shows the conceptual changes introduced with ESA 2010 (EUR 46.1 billion). The most significant impacts on GDP are the fact that R&D and weapons system are now considered as investments: respectively EUR 41.5 billion and EUR 3.3 billion.

Table 2-3 Sources of revisions of GDP level for 2010, in EUR (billion)

	Billion	% of GDP
	EUR	in 2005 base
GDP in 2005 base	1 936.7	100
Impact of ESA 2010	46.1	2.4
(1a) R&D created by market producers	27.7	1.4
(1b) R&D created by non-market producers	13.8	0.7
(2) Development of output for own final use	0.5	0.0
(3) Output of non-life insurance and reinsurance	0.2	0.0
(4) Expenditure on weapons systems	3.3	0.2
(5) Decommissioning costs of large capital assets	0.0	0.0
(6) Government, public and private sector classification	0.0	0.0
(7) Small tools	0.0	0.0
(8) VAT - third based EU own resource	0.0	0.0
(9) Index-linked debt instrument	0.0	0.0
(10) Allocation of output of the central bank	0.6	0.0
(11) Land improvements recognised as separate asset	0.0	0.0
Other changes	17.6	0.8
GDP in 2010 base	2 000.5	103.3

2.2.2.1 Research and development (R&D) created by market producers

A market entity can either purchase an R&D service from an outside entity or carry out R&D activities internally.

In the case of R&D sold, the purchase, which was classified in ESA 2005 as intermediate consumption, is recorded in ESA 2010 as GFCF. As the output of the entity purchasing the service remains unchanged, revising its intermediate consumption downwards tends to increase value added.

In the case of unsold R&D activity undertaken within an institutional unit on its own account, R&D activity is in ESA 2010 a part of production for own final use. Indeed, this output is not sold, but it is used directly by the producing unit as GFCF. The output (or GFCF) in R&D includes all R&D expenditures, such as compensation of employees working in R&D activities, purchase of materials, buildings (CFC), etc. In theory, the corresponding output for own final use should be equal to the sum of these expenditures plus

a mark-up corresponding to the net operating surplus derived from the R&D activities. However, since analysis of the accounts of enterprises selling R&D services did not reveal a significantly positive net operating surplus, the mark-up applied for enterprises with R&D output for own final use is zero.

In base 2005, the activities of R&D for own account, within an institutional unit, was already grouped and described in a specific branch that delivered its production (calculated as the sum of R&D expenditures) to another branches of the institutional unit. The latter's R&D acquisitions were recorded as intermediate consumption. This market production did not generate any value added, as the company itself consumed it intermediately. With ESA 2010, this market production is reclassified as production for own final use, so that the intermediate consumption is reduced by a corresponding amount because this output is now used as GFCF: the unit's value added is therefore increased by the amount of internal spending on R&D.

In summary, the value added of market entities is increased by an amount equal to their R&D spending, whether internal or external. The amounts recorded for this expenditure are base to the R&D survey for Higher Education and Research. This totalled EUR 27.7 billion in 2010 (*see table 2.4*).

Table 2-4 Impact on GDP of R&D created by market producers, year 2010, in EUR (billion)

	Amounts
PRODUCTION APPROACH	
- Intermediate consumption	-27.7
= Gross value added (at base prices)	27.7
EXPENDITURE APPROACH	
+ Gross capital formation	27.7
INCOME APPROACH	
+ Operating surplus + mixed income	27.7
impact on GDP (and GNI)	27.7

2.2.2.2 R&D created by non-market producers

The output of non-market entities is conventionally recorded as the sum of their production costs, which include not only intermediate consumption but also compensations and consumption of fixed capital (CFC). Thus, R&D expenditure acquired from market units, which was recorded as intermediate consumption in ESA 1995, was already counted in the non-market production of these entities, with a corresponding collective consumption by General Government. In 2010, EUR 3.7 billion (*see 3.5.4.2 Other conceptual adjustments of General Government*) were therefore taken from General Government intermediate consumption and switched to GFCF under this heading (*see table 2.5*).

As was the case for market entities spending on R&D internally, ESA 2010 considers that spending by non-market entities in respect of their R&D activities constitutes output for own final use, also estimated via production costs. These units now use this production as GFCF, and not for final consumption: this represented EUR 12.1 billion in 2010.

Technically, it is through the CFC that the new treatment of non-market R&D affects the level of GDP. Recording R&D expenditure as GFCF results in the appearance of a CFC⁵ in assets drawn for R&D, which in

⁵ The amounts of GFCF in R&D for non-market producers were obtained from the R&D survey by the Ministry for Higher Education and Research, adjusted to take into account research activity by professor-

turn increases the non-market production of non-market entities, through an increase in Gross operating surplus. The value added of the non-market units is increased by an amount equal to their CFC of R&D assets: in 2010, this CFC was estimated at EUR 13.8 billion (see 4.13 *Consumption of fixed capital*).

To sum up, non-market production decreases by EUR 2.1 billion as did government final consumption expenditure, due to the decrease in intermediate consumption (EUR -3.7 billion), the recording of production for own final use (EUR -12.1 billion) and the consumption of fixed capital (EUR +13.8 billion). Total government output increases by EUR 10.1 billion: EUR -2.1 billion for non-market output and EUR +12.1 billion for output for own final use.

Table 2-5 Impact on GDP of R&D created by non-market producers, year 2010, in EUR (billion)

	Amounts
PRODUCTION APPROACH	
+ Output of goods and services (at base prices)	10.1
- Intermediate consumption	-3.7
= Gross value added (at base prices)	13.8
EXPENDITURE APPROACH	
+ Final consumption expenditure	-2.1
+ Gross capital formation	15.8
INCOME APPROACH	
+ Operating surplus + mixed income (Gross)	13.8
impact on GDP (and GNI)	13.8

Thus, the change in allocation is not without effect on GDP. Considering R&D expenditure as an investment amounts to considering that profits from R&D are now made freely available to the entire economy and that this free provision therefore represents an additional collective service: logically, this service is a new final consumption expenditure by General Government.

2.2.2.3 Evaluation of production of goods and services for own final use

According to ESA 2010, compensation from employed fixed capital must be added to production for own final use by market producers, when this production is evaluated by adding together production costs. As production for own final use is entirely invested, considering this “capital service” resulted in a revaluation of value added and GFCF for non-financial corporations of EUR 0.5 billion in 2010 (see 3.3.2.4 *Exhaustiveness of non-financial enterprises and table 2.6*).

Capital service per production unit for own final use was measured as the net operating surplus generated by each sector per unit of market production. It is backcast in the database of past changes in production for own final use per product.

researchers in universities, which this survey did not cover. This survey has been conducted since the early 1960s, and was also useful in constructing the backcast series needed to calculate the CFC. The lifetime of assets derived from R&D is conventionally set at 10 years.

Table 2-6 Impact on GDP of evaluation of production for own final use, year 2010, in EUR (billion)

	Amounts
PRODUCTION APPROACH	
+ Output of goods and services (at base prices)	0.500
- Intermediate consumption	
= Gross value added (at base prices)	0.500
+ Taxes on products	
EXPENDITURE APPROACH	
+ Gross capital formation	0.500
INCOME APPROACH	
+ Operating surplus + mixed income	0.500
impact on GDP (and GNI)	0.500

2.2.2.4 Insurance – Output of non-life insurance and reinsurance

The measurement of the production of direct non-life insurance services changed with the switch to ESA 2010 where expected claims replaces claims actually paid which was previously included in the calculation for production. Production is now defined as *Premiums + premium supplements (income from investing some of the premiums) - expected claims*.

This new system has an impact on the production of insurers (EUR +0.3 billion in 2010) and a corresponding impact on consumption in the institutional sectors in insurance services: less than EUR -0.1 billion in 2010 on the intermediate consumption of non-financial corporations and EUR +0.2 billion on household final consumption (see table 2.7). The gross domestic product (GDP) is increased by EUR 0.2 billion. The scale of this change is limited and varies between positive and negative, depending on the years and the difference between the actual claim and the insurers' predictions.

Table 2-7 impact on GDP of Non-life insurance and reinsurance, year 2010, in EUR (billion)

	Reinsurance	Non-life insurance
PRODUCTION APPROACH		
+ Output of goods and services (at base prices)	3.059	0.264
- Intermediate consumption	3.059	0.024
= Gross value added (at base prices)	0.000	0.240
EXPENDITURE APPROACH		
+ Final consumption expenditure		0.240
INCOME APPROACH		
+ Operating surplus + mixed income		0.240
impact on GDP (and GNI)	0.000	0.240

The technique used to calculate expected pay-outs in France was based on that used by the United States Bureau of Economic Analysis (BEA) which carries out a smoothing of the "claims / premiums" ratio rather than a direct smoothing of past claims. The advantage of this technique is that it is better able to anticipate a rise (or a fall) in pay-outs linked to an increase (or decrease) in the number of policies / policyholders. For each type of risk (physical injury, car, transport, etc.), the expected claims are calculated in three stages:

- stage 1: detection and correction of exceptional values in the “claims / premiums” ratio using a linear regression model in relation to a linear trend with a time dummy over the years;
- stage 2: smoothing the series of the “claims / premiums” adjusted ratio by a mobile average with linearly decreasing coefficients across a depth of ten years;
- stage 3: calculation of expected pay-outs = smoothed ratio x premiums.

This smoothing is performed for for-profit insurance companies. On the other hand, gross claims were retained in calculating the production of mutual funds and provident institutions, due to a lack of time depth in the available series.

With the switch to ESA 2010, measuring reinsurance was changed. Previously, the production of reinsurance was calculated as the balance of all transactions between direct insurers and reinsurers (i.e. premiums – claims). It is now measured in the same way as the production of direct non-life insurance. This results in an upward revision of the overall production of insurance companies (EUR +3.1 billion in 2010), by the amount of premium supplements, but with no impact on GDP. In fact, this production introduced for reinsurance is offset by a new intermediate consumption for insurers, and hence an equivalent reduction in their value added. This production represents about 10% of the production of direct insurance.

2.2.2.5 Government weapons systems as fixed assets

The reclassification of expenditure on heavy military equipment as GFCF modifies the level of GDP directly. The value added (VA) of General Government non-market branches is in fact conventionally determined by adding together the compensation of employees, taxes net of subsidies on production and the consumption of fixed capital. Capitalisation of expenditure on military equipment, which is currently considered as fixed assets, generates consumption of fixed capital (CFC), measuring the loss in value that these assets undergo over the years through normal use or obsolescence. This growth in CFC increases General Government VA in turn and hence GDP. In 2010, the impact on the GDP level was EUR +3.3 billion (*see table 2.8*).

In terms of demand, this change in recording method substituted GFCF for part of intermediate consumption: government investment was thus increased from EUR +6.7 billion in 2010. However, the new method for recording military spending also had an impact on collective General Government consumption. Defence makes up part of the services that General Government provides for the community as a whole, for purposes of collective consumption. Capitalisation of military spending affects this consumption in two opposite ways: on the one hand, the reclassification of intermediate consumption as GFCF (which reduces non-market production and collective consumption, which is the counterpart of this), and on the other, taking into account the CFC that results from this new GFCF. Collective consumption is therefore revised by an amount equal to the difference between apparent CFC and expenditure reclassified as GFCF.

In 2010, when deliveries of military equipment were particularly large, the CFC was less than GFCF: all in all, collective consumption expenditure was revised downwards by EUR +3.4 billion in 2010. This was not

the case in 2011, when an increase in General Government collective consumption was recorded (EUR +1.1 billion).

Table 2-8 Impact on GDP of government weapons systems as fixed assets, year 2010, in EUR (billion)

	Weapons systems
PRODUCTION APPROACH	
+ Output of goods and services (at base prices)	-3.353
- Intermediate consumption	-6.637
= Gross value added (at base prices)	3.284
EXPENDITURE APPROACH	
+ Final consumption expenditure	-3.353
+ Gross capital formation	6.637
INCOME APPROACH	
+ Operating surplus + mixed income	3.284
impact on GDP (and GNI)	3.284

Since 2005, the amounts to be recorded as military GFCF have been evaluated from budgetary programmes “Equipping the armed forces” and “Preparation and use of the armed forces” run by the Ministry for Defence. Only expenditure on equipment related to heavy military equipment and listed under heading V of the budgetary classification (investment expenditure) are recorded as GFCF. Expenditure relating to heading III, which corresponds to operating and maintenance expenditure, is still counted as intermediate consumption.

For the period 1953-2005, amounts of GFCF were assessed based on data transmitted by the Economic Section for Defence (OED) under heading V per weapon. Once the long-term GFCF series were established, the model of the permanent inventory could be used to evaluate the corresponding capital stocks, decommissions and CFC based on GFCF flows, and the mortality and depreciation laws for equipment based on the mean lifetimes of the assets. In this case, a mean lifetime of 20 years was used for heavy military equipment.

2.2.2.6 Decommissioning costs of large capital assets

The aim is to take into account in the value of assets the costs of future decommissioning large capital assets; this can only have an impact on GNI via General Government or NPISH assets, through its impact on consumption of fixed capital and consequently on non-market production. In France, these large capital assets, especially nuclear, are mainly owned by non-financial corporations.

2.2.2.7 Government, private and public classification

The ESA 2010 modified the qualitative rules to define the boundary between public and private units by the inclusion of the cost of capital (interests) in the evaluation of production costs. Only those units for which the ratio of market receipts in the total production costs is above 50% over the long term can be considered as beyond the scope of General Government. This modification has not resulted in any reclassifications.

While the scope of the General Government has been modified in the transition to the 2010 base, it is not the new calculations of production costs that are the source of this change: it is a change in classification

that can be described as usual, each year the scope of the General Government being verified. In any case, these classification changes have had a very marginal impact on GDP and GNI.

2.2.2.8 *Small tools*

ESA95 set a lower bound for small tools to be recognised as capital expenditure. Purchase of items lower this threshold is recorded as intermediate consumption. In ESA 2010, there is no longer threshold, the main criterion now whether the product has been used in production for more than one year.

In base 2005, the French national accounts could not use the ESA 1995 criterion (criterion according to an amount) to define the boundary between intermediate consumption and gross fixed capital formation. Using a criterion for the destruction time of the good in the production process (more or less than one year) has therefore not led to any change in the evaluation of GFCF and IC.

2.2.2.9 *The third own resource of the European Union based on VAT*

The treatment of VAT collected from the members states and paid to the European Union has changed in the new ESA: they were previously levied directly by the European administrations (sector S.2), but they now pass through the General Government accounts (S.13). Taxes on production and imports directly paid to EU institutions are therefore reduced by the amount of the third own resource of the EU based on VAT (D.76), which stood at EUR +2.4 billion in 2010.

Although it had no impact on GDP, this new method increased GNI by EUR +2.4 billion in 2010 (see table 2.9): the amounts of taxes on production and imports (D.2) payable to the Rest of the world (S.2) decreased. Consequently, the GNI increased by the same amounts.

Table 2-9 impact on GNI of the third own resource of the EU based on VAT, year 2010, in EUR (billion)

	Amounts
Impact on GDP	0.000
- taxes on production and imports payable to the Rest of the world	- 2.381
Impact on GNI	2.381

2.2.2.10 *Index-linked instrument*

Concerning “Index-linked debt instruments”, in base 2005 national accountants were already applying the treatment recommended by ESA 2010 for foreign currency-indexed instruments (cf. § 5.94): ESA 2010 therefore had no impact on the calculation of interest flows for foreign currency-indexed instruments. In addition, ESA 2010 (§ 6.56) modified the treatment of interest for foreign currency-indexed instruments defined as “narrow”, including a motivation for holding gains: to date, the analysis by the Banque de France has not shown up the existence of any instruments of this type. The new treatment therefore had no impact on the estimate of GDP and GNI in 2010.

2.2.2.11 *Output of the Central Bank*

In the output of the Central Bank, ESA 2010 recommends distinguishing invoiced from non-invoiced output, estimated from its production costs. Non-invoiced output should conventionally be allocated to intermediate consumption of other financial intermediaries (in the previous ESA, the entire Central Bank output was allocated to intermediate consumption in S.12).

The output of the Central Bank was estimated as the sum of the costs of production in the French accounts in base 2005 and hence already compliant with the ESA 2010 recommendations: output is therefore

unchanged in base 2010. However, the fact of considering invoiced output as no longer being consumed by other financial intermediaries raises their value added. The counterpart in the expenditure approach is a revision of household consumption upwards. This new system increased GDP and GNI by EUR 0.6 billion in 2010.

Table 2-10 Impact on GDP of the output of central bank, year 2010, in EUR (billion)

	Amounts
PRODUCTION APPROACH	
- Intermediate consumption	-0.591
= Gross value added (at base prices)	0.591
EXPENDITURE APPROACH	
+ Final consumption expenditure	0.591
INCOME APPROACH	
+ Operating surplus + mixed income	0.591
impact on GDP (and GNI)	0.591

2.2.2.12 Land improvements recognised as a separate assets

ESA 2010 recommends distinguishing land improvements, recorded as gross fixed capital formation, and the value of land. Land improvements are to be recorded under item AN.1123, as far as they can be identified separately. If the value of a piece of land cannot be separated from the improvement work carried out on it, the combined assets are classified together in the category of the asset that has the greater value.

This change can increase the levels of GDP and GNI when it is a non-market unit that is responsible for the improvement in the land. Indeed, land improvements leads to the consumption of fixed capital that increases the non-market output of the unit. However, in the case of France, land improvements have been already considered as GFCF in the previous bases (1995, 2000, 2005), so that the distinction introduced in ESA 2010 between land and land improvements has no impact on GDP and GNI.

2.3 Major revisions since the last version of the GNI Inventory other than due to conceptual changes in ESA 2010

In addition to the ESA 2010 recommendations, the switch to base 2010 was an opportunity to make several improvements to the methodology or sources and to lift reservation on GNI.

2.3.1 Improvement of methodology and sources

The national accounts took into account the new business statistics estimates (ESANE). These new estimates had a direct impact on the value added of non-financial corporations, but they were also put to use in new studies: the information from ESANE on tangible GFCF of non-financial enterprises (NFE) is now part of the process of ensuring consistency of supply and demand data such as that of the GFCF in software or construction. The method for estimating GFCF for computer software, databases or construction was revised, based on data produced by ESANE. Lastly, information from ESANE on retail businesses was used to estimate household final consumption.

Further studies were carried out, unrelated to ESA 2010, to improve evaluation of the insurance sector account. The shift from accounting statements sent by insurers to the insurance supervisory body (ACPR),

to national accounting data was revised in depth. Accounting data were used to improve the estimation of the activity of mutual funds and provident institutions.

By using data from the housing satellite account, it was possible to improve estimates of the production of rental services by households.

The foreign exchange account was also revised following the introduction of the complementary survey on international trade in services (ECEIS) by the Banque de France, which replaced declarations by banks for third party accounts in the balance of payments estimates.

Other changes were made, but with much less impact on the economic aggregates: the inclusion of Mayotte, which became France's 101st department in 2011, improvements to the estimation of the GFCF of General Government by product and branch over a long period, the addition of new miscellaneous central government bodies (ODACs), revision of the method for calculating the production of software for own final use by non-financial corporations.

Table 2-11 Impact on 2010 GNI of revisions other than due to the implementation of ESA 2010 or to reservations, year 2010, in EUR (billion)

Updating of Esane	+8.6
Updated data on insurance companies	-2.8
Updated data on rents	+5.0
Updated data on exports and imports of reinsurance services (source BoP)	+1.2
Improvement of the method used to estimate output of software for own use	-1.4

2.3.2 Reserves related to the previous inventory

The implementation of the 2010 base was an opportunity to integrate the reserves related to the previous inventory (see tables 2.12 and 2.13).

Table 2-12 Impact of treatment of reservations on GNI before 2010, in EUR billion

	2002	2003	2004	2005	2006	2007	2008	2009
Specific reservations								
-mutual funds	1.502	1.666	2.203	2.795	3.396	3.545	3.557	3.215
-balance of payments	0.296	1.011	0.969	1.451	2.220	2.520	2.065	-2.294
Transversal reservations								
-cross-border income	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-illegal activities	1.595	1.639	1.712	1.773	1.855	1.947	1.997	1.940
-vehicle registration documents	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.917
-IC in the housing branch	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-2.415
Total	3.394	4.316	4.884	6.020	7.471	8.012	7.619	2.364

Table 2-13 Impact of treatment of reservations on GNI, in % of GNI in base 2005

	2002	2003	2004	2005	2006	2007	2008	2009
Specific reservations								
-mutual funds	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
-balance of payments	0.0	0.1	0.1	0.1	0.1	0.1	0.1	-0.1
Transversal reservations								
-cross-border income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-illegal activities	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
-vehicle registration documents	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
-IC in the housing branch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Total	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.1

2.3.3 Assessment of the value added of mutual funds (specific reservation)

INSEE obtained data from the French Prudential Supervisory and Resolution Authority (ACPR) on the aggregated accounting statements for all mutual funds (income statements, balance sheets, annexes) for 2010. Production by mutual funds was revised upwards (due mainly to a better quality estimate of supplementary income than in base 2005) as were intermediate consumptions. It was based on these new levels produced for 2010 in accordance with the ESA 2010 recommendations that a backcasting of production and intermediate consumptions of the mutual funds could be carried out.

This full assessment of the accounting statements of mutual funds in base 2010 resulted in the value added of mutual funds (excluding reinsurance and conceptual corrections) being revised upwards for 2002-2009 by between EUR 1.5 billion and EUR 3.6 billion, depending on the year.

2.3.4 Calibration on balance of payments data (specific reservation)

Base 2010 also provided the opportunity for the French national accounts to recalibrate according to the version of the balance of payments known at the time the national accountants constructed the base years. Some conceptual deviations remained. For the period 2002-2009, GNI was revised by around EUR -2.3 billion to EUR +2.5 billion, depending on the year. This revision took into account the recalibration on the balance of payments and the revision of the conceptual corrections that were made, especially income distributed by non-resident Collective Investment Funds (CIF), which was also the subject of a transversal reservation (reservation I on cross-border income).

2.3.5 Treatment of income from cross-border property (transversal reservation)

In the case of France, questions concerning this reservation relate specifically to three points:

- the treatment of second homes in France owned by foreigners and homes owned by residents living abroad;
- the treatment of dividends and interest paid by resident Collective Investment Funds (CIF) to non-residents and by non-resident OPCs to residents;
- the treatment of reinvested profits from foreign direct investment (FDI).

Imputed rents on second homes owned by people resident abroad, and homes owned abroad by people resident in France.

Research was carried out in 2015 to estimate the income derived from possession of these second homes. In the first part, covering second homes in France, the source used was FILOCOM (which identifies home owners who are non-residents, by country of residence). Estimates of imputed rents for all second homes were broken down by country. The adjustment to be applied to the profits distributed from quasi-corporations (D.422) was then estimated by applying the gross operating margin (B.2G) / Production (P.1) ratio, estimated for all dwelling service activity (main and second homes, irrespective of country of residence of the owner) to the estimated production of rent for second homes. The adjustment to be applied to income (D.422) paid to the rest of the world could thus be estimated, with its counterpart by country. Ultimately, the negative adjustment to be made to GNI was around EUR 1 billion.

In the second part, information taken from an Italian study confirmed the common idea that France's strong attraction for tourists would mean that the adjustment to be made for French residents who owned a second home abroad would be much smaller.

Given all these elements, the adjustment to be applied to the French GNI in respect of second homes, although impossible to evaluate precisely, would be between EUR 0 and -1 billion per year. In any case, it would certainly be considerably below the threshold of 0.1% of GNI (i.e. EUR 2 billion in 2010). There was therefore no need to adjust GNI with regard to secondary dwellings.

Dividends received by resident Collective investment funds

In base 2010, all interest and dividends received by resident CIFs (Collective Investment Funds) were paid in full to CIF unitholders in the form of "Income attributed to CIF unitholders" (D.443) on a *prorata* basis according to the number of investment fund units held (F.52). In base 2005, the CIFs also paid all of their income to their owners, but in the form of interest (D.41) and dividends (D.42).

Non-resident CIF unitholders therefore received both "Non-reinvested earnings from investments attributed to CIF unitholders" (D.4431) and "Reinvested earnings from investments attributed to CIF unitholders" (D.4432). Therefore, no revision was required to the income paid to the rest of the world with regard to CIFs.

However, the inclusion of income D.443 from non-resident CIFs is new in base 2010. In base 2005, this income was not included in the accounts, whether it was actually distributed or reinvested. This income is now evaluated by applying a rate of return observed for resident CIFs with outstanding assets (F.52) held by residents vis à vis the rest of the world.

Estimated income from property received from the rest of the world for 2002-2009 was therefore adjusted for amounts of income from non-resident CIFs. This adjustment brought up GNI by EUR 1.0 billion to EUR 2.4 billion depending on the year, but it is already included in the adjustment made to respond to the reservation when the balance of payments was calibrated.

Reinvested earnings from foreign direct investments

The flows of reinvested earnings are estimated in the balance of payments. Reinvested earnings are estimated by exploiting the accounts of French and foreign direct investment enterprises. A direct investment enterprise is a non-resident (or resident) corporation in which a resident (or non-resident)

corporation holds at least 10% of the ordinary shares or voting rights (directly or indirectly). This is a broader concept than that of a foreign enterprise under French control at 50 % (or a French enterprise under foreign control).

The balance of payments data collection on the foreign subsidiaries of French enterprises is limited to the direct foreign subsidiaries. Consequently, it does not report on cases of indirect holdings.

The balance of payments estimates are based on the accounts of direct investment enterprises and their owners. Reinvested earnings for year N are derived from net saving in N, minus dividends payed in N (on the results of N-1). In order to correctly measure reinvested earnings, holding gains and losses, whether they are realised – notably in the form of super dividends –, or unrealised, must be excluded from the direct investment company's net saving that is considered for the determination of reinvested earnings. In practice, holding gains and losses are removed whenever it is possible to identify them.

In 2010, the reinvested earnings on FDI received from the Rest of the World amounted to EUR 19.7 billion, and those paid to the Rest of the World to EUR 7.2 billion.

2.3.6 Inclusion of illegal activities (transversal reservation)

Tobacco contraband was already included in base 2005. Alcohol contraband was not previously included but a detailed analysis of the subject showed that the low level of taxation on alcohol in France compared with its immediate neighbours prevented a boom in alcohol smuggling. No adjustment was therefore made to take alcohol smuggling into account.

Prostitution is legal in France. When it is discreet and takes place in business premises that are also used (and especially officially used) for other activities (bars, massage parlours), it has already been counted in GDP since these establishments have their own legal existence and make tax declarations, adjusted by the national accounts to take account of fraud. Street prostitution, on the other hand, very often takes place under duress; this form of prostitution does not therefore fulfil the criteria given in § 1.66 of ESA 2010 (“A transaction is an economic flow that is an interaction between institutional units by mutual agreement”) and must be excluded from the estimates of GDP and GNI. A synthesis of the available publications⁶ on the prostitution topic has been indeed published in 2015. It explains that almost all prostitutes are under the constraint of a pimp or a trafficking network. This affirmation is reinforced by the analysis published in 2016 by the « Office Central pour la répression de la traite des êtres humains »⁷. Regarding outdoor prostitution, this report indicates that about 93% of the outdoor workers are not French, which stimulates the developing of criminal groups in which victims are recruited in their country of origin before being sent to France and exploited. The same report also describes the rapidly emergence of foreign criminal groups acting in France thanks to internet, as well as the developing of the prostitution in poor suburbs, in which offenders force young girls to prostitute, by posting ads on the internet. We thus suppose that the totality of the prostitutes contacted by internet or working outdoors works under constraints. Hence, the added value of their activity must not be included in the GDP.

⁶ (https://stop-violences-femmes.gouv.fr/IMG/pdf/Lettre_ONVF_no7_-_prostitution_-_oct_2015.pdf)

⁷ https://inhesj.fr/sites/default/files/ondrp_files/publications/rapports-annuels/2016/2016_RA_offices_PJ.pdf.

The impact on GDP of drug trafficking, which was not included before base 2010, was estimated at EUR 2 billion in 2010 based on various publications by the French Drugs and Drug Addiction Monitoring Centre (OFDT).

2.3.7 Reclassification of vehicle registration tax as a tax on products (transversal reservation VII)

The tax on vehicle registration documents (previously called cartes grises) was counted in base 2005 as another tax on production (D.29) or another current tax on income or wealth (D.59), depending on whether the tax was paid by an enterprise or a pure household. At the request of Eurostat, this tax, amounting to EUR 1.9 billion in 2009, was reclassified as a tax on products.

Concerning uses, it is offset in GFCF when it is linked to the purchase of a vehicle by an enterprise or to final consumption expenditure for households when the vehicle is bought by a household. All in all, treating this reservation added EUR 1.9 billion to GDP and GNI in 2009.

2.3.8 Intermediate consumptions in the rent branch (transversal reservation VIII)

Intermediate consumptions for households producing dwelling services were re-examined in the light of a housing satellite account and as a result increased by EUR 2.4 billion in 2009. GDP and GNI were reduced by the same amount.

2.4 Planned actions for improvement

In terms of planned improvements, a distinction must be made between what can be done within a base and what will require the next benchmark revisions. In the first set, it is essentially improvements in terms of the process of drawing up the accounts that are expected, whereas more structural changes can be planned as part of a benchmark revision.

From a current perspective, the following improvements are expected:

- removal of national derogations from the ESA 2010 transmission programme in line with legal requirements;
- processing of action points determined as part of GNI checks (i.e. a review of GDP and GNI calculations in accordance with ESA 2010);
- processing of points determined as part of EDP checks on government finance data in accordance with ESA 2010 (excessive deficit procedure, EDP);
- evaluation of findings from checks on MIP indicators (macro-economic imbalance procedure, MIP).

With regard to future revisions, several drafts are under consideration for the next benchmark revision in 2024:

- new computer application dedicated to annual national accounts;
- reprogramming of the quarterly accounts in R language;
- business surveys to estimate intermediate consumption and output by product in order to re-estimate the structure of the input-output table;
- review of all the methodology and fixed rates for the estimation of fraud.

3 THE PRODUCTION APPROACH

3.1 GDP according to the production approach

In the production approach, the economic output of a national economy is described in the producers' perspective. Gross value added is calculated by deducting the value of intermediate consumption from the total output of the country's economic units. Gross value added is the key factor in the production approach.

The sum of the gross value added by all branches is the basis for the calculation of GDP, with the balance of taxes less subsidies on products forming the intermediate step in this calculation. The net taxes on products (i.e. taxes less subsidies on products) have to be added to the gross value added (at basic prices) in order to render the gross domestic product (at market prices) equal on the production and expenditure sides.

Table 3-1 Production approach aggregates, in EUR (million)

	Amount
Output	3 544 834
Intermediate consumption	1 741 853
Value added	1 802 981
+ taxes on products	213 185
- subsidies on products	15 686
= Gross domestic product (GDP)	2 000 480
= + balance of primary income from the Rest of the World	40 794
= Gross nation income (GNI)	2 041 274

Table 3-2 The production approach by industries (Nace sections), in EUR (million)

NACE		Output	Intermediate consumption	Gross value added	
					In %
A	Agriculture, forestry and fishing	77 998	46 059	31 939	1.77
B	Mining and quarrying	6 437	3 742	2 695	0.15
C	Manufacturing	780 498	545 236	235 262	13.05
D	Electricity, gas, steam and air conditioning supply	110 350	82 174	28 176	1.56
E	Water supply, sanitation and similar	35 189	23 649	11 540	0.64
F	Construction	258 128	149 210	108 918	6.04
G	Wholesale and retail trade; maintenance and repair of motor vehicles	358 069	169 701	188 368	10.45
H	Transportation and storage	179 921	93 436	86 485	4.80
I	Hotels and restaurants	93 681	45 144	48 537	2.69
J	Information and communication	179 984	90 321	89 663	4.97
K	Financial and insurance activities	215 285	123 389	91 896	5.10
L	Real estate activities	259 976	44 602	215 374	11.95
M	Professional, scientific and technical activities	217 094	110 892	106 202	5.89
N	Administrative and support service activities	126 562	50 337	76 225	4.23
O	Public administration and defence; compulsory social security	436 930	102 492	334 438	18.55
P	Education	20 306	8 411	11 895	0.66
Q	Human health and social work activities	122 574	26 389	96 185	5.33
R	Arts, entertainment and recreation	24 690	14 092	10 598	0.59
S	Other service activities n.e.c.	37 172	12 578	24 594	1.36
T	Household services	3 990	0	3 990	0.22
All industries		3 544 834	1 741 853	1 802 981	100.00

3.2 The reference framework

In the French national accounts, the estimation of most of the value added relies on sources that relate to statistical units which have an institutional dimension, to the extent that they are of the legal unit type. It may be reminded that, in the European statistical legislation, legal units include two types of producers that have in common the fact that their activity should be declared to the administration. They consist in:

- legal persons whose existence is recognised by law independently of the individuals or institutions which may own them,
- and natural persons who are engaged in an economic activity in their own right.

The information that may be obtained from the sources is of an accounting nature. From this information, where relevant, it is possible, for national accounts purposes, to derive, in the same movement, value added as the balancing item of the production account - the production approach -, and its breakdown as it is shown in the generation of income account - the income approach. Beyond, the same information is at the starting point of the compilation process of the institutional sectors accounts.

The estimation of only few productive activities does not follow this approach. They consist, for instance, in the industries covered by the section A of the Nace, and also in the part of the production of households which does not take place in a legal unit context.

The SIRENE register

SIRENE (Système d'identification du répertoire des entreprises) is an administrative register with a general purpose. All legal units having an economic activity on the French territory are registered, whatever may be their legal form and their kind of activity. They are assigned a single identification number, and the code of their main activity. Its coverage is extended to all public units, including those that are liable to be classified in the government sector in the national accounts context.

SIRENE is not used as such as a statistical register. The field of the market enterprises has its own register, derived from SIRENE, but independently managed. The financial sector and the government sector have their own identification systems, that can however be checked against SIRENE, and it is common practice to do so.

The general accounting system

There exists, in France, a general accounting system (Plan Comptable Général - PCG) consisting in a set of rules and methods setting out a standardised framework in order to:

- define the concepts and technical notions of accounting;
- record and process information entered by the accountants;
- produce synthetic accounting statements providing a global representation of an entity's assets and liabilities (balance sheet) and of its transactions.

The PCG sets out the principles of accounting. It provides a definition of assets and liabilities, of revenues and expenditures, for which it also determines the accounting and valuation rules. It defines the provisions concerning the presentation, the structure and the operating of the accounts. It includes a chart of accounts.

The PCG is general in scope. It was extended generally, especially to cover territorial authorities and their establishments and groups. Common accounting standards now also apply to the State via the State general accounting (CGE), from the 2006 financial year.

The PCG has undergone some specific adaptations for units whose activity has any markedly unusual features. This may be simply specifying the content of an accounting transaction in relation to a specific profession or activity. However, some systems being applicable to some sectors of the economy may also include transactions especially designed to reflect the particular feature of their activity, and they also propose specific charts of accounts. This is the case, for example, of the respective systems applicable to credit establishments and insurance companies. Specific adaptations were also required for territorial authorities and for the State.

The statistical unit used in the production approach

From above, it comes that the legal unit is, for most of the industries, the starting point for the estimation process of the value added. As a consequence, the output, the intermediate consumption, hence the value added are first compiled for the industries where legal units are grouped according to their main activity.

However, as indicated in Chapter 1 and explained in depth in Chapter 6, the reconciliation of the three approaches of the GDP, leading to their subsequent integration, is carried out in a supply and use framework, the format of which relies, in its industry dimension, on the unit of homogenous production (UHP) concept.

For this purpose, prior to the balancing of the supply and use table, the production accounts of the above-mentioned groupings of legal units are broken down in order to be presented into homogenous branches. The balancing process is then liable to lead to some adjustments being made to the transactions of the production accounts of the homogenous branches. It is then possible to reallocate to the original groupings of legal units the production accounts after balancing, thus including the associated adjustments.

The breakdown of the productive activities for presentation purposes

In this inventory, the choice has been made to present the production approach in a way that is as close as possible to the statistical sources which are at the origin of its compilation. Therefore, a first part of the description refers to the relevant groups of legal units, which are as follows.

1. The non-financial enterprises

Under the heading of "Non-financial enterprises" (S.11+S.14AA) are grouped the non-financial corporations and the unincorporated enterprises of households carrying out non-financial activities. Although the latter are classified in the households sector, they are, for the purpose of the compilation of their production and generation of income accounts, the object of the same main statistical source, called Esane, as the non-financial corporations.

2. The financial enterprises

The financial enterprises brings together the financial corporations (S.12) - which make up the corresponding institutional sector -, and the unincorporated enterprises of households (S.14AF) that carry out the activities of financial auxiliary.

3. The General Government sector

It is logical to present in a separate grouping all the activities of the units belonging to the General Government sector (S.13), the reporting of which is performed by a directorate of the Finance Ministry (DGFIP).

4. The households, excluding their unincorporated enterprises

Under this heading are covered the productive activities of households that are not carried out in the context of a legal unit. They consist of the agricultural production of non-agricultural households, the housing performed by households, and the production of households carried out by the employment of domestic staff.

5. The non-profit institutions serving households

The activities of NPISH (S.15) are not found in the French National Accounts through the systematic annual tracking as institutional units. NPISH include social welfare institutions for people with disabilities or in difficulty, private educational institutions, charity and humanitarian action associations; advocacy of household interests; leisure and youth; sports; cultural unless they originate from local communities; non-vocation foundations (management of a museum or a retirement home, etc.); political parties; the unions

of employees. The value of production is obtained by data from the Ministry of Solidarity and Health (DREES) and from Union for the collection of social security contributions and family allowances.

The presentation of the production approach

The presentation of the value added of the above-mentioned different groups follows a common structure, being organised according to the format of the processing table:

- the estimates originating from the sources are first provided, with a characterisation of the method used;
- then, the various adjustments are explained : in particular, those relating to the transition from specific accounting systems to the national accounting standards, the adjustments relating to the valuation; the borderline cases are dealt with; references are made to exhaustiveness issues, though the issue is actually dealt with in the relevant chapter.

The detailed industries, sections and divisions, are then presented in turn, following the same structure organised in accordance with the process table presentation.

The case of some industries does not fit very well with the presentation centred on the grouping of legal units, because they rely on specific information sources. This is why they are the object of specific developments in the headings of their own NACE position. Are thus at stake:

- the agriculture, and the other industries of the A section, as already mentioned;
- the research-development (NACE 72), and the software (NACE 62) industry: a large part of these activities is not handled in business accounting in accordance with the national accounting concepts;
- the housing (NACE 68), that is the object of a specific statistical observation, the consistency of which needs to be checked with regards to the institutional type furthermore followed;
- the social work (NACE 87-88), where specific statistical data are available.

The breakdown of the production approach by industry

The legal units are classified in function of their main economic activity. Hence, the whole activity of financial enterprises is in the industry K and the whole activity of General Government is in the industry O. Households, excluding their unincorporated enterprises, have mainly an activity in housing and construction, but they also have a production for own final use in agricultural or manufacturing industry, an activity in social action and as employer.

3.3 Non-financial corporation and unincorporated enterprises (S.11+S.14AA)

Table 3-3 The breakdown of output, intermediate consumption and gross value added of non-financial enterprises (S.11+S.14AA) by NACE sections, in EUR (million)

NACE	A	B	C	D	E	F	G	
P.1	75 268	6 437	779 770	110 350	35 189	253 187	358 069	
P.2	45 536	3 742	544 877	82 174	23 649	146 591	169 701	
B.1G	29 732	2 695	234 893	28 176	11 540	106 596	188 368	
NACE	H	I	J	K	L	L_	M	
P.1	179 921	93 681	179 984	0	62 684	0	217 094	
P.2	93 436	45 144	90 321	0	21 086	0	110 892	
B.1G	86 485	48 537	89 663	0	41 598	0	106 202	
NACE	N	O	P	Q	R	S	T	Total
P.1	126 562	0	14 219	84 397	18 966	26 447	0	2 622 225
P.2	50 337	0	5 926	20 919	11 624	8 660	0	1 474 615
B.1G	76 225	0	8 293	63 478	7 342	17 787	0	1 147 610

3.3.1 Data sources

3.3.1.1 Esane

Esane [Elaboration des statistiques annuelles d'entreprise - Compilation of annual business statistics] is the acronym used to refer to the production process of the structural business statistics, hence to the resulting statistics themselves. Esane thus provides the elements of the French contribution to the EU Structural Business Statistics, in respect of the non-financial industries.

Esane as a set of accounting data, transmitted by the fiscal authorities

To compile these statistics, Esane relies first on accounting data, the vast majority of which - about 95 % of the total involved turnover - are provided to INSEE by the fiscal authorities. Legal units have indeed the actual obligation to keep accounting records, and they attach a set of accounting documents - commonly referred to as the "fiscal batch" - to their annual income tax returns. In 2010, about 3.5 million of fiscal batches were filled in. According to this transmission channel, Esane is thus an administrative data.

However, the accounting rules used by businesses in this context are not specifically fiscal. They have instead a general purpose, being of the above-mentioned type - the PCG - which follows the principles established in the so-called EU accounting directive (78/660/EEC of 25/07/1978). Businesses use this accounting framework for their own internal needs and partly for their financial communication, although groups refer also to IFRS for the needs of their consolidated accounts. The only specificity of the records provided to the fiscal authorities refers to some accounting entries relating to the fiscal result - as distinct from the accounting result -, such as the depreciation of assets and other types of provisions. On the contrary, in respect of all the accounting entries that, in the compilation of national accounts, are involved in the determination of the gross value added and its components, there is no fiscal specificity: enterprises conform in this respect to the usual business accounting rules outlined in the PCG.

The content of the fiscal batch differs depending on the type of activity and the size of the enterprises, the largest ones having more information to provide. These data, conforming to the PCG, include a profit and

loss account – showing revenues and expenses for the financial year, and the resulting profit or loss – and a balance sheet.

To be complete, apart from the fiscal channel, Esane collects accounting data from some categories of public entities, such as the public local enterprises in charge of the distribution of water. The accounts of some specific businesses are also gathered on an individual basis.

Esane as a combined data

Esane combines the above-mentioned accounting data with an information resulting from surveys: the Annual Production Surveys (EAP) for industry and the Annual Sectoral Surveys (ESA) for the other business sectors. These surveys are exhaustive for the largest enterprises (legal units), and on a sample basis for smaller ones.

These two surveys focus on the activities carried out by businesses, including:

- the provision of the distribution by products of the turnover of enterprises, on the basis of which their main activity is calculated;
- the provision of an information on the restructuring operations involving enterprises;
- the realisation of *ad hoc* inquiries on specific industries, and the description of the main characteristics of industries by means of specific variables;
- the completion of the information on capital formation included in the accounting data.

Esane includes also the information gathered through administrative data on the employment in the various activities performed by businesses.

It is important to stress that Esane actually combines the accounting data with the surveyed information: for instance by applying the structure by products resulting from the processing of the surveys to the turnover resulting from the treatment of the fiscal batches.

The scope of Esane

The geographic scope of Esane is the French territory: the Metropolitan France, also Guadeloupe, Martinique, French Guiana, Reunion Island. In 2010, Mayotte was not yet covered by Esane.

Insofar as economic activities are concerned, the Esane's population consists in the, mainly, non-financial enterprises, i.e. non-financial corporations, on the one hand, and unincorporated enterprises run by households under a legal framework, on the other hand. Enterprises are classified according to their main activity.

More precisely, Esane covers the non-financial activities, with the exception of:

- the industries belonging to the A section of the NACE - agriculture, forestry and fishing,
- the industries belonging to the O section of the NACE - public administration and defence & al,
- the activities of households as employers & al - section T of the NACE.

The financial and insurance activities - section K - are thus excluded; Esane however covers the activities that are auxiliary to finance and insurance (NACE groups 66.1 and 66.2); it also covers corporations having a holding function (*see below for more details*).

Some features of the management of Esane

Without tackling in detail the complex process constituting Esane, it may be useful to focus on some features of the management relating to its accounting component, the one that underlies the compilation of value added, considered from a global point of view.

It has first to be mentioned that the fiscal batches are transmitted in the state in which they have been gathered by the fiscal authorities, that is without any control of substance having been carried out by the latter. The provision by those authorities of the results of fiscal audits (*see chapter 7*) takes another channel than the fiscal batches.

Given the features of that source - it results from internal needs of the enterprises, it is an administrative information - one may expect a rather good quality of its content, ignoring at this stage the issues relating to its sincerity. As a consequence, the controls that are carried out on the content of the fiscal batches are essentially formal, being centred on the accounting consistencies of the data.

One important input of Esane relates to the harmonisation of the period to which the accounting documents have to refer to. The fiscal exercise is normally the calendar year. However, for many reasons, for instance because they have been sent with delay, some fiscal batches may refer to longer periods than one year, showing a lagged exercise, etc. Some complications may also result from restructuring operations. The treatments carried out by Esane lead to bring adjustments to the original data in order to ensure that accounting exercises refer exclusively to the year under review, and that their length does not exceed one year. About 20 % of fiscal declarations were in such a situation in 2010.

The exhaustiveness of Esane

Esane aims to be exhaustive by reference to its own field, irrespectively of the issues relating to concealed activities and the like. Filling in a fiscal declaration being legally compulsory, one may expect that the fiscal authorities gather and transmit the fiscal batches of all existing legal units. However, in practice, things are necessary different, if only because of the constraints stemming from the deadlines of Esane's publications.

Esane's field is said to be defined *a priori*: at the beginning of an exercise, Esane draws up a list of the enterprises that are liable to provide one fiscal batch during this exercise, these enterprises being identified by their Sirene registration number.

For this purpose, Esane has its own register, called Sirius. It is derived from Sirene - *see above* -, which, in particular, feeds this register with the references of the newly created enterprises. Sirius keeps also the memory of the respondents of the previous exercise, and it makes the link with the surveys relating to employment.

Therefore, when, at a point in time, there is no received fiscal batch for one enterprise that is expected to have provided one for the current exercise (year N), an inquiry is launched to check if that enterprise is still active. An enterprise is decided to be economically active for year N if, at least one of the three conditions apply:

- the enterprise has delivered a fiscal batch for the year N, N-1, or for N-2,
- the enterprise has provided a VAT return for N,
- the enterprise has been created in Sirene in the year N.

If this is the case, Esane makes an imputation, leading to an extrapolated fiscal batch for the involved enterprise. There are different methods of imputation. If it is not the case, Sirius records the statistical termination of the involved unit. There is a specific treatment for micro-enterprises: tax administration gives a list of micro-enterprises which have an activity during the year N. All other micro-enterprises are supposed ceased in Esane.

Almost one million of legal units were extrapolated in 2010. In general, they are very small enterprises. Only 5% of the turnover (EUR 176 billion) in Esane is extrapolated.

The case of micro-enterprises

A micro-enterprise is an enterprise the legal form of which was established in 2009. Under the condition to operate under a certain size - an annual turnover below EUR 30 000, and below EUR 80 000 for an enterprise running a trade activity - it has very limited formal obligations to fill in, it does not invoice VAT. From a fiscal point of view, it makes only a turnover declaration. There is no fiscal batch for micro-enterprises. The references of those enterprises were incorporated in Esane, that gets the data on their turnover from the fiscal authorities. Esane makes an imputation for their accounts.

The number of micro-enterprises reaches about 500 000 units in 2010. However, their aggregated turnover represents no more than 5% of the total turnover of non-financial enterprises.

3.3.1.2 Agriculture (NACE section A)

Although farms are becoming much better integrated into the structural business statistics system, Esane is only really exhaustive for agricultural enterprises operating as companies. For this reason, in the French accounts system, agricultural activity is recorded via its products, which are known from agricultural statistics. Thus, the production of agricultural products is calculated as follows: quantities x price. The calculation of value added requires statistical elements about farms which are not to be found in structural business statistics, and which are used to make an initial evaluation of many items in the overall account of the enterprises concerned. The same procedure is applied for forestry and fishing. All data for agricultural sector is accounted in the Survey and Censuses column of the Process Table (*see 3.10 Agriculture, forestry and fishing*).

3.3.1.3 Social action

The market social action is not used from Esane by National Accounts because Esane is not an exhaustive source of these economic activities: only a few units in the market social action fulfils tax returns (*see 3.2 The reference framework*). The social action activities (in section Q of NACE) is added in "Surveys and Censuses" in the Process table.

The market social action is made of three main activities: care-dependency, care and accommodation. The care activities is in General Government account. For accommodation and care-dependency, a survey (*see 10.1.3 Surveys in the social services field*) from the Ministerial Statistical Office for Social Affairs is preferred to Esane. This survey provides information on the number of places in the establishment welcoming the elderly broken down by the status public or private. It also provides information on the average daily dependency fee.

3.3.2 The scope of Esane

3.3.2.1 Esane

The Esane's variables are the same of tax return's variables (see 10.1.1 Esane). Esane gives these variables by industry (in function of the main activities of the corporation).

A. Output (P.1)

The first estimates of output (P.1) is the sum of the following accounting variables which are in the tax return:

- production sold
- plus capitalised production,
- plus changes in inventories of finished goods or work in progress, defined in business accounts, as the closing inventories minus the opening inventories,
- plus sales of goods purchased for resale,
- minus goods purchased for resale,
- minus changes in inventories of goods purchased for resale, defined in business accounts, as the opening inventories minus the closing inventories,
- plus other operating income.

The accrual principle is followed in the valuation of output because the output is the sum of:

- production sold, its amount corresponds to the goods (or services) finished and delivered during a financial year;
- capitalised production, evaluated at the sum of costs, an adjustment adds the cost of capital services, see 3.3.2.4 Exhaustiveness;
- changes in inventories of finished goods or work-in-progress, for the valuation, see below 3.3.2.3 Conceptual adjustments.

Some of the other operating income is unproductive (for example directors' fees and remuneration of directors or land rental income). That is why, a tier of "other operating income" is subtracted from other operation income. This non-productive activity is also subtracted from intermediate consumption (P.2), so it has no effect on gross value added.

B. Intermediate consumption (P.2)

The first estimates of intermediate consumption are computed as the sum of the following accounting variables:

- purchases of raw materials and supplies,
- plus changes in inventories of raw materials and supplies, defined in business accounts, as the opening inventories minus the closing inventories,
- plus other external expenditure,
- plus other operating expenditure,
- plus balance of operations made in common.

The Esane data source used to estimate intermediate consumption of non-financial enterprises uses the principles of the general accounting plan where expenditure is recorded at market price. Expenditure and purchases are evaluated at the time of billing. For the valuation of inventories, see 3.3.2.3 Conceptual adjustments.

Some of the other operating expenditure is for unproductive activity. This intermediate consumption is assumed equal to the share of other operating income, which is unproductive for S.11 and S.14AA. This adjustment has no effect on total gross value added of non-financial enterprises.

C. Value added (B.1G)

The value added (B.1G) is the output minus the intermediate consumption. The below yields the corresponding figures. This is the value added that comes spontaneously from Esane, without any correction.

Table 3-4 Combined data of non-financial enterprises by industry, EUR (million)

NACE	Combined data of P.1	Combined data of P.2	Combined data of B.1G
B	7 482	5 042	2 440
C	772 851	558 399	214 452
D	113 583	87 292	26 291
E	36 878	25 455	11 423
F	256 411	167 928	88 483
G	366 049	171 694	194 355
H	194 523	115 152	79 371
I	80 302	43 798	36 504
J	178 662	97 754	80 908
L	77 600	35 931	41 669
M	198 863	111 863	87 000
N	130 604	60 160	70 444
P	11 716	6 010	5 706
Q	64 873	19 463	45 410
R	25 140	18 954	6 186
S	19 263	8 213	11 050
Total	2 534 800	1 533 108	1 001 692

3.3.2.2 Data validation

This section explains the column “Data validation” in the Process Table. The “Data validation” in the Process Table gathers several adjustments described in this section:

- to modify the scope (Mayotte, micro-enterprises, financial holdings, winemaking...);
- so that production is at producer prices (the transformation into basic prices is in conceptual adjustments).
- to correct identified errors in Esane on specific legal units (merchandising, branch as a term used in the international accounts of the balance of payments, UESL...).

The table below summarises the main component of “Data validation” in the Process Table.

Table 3-5 The main component of Data Validation in the Process Table of non-financial enterprises, EUR (billion)

		P.1	P.2	B.1G
To modify the scope	Mayotte	1.2	0.6	0.6
	Micro-enterprises	2.6	1.5	1.1
	Financial Holdings	21.4	10.6	10.9
	Winemaking	-3.5	-2.7	-0.8
	Others	2.9	1.0	1.9
So that production is at producer prices	CTA	1.1	0.0	1.1
	TICPE	12.0	0.0	12.0
	Taxes discrepancy		-3.3	3.3
	Subsidies discrepancy	-10.4		-10.4
Correction on specific units	International trade adjustments	-2.9	-2.9	0.0
	Branch BoP	-0.7	0.0	-0.7
	UESL		-1.9	1.9
	Others with a weak impact on value added	1.4	1.3	0.2
Total		25.1	4.0	21.1

A. Modifying the scope

Some populations are not in Esane, and therefore are added to National Accounts of non-financial enterprises in “Data validation” of the Process Table. Other populations are not in Esane but are added in “Exhaustiveness N4” of the Process Table (see 3.3.2.4 Exhaustiveness).

i. Mayotte

All corporations which are in Mayotte are not in Esane. They represent EUR 1.2 billion of output (P.1) and EUR 0.6 billion of intermediate consumption (P.2). This estimation comes from tax returns and a local business survey.

ii. Microenterprises

The micro-enterprise tax category can only apply to companies whose annual turnover does not exceed:

- the tax-exclusive sum of EUR 82 000 for operators whose main business is the selling of merchandise, items, provisions and commodities to be taken away or consumed on the premises, or the provision of housing;
- the tax-exclusive sum of EUR 32 900 for service providers.

The data of micro-enterprises does not come from Esane, even if data exists in Esane for these units. In fact, they are legally exempted from submitting tax returns. Therefore, they are rightfully omitted from the files constituting the tax forms. The tax forms transmitted to INSEE contain no accounting data for these units: only the turnover is known by economic activities, transmitted by Acoff (organisation that collects social security contributions, see 10.2.2 Acoff and Urssaf). The sectoral account structure of Esane for small corporations is used to replicate a full account.

In the 2010 base, the micro-enterprises generated a value added of EUR 1.1 billion for the non-financial unincorporated enterprises (EUR 2.6 billion for output and EUR 1.5 billion for intermediate consumption).

iii. **Financial holdings**

The distinction between the head office operation and financial holdings companies is not satisfactory in Esane since the move to the 2008 NACE: some legal units got an economic activity classed in NACE 64 or NACE 65 though they should have been classified in NACE 70 according to National Accounts. Therefore they are classified in financial (S.12) instead of non-financial (S.11) enterprises. To determine whether the NACE classification is correct or not, these units go through an algorithm which allow to determine the institutional sector of each legal unit between financial and non-financial. This breakdown does not have an impact on the GNI but only on the breakdown between financial and non-financial enterprises.

This algorithm is dedicated to all Esane's legal units whose the main activity is in the sections 64 or 65 of NACE or in the section 70 (for services of head office) and all Agrifin⁸'s legal units whose the main activity is in the section 64 of NACE or in the section 70 (for services of head office). By default, only units in Esane in the industry services of head office are counted in the Esane's aggregate taken to evaluate the account of S.11+S.14AA. Other units are neither in S.11 nor in S.12 before the treatment made by the algorithm (except if they already are in the Banque de France's lists). The algorithm follows the below principles:

- if a legal unit is in a profiled companies or will be in a few years, it counts in non-financial enterprises. This principle is used to reduce the impact of the move from data in legal units to data in profiled companies (*see 10.1.1 Esane*);
- if a legal unit is in the list of agreements issued from Autorité de Contrôle Prudentiel which is the organisation responsible for Insurance and Banking or in the list of head societies and holdings from the Banque de France, it counts in financial corporations.

For other legal units, a test classifies according to the institutional sector: the legal unit is in S.12 if the unit meets the three following conditions, otherwise it is in S.11:

- its output is less than one million euros;
- the ratio {amount of financial participations/total amount of assets} is lower than 0.8;
- the number of employee is weak, between 1 and 3; or the legal unit belongs to a group of which the parent company is located abroad; or the legal unit is a head of a group.

In the 2010 base, the algorithm was applied to 68 880 units:

- 67 842 units are attributed to non-financial enterprises (of which 41 492 was in the industry of services of head office (section 70 of NACE), so already in non-financial enterprises because there are in Esane. The value added attributes to non-financial enterprises is EUR 21.6 billion of which 10.7 billion are in the industry of services of head office.
- 838 units are attributed to financial enterprises (of which 24 was in the Banque de France's lists, so already in financial enterprises). The value added attributes to financial enterprises is EUR -0.3 billion (without the 24 units already in financial enterprises).

⁸ Agrifin is a database with all tax returns which are not in Esane because of their economic activity: agriculture and financial.

iv. Others

There are three other corrections of the scope for particular industry:

- The winemaking (*see 3.12.1 Manufacture of food products, beverages and tobacco products*);
- All regional centres for Academic Works (CROUS, *see 3.18.1 Accommodation, food and beverage service activities*);
- The PMU (urban mutual betting, *see 3.27.1 Creative, arts and entertainment activities...*).

B. So that production is at producer prices

i. CTA

The “CTA” (Contribution Tarrifaire d’Acheminement i.e. the tariff contribution of routing) is a contribution paid by all electricity consumers to fund specific benefit for employees of the electric and gas industries. This is not considered as a tax. This contribution is included in the amount of electricity and gas consumption, so it has to be included in the production of the electric and gas industries. That is why the total amount of CTA collected is added to the output of economic activity 35 of NACE. This represents EUR 1.1 billion in 2010. This amount comes from administrative data.

ii. TICPE

Actually, all companies do not register the TICPE (tax on products) on the same way in their tax returns. An adjustment is implemented (in column “Data validation” of the Process Table) to assure that the valuation in Esane is at producer prices, then a global conceptual adjustment transforms this amount at a basic prices.

The TICPE (former TIPP, Taxe intérieure de consommation sur les produits énergétiques, i.e. domestic consumption tax on energy products) is collected by producers and by traders. The total amount is given by public administration and is registered in taxes on products. In tax returns, traders can register it in two ways:

- usually in purchases of good,
- sometimes in taxes.

It is only possible to find those who register it in taxes because their taxes are too high in comparison with other industries. For these companies, individual adjustments are operated to add TICPE to purchases of good. Then, a global adjustment transfers the share of the TICPE paid by traders, given by the public administration’s amount, from purchases of good to taxes: EUR 16.1 billion for economic activity 46 of NACE and 0.2 billion for economic activity 47 of NACE. Hence, this share is accounted in the output.

The other share of TICPE (those paid by producers) is declared in the output by companies: EUR 7.3 billion for economic activity 19 of NACE. The total of TICPE is included in taxes on products (D.214) for the transformation into the basic prices.

Table 3-6 Adjustments of TICPE, EUR (billion)

	Output	Intermediate consumption	Value added	Taxes	GOS
The share of TICPE paid by traders	16.3	0.0	16.3		
The share of TICPE paid by producer	7.3	0.0	7.3		
Total TICPE used in the transformation into basic prices	23.6		23.6		
Individual adjustments to make TICPE paid by traders in purchase of goods	-4.3	0.0	-4.3	-4.3	0.0
Global adjustments to transfer TICPE to taxes	16.3	0.0	16.3	16.3	0.0
Adjustment of TICPE in data validation	12.0	0.0	12.0	12.0	0.0

iii. Taxes discrepancy

The amount of taxes paid by the non-financial enterprises (S.11+S.14AA) and recorded in the non-financial enterprises accounts comes from the General Government accounts (S.13). However, in their tax returns, and so in Esane, corporations declare an amount of taxes. This amount is not equal to the amount from public administration. In fact, the difference is mainly due to differences in the classification of operating expenses between corporate accounts and national accounts: amounts recorded as purchases by companies are taxes for public accounts or vice versa. An analysis of the reporting behaviour of companies makes it possible to define a scope of taxes or transfers which are declared as “tax” in tax returns. The taxes discrepancy is the balance between taxes in tax returns (in Esane data) and taxes and transfers of the same scope in national accounts (mainly from the General Government accounts), which are called “equivalent taxes in national accounts” in the table below.

Two assumptions are made:

- Public administration data are more reliable than Esane data for taxes.
- The gross operating surplus reported by the companies is fair despite differences in the classification of some taxes.

Hence, the taxes discrepancy must be passed on to another variable of business accounts. The difference is reflected in intermediate consumption (P.2): equivalent taxes in national accounts are higher than Esane’s taxes, then the intermediate consumption of non-financial enterprises is reduced by the same amount. This discrepancy is expected to be fairly stable unless there is something new about tax or about a principle of recording business taxes in business accounts. In 2010, this discrepancy is EUR 3.3 billions.

Table 3-7 The calculation of the taxes discrepancy, in EUR (billion)

Taxes declared in tax returns (Esane + correction for modifying the scope of Esane + agricultural industry + social action)	Business accounts	101.7
Equivalent taxes in national accounts	National accounts	105.0
	From S.13 accounts	103.7
	From S.12 accounts	1.5
	From S.11 accounts	-0.2
Taxes discrepancy		-3.3

More precisely, equivalent taxes from public administration are mainly: D.214 (taxes on products except VAT and import taxes), D.291 (taxes on wages and manpower) and D.292 (other taxes on production). The equivalent tax from S.12 accounts is the employer participation to construction effort⁹ (EUR 1.5 billion according from the ANPEEC report). The equivalent tax from S.11 is the demographic compensation, which is a transfer from special pension fund (which are in S.11) to S.13, to compensate the unfavourable demographic evolution (EUR 0.2 billion according to the Social Security Accounts Committee).

iv. **Subsidies discrepancy**

The principle is the same than for the taxes discrepancy. The amount of subsidies received by the non-financial enterprises (S.11+S.14AA) comes from General Government account (S.13). In their tax returns, corporations declare an amount of subsidies. This amount is not equal to the amount of public administration data. In fact, this difference is mainly due to differences in the classification of subsidies and production between corporate accounts and national accounts: amounts recorded as sales by companies are recorded as subsidies in public accounts. The subsidies discrepancy is the balance between Esane data and public administration data.

Two assumptions are made:

- Public administration data are deemed to be more reliable than Esane data for subsidies.
- The gross operating surplus reported by the companies is fair despite differences in the classification of some subsidies.

Hence, the subsidies discrepancy must be passed on to another variable of business accounts. The difference is reflected in output (P.11): Esane's subsidies are smaller than S.13's subsidies (for a comparable scope), then the output of S.11+S.14AA is reduced by the same amount. This discrepancy is expected to be fairly stable unless there is something new about subsidies or about a principle of recording business subsidies in the private accounting. In 2010, this discrepancy is EUR 10.4 billion.

Table 3-8 The calculation of the subsidies discrepancy, in EUR (billion)

Subsidies declared in tax returns (Esane + correction for modifying the scope of Esane)	Business accounts	12.4
Equivalent subsidies in national accounts	National accounts	22.8
From S.13 accounts		22.8
Subsidies discrepancy		-10.4

The main contribution to this subsidies discrepancy comes from transport companies of subways and trains (RATP and SNCF): they register the tariff aids for public transport in their sales whereas the valuation in Esane is at producer prices (EUR 6.0 billion). With the subsidies discrepancy adjustment, these aids are transferred from sales to subsidies. Then, the adjustment for transformation into the basic prices (in column conceptual adjustments in the Process Table) makes the transformation into the basic prices, as these aids are included in D.319.

⁹ Companies has a compulsory contribution for construction which is called PEEC (employer participation to construction effort) or "1% logement". In business account, this contribution is recorded in taxes (in Esane), but in national accounts, this contribution is a capital transfer D.993 from S.11 to S.12.

The tax credit for paid employment at home contributes to the subsidies discrepancy. It can be used by households through a provider (EUR 0.6 billion¹⁰, in S.11) or directly between households (in S.14B). In national accounts, it is a subsidy on products paid by General Government. In business accounts, this tax credit is not deducted from sales because this subsidy is directly paid to households even if they use a provider. Thanks to the subsidies discrepancy adjustment, this tax credit is added to output. Then, it is removed with the transformation into basic prices.

Consistency between the scope of taxes and subsidies in the transition into the basic prices and the scope of taxes and subsidies from the government accounts

The consistency between the scope of taxes and subsidies in the transition into the basic prices and the scope of taxes and subsidies from the General Government accounts used in the estimation of GDP is ensured by the treatment of taxes and subsidies discrepancies described above.

In Esane, data must be in producer prices. So adjustments are made if a corporation do not declare its taxes in its sales. If these adjustments are not made (because a mistake or an impossibility to spot this specific declaration), it has no impact on value added thanks to the taxes discrepancy. For example, if a company does not declare a tax on products in its output. Then, its valued added is net of this tax. To have a correct gross operating surplus, this company does not declare this tax as a tax in Esane. On the one hand, this tax is in D.214 of public administration and in the adjustment made for the transformation into the basic prices, so the value added is too weak. On the other hand, this tax participates in the taxes discrepancy between public administration and Esane. This discrepancy is added to the value added, so the value added is enhanced. Finally, the value added is correct and net of this tax.

C. Correction on specific units

i. Merchanting

The merchanting adjustment is made for two legal units whose their merchanting (as described in ESA 2010 18.38-18.43) is not counted in Esane in merchandise. These adjustments have no impact on value added.

- The first one is for a big company in the section 30 of NACE. The merchanting is not accounting in the sales and purchases of merchanting. As the balance of payments measures the sales and the purchases of the merchanting of this unit, an adjustment can be done.
- The second one is for a big company in the section 35 of NACE. A share of the production sold and a share of the purchase of raw materials are for merchanting and are transferred in sales and purchase of merchandises: the whole export sales, declared in tax return, are merchanting and 90% of these sales are purchases of merchandises. This adjustment has no impact on value added.

ii. Branches as a term used in the international accounts of the balance of payments

For two legal units, the operations of their branch are excluded from the institutional unit of its head (see SEC 18.13).

¹⁰ Public administration has the total amount of this tax credit and a breakdown is done between household (when they do not use a provider – in that case the tax credit is considered as a subsidy to households) and companies (S.11) with fix share (34% with a provider) which comes from a Dares Analyse: <http://travail-emploi.gouv.fr/IMG/pdf/2012-060.pdf>

iii. UESL

The UESL receives funding for the housing (called the “1% logement”). This company carries on only the transfer of this payment and must not have a lot of operating expenses (only transfers), its value added must be weak. This funding does not concern public administration, so, it must not be register in subvention in Esane.

However, the UESL records this payment as a subvention, and the transfer as expenses. So, its value added is high. It is supposed that its GOS declared in tax return is correct, but only the repartition between expenses/subsidies and transfers is wrong. The adjustment consists on reducing the amount of its “other operating expenses” and on reducing subsidies in order to keep the same GOS, the value added is lowered.

3.3.2.3 Conceptual adjustments

Once data validation is complete, some conceptual adjustments are required to obtain the non-financial enterprises accounts. These conceptual adjustments can be divided between:

- Adjustments in relation with other institutional sectors:
 - financial corporations for FISIM, financial leases, UCITS and net non-life insurance premiums
 - General Government for some current transfers
- Adjustments for the valuation (transformation into basic prices, valuation of changes in inventories and work-in-progress);
- Other adjustments
 - Adjustments mainly on intermediate consumption (removal of lands, transfer of R&D into GFCF, PMU)
 - Adjustments with no impact on value added

Table 3-9 Adjustments in relation with other institutional sectors in the production approach of non-financial enterprises, in EUR (billion)

Adjustments		P.1	P.2	B.1G
In relation with S.12+S.14AF	FISIM		21.3	-21.3
	Financial leases		-17.0	17.0
	UCITS		1.9	-1.9
	Net non-life insurance premiums		-10.2	10.2
In relation with S.13	Current transfers		-7.7	7.7
For the valuation	Transformation into basic prices (taxes)	-50.1		-50.1
	Transformation into basic prices (subsidies)	14.1		14.1
	Transport on output	-22.2	-22.2	0.0
	Transformation of change in inventories	-5.8	5.6	-11.4
Other	Removal of lands	0.1	-2.6	2.7
	R&D into GFCF		-6.0	6.0
	PMU		0.8	-0.8
	Other (included transfer costs)	0.0	-0.4	0.4
	Neutral adjustments on GDP	-64.6	-64.6	0.0
Total		-128.5	-101.0	-27.5

A. Relation with other institutional sectors

i. Financial corporations

FISIM

The measurement of FISIM output is based on the breakdown of interest into a component corresponding to the payment and receipt of “pure” interest and a component corresponding to the remuneration of the services of financial intermediaries. A retreatment is carried out on intermediate consumption to add the FISIM consumed by resident producers, a retreatment is also made to increase the amounts of interest received and reduce the amounts of interest paid. These data are evaluated by counterpart sector by the financial corporations account (for more details see 3.4.4 Detailed presentation of FISIM). The financial corporation accounts give the amount of FISIM on interest paid and on interest received for S.11 and for S.14AA by economic activities.

The adjustments impact on intermediate consumption (increased by EUR 21.3 billion across the entire scope of S.11 and S.14AA) and therefore GOS (reduced by the same amount). A part of this adjustment is for agricultural industry and for social action.

Financial leases

Operational leasing expenditure is recorded as external expenditure (rents) by companies and also by General Government. No retreatment is therefore required to ensure that it is recorded as intermediate consumption in the national accounts.

Financial leasing appears in the accounts of companies as a rental of durable goods. However, the owners, which are financial institutions, have a purely financial role: they usually have no competence over the acquired good, with the tenant-user taking on this responsibility and the related risks. In the national accounts, leasing is likened to an investment for the user of the good, financed by a loan from the lessor (who then has a loan in its assets instead of a tangible capital asset). The value of the asset when the contract is signed is then counted as GFCF while the leasing rents are deducted from external expenditure both for companies and General Government and recorded as loan repayments.

The total amount of rent to be deducted, the interest paid and the data on the value of leased assets are provided by the Banque de France and ASF (Association Française des données financières), which lists all companies authorised to act as lessors. These amounts are broken down by economic activities and counterpart sector thanks to a specific survey of all leasing companies. This survey gives also the share of lands in real estate leasing which is deducted from the leasing rent and the interests.

There are two adjustments with impact on value added:

- the share of the leasing rents for the repayment of capital: it has to be counted in GFCF, therefore, the consumption intermediate (P.2) are reduced of this share.
- the share of the leasing rents for the payment of interests: the consumption intermediate (P.2) are reduced of this share, because it is accounted in D.41.

The adjustments impact on intermediate consumption (decreased by EUR 17.0 billion across the entire scope of S.11 and S.14AA) and therefore GOS (reduced by the same amount). A part of this adjustment is for agricultural industry and for social action.

UCITS

The adjustment relating to services rendered by collective investment schemes (UCITS) is of the same nature than FISIM adjustment. UCITS do not explicitly bill their services, but take their remuneration from the property income they pay to unit holders. As this remuneration is therefore not included in the Esane intermediate consumption, the adjustment made in the transition to national-accounts format consists precisely of increasing their intermediate consumption by the amount that is deducted from “Interest and similar income” to obtain the property income received by non-financial corporations. The adjustment amounted to EUR 1.9 billion in 2010 across the entire scope of non-financial enterprises (S.11+S.14AA).

More precisely, the intermediate consumption of UCITS (P.2) is given by Banque de France. This intermediate consumption is composed of management and transaction fees. The output of UCITS is supposed equal to P.2. This output is an intermediate consumption for all those hold shares in UCITS. But according data, it is impossible to know the breakdown of these shares by the institutional sector. So, the breakdown of the assets as part of investment funds from the Table of Financial Transactions is used to break down UCITS by institutional sectors.

Net non-life insurance premiums

Insurance premiums are flows with a composite economic content. In the case of non-life insurance, the premiums received by insurance corporations are supposed to cover both the insurance service provided by the companies and the payment of claims under the policies for which the premiums are paid. Furthermore, the particularities of the provision of the service, characterised by the fact that the premiums are received before the service is rendered and the claims paid, mean that the insurance companies, playing a role as financial intermediary, find themselves, even in the case of non-life insurance, in

possession of large investments, which are the counterpart of the technical reserves constituted from the premiums. These investments, which are quite tightly regulated, generate flows of property income that the companies consider as an operational resource, of a nature to moderate the level of the premiums.

National accounting takes these particularities into consideration to define the measurement of non-life insurance services output. Output is calculated by the equation below:

$$\text{Non-life insurance services output} = \text{Insurance premiums} + \text{Premium supplements} - \text{Claims}$$

In this equation, premium supplements constitute an imputed flow, equal to the property income received by the companies thanks to the investment of assets resulting from the constitution of technical reserves. The property income is first of all the subject of a payment, imputed, to policyholders under the transaction “Property income attributable to insurance policy holders – D.44”, then a repayment by policyholders to the companies in the form of premium supplements.

The data allowing the compilation of insurance corporation accounts not only allow the non-life insurance service output to be calculated, but also the uses of those services to be determined, in particular their intermediate consumption by the different agents. The service's allocation key is constituted by the amount of the premiums paid by the different institutional sectors – and, where appropriate, by the sub-sectors – also known from the data coming from insurers. These data also make it possible to evaluate, for each institutional sector, the net premiums, the claims and the property income attributed to policyholders.

Non-financial enterprises (S.11+S.14AA), in accordance with the rules of business accounting, record non-life insurance premiums paid among other external charges. In Esane, premiums are therefore part, for their full amount, of intermediate consumption. The information on which Esane is based does not enable these premiums to be isolated. All the adjustment therefore comes from the data from insurance corporations.

Under the verified assumption that non-financial enterprises record insurance premiums (the amount and the period) symmetrically to insurance corporations, the adjustment made at the time of converting to national-accounts format is intended to substitute for the amount included in intermediate consumption in Esane the amount of the consumption of services coming from insurers' data. As the exact amount of the premiums included in Esane is unknown, the adjustment consists simply of deducting the amount of the claims and adding the amount of premium supplements, these amounts being taken from the insurance companies' accounts. The counterpart of the adjustment concerns GOS, which is increased for non-financial corporations by EUR 10.2 billion.

There is no adjustment to GOS relating to non-life insurance claims. Depending on the case, in business account, claims paid are recorded in extraordinary income or are the subject of a transfer of charges with no effect on non-financial corporations' output and therefore on their value added.

ii. General Government

Current transfers

In administration data, all current transfers (D.759) from companies (S.11) to General Government (S.13) are counted. These transfers are recorded by companies in intermediate consumption (other purchases and external expenses). The adjustment consists of removing the amount of these transfers (EUR 7.7 billion) from intermediate consumption. The administration data has the data for the whole non-

financial corporations. The breakdown by economic activities is made in function of the breakdown of output in Esane.

B. Transformation into the basic prices

i. Transformation into basic prices

To switch from output valued at producer prices to output valued at basic prices, taxes on products are deducted from output and subsidies on products are added. This treatment is correct only if:

- the taxes on products deducted are only those who are included in sales in Esane;
- the subsidies on product added are only those who are excluded in sales in Esane;
- all companies register these taxes and subsidies in their account in the same way.

That is why, taxes on products (D.214) and subsidies on products (D.319) are divided between those who are in sales and the others.

Table 3-10 Taxes on products (D.214), in EUR (billion)

Total	75.4
out of Esane (sections A and K of NACE)	0.0
not included in sales	25.3
D.214 used for valuation	50.1

Note: D.214 not included in sales is mainly transfer and registrations fees (EUR 11 billion), some taxes for electricity (EUR 4 billion), special tax on insurance agreements (EUR 3 billion), tax for owning a car (carte grise, EUR 2 billion), tax on mutual (EUR 2 billion).

Table 3-11 Subsidies on products (D.319), in EUR (million)

Total	15.7
out of Esane (sections A and K of NACE)	1.4
not included in sales	0.2
D.31 used for valuation	14.1

The following table lists the mainly taxes on products which are considered as paid by the producers or by the tradespeople.

Table 3-12 Taxes on products used for valuation, in EUR (billion)

Total	50.1
domestic duty on consumption of energy products	23.6
duties on tobacco	10.8
duties on gambling and betting activities	3.3
duties on alcohol	3.2

The amount of D.214 used for valuation is broken down by economic activities in function of the breakdown of taxes on products in Esane. The amount of D.31 used for valuation comes from administrative data by products. The breakdown by economic activity is mainly operated thanks to an

assimilation between product and main economic activity. All these subventions, except those for agricultural activity, are for S.11 (not for S.14AA).

ii. **Transport on output**

Transport services can be included in the sales of the carriers and in the sales of the provider who has paid for the transport costs. To avoid a double account, an adjustment (EUR 22.2 billion) is made, neutral on value added. It is estimated by a share of transport margins, determined by professionals.

iii. **Output for own final use**

For R&D, software and databases, see 3.3.2.4 *Exhaustiveness*. For agriculture products, see 3.10 *Agriculture, forestry and fishing*.

For all other products, the estimate is based on accounting data and is valued at the costs of production plus a mark-up recorded in exhaustiveness N7 of the Process Table, for more details, see 3.3.2.4 *Exhaustiveness*.

iv. **Transformation of change in inventories**

In national accounts, changes in inventories are measured using the definition formula:

$$\text{Changes in inventories} = \text{Input into inventories} - \text{Destocking, where input and destocking are evaluated at the day's (market) price.}$$

In Esane, and in tax return, there are many variables for inventories given by industry:

- Inventories of finished goods or work-in-progress (in Esane, actual inventories and work-in-progress are combined indiscriminately into the “stored production” that is called the producer inventories),
- Inventories of goods purchases for resale,
- Inventories of raw materials and supplies.

Business accounts follow the principle of valuation at historic cost. Producers’ inventories are evaluated at their cost of production by companies, using different methods (weighted average unit cost or “first in, first out”), inventories of goods purchase and inventories of raw material and supplies are evaluated at their cost of purchase. In a period of rising prices, this means that the value of output in business accounts is systematically greater than what should be recorded in the national accounts.

Hence, an adjustment is made to evaluate inventories in accordance with the ESA recommendations (valued at market price) by eliminating inventory valuation adjustment (the balance between the two measurements of inventory change: inventory change in business accounts – inventory change in national accounts).

Inventories valuation adjustment	Impact on B.1G
Finished goods	-2.8
Goods purchased	-2.9
Raw materials	-5.6
Total	-11.4

To make this calculation, and inventories have to be broken down by products and some assumptions are applied:

- on the regularity of input and destocking during the period;
- on the inventory turnover: the closing inventories are evaluated at a price close to the price at the end of the year. Faster the inventory turnover is, more true the hypothesis is.

For a given product and with the following notations:

- $Q(t)$: quantity stored at time t (unobservable)
- $p(t)$: market price at time t
- $S(t)$: value of the stock at time t in the company's accounts.

The change in inventories (P.52) between 0 and 1, in the national accounts, can be expressed as follows:

$$V(0,1) = \int_0^1 p(t)Q'(t)dt$$

The stock at time t is valued by the firm at the price $p(t)$, the price of the latest entries:

$$S(t) = Q(t).p(t)$$

In particular, the change in inventories over the period $[0,1]$ is calculated as follows in the company accounts:

$$S(1) - S(0) = Q(1).p(1) - Q(0).p(0)$$

$S(0)$ and $S(1)$ are the stocks of inventories that appear in national accounts' balance sheets. The difference between these two stocks, $S(1) - S(0)$, is broken down between the holding gain (stock appreciation linked to price changes: $A(0,1)$), which only affects the balance sheets, and the change in inventories: $V(0,1)$. The inventory valuation is therefore deduced by writing the difference between the change in inventory value from the company accounts, $S(1)-S(0)$, and the change in inventory value from the national accounts:

$$A(0,1) = S(1) - S(0) - V(0,1) = \int_0^1 p'(t)Q(t)dt$$

If $Q(t)$ is linear, $Q(t) = (Q(1) - Q(0)).t + Q(0)$, then the inventory change in the national accounts is written as:

$$V(0,1) = (Q(1) - Q(0)).\overline{p(0,1)} \text{ where } \overline{p(0,1)} \text{ is the average price over the period } [0,1].$$

Hence, finally, from the stocks in the company's accounts:

$$V(0,1) = \left(\frac{S(1)}{p(1)} - \frac{S(0)}{p(0)} \right) . \overline{p(0,1)}$$

So, the changes in inventories are estimated with the following formula:

$$\begin{aligned} & \text{change in inventories for a product} \\ &= \frac{\text{average price}}{\text{end price}} * \text{closing inventories} + \frac{\text{average price}}{\text{beginning price}} * \text{opening inventories} \end{aligned}$$

where “end price” is the price in December of year N and “beginning price” is the price in December of year N-1. The prices, which are used to estimate appreciation in inventories, are mainly producer prices indexes in industry, price indexes for the sale of services and Brent court. For some products, if their prices have an evolution too strong, the end price or the beginning price can be a mean on the quarter.

C. Other adjustments

i. Adjustments mainly on intermediate consumption

Removal of lands

Two types of adjustments are made to remove the lands: one for inventories and one for intermediate consumption. It results in an increase in the GOS of non-financial enterprises of EUR 2.7 billion.

- Inventories: In construction of buildings (NACE 41) and real estate activities (NACE 68), inventories (in company accounts) include the value of lands which are not produced. That is why an adjustment is made to reduce changes in inventories of the value of lands. In these two sectors, changes in inventories are decreased of 40% of producer inventories, 40% of merchandises changes in inventories and 30% of raw material changes in inventories. It decreases the intermediate consumption by EUR 0.8 billion and increase the output by EUR 0.07 billion.
- Intermediate consumption: Business account uses a legal conception of rental. All rents paid, whether they relate to land or buildings or if they are the subject of a financial lease are recorded in other external charges, and they are therefore included in intermediate consumption in Esane. In national accounts, rents on land and subsoil assets are treated as property income, and not as the remuneration of an output.
For the conversion to national-accounts format, it is necessary to correct the Esane data so as to exclude intermediate consumption from rent on land. However, in the business accounts included in Esane, there is no item that enables them to be isolated. Their evaluation is therefore based on exogenous sources. In fact, rents include farm rents, public occupation occupancy charges and revenue from State administered property. The latter also includes the rents from the small number of subsoil assets exploited in France. It decreases the intermediate consumption by EUR 1.8 billion. The information therefore comes from two sources:
 - the agricultural accounts (Ministry of Agriculture). A level of rents for land was estimated at the beginning of the 90s’ from an ad-hoc survey. Then, benchmarked estimated are elaborated annually with a legal index on land rents (“indice national des fermages”): <https://www.legifrance.gouv.fr/eli/arrete/2017/7/19/AGRT1720432A/jo/texte>.
 - the public accounts, ministry of Finance (DGFIP: Direction Générale des Finances Publiques). Estimates from this source are updated each year.

R&D into GFCF

Since ESA 2010, R&D has become an asset, so an output for own final use has been estimated. Only part of R&D services purchased by entities in the R&D industry (NACE 72) are being recorded as intermediate consumption. All other domestic R&D purchases are recorded as GFCF. In business account, these purchases of R&D are accounted in intermediate consumption and not in GFCF. Adjustments are done to follow national-accounts concepts.

To estimate this adjustment, the output for own final use is estimated (*see 3.22.3.2 More details about R&D*) and is added to output (accounted in N7 in the Process Table). It represent EUR 21.4 billion. The intramural expenditure (EUR 27.4 billion), provided by the survey of resources devoted to R&D (*see 10.1.4 Surveys on R&D*), is supposed to be the sum of output for own final use and output sold. The output of R&D which are sold is accounted in intermediate consumption by companies, so it has to be transferred into GFCF, it is estimated by the balance between intramural expenditure and production for own final use (EUR 6.0 billion).

PMU

The PMU (horse betting) is a corporation who collects the bets and gives their due to the winners, that is why it is classified in S.11 (the PMU is added to Esane in data adjustment, *see 3.27.1 Creative, arts and entertainment activities, libraries...*). In addition, the PMU has to transfer a part of its income to the units, which organise the horse races (in S.11), which is considered as a purchase of service. This transfer is accounted in the output of the horse races, but not in the intermediate consumption of PMU. So an adjustment is realised in order to register this transfer (EUR 0.8 billion) in intermediate consumption.

Other

There is also an adjustment for the costs related to the acquisition of buildings or other fixed assets (notary, agency, analysis costs, etc.) which are part of the asset value, and so on, of the GFCF acquisition price. But these costs are recorded as charges in the units accounts. That is why a negative correction of the amount of intermediate consumption is carried out (with a symmetric positive correction on GFCF). It represents EUR 0.5 billion. It is equal to 30% of the GFCF of legal and accounting products (M69Z).

ii. Adjustments with no impact on value added

The following four conceptual adjustments are neutral on value added:

- Purchase cost of services resold as it is: it seeks to exclude from output, the cost of goods or services purchased and resold without having undergone a transformation. This treatment mainly concerns real estate services, travel agency, advertisement, international transport (which has a lot of subcontracting). This adjustment allows to avoid double account. It decreases the output and the intermediate consumption by EUR 67.0 billion. For each economic activity, there is a different method to estimate services resold: in construction, a rate of the turnover has been determined with professionals, in services sector, the level was determined with the survey ESA in 2000.
- Unsold deliveries (EUR 7.0 billion): adjustments to add to Esane the product exchanges between different establishments of the same unit legal.
- Recoverable expenses (EUR 4.5 billion): real estate rental companies do not use trustees and all rental charges are in their account. These expenses are also in the tenant charges. So, they are twice consumed (households and real estate rental companies) and twice produced (suppliers of goods and services and real estate companies). That is why an adjustment is realised to decrease output and intermediate consumption of these expenses. These expenses are evaluated thanks to Housing Satellite Account (*see 10.3.3 Housing satellite account*).
- Adjustment for changes in inventories of finished goods or work-in-progress of real estate industry: companies of construction and real estate industry (F41A, L68A and L68R) produce a good which can not be stored. That is why, their changes in inventories of finished goods or work-in-progress (accounted in output) are transferred to changes in inventories of raw materials and

supplies (negatively accounted in intermediate consumption). So, this adjustment reduces the output and the intermediate consumption by EUR 0.08 billion.

3.3.2.4 Exhaustiveness

Exhaustiveness adjustments cover explicit cut-off adjustments and explicit exhaustiveness adjustments. They are broken down according to the typology N1-N7.

Table 3-13 Exhaustiveness in the production approach of non-financial enterprises, in EUR (billion)

		Output	Intermediate consumption	Value added
N1	Illegal work	14.8	1.4	13.4
N2	Narcotics	2.0		2.0
	Smuggling of tobacco	0.6		0.6
N4	Work councils	1.5	0.8	0.8
	Horse races	0.8	0.7	0.1
	Other association serving business	3.1	1.5	1.5
N6	Fraud on goods purchases	-2.4		-2.4
	Fraud on goods sales	3.7		3.7
	Fraud on sold production	16.8		16.8
	Fraud on wages (« Type II illegal work »)	10.3		10.3
	VAT gap	11.2		11.2
	Consumption of output of type II illegal work		10.3	-10.3
	Fraud on charges		-22.7	22.7
N7	Output for own final use - Databases	1.2		1.2
	Output for own final use - Software	10.3		10.3
	Output for own final use - R&D	21.4		21.4
	Output for own final use - mark-up	0.5		0.5
	Tips	3.2		
	Wage in kind	0.4	-1.3	1.7
	Free rent	0.4		0.4
Total		99.7	-9.3	109.0

A. N1: Underground producer

See chapter 7.

B. N2: Illegal producer that fails to register

See chapter 7.

C. N4: Registered legal person is not included in statistics

Due to its characteristics (see 10.1.1 *Esane*), the data from Esane is to be completed with data from other sources. Firstly, some economic activities are not in Esane or are not used from Esane by national accounts because Esane is not a source exhaustive of these economic activities (economic activities with little tax returns and a lot of very small units). These are economic activities of social action and of associations serving business. The social action activities (section Q of NACE) is added in Surveys and Censuses in the Process table (see 3.3.4 *Social action*), whereas associations serving business are in N4 in the Process Table.

All associations serving business has to be in S.11. They are three types of these associations: business organisations, professional organisation and works councils. They are required to register in SIRENE but are seldom required to fill a tax report. Therefore, Esane is not able to provide information. The national accounts have estimated value added, P.1 and P.2 in the 2005 base and these figures have been evolving like wages (D.11) in S.11 ever since. The account in 2005 was realised by a selection of these units from DADS (*see 10.2.1 DADS*). The value added from associations, which have nor employees nor wages is negligible. The DADS gives the payroll of these units. The structure of the account comes from:

- the State budget (from “common expenses”) for professional and business organisations. It represents EUR 3.1 billion of output (P.1) and 1.5 of intermediate consumption (P.2) which are counted in the S section of NACE.
- the account of the work council of electric and gas industries (IEG) which is published. It represents EUR 1.5 billion of output (P.1) and 0.8 of intermediate consumption (P.2) which are counted in the I section of NACE.

The PMU is added to Esane in data adjustment (*see 3.27.1 Creative, arts and entertainment activities, libraries...*). The PMU collects the bets and gives their due to the winners, and is therefore classified in S.11. It transfers the amount of its income to the units which organise the horse races. An adjustment is realised in order to transform this transfer (EUR 0.8 billion) into P.2 of PMU (*see 3.3.2.3 Conceptual adjustments*) and into P.1 of horse races units (accounted in N4). These horse races units are in S.11 (as if they were at the service of PMU). The output is assumed equal to the sum of costs. The wages of horse races is estimated thanks to DADS. The intermediate consumption is calculated by balance: $P.2=P.1-D.1$ (EUR 0.7 billion).

D. N6: Mis-reporting by the producer
See chapter 7.

E. N7: Statistical deficiencies in the data

i. Production for own final use by market producers

For agriculture products, *see 3.10 Agriculture, forestry and fishing.*

Combined data

The production for own final use is mainly included in combined data because it comes from an Esane’s variable on capitalised production. Some adjustments are realised from this data source:

- the valuation of this production is realised in the general accounting plan with costs of production, so there is no valuation for capital services as it is recommended in ESA 2010, so a mark-up is estimated (*see below*).
- for R&D, databases and software, the production for own final use in business accounts does not follow the same concept than in national accounts, so adjustments are realised (*see below*).

Mark-up or capital services of production for own final use

The estimate is based on accounting data since the general accounting plan recommends capitalising own-account production (if it costs more than EUR 500). In their accounts, companies value capitalised production as costs of production (excluding mark-up), in accordance with the provisions of the general accounting plan (included in combined data in the Process Table). Corporate accounts contain only a global

estimate of the capitalised production. It then has to be broken down by products. A matrix has been defined beforehand to breakdown the capitalised production into products by economic activities and for products, which are listed below.

A01	Crop and animal production, hunting and related service activities
C25	Forging. Treatment of metals, machining
C27	Manufacture of other electrical equipment
C33	Repair and installation of machines and equipment
F41	Construction of residential and non-residential buildings
F42	Civil engineering
F43	Specialised construction activities
J58	Publishing activities
J59	Motion picture, video and television programme production, sounding recording and musical publishing activities
J60	Programming and broadcasting activities
J62	Computer programming, consultancy and related activities
J63	Information service activities
M71	Architectural and engineering activities – technical testing and analysis
R90	Creative, arts and entertainment activities (market)
R92	Gambling and betting activities
R93	Sports activities and amusement and recreation activities (market)

The next step is to estimate the mark-up to be added to evaluate the production for own final use correctly. The estimate of this mark-up is broken down by products. For each own final use product,

- the B.2N / P.1 ratio for the corresponding branch is calculated
- the production for own final use without mark-up is calculated (Esane data+R&D+software+databases+agriculture)
- this production for own final use is multiplied by this ratio to obtain the mark-up.

In practice, to neutralise fluctuations in the B.2N / P.1 ratio which can sometimes be substantial from one year to the next depending on the economic situation, the ratio used is equal to the average of the B.2N / P.1 ratio observed over the last 3 years (included production for own final use and its mark-up in P.1). This mark-up is included in exhaustiveness N7 in the Process Table for EUR 0.5 billion.

Adjustment for R&D

Since ESA 2010, R&D has become an asset, so an output for own final use has been estimated. The amount (EUR 21.4 billion) is estimated by balance between the output of R&D from Esane, exports and imports from the Balance of payments (*see 10.3.2 Balance of Payments*), GFCF from intra-mural business expenditure on the R&D from the survey from Ministry of Research, and intermediate consumption (equals to the intermediate consumption of the R&D industry in product R&D). For more details, *see 3.22.3.2 More details about R&D*.

Adjustments for databases and software

Software

Companies buy software but can also employ computer scientists to create home-made software. In National Accounts, it is a production for own final use. According to the general accounting plan, a share

of this production is included in capitalised production, but not all this production. That is why the share which is not included is added to output. The whole production is evaluated (*see above*) at EUR 12.9 billion. The share which is already counted by Esane in P.12 is estimated at EUR 2.6 billion. So the whole adjustment for software P.12 is EUR 10.3 billion. This production is counted in GFCF.

Databases

Databases created exclusively for own use are a production for own final use in National Accounts. However, according to the general accounting plan, a share of this production is included in capitalised production, but not all this production. This share must be small, so it is not taken into account. That is why, the whole production for own final use is added to output. The valuation of this production is estimated by costs (*see above*) and added to output, it excludes those for the database management system and the acquisition of the data. It represents EUR 1.2 billion. This production is counted in GFCF.

Method used to estimate production for own final use in software and databases

The method used to estimate production for own final use in software and databases is the method which comes from « Handbook on Deriving Capital Measures of Intellectual Property Products » of OECD. In this manual, thanks to a UK survey, the share of time spent developing software according professional groups is known, with a limit at 50% the share of time spent by IT occupation for software for own final use.

Table 8: UK occupational codes used in estimating labour costs of own account software production

ISCO-88	UK SOC	Occupation	Proportion (%)
1236	1136	Information and communication technology managers	15
213	2131	IT strategy and planning professionals	35
213	2132	Software professionals	70 (50)
3121	3131	IT operations technicians	20
3122	3132	IT user support technicians	15
4113	4136	Database assistants/clerks	5
213	5245	Computer engineers, installation and maintenance	5

To evaluate the production of databases, the executives for documentation and archiving of public and private sector are added to professional groups (with a share of time spent at 25%). The wages of this professional groups comes from DADS (*see 10.2.1 DADS*). They are calculated excluding IT activities (62, 63, 58.2). Multiplied wages with the share of the UK survey gives wages for own account software and databases production. To obtain the output, wages are multiplied by 2.1 (i.e. wages including salary costs) and output is 1.85 times this wages including salary costs (wages + intermediate consumption who are estimated at 50% of these wages + GOS who are estimated at 35% of these wages, rates recommended by OECD). This method gives the production for own final use of software and databases. This production is broken down by economic activities thanks to a matrix defined beforehand to breakdown the capitalised production into products by economic activities (*see above*). For more details *see 3.19.4.2 More details about software and databases*.

ii. Tips, wages and salaries in kind

Tips

Tips are mainly counted in business accounts, therefore they are counted in national accounts. However, some tips, which are directly cashed by staff and are unknown to the employer, are not accounted in business account. So, an adjustment is made to add to output and wages these tips. This adjustment is evaluated by a rate broken down by economic activities and applied to the wages issued from Esane and

its associated data validation. These rates were determined according to data from DADS (see 10.2.1 DADS) which specifies the number of employees who earn tips unknown from their employers, in agreement with the manager of each industry. The rates are in the below table.

Table 3-14 Rates of tips by NACE section, in percentage

Section of NACE	S.11	S.14AA
H49B	1%	4%
I55Z	14%	24%
I56Z	14%	24%
J59Z	3%	6%
N79Z	0%	1%
R90M	2%	6%
R91M	2%	6%
R92Z	6%	6%
R93M	1%	2%
S96Z	2%	6%

Payments in kind

According to ESA 2010, payments in kind are “goods and services, or other non-cash benefits, provided free of charge or at reduced prices by employers that can be used by employees in their own time and at their own discretion”. It concerns all types of payments in kind (produced by the employer or bought by him), and many products: foods, housing, transportation, childcare...

In business accounts, these payments in kind are usually accounted in charges (intermediate consumption) except in the following cases:

- Payments to work councils, some subventions for foods (restaurant titles) and for holidays or recreation (holidays check, read-check), childcare are accounted in social contribution.
- Stock-options and bonus shares are accounted in wages in business accounts.
- Goods and services produced by the company are generally in charge transfers, Esane’s variable which is not in the output.

Therefore, some adjustments which have impact on value added have to be done:

- The provision of meals and drinks to employees by hotels and restaurants (section I of NACE). It is an unsold production of companies which profits to employees. An adjustment is made to increase the output of the I section of NACE (EUR 0.4 billion) and wages in kind.
- Goods and services made available to their employees by companies (not produced by companies but bought) are accounted in intermediate consumption, in charges. An adjustment is made to decrease the intermediate consumption (EUR 1.3 billion) and to increase wages in kind.

These adjustments are calculated by applying a rate derived from labour cost surveys (ECMO) to wages paid by businesses in each economic activities. The survey details the various components of remuneration, employers' social security contributions, salary supplements paid in the event of illness or other risks, as well as other cost components (employee savings, taxes, etc.), social services, training

expenses, other expenses for the benefit of the employees... For the provision of meals and drinks to employees by hotels and restaurants, the rate is 2% of wages in Esane. For other economic activities, the rate is between 0.1% and 1%.

An adjustment is also done to transfer payments to work councils from social contribution to wages (*see chapter 4*).

Free rent

An adjustment is made for the free provision of dwelling services by employers to their employees (company accommodation). In general, they are not in Esane's variables used to calculate the output. They are not in labour cost surveys. The amount is provided by the housing satellite account (CSL). A part is in the real estate activities (Nace 68) because it is from the social landlords, the other part is broken down by economic activities with the structure of the wages in Esane by economic activities. It is added to the housing service production and to the wages in kind (EUR 0.4 billion).

By convention, the total free housing service estimated by the housing satellite account is allocated between General Government (especially the State) and non-financial corporations. The other sectors are considered to be little concerned. This means that the amount of free housing service for the whole economy is consistent with the housing satellite account.

3.3.2.5 Balancing

The production and incomes approaches determine the GDP. Nevertheless, a limited residual balancing adjustment is made from the expenditure approach in order to assure the strict equality of the GDP derived from the three approaches (EUR 0.3 billion), *see chapter 6*.

3.3.3 Agriculture (NACE section A)

In the French accounts system, agricultural industry is recorded via its products, which are known from agricultural statistics. Thus, the production of companies whose the main activity is in agricultural industry (section A of NACE) is calculated as follows: quantities x price. The calculation of value added requires statistical elements about farms which are not to be found in structural business statistics, and which are used to make an initial evaluation of many items in the overall account of the enterprises concerned. The same procedure is applied for forestry and fishing.

All data for agricultural branch is accounted in the Survey and Censuses column of the Process Table (*see 3.10 Agriculture, forestry and fishing*). Evaluations of agricultural production and income are based on the valuation of observed productions, and not on the statements made by farmers. If there is fraud, it is implicitly entered. Therefore, the sources are supposed to be exhaustive. Two conceptual adjustments are realised: for FISIM (*see 3.4.4 Detailed presentation of FISIM*) and for financial leasing (*see 3.3.2.3 Conceptual adjustments*).

3.3.4 Social action

The social action activities (in section Q of NACE) is added in "Surveys and Censuses" in the Process table. The market social action is made of three main activities: care-dependency, care and accommodation. The care activities is in General Government account. For accommodation and care-dependency, a survey (*see 10.1.3 Surveys in the social services field*) from the Ministerial Statistical Office for Social Affairs is preferred to Esane. This survey provides information on the number of places in the establishment welcoming the elderly broken down by the status public or private. It also provides information on the average daily

dependency fee. Therefore, the market output can be calculated (P.1). The output is assumed equal to the sum of costs. The intermediate consumption is calculated by balance: $P.2 = P.1 - D.1 - D.29 - CFC$ where D.1 comes from Acoiss (organisation that collects social security contributions, see 10.2.2 Acoiss and Urssaf), D.29 is calculated by a fix share of P.1 and D.1, CFC is calculated by a fix share of P.1. It represents EUR 15.9 billion of output (P.1) and EUR 3.0 billion of intermediate consumption (P.2).

There is no data validation for social action. The conceptual adjustments for this industry are very weak: only the conceptual adjustment on financial leases is accounted (EUR 0.05 billion). The only exhaustiveness adjustment is for output for own final use of R&D (EUR 0.002).

3.3.5 Borderlines cases

The previous sections explain the whole transformation from business accounts to national accounts in the Process Table for non-financial enterprises (S.11+S.14AA). This section itemizes the borderlines cases for companies with references to the previous sections.

3.3.5.1 Borderlines cases in production

Own-account gross fixes capital formation (GFCF)

In the general accounting plan, own-account production is either counted in production (if it costs less than EUR 500), or counted in capitalised production (if it costs more than EUR 500). Therefore machine tools (if it costs more than EUR 500) are value in capitalised production as costs of production. This production for own use is accounted in output (in Data Combined), and a mark-up is added to correctly evaluate this production (see 3.3.2.4 Exhaustiveness). Software and R&D are added to production in N7 in the Process Table, (see 3.3.2.4 Exhaustiveness). Activities linked to mineral exploration are negligible in France.

Products used for payments in kind

There are two instances where adjustments for products used for payments in kind are applied for output (see 3.3.2.4 Exhaustiveness). The first is the provision of meals and drinks to employees by hotels and restaurants (section I of NACE): adjustments are calculated by applying a rate derived from labour cost surveys to wages paid by businesses in this sector. The second is the free provision of dwelling services by employers to their employees (company accommodation). This amount is provided by the housing satellite account (CSL).

Products bartered

Legally, bartering activity is considered as "offset" sales of goods and services by a purchase of equivalent value, and therefore do not generate cash flow. All trade rules and obligations imposed on the company (responsibility for defective products, compliance with the labour code, the environment, etc.) apply to trade as well as to the rest of its business.

From an accounting point of view, the issuance of an invoice bearing the legal notices and the accounting entry of the transaction is compulsory for each exchange operation. The invoice must be marked "in compensation" in order to improve the terms of its registration and settlement, even if the consideration is not immediate. In the case of a cash payment, it is subject to a "conventional" invoice and settlement.

Fiscally, the VAT collected through invoices in compensation must be repaid in the same way as the VAT appearing on "conventional" invoices.

The bartering activity is not identified, neither retreated in the French national accounts, but as indicated above, corresponding transactions are normally accounted in our data.

Products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final uses

Data on establishments are very limited in the statistical system on the productive system, and they do not allow for an additional assessment of deliveries between establishments. Locally, where there are additional statistics on production processes in the manufacturing industry, sector heads consider that flows – under the heading of unsold deliveries – are assumed to correspond to deliveries between establishments of the same company. This has no impact on GDP since the counterpart for these deliveries is intermediate consumption by the same company (see 3.3.2.4 *Exhaustiveness*).

Products added to the inventories of finished goods and work-in-progress (including natural growth of animal and vegetable products, standing timber and uncompleted structures for which the buyer is unknown)

Usually, the general accounting plan requires companies to count inventories of finished goods in the same way as additions to work-in-progress under “stored production”. Therefore, companies’ production estimated from accounting data naturally includes these instances.

For inventories of goods held by producers with natural growth of animal and vegetable products and standing timber, see 3.10 *Agriculture, forestry and fishing*.

For uncompleted structures for which the buyer is unknown, see 3.3.2.3 *Conceptual adjustments*. Changes in the inventories of finished goods and work-in-progress of construction products (accounted in output), as they appear in the business account in this industry, are systematically deleted and absorbed into changes in inventories of raw materials and supplies (negatively accounted in intermediate consumption). Therefore, the inventories of finished goods and work-in-progress of uncompleted structures for which the buyer is unknown are changes in inventories of raw materials and supplies, accounted in intermediate consumption. It is thus assumed that the corresponding projects found a buyer when work started (in France, the majority of constructions are carried out under sales contracts concluded in advance).

3.3.5.2 Borderlines cases in intermediate consumption

Costs of using rented fixed assets (mainly operational leasing)

Rents are treated as expenses in the general accounting plan, and in the same way on tax returns and in the accounts of non-financial enterprises, without the need to carry out retreatment.

Inexpensive tools used for common operations and small devices such as those listed in the ESA2010 §3.89 (f)(1)

Inexpensive tools used for common operations or work are part of intermediate consumption and not GFCF: saws, shovels, knives, axes, hammers, screwdrivers and wrenches or small devices such as pocket calculators. These goods are listed under expenses in the general accounting plan (PCG) and the same way on tax returns and in the accounts of S.11+S.14AA, without the need to carry out retreatment.

Subscriptions, contributions or dues paid to non-profit business associations

Subscriptions, contributions, and other dues paid to professional non-profit bodies are recorded as “other external expenses” in corporate accounting, and in the same way on tax returns. These subscriptions are therefore treated as intermediate consumption, without the need for any retreatment.

Goods and services received from another local KAU of the same institutional unit that comply with the definition of intermediate consumption

Data on establishments are very limited in the statistical system on the productive system, and they do not allow for an additional assessment of deliveries between establishments. Locally, where there are additional statistics on production processes in the manufacturing industry, sector heads consider that flows – under the heading of unsold deliveries – are assumed to correspond to deliveries between establishments of the same company. This has no impact on GDP since the counterpart for these deliveries is intermediate consumption by the same company (see 3.3.2.3 *Conceptual adjustments*).

Non-life insurance service charges (payments for life insurance should be excluded)

Non-life insurance premiums for business interruption, civil liability or builder's liability are treated as expenditure by companies. In the national accounts, the portion of these premiums that does not correspond to remuneration of the insurance service is deducted from intermediate consumption. The insurance account provides the estimate for the fraction of premiums that corresponds to compensation for an insurance service, by counterpart sector (see 3.3.2.3 *Conceptual adjustments*).

FISIM purchased by resident producers

A retreatment was carried out on intermediate consumption to add the FISIM consumed by resident producers. These data are evaluated by counterpart sector by the financial institutions account (see 3.4.4 *Detailed presentation of FISIM*).

Goods and services used as inputs into ancillary activities

Goods and services consumed in the context of auxiliary activities are treated as expenditure by companies and as intermediate consumption in the national accounts; as a result no retreatment is required.

Expenditure by employees, reimbursed by the employer, on items necessary for the employers' production

Expenditure by employees on the purchase of goods or services needed for the production process and which are reimbursed by the employer is treated as expenditure by companies and as intermediate consumption in the national accounts: no retreatment is therefore necessary.

Items to be treated as gross capital formation, e.g. valuables, mineral exploration, major repairs and improvements (renovation, reconstruction or enlargement), software, research and development (with the exception of the R&D acquired to be used solely in the creation of further products of R&D), military weapons

It is assumed that only households acquire valuables. The question of their exclusion from intermediate consumption of producers of goods and services therefore does not arise.

Activities linked to geological or mineral exploration are negligible in France.

In the French general accounting plan (PCG), expenditure on improvements and the addition of elements is treated as fixed assets if they fulfil the following criteria:

- the entity will benefit from future economic advantages linked with the asset
- the value of the asset can be assessed with sufficient reliability.

Expenditure on fixtures and fittings counts as fixed assets. Expenditure on replacements, large-scale renovation and maintenance also counts as fixed assets. All of this expenditure is therefore treated as

assets in the source data for business statistics and not as expenditure. In national accounting, it is not treated as intermediate consumption but as GFCF. No retreatment of the source data is required.

Software purchased to be used as an operating resource is recorded as fixed assets in business accounting (PCG). No retreatment is therefore required for intermediate consumption in national accounting.

External expenditure for research and development is estimated from a business survey by the Ministry for Higher Education and Research. It is subtracted from intermediate consumption. As described above, from this survey it is possible to separate sales of R&D to companies producing R&D from sales of R&D to other companies (*see 3.22.3.2 More details about R&D*). Only this last amount is subtracted from external expenses recorded by companies to evaluate intermediate consumption (*see 3.3.2.3 Conceptual adjustments*).

Regarding weapons systems, annual State spending on military equipment can be estimated from the budget data (excluding rifles, small calibre ammunition, etc.). This amount comes from State budget expenses to estimate intermediate consumption and gross fixed capital formation. No agent other than the State purchases large military equipment.

Expenditure to be treated as the purchase of non-produced assets, e.g. long-term contracts, leases and licenses

In the French general accounting plan (PCG), contracts, leases and licenses are treated as assets (not as intermediate consumption), and the same is the case in business statistics. Consequently, they do not appear in intermediate consumption and no retreatment is necessary to record payments for licenses as acquisition of non-produced assets.

Expenditure by employers to be treated as wages and salaries in kind

An adjustment is applied in the national accounts to deduct benefits in kind from intermediate consumption and charge them to wages (D.11), on the same basis as rates applied to wages in the sectors (*see 3.3.2.4 Exhaustiveness*).

Use by market or own-account producer units of collective services provided by government units (to be treated as collective consumption expenditure by government)

The use by S.11+S.14AA of collective services provided by General Government units is not recorded in the business accounts as it is not invoiced. No retreatment is therefore made to evaluate intermediate consumption.

Goods and services produced and consumed within the same accounting period and within the same local KAU (to be also excluded from output)

Goods and services produced and consumed during the same accounting period and within the same local KAU are not included in the business accounts. No retreatment is therefore required in the national accounts to remove them from intermediate consumption.

Payments for government licenses and fees that are to be treated as other taxes on production

Payments made to General Government for licences and fees that are to be treated as other taxes on production are first identified as other taxes on production in S.13 accounts. Then the total amount of other taxes on production paid by firms (as found in firms accounts) is compared to the total amount of other taxes on production received from firms by government (as found in S.13 accounts). If the two amounts differ the amount of other taxes on production paid by firms is made equal to the one found in

S.13 accounts, and a symmetric adjustment is performed on intermediate consumption of firms to ensure balancing (see 3.3.2.2 *Data validation (Taxes discrepancy)*).

Payments for licences for using natural resources (e.g. land) that are to be treated as rents, i.e. as a payment of property income

From the intermediate consumption provided by the accounting data, a valuation of rents paid for land is subtracted (see 3.3.2.3 *Conceptual adjustments*).

Decommissioning for large capital assets

At this stage, the question does not arise as there are no decommissioned power stations.

3.4 Financial enterprises (S.12+S.14AF)

This section presents the production approach of financial sector (S.12+S.14AF) in the Process Table, which correspond to the section K of NACE. The institutional sector of financial enterprises is decomposed as in the table below, in French National Accounts. In 2010, there is no pension funds (S.129) in France.

Table 3-15 Decomposition of financial enterprises (S.12+S.14AF)

S.12A	S.121	Central bank
	S.122	Deposit-taking corporations except the central bank
	S.123	Money market funds
	S.124	Non-MMF investment funds
	S.125	Other financial intermediaries, except insurance corporations and pension funds
S.12E	S.126	Financial auxiliaries
	S.127	Captive financial institutions and money lenders
S.12I	S.128	Insurance corporations
S.14AF	S.14AF	Unincorporated enterprises in industry K

The presentation follows the Process Table: begins with the data sources, provides some information on the valuation, and itemizes all the methodology for transition from private accounting to ESA 2010 National accounting concepts. The data source corresponds mainly to the data transmitted by the Bank of France to Insee. At the end of the section, the methodology of calculation of FISIM is presented in details.

The tables below summarize the data from the Process Table by institutional sectors of financial enterprises (S.12+S.14AF).

Table 3-16 Output of financial enterprises in the Process Table, EUR (million)

P.1	S.12A	S.12I	S.12E+S.14AF	Total K
Administrative records	75 530	61 175		136 705
Combined data			26 336	26 336
FISIM	50 276			50 276
N7 - Software	1 131	412	425	1 968
Total	126 937	61 587	26 761	215 285

Table 3-17 Intermediate consumption of financial enterprises in the Process Table, EUR (million)

P.2	S.12A	S.12I	S.12E+S.14AF	Total K
Administrative records	64 159	41 855		106 014
Combined data			13 801	13 801
Other conceptual adjustments	-654	3 376	-52	2 670
Financial leasing	-276	-16	-94	-386
Net insurance premiums	-235			-235
UCITS	627	3 440	42	4 109
Acquisition costs of fixed assets	-770	-48		-818
Allocation of FISIM		497	407	904
Total	63 505	45 728	14 156	123 389

3.4.1 Data sources

All the financial intermediaries described below, except Caisse des Dépôts, Coface and financial auxiliaries, are required to be approved (by the Bank of France, the Prudential Supervision and Resolution Authority or the Financial Markets Authority). For these units, there is no cut-off threshold. All the registers are updated on a continuous basis. For the financial sector, the assumption is made that there is no need for exhaustiveness adjustment (except for the software production for own final use), given the strong supervision of the activity.

3.4.1.1 *The Central Bank (S.121)*

Subsector S.121 comprises the units that perform central banking functions within the meaning of the ESA. It includes the Banque de France and the Institut d'émission des départements d'outre-mer (IEDOM). Their scope of practice therefore coincides with the economic territory of national accounts. Information from these units is largely public, regular and complete.

3.4.1.2 *Financial agents (S.122 and S.125)*

In France, as in most other countries, banking activities, the provision of investment and payment services and the issuance and management of electronic money are reserved for companies that are authorised and subject to special supervision by the Prudential Supervision and Resolution Authority (Autorité de contrôle prudentiel et de résolution, ACPR), an authority backed by the Banque de France. This system, governed by the Monetary and Financial Code, is justified by several concerns, including the protection of the public and the monitoring of money and credit. The Prudential Supervision and Resolution Authority is competent to issue authorisations, but also to withdraw them in the event of cessation of activity or if the company no longer fulfils the conditions or commitments to which the authorisation was subject or on a disciplinary basis.

Depending on the activities they carry out (banking activities, investment services, payment services, issuing and managing electronic money), financial companies are authorised in one of the following categories (the first 7 of which can be consulted in the Regafi register – Register of financial agents):

- Banks and other credit institutions,
- Financing companies (which cannot receive repayable funds from the public),
- Investment firms (portfolio management companies are authorised by the Autorité des marchés financiers),
- Payment institutions,
- Electronic money institutions,
- Currency exchange offices (also known as manual money changers),
- Agents authorised to provide payment services on behalf of, and under the responsibility of, credit or payment institutions.

The register of financial agents (Regafi) lists companies, French or foreign, that have obtained an authorisation from ACPR to operate in France. It also lists the agents of French payment institutions, operating both in France and in another State party to the Agreement on the European Economic Area. These companies are identified with their SIREN identification number and are also present in SIRENE.

In the case of a foreign company, the register specifies whether it operates through its French branch or directly from its country of origin (freedom to provide services procedure, reserved for companies established in a State party to the Agreement on the European Economic Area). However, the register

does not list foreign payment institutions and electronic money issuers authorised to operate in France through a branch under the freedom to provide services, through agents or distributors of electronic money. Reference should be made to the registers established by the authorities of the country in which the company's registered office is located. The Regafi register specifies, for each company registered with the ACPR, the list of banking activities, investment services and payment services that it is authorised to provide in France.

An institution's accreditation is being withdrawn when it has been the subject of a decision to withdraw its accreditation issued by the ACPR at its request or automatically in the cases provided for by law and is still authorised, during a transitional period, to carry on banking or investment services activities strictly necessary to remedy its situation.

The Fund deposits and Consignment (Caisse des dépôts et consignations)

The Fund deposits and Consignment and its subsidiaries form a public group serving the general interest and economic development of the country. This group fulfils missions of general interest in support of public policies conducted by the State and local authorities and can carry out competitive activities. The Fund deposits and Consignment is a special institution responsible for administering deposits and consignments, providing services relating to the funds entrusted to it for management and exercising the other similar functions legally delegated to it. It is responsible for the protection of popular savings, the financing of social housing and the management of pension funds. It also contributes to local and national economic development, particularly in the fields of employment, urban policy, the fight against banking and financial exclusion, business creation and sustainable development. The Fund deposits and Consignment is a long-term investor and contributes to the development of companies while respecting its proprietary interests. The Fund deposits and Consignment is placed, in the most special way, under the supervision and guarantee of the legislative authority. It is organised by decree in the Council of State, taken on the proposal of the supervisory commission.

The Fund deposits and Consignment accounts are provided to the Bank of France and included in the S.122 accounts.

3.4.1.3 Investment funds (S.123 and S.124)

The Autorité des marchés financiers (Financial Markets Authority, AMF) authorises the creation and marketing of collective investment schemes. The AMF's Asset Management Department (DGA) is responsible for examining approval applications and monitoring collective investments. It also supports professionals by regularly publishing the doctrine adopted by the AMF Board and practical guides.

The world of regulated collective investment scheme

Collective investments include a wide range of savings products regulated by the AMF. Undertakings for collective investment in transferable securities, known as "UCITS", are collective investment undertakings subject to Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009.

Alternative investment funds, known as "AIFs":

- raise capital from a number of investors for investment in the interest of such investors in accordance with an investment policy defined by such AIFs or their management companies;
- are not UCITS.

Collective investments that are neither UCITS nor AIFs are "other collective investments".

Products subject to AMF approval

The creation or substantial modification of certain collective management vehicles under French law are subject to prior approval by the AMF, in particular:

- UCITS, whether constituted as a mutual fund (FCP) or as an open-ended investment company (SICAV),
- the following AIFs:
 - general purpose investment funds;
 - funds of hedge funds;
 - private equity funds (Fonds commun de placement à risque – FCPR, Fonds commun de placement dans l'innovation – FCPI and Fonds d'investissement de proximité – FIP);
 - general purpose professional funds;
 - employee savings funds (company mutual funds (FCPE), open-ended investment company with employee share ownership (SICAVAS));
 - real estate collective investment schemes (OPCI: Real Estate Investment Trust, SPPICAV: Société à prépondérance immobilière à capital variable);
 - professional real estate collective investment schemes.

The AMF issues an approval for the creation of these products, after having verified, in particular:

- product compliance with regulations;
- the proper information of unit-holders or shareholders:
 - through the information contained in the regulatory documents,
 - in letters to customers in the event of a significant change in the strategy of the product it holds.

The AMF does not express an opinion on the suitability of the investment.

Products subject to reporting to the AMF

The creation or substantial modification of specialised professional funds and professional private equity funds is not subject to authorisation but to reporting to the AMF.

Products subject to a visa issued by the AMF

Some products are not subject to prior approval or reporting to the AMF. However, when they make a public offer of their financial securities, the AMF must issue a receipt certifying, in particular, that the prospectus intended for the public is complete, comprehensible and that the information it contains is consistent (Article L. 621-8-1 of the Monetary and Financial Code). This is the case, for example, of units issued by a SCPI or bonds issued by a securitisation undertaking.

Product monitoring

The AMF monitors products throughout their life cycle. It verifies their compliance with regulations and ensures the quality of the information disseminated to investors (annual reports, newsletters or commercial documents). Particular attention is paid to commercial documents for products intended for the general public.

Tighter control of marketing

The monitoring of the marketing of collective investments is organised in two stages:

1. An a priori review of commercial documents is carried out for:
 - a) products with higher risks of poor marketing (UCITS or AIFs implementing specific management strategies such as portfolio insurance, long/short, etc.),
 - b) products marketed according to a specific deadline (structured funds, venture capital funds, etc.).
2. A monitoring, by sampling, is carried out, a posteriori, on all products marketed in France. It covers the review of advertising campaigns: posters, television, radio, review of management companies' websites and review of specialised magazines.

The Europe of UCITS & AIFs

UCITS governed by French law, in accordance with Directive 2009/65/EC, may be marketed in the other territories of the European Union or in another State party to the Agreement on the European Economic Area (EEA) according to a passport procedure defined by that Directive. Similarly, UCITS governed by foreign law (European Union or EEA) that complies with the same directive may also be marketed in France under the same conditions.

AIFs under French law, managed by a management company authorised in accordance with Directive 2011/61/EU, may be marketed to professional clients in other Member States of the European Union according to a passport procedure defined by that Directive. Similarly, foreign AIFs, managed by a management company authorised in accordance with the same directive, may also be marketed in France to professional clients under the same conditions.

3.4.1.4 Financial auxiliaries (S.126 and S.14AF)

Financial auxiliaries acting as a corporation belong to the financial corporations sector, of which they form a sub-sector (code S.126 of ESA 2010), and are not part of non-financial enterprises as a whole. Unincorporated enterprises carrying out the activity of a financial auxiliary are classified, like all unincorporated enterprises, with their owner in the household sector.

Financial auxiliaries consist of:

- financial auxiliaries in the strictest sense, whose principal activity is that of NACE 66.1 or 66.3
- insurance auxiliaries, whose principal activity is that of NACE 66.2
- non-profit institutions exclusively serving financial agents.

They also include holdings of financial groups and certain holdings of non-financial groups which, due to a lack of information, cannot be properly classified in the other sub-sectors.

The accounts of financial auxiliaries are prepared using the same procedure as that used for non-financial enterprises, based only on tax sources. These units are identified from the Esane source: the ones in the division 66 of NACE (see 10.1.1 Esane for more information about the Esane Source).

3.4.1.5 Captive financial institutions and money lenders (S.127)

These units are identified from the Esane source. It is the ones that are excluding of non-financial enterprises by the algorithm used to separate holdings from head office (see 3.3.2.2 Data validation).

3.4.1.6 Insurance bodies (S.128)

Organisations wishing to carry on an insurance or reinsurance activity must be accredited by the ACPR. The bodies concerned are governed by the provisions of the Insurance Code, the Mutual Insurance Code and the Social Security Code. So in this context:

- Are governed by the Insurance Code:
 - Insurance and reinsurance companies under French law,
 - Branches of non-EU insurance undertakings,
- Are governed by the Mutual Code: Mutualist organisations (mutuals and mutual unions),
- Are governed by the Social Security Code: Foresight institutions.

The accreditation of direct insurance organisations is based on three principles:

- The principle of speciality: an insurance organisation may only carry out the operations for which it has obtained approval. However, it may be authorised, under certain conditions, to provide guarantees on behalf of other recognised organisations with which it has concluded an agreement to this effect.
- The principle of specialisation: the organisations are authorised to carry out activities exclusively in life or non-life insurance. Nevertheless, this principle can be mitigated to cover all risks related to the person, and life insurance authorised bodies can also be authorised to cover sickness and accident risks.
- The principle of accreditation by branch: branches are defined at Community level. There are 18 community branches in non-life insurance, and 6 branches in life insurance in France, to which is added the special branch of tontine operations (covered only by the insurance code). Insurance companies are allowed to operate in all these branches, the scope of activity is more limited for mutuals and foresight institutions.

The Prudential Supervision and Resolution Authority has a total period of six months from the date of receipt of a complete file to take a decision.

Prior to the issuance of the approval, the ACPR consults the corresponding guarantee funds. It also consults the Conseil Supérieur de la Mutualité (CSM) for mutuals governed by the Mutual Code. In this case, the advisory opinion shall be deemed to have been delivered within three months of the date on which it was referred to it.

In the case of bodies covered by the Insurance Code, failure to reply by the end of the six-month period shall constitute an implied decision to reject. If the supervisory authority decides to refuse authorisation before the end of the six-month period, the company must first be given notice to submit its observations within 15 days. The refusal of approval is justified and notified to the company, which then has two months to appeal to the Conseil d'État.

In granting accreditation, the Supervisory Authority shall generally base itself on the following criteria:

- the good repute, competence and experience of the persons responsible for leading or directing the organisation;
- the administrative, technical and financial resources whose implementation is proposed in accordance with the programme of activity;

- the distribution of capital and the quality of shareholding for insurance companies incorporated as public limited companies;
- the procedures for setting up the establishment fund for mutual or joint bodies (provident institutions).

In the case of insurance organisations, the granting of authorisation may be subject to compliance with commitments entered into by the applicant company. The ACPR may refuse authorisation if it finds that the exercise of control could be hindered by the existence of capital ties between the applicant company and other legal or natural persons or by the laws, regulations or administrative provisions of a State not belonging to the European Economic Area to which one or more of these persons belong.

Coface

Coface (Compagnie française d'assurance du commerce extérieur) is a public body with a few specific features. It insures French companies for the risks they incur when exporting. It operates on its own account and on behalf of the State. The transactions it carries out on its own account are included in the ACPR data. The transactions it carries out on behalf of the State are recorded in a special accounting system. Coface nevertheless constitutes a single institutional unit, all of whose business is recorded in insurance operations. Its accounts are provided by the Treasury Directorate General.

3.4.2 Data validation adjustments and valuation

All the data we use to compute the financial enterprises accounts come from aggregation of individual reporting documents or tax returns. There is no survey for the elaboration of S.12+S.14AF accounts. Furthermore, reporting documents and tax returns are based on different charts of accounts (banking, insurance, general), which respect completely the following principles:

- operations are recorded on the concept of accrual basis,
- products are recorded at basic prices,
- charges are recorded at purchaser price.

3.4.2.1 *Bank of France*

The central bank's accounts, and in particular its costs, are based on the following reports: <https://www.banque-france.fr/liste-chronologique/le-rapport-annuel-de-la-banque-de-france>. The central bank is well excluded for the calculation of FISIM.

The central bank's output is measured by the sum of costs:

$P.1 = P.2 + D.1 + D.29 - D.39 + CFC$

Where P.2, D.1, D.29 are based on the report. D.39 is nil. The consumption of fixed capital is calculated in a conventional way: 70% of the GFCF for each current year, the GFCF being in the report.

Table 3-18 Output of the Bank of France, EUR (million)

P.1	1 993
Intermediate consumption (P.2)	585
Compensation of employees (D.1)	1 233
Other taxes on production (D.29)	139
Other subsidies on production (D.39)	
Consumption of fixed capital (P.51c)	36

However, this estimated production implicitly contains a part that has already been invoiced to other financial intermediaries, which consume it intermediately. By noting X this invoiced production, and P.1_BC the output of the central bank, there remains the quantity (P.1_BC – X) to be consumed by financial intermediaries. By convention, this part of the production is entirely consumed in intermediate consumption (P.2) by the S.122 sector. In addition, in order not to unbalance the account of deposit-taking institutions, an "Other miscellaneous current transfer" is recorded between this sector and the central bank. These operations can be summarised in the following T-account:

S.122		S.121	
P.2 = P.1_BC		P.1=P.1_BC	
	D.759=P.1_BC-X		D.759=-(P.1_BC-X)

3.4.2.2 Financial agents

The accounts of S.122 and S.125 sectors are computed from the following reporting table: <https://esurfi-banque.banque-france.fr/current/Tablex/surfi/detail/CPTESURFI>. The « Administrative records » production (excluding FISIM) for these units is calculated by the sum of lines which are assimilated to resources in national accounts: commissions on products, the income from operating leases, rents, commitments, banking operating, operating income, accessory products and charges charged back...

The « Administrative records » intermediate consumption for these units is calculated by the sum of lines which are assimilated to uses in national accounts: commissions on transactions, acquisition costs, charges on leases, charges on commitment, charges on financial services, external services, return products...

Table 3-19 Output and intermediate consumption of financial agents, in EUR (million)

	P.1	P.2	B.1G
S.122	109 129	49 271	59 858
S.125	4 885	3 168	1 717

3.4.2.3 Investment funds

The accounts of investment funds are constructed from AMF data: intermediate consumption of S.123 and S.124 are mainly operating expenses paid to the fund managers. Production of investment funds is equal to their intermediate consumption in S.123 and to their intermediate consumption plus rents from real estate funds (given also by AMF) in S.124.

Table 3-20 Administrative records of investment funds, EUR (million)

	P.1	P.2
S.123	976	976
S.124	10 454	9 505

3.4.2.4 Financial auxiliaries activities

Production and intermediate consumption of these units in Esane are calculated as the output and intermediate consumption of non-financial enterprises from Esane (see 3.3.2.1 Esane). Changes in inventories of finished goods or work in progress are almost nil in this economic activities (less than ten million).

Table 3-21 Combined data of financial auxiliaries activities' output, EUR (million)

P.1 (Combined data – Esane)	26 336
Production sold	25 159
Plus capitalised production	2
Plus sales of goods purchased for resale	777
Minus goods purchased for resale	-753
Minus changes in inventories of goods purchased for resale	-3
Plus other operation income	1 154

Table 3-22 Combined data of financial auxiliaries activities' intermediate consumption, EUR (million)

P.2 (Combined data – Esane)	13 801
Purchase of raw materials and supplies	522
Plus changes in inventories of raw materials and supplies	-12
Plus other external expenditure	12 743
Plus other operating expenditure	619
Plus balance of operations made in common	-71

3.4.2.5 Insurance bodies

Like banks, insurance companies have a special chart of accounts. The measurement of the production of the service provided by the insurance activity is conventional. In its most general form, it is written as follows:

$\text{Production} = \text{Premiums} + \text{Premium supplements} - \text{Adjusted claims} - \text{Variations in technical reserves}$

This definition, which is decoupled from the more explicit ESA definition, is designed to cover both life and non-life insurance. The terms used in this definition to refer to provisions, often referred to as reserves in national accounting standards, refer to the categories in the Insurance Chart of Accounts. Premium supplements correspond to the property income earned by insurance companies from the investment of technical provisions representing policyholders' claims: this income is allocated to policyholders.

The way in which this definition applies to the different cases is specified in the following, distinguishing between: life insurance, non-life insurance and reinsurance. In the output of insurance bodies, there is also other services, whom data come from their accounts (for example: real estate investments).

Life insurance

The application of the general formula to life insurance requires the following clarifications. There are variations in technical reserves only for life insurance. In this respect, it is necessary to adjust the variation in these provisions for the effects of holding gains and losses. Moreover, as most of the insurers' commitments are multi-annual, there are no reserves for unearned premiums in life insurance.

Non-life insurance

The application of the general formula to non-life insurance requires the following clarifications. Premiums for a financial year are adjusted to retain only the amounts allocated to cover the risks expected during that financial year, in accordance with the principle of accrual basis. This results in earned premiums for the year, by adding changes in reserves for unearned premiums, which are receivables from policyholders.

Symmetrically, all the services that generate them are linked to the financial year. This is obtained by adding to the benefits paid changes in the provisions for claims payable, which are claims of the insured. In addition, these allowances are adjusted to remove the volatility of the series.

For its own account activities, Coface's underwriting results are included in the tabulations made for traditional insurance companies. Coface's production on behalf of the State is calculated as the production of non-life insurance. It should be noted that Coface receives significant amounts of recoveries, which are recorded as negative indemnities.

Reinsurance

Reinsurance in life insurance is calculated in the same way as in life insurance from the "Acceptations" columns of insurers' accounting statements. This is also the case for non-life insurance reinsurance.

Adjusted claims

The calculation of adjusted claims adopted in France is based on the technique used by the BEA (Bureau of Economic Analysis of the United States), which smooths the "claims/premiums" ratio. The calculation of the expected compensation is carried out, for each type of risk (bodily injury, cars, transport, etc.), in three stages:

- Step 1: Detection and correction of exceptional values in the "claims/premiums" ratio using a linear regression model with respect to a linear trend over time and indicators over the years;
- Step 2: Smoothing of the series of the adjusted ratio "claims/premiums" by moving average with linearly decreasing coefficients over a 10-year depth;
- Step 3: Calculation of expected benefits = smoothed ratio x premiums.

This smoothing is done for profit-insurance companies. On the other hand, gross indemnities were kept in the calculation of the production of mutuals and provident institutions, due to the lack of temporal depth of the available series.

Decomposition of the insurance activities

Table 3-23 Decomposition of output of insurance activities, EUR (million)

	Life Insurance	Non life Insurance	Reinsurance	Coface	Other
Premiums (a)	151 418	89 676	24 011	424	
Premium supplements (b)	48 228	4 666	3 059	32	
Gross claims (c)	99 101	62 799	22 387	-397	
Adjustment for claims (d)		-264			
Variation in technical reserves (e)	83 440				
P.1 (a + b – c – d – e)	17 105	31 807	4 683	853	6 727

These insurance service outputs (excluding taxes) are broken down by consumer sectors using a specific matrix relating the type of risk to the consumer sectors in column, hence, the final consumption and the intermediary consumption can be estimated. Exports and imports come from the Balance of Payment.

This break down allows to estimate the impact of insurance services on the GDP and on the GNI, which are identifiable as there is no trade in D.441 with the rest of the world. This impact is then measured by adding (note that there is no foreign trade for life insurance services and that all amounts below are exclusive of tax):

- household final life insurance consumption: EUR 17.1 billion
- household non-life insurance final consumption: EUR 15.1 billion
- intermediate consumption of General Government in non-life insurance: EUR 0.4 billion
- intermediate consumption of NPISH in non-life insurance: EUR 0.01 billion
- exports of non-life insurance services: EUR 1.3 billion
- exports of reinsurance services: EUR 0.001billion

Then by subtracting:

- imports of non-life insurance services: EUR 0.6 billion
- imports of reinsurance services: EUR 0.08 billion

In the end, an impact on GNI (and GDP) of EUR 33.1 billion is obtained.

3.4.3 Transition from private accounting to ESA 2010 national accounting (adjustments)

Here below, adjustments for the financial enterprises are described. The conceptual adjustments are « classical » conceptual adjustments operated in all institutional sector. For the financial sector, the assumption is made that there is no need for exhaustiveness adjustment (except for the software production for own final use), given the strong supervision of the activity. The calculation of FISIM is in the next section.

3.4.3.1 Financial leasing

Financial leasing appears in the accounts of companies as a rental of durable goods. However, the owners, which are financial institutions, have a purely financial role: they usually have no competence over the acquired good, with the tenant-user taking on this responsibility and the related risks. In the national accounts, leasing is likened to an investment for the user of the good, financed by a loan from the lessor

(who then has a loan in its assets instead of a tangible capital asset). The value of the asset when the contract is signed is then counted as GFCF while the leasing rents are deducted from external expenditure both for companies and General Government and recorded as loan repayments.

The total amount of rent to be deducted, the interest paid and the data on the value of leased assets are provided by the Banque de France and ASF (Association Française des données financières), which lists all companies authorised to act as lessors. These amounts are broken down by economic activities and counterpart sector thanks to a specific survey of all leasing companies. This survey gives also the share of lands in real estate leasing which is deducted from the leasing rent and the interests.

There are two adjustments with impact on value added:

- the share of the leasing rents for the repayment of capital: it has to be counted in GFCF, therefore, the consumption intermediate (P.2) are reduced of this share.
- the share of the leasing rents for the payment of interests: the consumption intermediate (P.2) are reduced of this share, because it is accounted in D41.

3.4.3.2 Net insurance premiums

Financial enterprises (S.12+S.14AF), in accordance with the rules of business accounting, record non-life insurance premiums paid among other external charges. In Banque of France data, premiums are therefore part, for their full amount, of intermediate consumption.

Under the verified assumption that financial companies record insurance premiums (the amount and the period) symmetrically to insurance corporations, the adjustment made at the time of converting to national-accounts format is intended to substitute for the amount included in intermediate consumption in Banque of France data, the amount of the consumption of services coming from insurers' data.

3.4.3.3 UCITS

UCITS do not explicitly bill their services, but take their remuneration from the property income they pay to unit-holders. As this remuneration is therefore not included in the financial companies intermediate consumption, the adjustment made in the transition to national-accounts format consists precisely of increasing their intermediate consumption by the amount that is deducted from "Interest and similar income" to obtain the property income received by non-financial corporations. The intermediate consumption of UCITS (P.2) is given by Banque de France.

3.4.3.4 Acquisition costs of fixed assets

Costs related to the acquisition of housing, buildings or other fixed assets (notary, agency, analysis costs, etc.) are part of the asset value, and so on, of the GFCF acquisition price. But these costs can be recorded as charges in the units accounts. That is why a negative correction of the amount of intermediate consumption is placed (with a symmetric positive correction on GFCF).

3.4.3.5 N7-Software

Companies buy software but can also employ computer scientists to create home-made software. In National Accounts, it is a production for own final use. According to the general accounting plan, a share of this production is included in capitalised production, but not all this production. That is why the share which is not included is added to output (in N7 in the Process Table).

3.4.4 Detailed presentation of FISIM

The calculation of FISIM and the distribution by uses require that the following items were identified:

- FISIM producers: it is only the financial companies that practice financial intermediation, which excludes investment funds, insurers and financial auxiliaries; by agreement, the central bank is not considered as a producer of FISIM;
- the financial instruments supporting FISIM: these are loans and deposits.

The method consists in calculating a reference interest rate which, applied to outstanding loans and deposits, makes it possible to determine "pure" interest amounts. The value of the services is then equal to the difference between the actual interest observed on deposits and loans, on the one hand, and the amounts of pure interest, on the other hand. Effective interest corresponds to observed interest, calculated on an accrual basis.

In other words, in the normal case:

- depositors with financial intermediaries consume services whose value is equal to: pure interest amounts on deposits minus effective interest on deposits;
- borrowers of financial intermediaries consume services whose value is equal to: effective interest on loans less amounts of pure interest on loans.

Thus, the margin on loans granted to a customer is obtained by multiplying the corresponding outstanding amount by the difference between the rate paid by this customer and the reference rate, that on a customer's deposits by multiplying the corresponding outstanding amount by the difference between the reference rate and the rate paid to this customer.

The calculation requires large amounts of data:

- the average outstanding deposits and loans for the year;
- the amounts of effective interest on loans and deposits;
- it is also important to distinguish between categories of depositors and borrowers: detail by institutional sectors is a minimum requirement; in fact, it is necessary to identify individual companies within households, and to identify housing loans for households.

The reference rate for resident is calculated by relating the total amount of interest flowing between resident financial intermediaries to the average outstanding amount of assets / liabilities linking these intermediaries. As a result of this calculation, there is by construction no consumption of services between resident intermediaries.

The reference rate for non-resident is calculated in a similar way on the basis of the outstanding amounts and interest linking resident and non-resident financial intermediaries. For practical reasons, service flows between financial intermediaries, which are not always zero compared to the internal situation, are cancelled. There is therefore only consumption of FISIM imported by resident non-financial agents, and export only to non-resident non-financial agents.

The data are provided by the Banque de France¹¹ with the exception of interest on deposits and loans of resident agents with non-resident financial institutions, which are extrapolated by INSEE from the results published by the balance of payments. FISIM consumed are broken down by sector, according to the main activity of these companies.

In autumn 2013, after examining the national FISIM calculation methods, Eurostat considered the SIFIM calculation method used in France to be non-compliant with regulatory requirements. In fact, in the current calculation method, the rate margins are not measured on the basis of the rates actually charged by type of clientele and type of credit, but from average rates. As these two elements (type of customers and nature of credit) affect the nature of consumption (final or intermediate), they impact GDP and GNI, hence Eurostat's request to review the method. This new method was implemented in the benchmark revision in 2018 (for the benchmark year 2014).

Consecutive stages and individual elements of the calculation and allocation of FISIM

Step 1: Determine the average outstanding amounts of deposits and loans for each sector from resident financial intermediaries.

Step 2: Determination of gross interest (D.41) received and paid for each FISIM consumer sub-sector produced by resident financial intermediaries.

Step 3: Calculation of the internal and external reference rates.

Step 4: Deduction of FISIM produced by resident agents and consumed by each sub-sector.

Table 3-24 Calculation of FISIM output for liabilities (deposit) by institutional sectors, EUR (million)

Institutional sector	Average outstanding amounts (A)	D.41 (B)	Effective rate (C=B/A)	Reference rate (D)	FISIM (A*(D-C))
S.11	252 844	2 303	0.91%	2.01%	2 784
S.126	11 000	100	0.91%	2.01%	121
S.128	15 840	226	1.43%	2.01%	93
S.1311	33 687	760	2.26%	2.01%	-82
S.13112	7 487	13	0.17%	2.01%	138
S.1313	397	2	0.50%	2.01%	6
S.1314	10 523	111	1.05%	2.01%	101
S.14AA	80 475	1 046	1.30%	2.01%	573
S.14B	924 709	13 991	1.51%	2.01%	4 614
S.15	31 373	277	0.88%	2.01%	354
S.2	108 902	1 728	1.59%	1.86%	300
Total	1 477 237	20 557	1.39%	2.00%	9 002

¹¹ The average outstanding amounts of S.122 and S.125 are determined thanks to the accounting documents as follows: https://esurfi-banque.banque-france.fr/current/Tablex/surfi/detail/M_CLIENRE and https://esurfi-banque.banque-france.fr/current/Tablex/surfi/detail/M_CLIENR.

Table 3-25 Calculation of FISIM output for assets (loan) by institutional sectors, EUR (million)

Institutional sector	Average outstanding amounts (A)	D.41 (B)	Effective rate (C=B/A)	Reference rate (D)	FISIM (A*(C-D))
S.11	783 942	29 839	3.81%	2.01%	14 066
S.126	15 000	568	3.79%	2.01%	266
S.128	39 624	1 175	2.97%	2.01%	378
S.13111	2 445	101	4.13%	2.01%	52
S.13112	1 856	74	3.99%	2.01%	37
S.1313	141 907	5 009	3.53%	2.01%	2 154
S.1314	54 775	2 292	4.18%	2.01%	1 190
S.14AA	133 357	5 119	3.84%	2.01%	2 436
S.14B	881 146	34 578	3.92%	2.01%	16 849
of which dwellings	690 901	26 956	3.90%	2.01%	13 055
of which non-dwellings	190 245	7 622	4.01%	2.01%	3 794
S.15	14 838	529	3.57%	2.01%	230
S.2	191 441	7 213	3.77%	1.88%	3 616
Total	2 260 331	86 497	3.83%	2.00%	41 274

Step 5: Imports of FISIM

Table 3-26 Calculation of FISIM imports for liabilities (deposit) by institutional sectors, EUR (million)

Institutional sector	Average outstanding amounts (A)	D.41 (B)	Effective rate (C=B/A)	Reference rate (D)	FISIM (A*(C-D))
S.11	41 877	513	1.23%	1.86%	267
S.128	2 344	29	1.24%	1.86%	15
S.13111	252	3	1.19%	1.86%	2
S.13112	21			1.86%	0
S.1313	2			1.86%	0
S.1314	542	7	1.29%	1.86%	3
S.14B	27 187	333	1.22%	1.86%	173

Table 3-27 Calculation of FISIM imports for assets (loan) by institutional sectors, EUR (million)

Institutional sector	Average outstanding amounts (A)	D.41 (B)	Effective rate (C=B/A)	Reference rate (D)	FISIM (A*(C-D))
S.11	66 505	2 461	3.70%	1.88%	1 211
S.128	590	22	3.73%	1.88%	11
S.13111	35	1	2.86%	1.88%	1
S.13112	3 400	126	3.71%	1.88%	62
S.1313	3 200	118	3.69%	1.88%	58
S.1314	51	2	3.92%	1.88%	1

The output of FISIM by financial enterprises is EUR 50.3 billion (with 9.0 for liabilities and 41.3 for loans). The allocation of FISIM in intermediate consumption of households is the FISIM for loans for dwellings (EUR 13.1 billion).

The impact of FISIM on GNI (EUR 12.9 billion) can be measured by the sum of

- household final consumption in FISIM (EUR 8.6 billion)
- intermediate consumption in non-market sectors (EUR 4.3 billion).

The impact of FISIM on GDP (EUR 15.0 billion) is measured as follows:

- impact on GNI (EUR 12.9 billion)
- plus FISIM's exports (EUR 3.9 billion)
- minus FISIM's imports (EUR 1.8 million).

3.5 General Government (S.13)

This section presents the production approach of General Government sector (S.13) in the Process Table. It follows the Process Table: begins with the data sources, explains the data validation adjustments as well as the valuation, itemises all other conceptual adjustments and finally enlightens exhaustiveness. The data source corresponds to the data transmitted by the DGFIP to Insee. Some corrections are already made by the DGFIP on accounting data in order to conform to National Accounts concepts (for instance, to record taxes on an accrual basis). Other corrections, mobilising other data sources, are implemented by Insee: these supplementary corrections are presented in the sub-chapters “Data validation”, “Allocation of FISIM” and “Other conceptual”. At the end, the borderline cases are summarised, with a references to previous sections. All figures are detailed for the public administration and defence, compulsory social security activity (NACE O).

The table below summarises all the data from the process table.

Table 3-28 Process table of the production approach of General Government, in EUR (million)

		Output	Intermediate consumption	Value added
Column of the Process Table	of which			
Administrative records		367.1	100.6	266.5
Extrapolation and models		64.1	0.0	64.1
	CFC	64.1	0.0	64.1
Data validation		2.0	1.9	0.1
	Correcting data sources	0.1	0.0	0.1
	Substitution of sources	1.9	1.9	-0.0
Allocation of FISIM		3.7	3.7	0.0
Other conceptual		-0.1	-3.7	3.6
	VAT corrections	0.2	0.0	0.2
	Software correction	0.0	0.0	0.0
	R&D correction	-3.7	-3.7	0.0
	Financial leases	-0.9	-0.9	0.0
	Insurance	0.5	0.5	0.0
	Growth of forestry	0.1	0.0	0.0
	Free accommodation	3.3	0.0	3.3
	Reimbursement of professional expenses	-0.4	-0.4	0.0
	Holding UCITS	0.8	0.8	0.0
Total		436.9	102.5	334.4

3.5.1 Data sources

3.5.1.1 Presentation of available data

The usual definition of General Government (S.13) focuses on its function, especially in the redistribution of income and wealth. To highlight its particular feature as a producer, the units in this sector can be defined as institutional public units with mainly non-market activity. Inclusion in the General Government sector presents no problem for the majority of institutional units concerned. Nevertheless, there are a few

units for which the implementation of the criteria defined in ESA 2010 is not immediate. Some public units have a major financial role but can nevertheless not be considered as financial intermediaries: this is the case for bodies that finance defeasance operations by public banks, set up by the State in the 1990s. They may have large balance sheets, but their productive activity is nevertheless negligible.

More significant because of their contribution to GDP is the case of certain bodies that draw most of their resources from the sale of their products, but whose autonomy is considered insufficient for them to be able to constitute full institutional units. For example, this is the case for the trading account “Industrial operations of the State’s aeronautical workshops” account which contains all the revenue and expenditure related to repairs, production done on aerial materials by aeronautic manufacturers. It is usually possible to identify market establishments, for which production and operating accounts are prepared. However, their statistical identification is through that of the institutional unit on which they depend.

In most cases, units within the General Government sector, have their accounts centralised through the Directorate General of Public Finances (DGFIP), where they are formatted to fit with the national accounts framework. However, some of the units whose accounts are submitted to centralised accounting by the DGFIP are excluded from General Government because of their market nature. Less frequently, some units included within the scope of General Government are not subject to centralised accounting by DGFIP. In this case, their accounts are recovered via Esane as they are registered in SIRENE. Finally, nearly all data for the account come from accounting sources at the DGFIP. These data are of a good quality, and in particular some of them are validated each year by the French Court of Auditor. No survey is used for General Government and there are few questions on coverage: all units in the sector are known beforehand either because they are public units or because they are in receipt of public funding and are listed as such. It is also assumed that units included in the General Government sector do not fraud and no correction related to underground and illegal producer is thus implemented.

The General Government sector is divided into three sub-sectors, each of which is subdivided into two sub-sets:

- central government (S.1311): State and various central administration bodies;
- local government (S.1313): local authorities and various local administration bodies;
- social security funds (S.1314): social insurance funds and bodies dependent on social security funds.

It appears that there are two models for organising the information available on the units in this sector:

- the State budgetary accounting, which obeys to some very specific rules;
- the public accounting frameworks, which are derived and adapted from the private general accounting plan (PCG), and accrual based.

A. The State

The State constitutes one single institutional unit, where transactions are carried out by the Treasury. The sources for analysing the State’s expenditure, in execution, are the “Loi de règlement” and the documents associated, the “rapports annuels de performance”, published during Spring N+1. These documents present the effective amounts of expenditure made as part of the budget laws during a year, and explain the main movements. Expenditures are broken down by expenditure objectives (into thematic “missions”, “programs”, and “actions”) as well as by type of expenditure (Heading II for expenditure on staff, Heading

III for operating expenditure...). Revenues are presented in details in the “Voies et Moyens, Tome I”, a document published during Autumn N+1.

All these amounts are thus recorded at a very detailed level on a “cash basis” in the IT system of the DGFIP, “Chorus”, which also enables to build the “Compte Général de l’Etat” (General State account; accrual based). Each element of the nomenclature is associated with a national accounts operation in non-financial accounts and the budgetary accounting is reprocessed by the DGFIP to compile accounts that follow the concepts of National Accounts. The General State account, which was implemented in the course of the 2000s, can be mobilised on an ancillary basis to compile the non-financial accounts as it provides useful information to complement the budgetary accounting. The General State account is also used to prepare the financial account.

State transactions that are subject to the Budget laws are to be found in:

- General Budget, the only one to be truly compliant with budgetary rules (annually, unity, universality, speciality);
- Special Treasury accounts;
- annex budgets.

Treasury transactions relating to the management of public debt are accounted separately: these are financial transactions in national accounting.

The General Budget records the main sources of revenue and expenditure by the State and corresponds only to the non-market activities of the administrative services of the State.

Special Treasury accounts (CST) are accounts open in the Treasury entries to trace expenditure and revenue made outside the General Budget, thus constituting an exception to the rule of budgetary universality. The following should be distinguished:

- trading accounts, which trace transactions of an industrial and commercial nature carried out incidentally by certain State departments; most of these accounts record expenditure on goods and services; some trace production activity, which results in them being treated as market establishments. An important one was for instance until 2002, the directorate of shipbuilding (currently DCNS, now classified outside General Government). An other one, still existing, is the “Industrial operations of the State’s aeronautical workshops” account, which contains all the revenue and expenditure related to repairs, production done on aerial materials by aeronautic manufacturers.
- other special accounts – earmarked accounts, margin accounts, loan accounts, monetary transaction accounts – where activity generates practically no production because operations recorded on these accounts are mainly financial operations. Some other accounts (“comptes d’affectation spéciale”) are mainly dedicated to transfers and only generate low management fees.

The annex budgets correspond to activities that may generate production, sometimes fairly limited, if only because they all include staff expenses in their expenditure. Identifiable units of production can be assigned to them. Depending on the nature and the structure of their resources, these production units constitute market units when sales are predominant, or non-market units when they are mostly financed by transfers. The annex budgets also use a presentation similar to that for the PCG. Expenditure is broken

down into two sections: one for current transactions, and the other for capital transactions. Overall, the distinction is the same as between transactions in the production and generation of income accounts, and capital account transactions. The two sections are broken down according to the nature of the transactions: intermediate consumption, staff expenditure, financial expenses, subsidies, etc. There is also auxiliary accounting for expenditure similar to that for the general budget.

B. Others sub-sectors

For the other sub-sectors, the non-financial and financial accounts are based on accrual accounting with several variations according to the sub-sectors: accounting standard M9 for other government bodies (ODAC), accounting instructions M14 for municipalities, M21 for public hospitals, M52 for departments, M71 for regions, etc., and the unified accounting plan for social security bodies (PCUOSS) for social security funds.

A policy to harmonise accounting begun in the 1990s. It mainly affected General Government and social security bodies: with adaptations introduced to reflect the specific features of the activities and tasks of the different units – the accounting instruction for the regions (M71) is different from that applied to municipalities (M14), the PCG now has a general area of application. This is especially true for the topics in the production and generation of income accounts for these units in national accounting.

Miscellaneous central government bodies

Miscellaneous central government bodies (ODAC) include bodies with various types of status, usually with a legal personality, to which the State has entrusted a specialised operational competence at national level. Those ODACs, which are public establishments, whether they are administrative, industrial and commercial or scientific and cultural, have their accounts governed by a specific accounting instruction, derived from the general accounting plan. Private law bodies that are predominantly publicly financed follow the general accounting plan.

ODAC includes about 800 units, the largest of which cover the following areas and functions, illustrated here by some examples:

- Education: universities and many Grandes Ecoles;
- Research: National Centre for Scientific Research (CNRS), Atomic Energy Agency (CEA), National Research Agency (ANR);
- Culture: national theatres and museums, major orchestras, national library;
- Economic and social affairs: Pôle Emploi (job centre), Financial Market Regulator (AMF), offices for intervention in agricultural markets;
- Environment: national parks, coastal protection, National Meteorological Office;
- Finance: defeasance structures (if any), national motorway fund, resolution and deposit fund, public holdings;
- Guarantee against certain risks (natural disasters).

Local government

Local government includes local authorities and the various bodies of local administration. Local authorities consist of:

- territorial authorities with general jurisdiction: municipalities, departments and regions (main budgets and annex budgets);

- inter-municipal syndicates, conurbation communities and public companies with non-market activity. The existence of these bodies either represents a joining together of several municipalities to extend the financial base necessary to carry out capital works (inter-municipal syndicates to develop industrial areas), or suggests that they are operating under the supervision of certain public services. These bodies generally operate in close relationship with the municipalities and the departments. In national accounting, they are therefore grouped and consolidated with these bodies.

Miscellaneous local administrative bodies (ODAL) includes institutional units with varying degrees of independence from local authorities:

- non-market units directly derived from municipalities and departments: municipal centres for social action, school funds, departmental fire and rescue services;
- units responsible for town planning, often derived from the State but with local funding: land development and rural settlement companies;
- consular bodies: chambers of commerce and industry, chambers of trade, chambers of agriculture;
- municipal and association nurseries;
- cultural associations funded by local authorities (municipal theatres, local cultural centres, etc.);
- local public education establishments – primary schools, middle schools and high schools – financed by local authorities; however, teachers’ wages are paid by the State and in the national accounts they are recorded in the State accounts.

The definition of the ODALs does not coincide with that of the units designated under the term local public establishments by the DGFIP. Some of these are market establishments and are classified in the non-financial corporations sector, while others are NPISH. In addition, ODALs include units such as consular bodies, which are recorded by the DGFIP as local public establishments. In this case it is necessary to complete the DGFIP information.

Information used to compile the public local accounts are based on a synthesis, composed of accounting documents as at 31 January, for departments, regions, and a sample of 20 000 municipalities, tax-free groups, ODAL... For local authorities, the exhaustiveness of the information that the DGFIP provides is ensured by the fact that the management accounts of each territorial authority must be kept by a public accountant. In addition, Article 26-3° of the Organic law of 1st August 2001 relating to the finance laws (LOLF) established the principle of depositing the funds of territorial authorities and their public establishments exclusively with the State.

The accounting data for local authorities and local public establishments undergo a standardisation process in the form of instructions which, while respecting the specific features of each level of local administration, follow the general common principles: double entry, notions of wealth, accounts receivable and debts.

Local budgets consist of:

- an operational section, which traces current management service operations;
- an investment section, which traces operations in capital, including those relating to debts.

During the 1990s, local accounting aligned with the general accounting plan. The aim was mainly to adopt a presentation that complied with the nomenclature of the PCG, and improve the description of flows and financial stocks. Calculation of the value added of local administrations was not changed.

Social security funds

Social security funds comprises social security institutions and bodies dependent on social insurance units (mainly hospitals). The social security institutions cover social risks and needs as given in the list of ESA 2010 (§ 4.84), and which grant entitlement to social benefits. They group together bodies with a full set of accounts whose activity consists in paying out social benefits, and whose main resources derive from compulsory social contributions, the rates of which are fixed or approved by General Government. This sub-sector includes social security funds that come under the French Social Security Code, but also supplementary retirement schemes with conventional status, and UNEDIC (joint body managing unemployment insurance).

The social insurance schemes of the social security funds include:

- units under the general social security scheme:
 - the National Health Insurance Fund (CNAM), which covers the risks of “Illness, accident at work”, and to which are attached various specific schemes,
 - the National Family Allowance Fund (CNAF) and the family allowance funds, which manage risks to “Families”,
 - the National Old-Age Insurance fund (CNAV), which covers the risk “Old age”,
 - the Central Agency of Social Security Associations (ACOSS), and other bodies based on the general scheme;
- special funds, which pay social benefits and are financed by shares of contributions from social security funds;
- other basic schemes for employees (special schemes in enterprises and public establishments, agricultural workers, etc.);
- schemes for non-payroll workers (including the agricultural social protection scheme, MSA);
- the scheme for unemployment benefit (UNEDIC), and Associations and agencies that supplement unemployment benefit (early retirement, etc.);
- complementary old-age insurance schemes for employees.

Bodies dependent on social insurance units, which are in fact dependent on social security funds, include:

- public hospitals, and non-profit private health establishments (ESPIC) which are subject to the same constraints and the same funding methods as public hospitals (the majority of funding comes from social security funds);
- social agencies incorporated into social security bodies.

Bodies that are dependent on the general scheme produce accounting documents organised in a similar way to the general accounting plan. Most of the other bodies have similar accounting rules. A systematic bridge with national accounting is therefore possible.

C. *Avoiding double counting*

As mentioned before, there are few questions on coverage. However, to avoid double-counting, it is important to check whether the entities classified in General Government sector do not also appear in the

statistical sources of other sectors. To do this, for the base years, the General Government units are identified in an exhaustive nominative list by their SIREN number (with only a few identified exceptions). So that there is no double-counting, files are matched, using the SIREN number, between the General Government list and the fiscal source, which contains the units of sectors S.11, S.14 and the financial auxiliaries. Other financial corporations are clearly identified by the monitoring authorities.

3.5.1.2 Variables used and methodology of estimation

A. Two particular products

The sources used for compiling the General Government accounts do not show any amount corresponding to output for own final use. Two corrections are then made, so to add output for own final use of software and of research and development, in the General Government account. The counterpart in the expenditure approach is GFCF. These two corrections, recorded as P.12 in the production approach, are detailed in the “Other conceptual adjustments” (see 3.5.4 *Other conceptual adjustments*).

B. Three kinds of institutional units and therefore three methodologies to estimate the production, the intermediate consumption and the value added

The activity of the institutional units that make up the General Government sector is mainly non-market. They do not sell the majority of their production, or they sell it at prices deemed not economically significant: as a result, within the framework of ESA 2010, their sales, when they exist, cover less than half of their production costs. Nevertheless, a non-market institutional unit may derive revenues, on a secondary basis, from the sale of the product of part of its activity. Consequently, there are three possible situations:

- 1) the institutional unit in question has only non-market activity: it includes only non-market establishments and its production is the sum of the production of the establishments. The production is then equal to the sum of the costs of the institutional unit.
- 2) within the institutional unit in question, one or more production units can be identified whose principal activity is the production of these goods or services that are sold at economically significant price. In this situation, the production units that are identified constitute establishments or groups of establishments, which are deemed to be market. For those establishments, separate accounts are available. If necessary, when the output of a unit of this type results in several significantly important distinct products, the unit is divided into the same number of homogeneous production units (UHP). These are then grouped into the corresponding market branches with the UHPs from market institutional units. In the terminology of the French national accounts, the market establishments themselves are often inaccurately called market branches of General Government, or even market UHPs.
- 3) if no such market establishments can be identified, sales correspond to a secondary production of the institutional unit itself, which remains non-market: to designate this secondary production, the French national accounts have retained the term used in ESA 79, which refers to “residual sales”. We consider that this secondary production, which essentially covers services, does not generate inventory.

Two examples can illustrate the notion of General Government market establishments. Until 2002, a technical department of the Ministry of Defence managed arsenals which carried out studies, manufactured and repaired naval military equipment. The arsenals had no legal existence of their own and no financial autonomy from the State: they were therefore not institutional units. Their activity was

deemed to be market activity, mainly because of their significant export activity. The technical department was therefore treated as a group of market UHPs within the State, also because there were special segregated accounts. In 2003, this department was transformed into a company governed by private law (DCNS), which forged links with companies in the private sector, and later on privatised: since then it has been reclassified in the non-financial corporations sector (S.11).

Municipalities (local government) are responsible for supplying drinking water. They can delegate the provision of this service to private companies, or provide it themselves via an entity created for the purpose, often within a group of municipalities. This group invoices the users for this service and maintains a separate set of accounts, but is not deemed to have sufficient autonomy, especially in terms of investment, to be treated as a true institutional unit. It is possible in French National Accounts to isolate their activity because these inter-municipal syndicates follow an accounting instruction based on the model of the one that was applied to the municipalities themselves.

In this second situation, where market establishments can be identified, the production P.1 is equal to the sum:

- of the market production (sales, P.11) of the market establishments of the institutional unit;
- of the non-market production (measured by the sum of costs which are not included in the accounts of the market establishments, P.13) of non-market establishments of the institutional unit;
- And of the output for own final use (P.12).

In the third situation, the total production P.1 of the institutional units is equal to the sum of the costs. The breakdown between P.11, P.12 and P.13 is done at the product level: the production of market products is equal to “residual sales”, whereas the production of non-market product is deduced: it is the balance between P.1 and P.11+P.12.

Table 3-29 Three cases of units in General Government and method to calculate the output

3 cases	Output =	Methods
1/ Non-market IU	P.12+P.13	Sum of costs
2/ IU with market establishments for which accounting data are available (market production of market branch)	P.11+P.12+P.13	P.11 = sales of the market establishments P.13 = sum of costs of the non-market establishments
3/ IU with market activity but market establishment non identified (market production of non-market branch)	P.11+P.12+P.13	P.1 = sum of costs P.11 = sales P.13 = P.1-P.11-P.12

C. Main figures

Table 3-30 Output and value added by branches and by institutional sub-sectors of S.13, in EUR (million)

Institutional sectors	S.13111	S.13112	S.1313	S.1314	S.13
Market production	5 489	5 628	30 898	12 720	54 735
Market branch	2 723	443	5 893	5 861	14 920
Non-market branch	2 766	5 185	25 005	6 859	39 815
Non-market production	144 318	22 445	119 717	82 152	368 632
For own final use	772	12 068	484	239	13 563
Market branch	299	413	484	239	1 435
Non-market branch	473	11 655			12 128
Intermediate consumption	20 407	10 678	46 238	25 169	102 492
Value added	130 172	29 463	104 861	69 942	334 438

In the tables below, output and value added are broken down into branches, on one hand for non-market branches and on the other hand for market branches.

Table 3-31 Output and value added of General Government, by branch, for market branches, in EUR (million)

Divisions of NACE	Output	Market production	Production for own final use	Value added
02	188	188	0	151
10	38	38		25
32-33	655	399	256	386
36-37	3 676	3 676		2 609
42	664	585	79	219
52	2 308	2 308		1 648
62	1 100		1 100	1 100
58	211	211		128
68	1 626	1 626		1 626
87	5 828	5 828		4 268
96	61	61		34
Total	16 355	14 920	1 435	12 194

Table 3-32 Output and value added of General Government, by branch, for non-market branches, in EUR (million)

Divisions of NACE	Output	Market production	Production for own final use	Non-market production	Value added
72	24 269	1 942	12 128	10 199	17 445
90-91-93	19 656	2 225		17 431	13 529
85	96 952	5 774		91 178	84 726
86	69 409	4 933		64 476	51 691
87-88	8 649	852		7 797	6 747
84	200 235	22 882		177 353	147 173
94	1 405	1 207		198	933
Total	420 575	39 815	12 128	368 632	322 244

D. Focus on the State

Market branches

The market activity in this section corresponds to the activity of market establishments that can be identified (situation 2: market activity of market branch). The calculation of market output is based on the direct use of accounting information. In the General Government account, data are indeed presented in a very similar way to the presentation of the PCG: the calculation therefore consists in identifying National Accounts transaction of the accounting headings. Conceptual corrections are made in a second step (see 3.5.4 *Other conceptual adjustments*). The methodology is the same to estimate intermediate consumption and the value added can be deduced.

The market activity of market branches is recorded in Special trading Treasury accounts, in particular:

- in the “Supply of petroleum products to the armed forces” account, which records the purchases of petroleum products necessary for the use of the State equipment. This account mainly records intermediate consumption.
- in the “Industrial operations of the State’s aeronautical workshops” account, which contains all the revenue and expenditure related to repairs, production done on aerial materials by aeronautic manufacturers. The output corresponds to sales of services.
- for much lower amounts, in the “Issuance of Euro coins” account, in which expenditure and revenues of issuance and withdrawal of euros are recorded.

Non-market branches

The non-market activity of the State can be recorded in the General Budget, as well as in annex budgets or in Special Treasury accounts.

The total production P.1 is equal to the sum of costs:

$P.1 = \text{Intermediate consumption} + \text{gross value added}$
--

where the gross value added is calculated in this way:

Gross value added = Compensation of employees + Gross operating surplus + Taxes on production – Subsidies on production.

The gross operating surplus is equal to the consumption of fixed capital of non-market branches and the net operating surplus is null.

This non-market activity may be partially financed by sales but the costs related to these sales cannot be identified (situation 3 described before). Some market activities are for instance, recorded when the State issues visas. In this case, the market production of the non-market branch is estimated in the same way than the market production of market branches, on the basis of accounting data and by traducing them into National Accounts transactions. The non-market production of non-market branches is then deduced:

$$P.13 = P.1 - (P.11 + P.12).$$

The estimate of the intermediate consumption of non-market branch of the State is based on detailed information available in budget data. In particular, as mentioned before, expenditure is broken down into expenditure objectives (missions, programmes, actions...) and by type of expenditure (Heading II for expenditure on staff, Heading III for operating expenditure etc...). In general, intermediate consumption corresponds to expenditure recorded in Heading III: expenditure on equipment and operation of services, small maintenance work... The breakdown into expenditure objectives is enough detailed to break down expenditure into products for the supply use table.

As described before, the value added is calculated as the sum of compensation of employees, gross operating surplus, taxes on production minus subsidies on production. Therefore, this estimate is described in the fourth chapter on the income approach.

E. Focus on other sub-sectors

Market branches

The market activity in this section corresponds to the activity of market establishments that can be identified (situation 2: market activity of market branch). The estimate of the production and of the value added is based on available accounting data which are generally presented according to the PCG. This market activity mainly comes from the public local administrations, which play an important role in the water collection, its treatment and supply, as well as in sewerage. Market activity can also correspond to sales of services by the Chamber of Commerce and Industry. In all cases, the activity is organised through production units that are not institutional units but that are separated from the non-market activity of the public local administration.

A specific correction, detailed in “Other conceptual adjustments” (see 3.5.4 *Other conceptual adjustments*) leads to record as a market activity, housing services provided free of charge to certain agents.

Non market branches

As for the State, the total output is equal to the sum of costs:

$$P.1 = \text{Intermediate consumptions} + \text{gross value added}$$

where the gross value added is calculated in this way:

Gross value added = Compensation of employees + Gross operating surplus + Taxes on production – Subsidies on production.

The implementation of non-market activity may lead to residual sales (situation 3 described before). Revenues associated to sales are estimated on the base on detailed accounting data. These can be concerned all sub-sectors. For instance:

- Regarding ODAC, for which all the activity is recorded in a unique branch:
 - scientific and technology services made by units specialised in research and development are recorded as market production of the research and development branch;
 - royalties collected by AFIFT (Agence de financement des infrastructures de transport de France) or by Meteo France are recorded as market production of the public administration branch;
 - Sales made by units specialised in cultural or artistic services are recorded as market production of the “arts, entertainment, recreation” branch.
- Regarding public local administrations, the market activity recorded in non-market branch concerns mainly revenues collected through education (organisation of canteens for instance) or through social action.
- Finally, the sales of non-market activities of the social security funds corresponds in general to services provided by hospitals.

The estimate of the intermediate consumption of non-market branches of these other sub-sectors is based on detailed accounting information, which can be even more detailed than the PCG. This high level of details also enables to break down intermediate consumption (and therefore, the production) by products, for the needs of the supply-use table.

Finally, as for the State, the value added is calculated as the sum of compensation of employees, gross operating surplus, taxes on production minus subsidies on production. Therefore, this estimate is described in the fourth chapter on the income approach.

3.5.2 Data validation adjustments

3.5.2.1 Correction of data sources

In general, data sources are corrected at the time of the provisional accounts. When comes the time to compile the half-finalised and finalised account, Insee and DGFIP have already agreed on a treatment and no correction remains necessary: most of the corrections are already included directly within the data source, at DGFIP level. However, for the year 2010, a small correction was applied by Insee at the time of the finalised account. This correction amounts to EUR 0.1 billion.

3.5.2.2 Substitution of sources

Forestry correction

Output of forestry services has to be equal to intermediate consumption: in a first time, an identical amount, coming from the agricultural accounts, is thus recorded simultaneously as output and as intermediate consumption. But these amounts are also recorded spontaneously as GFCF instead of intermediate consumption: in a second time, the correction consists in removing these amounts to the total GFCF in forestry product. The correction amounts to EUR 0.1 billion.

Military equipment correction

According to ESA 2010, only purchases of "heavy" equipment must be recorded as GFCF. A correction is applied by Insee, which consists in breaking down purchases between "heavy equipment" and "light equipment / ammunition". This correction has been set up on the basis of budgetary data and led to enhance intermediate consumption by EUR 1.8 billion. The increase of intermediate consumption has a direct impact on output which is equal to the sum of costs.

3.5.3 Valuation: transformation into the basic prices

3.5.3.1 *General principle*

Market output

The market output is evaluated at basic prices and is directly equal to sales. The data transmitted by the DGFIP are already at basic prices and no adjustment is made in National Accounts.

Output for own final use

In practice, the output for own final use of public administrations is valued:

- either as the sum of production costs. This is in particular the case for the development of software.
- either according to a market price. This is in particular the case for housing services provided free of charges for certain agents: these services are estimated on the basis of observed prices for similar housings rentals.

Non market output

As explained before, the non-market output is equal to the sum of production costs, in particular:

- intermediate consumptions, valued at purchasers' prices in DGFIP data, as for instance public administrations pay VAT on their purchases;
- compensation of employees;
- gross operating surplus which is equal to the consumption of fixed capital. This CFC of non-market branches is estimated using the Perpetual Inventory Method (PIM): to this purpose, lifetimes have been defined for several major asset categories;
- taxes on production minus subsidies on production.

Work-in-progress and changes in inventories

Output is equal to the sum of production costs (in case of non-market output) or to sales (in case of market output), such as it does not include changes in inventories of finished goods and work-in-progress, which are classified as work-in-progress in the Process Table (EUR 0.1 billion).

Changes in inventories of materials and supplies (EUR 0.005 billion in the Process Table) are mainly recorded in public local administrations account: accounting data provide information on purchases of goods and services and on products actually consumed. The difference between these two items is recorded:

- either as changes in inventories of materials and supplies for market branches,
- either as intermediate consumption for non-market branches: for non-market branches, products are indeed supposed to be used at the time of their purchase.

How to ensure that the accrual principle is followed in the valuation of output

The DGFIP implements directly some treatments to ensure that amounts are recorded on an accrual basis:

- for some sub-sector (public local administrations, social security funds, and in general ODAC), available accounting data are already recorded on an accrual basis: transactions are taken into account for the year to which they relate, irrespective of their date of payment or encashment. For instance, concerning social security funds, at the close of the accounts, the public accountants complete these recordings, by recording late expenditure or revenues in the financial year to which they relate. This attachment may be based on specific available information or on observation of the data statistics from previous years.
- for the State, available data sources used by the DGFIP correspond in general to the amounts recorded in the working balance, on a cash basis. The compilation for National Accounts implies specific treatments or corrections:
 - they can be based on the General State Account: for instance, an expenditure is recorded in National Account and in the General State Account as soon as the service has been done, even if there is still no payment in cash.
 - they can be based on specific treatments implemented each year, as for instance the correction applied to VAT revenues, following a Time Adjusted Cash method.

3.5.3.2 Taxes on products

This section presents in details the treatment of taxes on products in French National Accounts: taxes on products are indeed mainly paid to S.13. However, some small amounts are also paid to S.2 and are also presented in this section. Taxes on production are composed of:

- value added type taxes (D.211): in France only the VAT is recorded under this transaction;
- import duties (D.212) corresponding to “droits d’importation” and “octroi de mer”;
- other taxes on products (D.214): this transaction includes various taxes listed in the table below.

Table 3-33 Taxes on products, in EUR (million)

		S.2	S.13	Total
D.211- Value added type taxes		0.0	135.6	135.6
	VAT	0.0	135.6	135.6
D.212- Import duties		2.0	0.3	2.2
	Import duties and dock dues	2.0	0.2	2.1
	Other	0.0	0.1	0.1
D.214		0.0	75.4	75.4
	Excise duties and consumption taxes	0.0	41.9	41.9
	Internal consumption tax on energy products	0.0	23.6	23.6
	Tax for the public service fund for electricity production	0.0	1.9	1.9
	Tax for the benefit of ADEME (Environment and Energy Management Agency)	0.0	0.5	0.5
	Beverage taxes	0.0	3.2	3.2
	Tobacco taxes	0.0	10.8	10.8
	Others	0.0	1.9	1.9
	Stamp taxes	0.0	0.0	0.0
	Taxes on financial and capital transactions	0.0	9.6	9.6
	Registration fees (additional tax)	0.0	9.6	9.6
	Car registration taxes	0.0	1.9	1.9
	Tax on vehicle registration certificates	0.0	1.9	1.9
	Taxes on entertainment	0.0	1.1	1.1
	Taxes on spectacles	0.0	0.3	0.3
	Contribution of film companies to the CNC	0.0	0.8	0.8
	Taxes on lotteries, gambling and betting	0.0	3.3	3.3
	National Lottery and Lotto Products	0.0	1.8	1.8
	Taxes on casino games	0.0	0.7	0.7
	Taxes on horse racing bets	0.0	0.8	0.8
	Taxes on insurance	0.0	3.1	3.1
	Contribution to the funding of Universal Health Coverage	0.0	1.6	1.6
	Tax on automobile insurance premiums	0.0	1.0	1.0
	Other	0.0	0.5	0.5
	Other taxes on specific services	0.0	13.4	13.4
	Electricity tax	0.0	1.8	1.8
	Special tax on insurance agreements	0.0	6.0	6.0
	Construction taxes	0.0	1.4	1.4
	Taxes on professional services excluding transfer taxes	0.0	1.0	1.0
	Transport taxes	0.0	1.3	1.3
	Others	0.0	1.8	1.8
	Other	0.0	0.4	0.4
	Pharmaceutical taxes	0.0	0.4	0.4

As indicated in the table, the vehicle registration taxes is treated as taxes on products. This tax is recorded in public local administration accounts and is payable each time a certificate of registration is issued by the

administrative services. Once the tax is paid by a purchaser of a land motor vehicle (new or used), a certificate of registration is given to the owner. This certificate indicates the registration number assigned permanently to the vehicle. As the payment of the tax is directly linked to the purchase of a vehicle, it is analysed like any other tax on products.

Some taxes, not included in the table, correspond to the remuneration of a specific and identifiable service produced by the administration. If in addition, the amount paid by the taxpayer is directly related to the service provided, the transaction is then recorded as a purchase of a market service instead of a tax in National Accounts.

This is in particular the case for some fees, recorded in the working balance as taxes whereas they correspond to a service produced by the administration: for instance, the fee for garbage collection, is called “taxe sur les ordures ménagères” but is recorded as sale of services in National Accounts.

The “sweeping tax” (taxe de balayage) levied by the municipalities is determined in order to cover the expenditure incurred by the cleaning of the roads. This tax is recorded as a production by the municipalities of a commercial service of “road and sanitation”.

Finally, some payments to public administration can correspond to the purchase of a right to engage in professional or commercial activities. In the case where the administration has a validation and verification role, these payments are deemed to be sales of service by the administration: the granting of certain licenses (IV licences for drinking establishments for instance) are thus recorded as sales of services.

In French National Accounts, taxes on product are in general recorded on a time-adjusted cash basis because they are mostly “autoliquidé” tax, that is to say that the taxpayer declares and pays the tax at the same time and that the administration does not send a roll to specify the amount of tax.

The adjustment is, in general, based on the average time span between the activity and cash receipt. For instance, the TICPE (Taxe intérieure de consommation sur les produits énergétiques) paid by companies in charge of the production, the importation or the storage of energy products, is collected and paid to the State at the time the energy products are consumed. There may be some delay between the time of the consumption (at the end of December for instance) and the registration of the tax in the State budget.

But in some specific cases, in particular for the VAT, the adjustment can be more complex. To estimate the VAT of year N:

- revenues of January N, related to the economic activity N-1 are removed whereas revenues of January N+1, related to the economic activity N are added;
- reimbursements requested in the beginning of the year N and related to the economic activity N-1 are removed whereas reimbursements requested in the beginning of the year N+1 related to the economic activity N are added.

As explained in the chapter 7 “Exhaustiveness”, the VAT theoretically due can be calculated by applying the VAT rates to the ex VAT amounts of the uses. The difference between VAT theoretically due and the VAT actually collected is called VAT gap and is added to the production of the non-financial corporations.

3.5.3.3 Subsidies on products

This section presents in details the treatment of subsidies on products in French National Accounts: subsidies on products are indeed mainly paid by General Government. However, some amounts are also paid by the rest of the world (S.2) and are also presented in this section.

Table 3-34 Subsidies on products, in EUR (million)

		S.2	S.13	Total
Total		1.4	14.3	15.7
Transport- main subsidies		0.0	8.5	8.5
	Transfer RFF	0.0	2.5	2.5
	Subsidies TER	0.0	1.9	1.9
	Transfer from STIF to RATP and SNCF	0.0	4.0	4.0
Manufacture - main subsidies		0.0	1.4	1.4
	Help to replace old vehicles		0.7	0.7
	Aid for the acquisition of clean vehicles		0.7	0.7
	Support for sugar production in the overseas departments	0.0		0.0
Agriculture- main subsidies		1.2		1.2
	GEOGA- European Agricultural Guidance and Guarantee Fund	1.2		1.2
Energy- main subsidies			2.7	2.7
	CSPE- Contribution to the public electricity service		2.7	2.7
Services- main subsidies			0.6	0.6
	Help with home delivery		0.6	0.6
Other		0.0	1.3	1.3

The classification as subsidies on products and not as social transfer depends on the existence of a social risk. Thus, payments to offset tariff reductions in transport are not recorded as benefits but as subsidies on products, D.319, except in the case of reductions granted to large families: these reductions are recorded as social transfer because of the existence of a “family” risk.

Car scrap schemes exist in France, and in particular there are two schemes:

- an aid in case of purchase of a new vehicle that shows low CO2 emissions or that is an electric vehicle;
- an aid paid when the purchase of the low pollution vehicle is concomitant with the scrapping of an old vehicle.

Depending on the case, the amount of the aid may be either a percentage of the cost of the new vehicle or a fixed amount. In the two schemes, the car-scrapping bonus is dependent on the purchase of a new vehicle and consequently, they are recorded as other subsidies on products.

Finally, subsidies on products are recorded on a cash basis and in general no adjustment has to be made to record subsidies on an accrual basis.

3.5.4 Other conceptual adjustments

3.5.4.1 Allocation of FISIM

The measurement of FISIM output is based on the breakdown of interest into a component corresponding to the payment and receipt of “pure” interest and a component corresponding to the remuneration of the services of financial intermediaries. A retreatment is carried out on intermediate consumption to add the FISIM consumed by public administration, a retreatment is also made to increase the amounts of interest received and reduce the amounts of interest paid. These data are evaluated by counterpart sector by the financial institutions account (for more details *see 3.4.4 Detailed presentation of FISIM*). The financial institutions give the amount of FISIM on interest paid and on interest received for S.13 by economic activities.

The adjustments impacts on intermediate consumption (increased by EUR 3.7 billion across the entire scope of S.13). As the production is equal to the sum of costs, the adjustments also impacts on production (increased by EUR 3.7 billion) and therefore, the impact on GOS is null.

3.5.4.2 Other conceptual adjustments

VAT corrections

Subsidies paid by the public local administration to transport companies (SNCF, RATP) are subject to value added tax but this value added tax was not, in 2010, spontaneously recorded in DGFIP data. Therefore, an amount of EUR 0.2 billion is added as D.2 and has a direct impact on P.1 being equal to the sum of costs.

Software corrections

Software developed within public administrations are evaluated by the sum of the costs related to their development. This estimate is recorded as production of software by the public administration for its own final use (P.12), for an amount of EUR 1.1 billion in 2010. In supply-use table, its counterpart is GFCF.

R&D correction

In DGFIP data, spontaneously, purchases of research and development are recorded as intermediate consumption. Thus, as a first step, all these purchases are transferred to GFCF to be consistent with ESA 2010 (EUR 3.7 billion). Only intermediate consumption of the research and development branch remains recorded as intermediate consumption. Moreover, the Ministry of Higher Education and Research provides estimates of output for own-final uses, on the basis of a specific survey (*see 3.22.3.2 More details about R&D*). These amounts (EUR 12.1 billion) are also added to GFCF. In the same time, the GFCF of previous years generate consumption of fixed capital, which contributes to increase non-market output (EUR 13.8 billion in 2010).

To sum up, non-market output decreases by EUR 2.1 billion as did government final consumption expenditure, due to the decrease in intermediate consumption (EUR -3.7 billion), the recording of production for own final use (EUR -12.1 billion) and the consumption of fixed capital (EUR +13.8 billion). Total government output increases by EUR 10.1 billion: EUR -2.1 billion for non-market output and EUR +12.1 billion for output for own final use.

Financial leases

In the General Government accounts, royalties paid in the framework of a leasing contract are recorded as a current expense and in particular public accountants do not include on balance sheet the asset subjected to the lease contract. Thus, there are two adjustments with an impact on value added:

- the value of the asset at the time of signing has to be counted in GFCF, therefore, intermediate consumption (P.2) is reduced by this amount.
- the share of the leasing rents for the payment of interests has to be counted as D.41, therefore intermediary consumption (P.2) are reduced by this share.

The total amount of rent to be deducted, the interest paid and the data on the value of leased assets are provided by the Banque de France and ASF (Association Française des données financières), which lists all companies authorised to act as financial lessors. Finally, in 2010, the P.2 has been reduced of EUR -0.9 billion, which directly impacts the non-market output equal to the sum of costs.

Insurance

Insurance premiums are flows with a composite economic content. In DGFIP data, the premiums received by insurance corporations and paid by S.13 (classified as D.71) cover both the insurance service provided by the companies and the payment of claims. However, the remuneration of the insurance service has to be recorded in intermediate consumption of public administration: the information is given by the insurance account based on Bank of France data. This correction leads to enhance of EUR 0.5 billion the intermediate consumption, that has a direct impact on the non-market output, equal to the sum of costs.

Growth of forestry

This correction aims at recording the growth of forests owned by public administration as changes in inventories and market production. The amount to be recorded comes from the agricultural account and amounts to EUR 0.1 billion.

Free housing

In some specific cases, a housing service may be provided for free by public administration to public servants: this is the case, for example, for housing units occupied by teachers and hospital directors. This free housing service is a benefit in kind for public servants. This correction is based on information provided by the housing satellite account and amounts to EUR 1.6 billion. The same amount is also recorded as wages in kind as employee compensation (D.1), which has a direct impact on the non-market output equal to the sum of costs.

By convention, the total free housing service estimated by the housing satellite account is allocated between General Government (especially the State) and non-financial corporations. The other sectors are considered to be little concerned. This means that the amount of free housing service for the whole economy is consistent with the housing satellite account.

Reimbursement of professional expenses

The purpose of the correction is to avoid a double counting of personal transport expenses (for missions, for example). These expenditure are already recorded as households consumption and consequently, no intermediate consumption of public administration must be recorded. Intermediate consumption of public administration is thus reduced by EUR 0.4 billion, which has a direct impact on the non-market output, equal to the sum of costs.

Holding UCITS

The adjustment relating to services rendered by collective investment schemes (UCITS) is of the same nature than FISIM adjustment. UCITS do not explicitly bill their services, but take their remuneration from the property income they pay to unit holders. As this remuneration is therefore not included in Esane as intermediate consumption, the adjustment made in the transition to national-accounts format consists

precisely of increasing their intermediate consumption by an amount issued from Bank or France data. This correction amounts to EUR 0.8 billion and has a direct impact on the non-market output equal to the sum of costs.

3.5.5 Exhaustiveness

It is supposed that units included in the General Government sector do not fraud and no correction related to underground and illegal producer is thus implemented.

3.5.6 Borderline cases

3.5.6.1 *Borderline cases in production*

Own-account gross fixed capital formation (GFCF)

In administrative data, there is no own final use production directly recorded. The output for own-final use produced by public administration, especially in software and in research and development, is thus added, on the basis of various information (ad hoc surveys, data on sales: see.....). In supply-use equilibrium, the counterpart of this output for own-final use is GFCF. They are recorded in “Other conceptual adjustments” in the Process Table (see 3.5.4.2 *Other conceptual adjustments*).

Products used for payments in kind

An adjustment is applied to the public administration accounts to take account of housing services provided for free to certain agents. Since these housing services are “free” for their users, a value must be estimated for their production and the corresponding final consumption. This production is recorded as a market output of public administration, carried out by a separate (notional) establishment- a commercial branch. In return for this production, wages in kind are included as employee compensation and have an impact on the non-market output P.13, estimated as the sum of costs. Housing services are finally consumed by employees. These corrections are recorded in “Other conceptual adjustments” in the Process Table (see 3.5.4 *Other conceptual adjustments*).

Products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final uses

Local KAU of public administration are identified in very rare cases, when, within an institutional unit, one or more production units can be identified whose principal activity is the production goods or services that are sold. In this situation, the production units that are identified constitute establishments or groups of establishments, which are recorded as market establishments. All their production account is separated and used to build National Accounts (market branch, see 3.5.1.2 *Variables used and methodology of estimation*).

Products added to the inventories of finished goods and work-in-progress (including natural growth of animal and vegetable products, standing timber and uncompleted structures for which the buyer is unknown)

A specific correction is implemented to take account of the growth of forestry. Amounts to be recorded in National Account come from the agricultural accounts and are recorded as work-in-progress change of inventories. This correction is recorded in “Other conceptual adjustments” in the Process Table (see 3.5.4 *Other conceptual adjustments*).

3.5.6.2 Borderlines cases in intermediate consumption

Costs of using rented fixed assets (mainly operational leasing)

Operational leasing expenditure is recorded as external expenditure (rents) by General Government. No retreatment is therefore required to ensure that it is recorded as intermediate consumption in the national accounts.

Inexpensive tools used for common operations and small devices such as those listed in the ESA2010 §3.89 (f) (1)

Inexpensive tools used for common operations or work are part of intermediate consumption and not GFCF: saws, shovels, knives, axes, hammers, screwdrivers and wrenches or small devices such as pocket calculators. These goods are already recorded as intermediate consumption in DGFIP data, without the need to carry out any retreatment.

Goods and services received from another local KAU of the same institutional unit that comply with the definition of intermediate consumption

Local KAU of public administration are identified in very rare cases, when, within an institutional unit, one or more production units can be identified whose principal activity is the production goods or services that are sold. In this situation, the production units that are identified constitute establishments or groups of establishments, which are autonomous in their behaviours and which are recorded as market establishments. All their production account is separated and used to build National Accounts (market branch, *see 3.5.1.2 Variables used and methodology of estimation*).

Non-life insurance service charges (payments for life insurance should be excluded)

Remuneration of the insurance service is recorded as D.71 in DGFIP data: a correction is thus applied to classify them into intermediate consumption. This correction is recorded in “Other conceptual adjustments” in the Process Table (*see 3.5.4 Other conceptual adjustments*).

FISIM purchased by resident producers

A retreatment is carried out on intermediate consumption to add the FISIM consumed by resident producers. FISIM’s counterpart sectors is derived using the financial institutions account (*see 3.5.4 Other conceptual adjustments*).

Research and development acquired to be used solely in the creation of further products of research and development

In DGFIP data, purchases of research and development are recorded as intermediate consumption: these amounts are transferred, in National Account, as GFCF, to be consistent with ESA 2010. Only intermediate consumption of the research and development branch remains recorded as P.2. These corrections are recorded in “Other conceptual adjustments” in the Process Table (*see 3.5.4 Other conceptual adjustments*).

Goods and services used as inputs into ancillary activities

Goods and services consumed in the context of ancillary activities are treated as expenditure in DGFIP data and as intermediate consumption in the national accounts; as a result no retreatment is required.

Expenditure by employees, reimbursed by the employer, on items necessary for the employers' production

Expenditure by employees on the purchase of goods or services needed for the production process and which are reimbursed by public administration is treated as expenditure by public administration and as intermediate consumption in the national accounts: no retreatment is therefore necessary.

Items to be treated as gross capital formation, e.g. valuables, mineral exploration, major repairs and improvements (renovation, reconstruction or enlargement), software, research and development (with the exception of the R&D acquired to be used solely in the creation of further products of R&D), military weapons

As explained above, only intermediary consumption of the research and development branch remains recorded as intermediate consumption: other purchases of research and development by public administration are recorded in GFCF, (see 3.5.4 *Other conceptual adjustments*). Regarding weapons systems, annual State expenditure on military equipment can be estimated from the budget data (excluding rifles, small calibre ammunition, etc.). This amount comes from State budget expenses to estimate intermediate consumption. No agent other than the State purchases large military equipment.

Expenditure to be treated as the purchase of non-produced assets, e.g. long-term contracts, leases and licenses

In DGFIP data, contracts, leases and licenses are treated as assets: they do not appear in intermediate consumption and no retreatment is necessary to record payments for licenses as acquisition of non-produced assets.

Expenditure by employers to be treated as wages and salaries in kind

Housing services provided free of charges are recorded as market output and wages in kind are included in employee compensation. These correction are recorded in "Other conceptual adjustments" in the Process Table (see 3.5.4 *Other conceptual adjustments*).

Goods and services produced and consumed within the same accounting period and within the same local KAU (to be also excluded from output)

Goods and services produced and consumed during the same accounting period and within the same local KAU do not appear in DGFIP data. No retreatment is therefore required in the national accounts to remove them from intermediate consumption.

Payments for government licenses and fees that are to be treated as other taxes on production

Some taxes, not included in the table, correspond to the remuneration of a specific and identifiable service produced by the administration. If in addition, the amount paid by the taxpayer is directly related to the service provided, the transaction is then recorded as a purchase of a market service instead of a tax in National Accounts (see 3.31 *Taxes on products*).

Decommissioning for large capital assets

Operators of nuclear power stations are compelled to build up provisions in order to face future decommissioning costs. Therefore, those costs should be supported by the corporations involved in nuclear energy supply, not by General Government.

3.6 Households (S.14B)

Households constitute a particular institutional sector: their main function is to consume. Nevertheless, their production is not negligible. Apart from the productive activity they perform in the context of unincorporated enterprises, households have a production mainly, but not exclusively, devoted to their own final consumption.

The household sector is therefore broken down into two parts:

- the S.14A, which records the operations of households in the context of unincorporated enterprises registered in ESANE,
- the S.14B which records other operations, and in particular the production of households for their own consumption. S.14B can be named the “pure households”. In this section, “households” is used for the S.14B’s sector.

The pure households account is built largely in "mirror" of the other accounts. Indeed, most transactions in the pure households account are not estimated from households sources. They are the counterparty to transactions of other institutional sectors.

This section presents the production approach of households (S.14B) in the Process Table. It follows the Process Table: begins with the data sources, itemises conceptual adjustments and finally enlightens exhaustiveness.

Table 3-35 Details of the Process Table of households, EUR (million)

Columns of the Process table		Output	Intermediate consumption	Value added
Total	of which			
Surveys and Censuses: social action		15 996	0	15 996
	Home helpers	8 914		8 914
	Childcare in the day by nursery assistants in their homes	6 931		6 931
	Host family for the elderly and disabled adults	151		151
Administrative data	Production of domestic services	1 777	0	1 777
Commodity flow models		0	4 908	-4 908
Dwellings – stratification method		197 292	0	197 292
Allocation of FISIM		0	13 055	-13 055
Other conceptual: on dwellings		0	5 553	-5 553
N1		2 459	0	2 459
N3		8 399	3 501	4 898
	Agriculture	1 937	523	1 414
	Forestry	782	0	782
	Fishing	11	0	11
	Foodstuffs	404	199	205
	Construction works	4 941	2 619	2 322
Balancing		324	160	164
Total		225 923	27 016	198 907

Table 3-36 The breakdown of output, intermediate consumption and gross value added of pure households (S.14B) by NACE sections, in EUR (million)

NACE	A	B	C	D	E	F	G	
P.1	2 730	0	728	0	0	4 941	0	
P.2	523	0	359	0	0	2 619	0	
B.1G	2 207	0	369	0	0	2 322	0	
NACE	H	I	J	K	L	L_	M	
P.1	0	0	0	0	197 292	154 239	0	
P.2	0	0	0	0	23 516	12 943	0	
B.1G	0	0	0	0	173 776	141 296	0	
NACE	N	O	P	Q	R	S	T	Total
P.1	0	0	0	16 242	0	0	3 990	225 923
P.2	0	0	0	0	0	0	0	27 016
B.1G	0	0	0	16 242	0	0	3 990	198 907

3.6.1 Data sources

In the Process Table, households sources correspond to:

- data on social action, coming from various sources of information;
- some administrative data used to estimate production of domestic services, on which an important fraud rate is applied (the impact of the fraud is therefore recorded in N1);
- data on real estate activity, coming from the Ministry of housing.

For these production activities of households, there is not a SIREN identification number (and these activities are not in Esane). However, households employing domestic staff must register at AcoSS to declare wages and pay social contributions.

3.6.1.1 Social action

In the case of a production of social action services by households, it is the employer households that produce the services for their own final consumption. This production (EUR 16.0 billion) is recorded in “Survey and censuses” in the process table. Several types of activity are concerned:

- home help for the elderly (EUR 8.9 billion),
- childcare in the day by nursery assistants in their home (EUR 6.9 billion),
- host families for the elderly and disabled adults (EUR 0.2 billion).

A. Home helpers

Home care services classified in social action activity are different from domestic services because they are aimed at “vulnerable people”: the service comes from necessity, not comfort. It may be services rendered by an employee of a home care assistance organisation, or employed by an individual (directly or through a proxy).

Output (EUR 8.9 billion) is estimated from:

- average net hourly earnings, calculated using AcoSS data (organisation that collects social security contributions),
- and hours worked for “vulnerable”, actualised each year with the rate of change in the total number of paid hours to human services employees published by the Ministry of Labour.

To this legal output is added an amount corresponding to undeclared work (recorded in N1 exhaustiveness), percentage of the undeclared gross wage bill for all home care services (“vulnerable” and “non vulnerable” people).

B. Childcare in the day by nursery assistants in their homes

Childcare in parents homes belongs to the field of domestic services (in NACE 97). The production in social action only concerns childcare in the day in the homes of childminders, which must have been approved by the departmental council. According to the DREES childcare survey, childcare by unauthorised nursery assistant in 2007 would only concern less than 1% of children under three years, so that the production of nursery assistant is not corrected by a specific estimate of undeclared work.

Output is firstly estimated from an estimate of the volume production of childminders. This volume production corresponds to the number of places at nursery assistants homes, multiplied by the mean percentage of places really occupied:

- the number of places is provided by the PQE Famille (efficiency program “family”, which is published each year at the same time than the bill of financing of social security),
- the occupancy rate of potential places for children under 3 is estimated at 100% while that of children aged between 3 to 6 is assumed to be equal to 50%.

The cost of a place with the childminders is also given by the family PQE. In order to obtain output in value (EUR 6.9 billion), the total cost of childcare by a nursery assistant is estimated from the cost of a place and the number of places really occupied.

C. Host family for the elderly and disabled adults

In base years, the activity of hospitable families is firstly evaluated from the wage bill given by the supplementary pension institute for domestic workers (IRCEM). This data is nevertheless refined with the General Government final consumption expenditure (which corresponds to social assistance expenditure, estimated from the DREES departmental social welfare survey):

- for three years, the average proportion of General Government final consumption expenditure in the production estimated from the payroll of the IRCEM is calculated
- this average proportion is then applied to the final consumption expenditure of the General Government.

For current years (after 2010), the volume of production is changed as the number of adults with disabilities and elderly people living in foster car receiving social assistance. The price is changed as the annual average of the hourly minimum wages (SMIC).

3.6.1.2 Production of domestic services

The production of domestic services by households employers of salaried domestic staff covers several activities: domestic workers, janitors and caretakers. This production is recorded in “Administrative data” in the process table.

Output (P.1) is measured as the sum of production costs:

$P.1 = P.2 + D.1 + D.29 - D.39 + CFC$

The estimation method of compensation of employee is based on the assessment of the wage bill from Acoess (the organisations that collect the social contributions). A high coefficient for reporting undeclared wage bill is applied to spontaneous data: this coefficient results from surveys of employment, household budgets and specific surveys, and the non-declared production is recorded in N1 in the Process Table.

Intermediate consumption and consumption of fixed capital are zero.

Taxes and subsidies come from administrative data. For janitors and custodians, taxes on production are paid. For home-based jobs, employer households receive subsidies.

3.6.1.3 Data on real estate activity

The real estate activity of households is decomposed between imputed rentals and actual rentals.

Imputed rentals

For the imputed rentals, the amount (EUR 154.2 billion) comes from the housing survey (CSL, *see 10.3.3 Housing satellite account*). It is the sum of:

- Imputed rentals for owner occupied main dwellings and garages: EUR 131.6 billion,
- Imputed rentals for owner occupied second homes: EUR 18.9 billion,
- Free housing of households: EUR 3.0 billion,
- Caretakers: EUR 0.7 billion,
- Mayotte: EUR 0.1 billion.

Actual rentals

For the actual rentals, the amount (EUR 43.1 billion) comes from the CSL (*see 10.3.3 Housing satellite account*). It is the sum of:

- Market production of main dwellings and garage of households minus free housing and the part of caretakers for non-financial enterprises : EUR 36.7 billion,
- Market production of other buildings: EUR 6.4 billion.

The intermediate consumption of actual rentals is estimated with a fixed key (11.4%) applied to the production. This key was determined in 2010 with the housing survey (CSL), *see 3.21.1 Real estate activities*.

3.6.2 Conceptual adjustments

3.6.2.1 Allocation of FISIM

Among the gross interest paid by households (on their credits), one part is a consumption of a financial service (FISIM: financial intermediation service indirectly measured) and another is a "pure interest", an income from the property paid to the creditor. FISIM loans are broken down into intermediate consumption and final consumption:

- intermediate consumption concerns FISIM on real estate loans, since households use these credits to produce a housing service,
- final consumption concerns the FISIM on consumer credit, since households use these credits for their consumption.

The gross interest received by households (on their deposits) is also corrected to show "pure interests" and final consumption of FISIM. The "pure interest" received is greater than the gross interest received, and the difference corresponds to FISIM's final consumption on deposits.

Financial institutions provide a breakdown of the FISIM into three categories (*see 3.4.4 Detailed presentation of FISIM*): FISIM on deposits (final consumption), FISIM on consumer loans (final consumption) and FISIM on real estate loans (intermediate consumption). The intermediate consumption of FISIM concerns only the housing service branches (L68R and L68I), and it is broken down between these two branches according to the weight of their production.

3.6.2.2 Other conceptual adjustments

In this column, there is the intermediate consumption for the imputed rent. It is estimated as 3.6% of the output of imputed rent. This is a fixed key, *see 3.21.1 Real estate activities* for a confrontation of this key with the housing satellite account.

3.6.3 Exhaustiveness

3.6.3.1 N1: Underground producer

As explained previously, a part of the production of domestic services and of social action activity are supposed to be undeclared, so that some corrections are applied and recorded in N1. This undeclared output (EUR 2.5 billion) is estimated as the undeclared output of other institutional sectors thanks to fraud rate estimated by economic activity (*see chapter 7*).

3.6.3.2 N3: households production for own final-use

For more details, *see also chapter 7*.

A. Agriculture

The production of agricultural products is carried out within the framework of gardens and family farms. It is intended mainly for final consumption, and secondarily for investment (farm animals, orchards, vineyards). All this production is used inside the familial circle. This production is estimated on the basis of a household survey, updated by the production indices of the products concerned (at a fine level: 24 products for agriculture). This survey is the permanent INSEE food consumption survey that provided regular data on quantities purchased since the 1960s. It was discontinued in 1991. The last year in which allotment production was estimated is 1990. This estimate is based on the comparison of data from the annual agricultural statistics and the results of the permanent survey on food consumption for the years 1987, 1989 and 1991. Specific updates were made in 1999 for eggs and potatoes production, in 2007 for fruits and in 2010 for vegetables.

Intermediate consumption (seeds, fertilizers, phytosanitary products) evolves according to indices of sales, quantity indices, and price index (Ipampa), starting from levels set in 1990 for fertilizers and sanitary products, 2002 for seeds.

B. Forestry

Farm households have a production of firewood, known by forest statistics. The statistics of the National Forestry Fund make it possible to measure the production for sale of forest-owning households.

C. Foodstuffs

Agricultural households are engaged in the processing of agricultural products into food industrial products, which are also intended for their final consumption. The estimate comes from farm.

D. Construction works

Households are supposed to have a construction activity for their own fixed capital formation in dwellings. The estimate is based on knowledge of the value of building materials purchased by households. These expenditures are known from household surveys. A fraction of the total expenditure that is supposed to be used for important work in the dwelling is determined.

Once the value of the materials used has been determined, the value added is calculated by applying the value added / intermediate consumption ratio to building materials of the individual firms engaged in the same activity. The ratio is corrected for the fact that households do not have the possibility to deduct VAT on their purchases while businesses do.

3.7 NPISH (S.15)

This section presents the production approach of NPISH (S.15) in the Process Table. It follows the Process Table: begins with the data sources and itemises the conceptual adjustments.

Table 3-37 Details of the Process Table of NPISH, EUR (million)

Columns of the Process Table		P.1	P.2	B.1G
Total	of which			
Surveys and Censuses: social action		20 144	5 470	14 674
Extrapolations and models		23 743	8 287	15 456
	CFC	3 236	0	3 236
	Others: private non-market education	4 974	2 485	2 489
	Others: others branches	15 533	5 802	9 731
Allocation of FISIM		584	584	0
Exhaustiveness		0	0	0
Balancing		0	0	0
Total		44 471	14 341	30 130

Table 3-38 The breakdown of output, intermediate consumption and gross value added of NPISH by NACE sections, in EUR (million)

NACE	A	B	C	D	E	F	G	
P.1	0	0	0	0	0	0	0	
P.2	0	0	0	0	0	0	0	
B.1G	0	0	0	0	0	0	0	
NACE	H	I	J	K	L	L_	M	
P.1	0	0	0	0	0	0	0	
P.2	0	0	0	0	0	0	0	
B.1G	0	0	0	0	0	0	0	
NACE	N	O	P	Q	R	S	T	Total
P.1	0	0	6 087	21 935	5 724	10 725	0	44 471
P.2	0	0	2 485	5 470	2 468	3 918	0	14 341
B.1G	0	0	3 602	16 465	3 256	6 807	0	30 130

3.7.1 Data sources

3.7.1.1 Field of NPISH in French National Accounts

The activities of NPISH are not found in the French National Accounts through the systematic annual tracking as institutional units, which is the type of approach used, for example, for non-financial enterprises. The method used is to evaluate the NPISH accounts for a base year using a globalising procedure, then develop it annually using indicators.

NPISH include social welfare institutions for people with disabilities or in difficulty, private educational institutions, charity and humanitarian action associations; advocacy of household interests; leisure and

youth; sports; cultural unless they originate from local communities; non-vocation foundations (management of a museum or a retirement home, etc.); political parties; the unions of employees.

In practice, identification of NPISHs is done using a cross legal categories / industries code, *see tables below*.

Table 3-39 Industries with NPISHs

NACE		
85	8510Z	Pre-primary education
	8520Z	Primary education
	8531Z	General secondary education
	8532Z	Technical and vocational secondary education
	8541Z	Non-senior post-secondary education
	8542Z	Higher education
87	8710B	Medicalized accommodation for disabled children
	8710C	Medicalized accommodation for disabled adults
	8720A	Social housing for the mentally handicapped
	8720B	Accommodation for drug addicts
	8730B	Social housing for the physically handicapped
	8790A	Social housing for children in difficulty
	8790B	Social housing for adults and families in difficulty
88	8810B	Reception or accompaniment without accommodation for disabled or elderly adults
	8810C	Help with work
	8891B	Reception or accompaniment without accommodation for disabled children
	8899A	Other reception or accompaniment without accommodation of children and adolescents
	8899B	Social action without accommodation not elsewhere classified
90	9001Z	Live performing arts
	9002Z	Activities supporting live performance
	9003A	Artistic creation in the visual arts
	9003B	Other artistic creation
	9004Z	Management of theatres
91	9101Z	Library and archive management
	9102Z	Museum management
	9103Z	Management of historical sites and monuments and similar tourist attractions
	9104Z	Management of botanical and zoological gardens and nature reserves
93	9311Z	Sports facilities management
	9312Z	Activities of sports clubs
	9313Z	Activities of fitness centres
	9319Z	Other sports activities
	9321Z	Theme park and theme park activities
	9329Z	Other recreational and recreational activities
94	9420Z	Activities of employee unions
	9491Z	Activities of religious organizations
	9492Z	Activities of political organizations
	9499Z	Other voluntary membership

Table 3-40 Legal category with NPISHs

Legal category	Description
2700	Parish outside the concordariat zone
8410	Employees' unions
9210	Association not declared
9220	Association declared
9230	Public interest Foundation
9300	Foundation
9900	Other legal person governed by private law

NPISHs therefore appear, at the most detailed level of our nomenclature, in seven branches (branch and industry are equivalent for NPISH):

- non-market education,
- medico-social and social housing,
- social action without accommodation,
- creative, artistic and entertainment activities,
- cultural activities,
- sports, recreation and leisure activities,
- activities of associations.

Thus, religious, political and employee organisations are individually identified. Churches and religious congregations are included in the scope of the NPISH as defined by the ESA 2010. Churches under the Concordat of Alsace-Moselle are not in NPISH sector but are covered by the State budget, and classified in General Government. Religious congregations, whose members are not isolated from households, are not in NPISH sector.

Foundations, under the Law of 23 July 1987, which do not have a single purpose or a single vocation are accounted in NPISH. Enterprise foundations and many others of which the only activity is to manage an establishment (museum, retirement home, etc.) are excluded. Indeed, when there is an unequivocal link with another unit, the principle adopted is to attach the foundation to this unit.

Other associations governed by the 1901 Act are not classified in the NPISH sector because they are of a market nature, and are mainly at the exclusive service of units that belong to the corporation sectors (this is the case, for example, for employers' organisations or federations), or because they are controlled by General Government.

Social action organisations are mainly non-market associations, mainly financed but not controlled by the public administrations. Considered as non-market producers, and not controlled by the General Government, they are classified as NPISH, whether or not they are associations.

As NPISH are non-market producers, their production is essentially non-market. Production is estimated as the sum of production costs (the main cost being remuneration): intermediate consumption, remuneration of employees, taxes on production net of operating subsidies, consumption of fixed capital. Expenses are mainly production costs, redistribution and investment expenses. Most of the resources

come from current transfers from governments and households, as well as from investment and capital transfers.

NPISHs sometimes have revenues from their sales, which constitute secondary production, without the possibility of identifying market establishments that correspond to them. They intervene only in the transition from the production of (non-market) branches to products. In the terminology of the French National Accounts, these sales revenues are residual sales. NPISHs do not have production for own final use (P.12).

The principle of the nullity of the net operating surplus is always applied. It results the following equality:

$$P.1 - P.2 = D.1 + D.29 - D.39 + CFC$$

Table 3-41 Output, intermediary consumption and value added of NPSIH by industry, EUR (million)

Industry		Output			Intermediary consumption	Gross value added
		Market	Non-market	Total		
Non market education	P85N	1 219	4 868	6 087	2 485	3 602
Medico-social and social housing	Q87N	0	13 202	13 202	3 052	10 150
Social action without accommodation	Q88N	1 292	7 441	8 733	2 418	6 315
Creative, artistic and entertainment activities	R90N	0	1 936	1 936	640	1 296
Libraries, archives, museums and other cultural activities	R91N	0	290	290	126	164
Sports, leisure and leisure activities	R93N	0	3 498	3 498	1 702	1 796
Activities of membership organisations	S94N	0	10 725	10 725	3 918	6 807
TOTAL		2 511	41 960	44 471	14 341	30 130

In all branches except education, intermediary consumption is deduced from the other operations (see below).

$$P.2 = P.1 - D.1 - D.29 + D.39 - CFC$$

The total of the tax (D.29) is estimated according to two fixed parts (of wages and of output) as required by law. The total amount of subsidies (D.39) is provided by the DGFIP and broken down by branches from a survey of associations (Matisse survey). The table below shows this breakdown by branches.

Table 3-42 Structure of assisted employment, in %

Industry		Structure
Non market education	P85N	7.4%
Medico-social and social housing	Q87N	56.7%
Social action without accommodation	Q88N	56.7%
Creative, artistic and entertainment activities	R90N	3.3%
Libraries, archives, museums and other cultural activities	R91N	1.6%
Sports, leisure and leisure activities	R93N	9.8%
Activities of membership organisations	S94N	21.2%

3.7.1.2 Surveys and censuses (social action)

The column Surveys and censuses of the Process Table presents figures for social actions (87N and 88N). The production of social action (EUR 20.1 billion) is estimated at a very detailed level in the supply-use equilibrium: this detailed level is then used to build the operating accounts by branch of social action. More precisely, the value of production is obtained by multiplying the number of places in social and medico-social establishments and a cost per place, including depreciation. These data are extracted from the FINESS directory, managed by the DREES, which groups together the various medico-social establishments. It is therefore assumed that production includes consumption of fixed capital.

The amount of compensation of employees is deducted from production by applying the share of remuneration in the total costs of medico-social establishments excluding the consumption of fixed capital, using data from public accounts. Contributions are based on a default employer contribution rate of 32.3%, which corresponds to the rate of the non-financial corporate sector. The compensation of employee (D.1) is equal to EUR 14.5 billion.

The market part corresponds to the commercial activity of the establishments of help by the work. These establishments have a social activity and an economic activity, evaluated separately.

Partial payments are calculated as the balance between NPISH production and consumption expenditure. The consumption expenditure of the NPISHs corresponds to 90% of the production of accommodation for adults with disabilities and 71% of the production in the reception area for adults with disabilities, whereas the daily hospital fee remains paid by households.

Intermediate consumption is determined by balance:

$$P.2 = P.1 - D.1 - D.29 - CFC$$

where:

- D.1 (compensation of employees) is estimated from production by applying the share of remuneration in the total costs of medico-social establishments excluding the consumption of fixed capital, using data from public accounts, *see 4.8 Compensation of employees*,
- D.29 (other taxes on output) is the sum of a fixed part of wages and a fixed part of output,
- GFCF is estimated using a fixed key, equal to 20% of gross wages and salaries according to data from public accounts in action activities.

The intermediate consumptions of social action are equal to EUR 5.5 billion.

3.7.1.3 Other extrapolation and models

Amounts recorded in this column correspond to various activities of NPISH.

A. Private non-market education

Since the 2000 base, private educational establishments belong to the field of NPISHs and no longer to the field of General Government. Production is equal to EUR 6.1 billion and it is estimated by the sum of costs:

$$P.1 = D.1 + D.29 - D.39 + P.2 + CFC$$

where:

- The compensation of employees (D.1), in the base year, is deducted from the value of the current transfers of the branch: it is estimated that 22% of total current transfers to NPISHs paid by the State and 6% of total current transfers to NPISHs paid by local governments are for the NPISHs of the non-market education branch (85N). Then, compensation of employees are a fixed part of D.751 (80.2%) and employers' social contributions (D.12) are a fixed part of D.1 (31.7%).
- D.29 is composed of taxes on wages and labour, which are a fixed part of D.751 (4.2%).
- The total amount of subsidies (D.39) is provided by the DGFIP and broken down by branches from a survey of associations (Matisse survey), *see above*.
- Unlike other industries, intermediate consumption are not deducted from other operations: they were fixed in a base year 2010 as a share of current transfers paid by General Government (EUR 2.5 billion).
- The amount of the CFC is valued using the permanent inventory method (EUR 1.1 billion).

Part of the non-market education output is market production: it is estimated using a key set at 24.5% of the cost of production minus consumption of fixed capital.

This branch also includes partial payments; in the base year, partial payments are defined as a fixed portion of current transfers. In current year, partial payments evolve at the rate of wages.

The amount of GFCF is determined using assumptions, including observations made from the General Government sector, *see 5.11 Acquisition less disposal of produced fixed assets*.

B. Other branches: 90N, 91N, 93N and 94N

Production excluding consumption of fixed capital is estimated on the basis of the wage bill and the structure of expenditure. In particular, in base years, the share of wage expenditures in the total of expenditures (excluding redistribution expenditures) is used. In current years, production evolves like wages.

There are no partial payments for these branches. Non-market output is therefore equal to the consumption expenditure of NPISHs. Intermediary consumption is deduced from other operations:

$$P.2 = P.1 - D.1 - D.29 - CFC$$

where:

- D.1 is estimated from DADS for base years (and from Acoos data for current years),
- D.29 is a fixed part of production,

- For 90N, 93N and 94N, the amount of GFCF (P.51) is set at 5% of gross wages and salaries. A 50% key is retained for the 91N branch. The CFC is valued using the permanent inventory method.

3.7.2 Conceptual adjustments

Among the gross interest paid by NPISH (on their credits), one part is a consumption of a financial service (FISIM: financial intermediation service indirectly measured) and another is a "pure interest", an income from the property paid to the creditor. It represents EUR 0.6 billion. This information comes from the financial institutions accounts (*see 3.4.4 Detailed presentation of FISIM*).

3.7.3 Exhaustiveness

There is no correction for exhaustiveness in NPISH accounts: it is assumed that there is not undeclared work.

3.8 The role of direct and indirect estimation methods and of benchmarks and extrapolation

The table below summarises the extrapolation and models used in French National Accounts.

Table 3-43 Extrapolation and models in production approach, in EUR (million)

	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Other E&M	Total
GDP PRODUCTION APPROACH						
Total						
P.1	0	67 384	197 292	50 276	20 507	335 459
P.2	4 908	0	0	0	8 287	13 195
B.1G	-4 908	67 384	197 292	50 276	12 220	322 264
Financial and insurance activities (K)						
P.1	0	0	0	50 276	0	50 276
P.2	0	0	0	0	0	0
B.1G	0	0	0	50 276	0	50 276
Real estate activities (L)						
P.1	0	0	197 292	0	0	197 292
P.2	4 908	0	0	0	0	4 908
B.1G	-4 908	0	197 292	0	0	192 384
Public administration and defence; compulsory social security (O)						
P.1	0	64 148	0	0	0	64 148
P.2	0	0	0	0	0	0
B.1G	0	64 148	0	0	0	64 148
Education (P)						
P.1	0	1 113	0	0	4 974	6 087
P.2	0	0	0	0	2 485	2 485
B.1G	0	1 113	0	0	2 489	3 602
Human health and social work activities (Q)						
P.1	0	1 791	0	0	0	1 791
P.2	0	0	0	0	0	0
B.1G	0	1 791	0	0	0	1 791
Arts, entertainment and recreation (R)						
P.1	0	126	0	0	5 598	5 724
P.2	0	0	0	0	2 468	2 468
B.1G	0	126	0	0	3 130	3 256
Other service activities (S)						
P.1	0	206	0	0	9 935	10 141
P.2	0	0	0	0	3 334	3 334
B.1G	0	206	0	0	6 601	6 807

3.8.1 Non-financial enterprises (S.11+S.14AA)

In the production approach, production and intermediate consumption of most non-financial enterprises are evaluated primarily from the ESANE database, which is a combination of administrative data (tax returns from DGFIP) and survey data (see 10.1.1 Esane). These are therefore typically combined data. Social action estimates mainly use survey data, and as a secondary source, public accounting data. Lastly, estimates for agriculture mainly use survey data. Finally, there is no extrapolations and models in the non-financial enterprises' accounts.

3.8.2 Financial enterprises (S.12+S.14AB), section K of NACE

Regarding financial enterprises, the sources used are mainly administrative: accrual accounting, financial statements transmitted to the regulator (ACPR). Only the FISIM are evaluated thanks to extrapolation and models: the approach consists of a model which evaluates non-invoiced production corresponding to margins on loans and deposits (see 3.4.4 *Detailed presentation of FISIM*). The specification of the model for FISIM is not revised each year. It was revised in 2006 and more recently in 2016, to implement a new method that complies with ESA requirements (following an ESA 1995 GNI reservation).

3.8.3 General Government (S.13), section O of NACE

Regarding General Government, the sources used are mainly administrative (public accounting). Output is evaluated from the sum of costs which involves adding an evaluation of CFC obtained by the perpetual inventory method to the administrative data (see 4.13 *Consumption of fixed capital*). The specification of CFC models (PIM methods) are not often revised. The last revision occurred for the 2010 benchmark revision since the implementation of ESA 2010 required to introduce a new asset category (R&D) and to make assumptions regarding its life service.

3.8.4 Households (S.14B), section L of NACE

Regarding households, the estimated production of dwelling services is based for the most part on a model which extrapolates to all households that own a dwelling the amounts of effective rent that the owners receive (taking the characteristics of the dwellings into account). Intermediate consumption by households as producers of dwelling services (not imputed) is a commodity flow approach.

The estimation of production of dwelling services by the stratification method uses data from the 2006 housing survey. Results are extrapolated to subsequent years – including base year 2010 – using administrative sources for changes in housing stock and average surface areas, the rents and charges survey for changes in the price of rents per square metre (for given dwelling characteristics), as well as a trend quality effect (quality effect measures increase in dwelling quality). For more details see 10.3.3 *Housing satellite account*. The evaluation of the production of dwelling services by households was reviewed in 2019 with the results of the 2013 housing survey become. This actualised evaluation was taken into account for the September 2019 GNI notification, but was not be fully integrated in National Accounts before the release of the next benchmark revision (expected in 2024).

3.8.5 NPISH (S.15), section P, Q, R and S of NACE

Models for NACE sections P, Q, R and S refer to production of services by NPISH units. S.15 units generally do not publish detailed accounting data from which a complete set of accounts could be derived. Information is available only on specific operations (typically wage compensation) usually through administrative data, and assumptions have to be made and models have to be built to estimate all remaining operations (see 3.7 *NPISH*). In addition, as production by these units is non-market, consumption of fixed capital has to be imputed, and is evaluated using the perpetual inventory method.

The evaluation of social action production is based mainly on survey data. The value of production is obtained by multiplying the number of places in social and medico-social establishments and a cost per place, including depreciation. These data are extracted from the FINESS directory, managed by the DREES, which groups together the various medico-social establishments. It is assumed that production includes consumption of fixed capital.

As regards section P (private non-profit schools), public accounts yield detailed information on transfers from General Government to these schools, that represent the wage compensation (D.1) paid to teachers in these schools. The level of intermediate consumption (P.2), other taxes on production (D.29) and GFCF (P.51G) is then estimated by assuming that the ratio between D.1 and each of these operations is the same as that observed in old surveys. CFC is then deduced from GFCF through a PIM model. Other subsidies on production (D.39) are directly observed through public accounts.

As regards sections R and S, wage compensation (D.1) is known through administrative data on declared wages (Acos). We then use information from surveys on associations to estimate the ratios between D.1 and other components of production costs (excluding CFC) and GFCF, and apply these ratios to wage compensation. As for section P, CFC is deduced from GFCF through a PIM model.

3.9 The main approaches taken with respect to exhaustiveness

See chapter 7 for more details.

The table below summarises the exhaustiveness in French National Accounts.

Table 3-44 Exhaustiveness in production approach, in EUR (million)

	N1	N2	N3	N4	N5	N6	N7
P.1	17 218	2 626	8 075	5 361	0	39 532	39 392
P.2	1 396	0	3 341	3 007	0	-12 369	-1 315
B.1G	15 822	2 626	4 734	2 354	0	51 901	40 707

3.9.1 Type N1 adjustment

Concealed activity by units with no legal existence. This adjustment is evaluated on the basis of fraud rates estimated by expert opinion, and focuses on those sectors of activity where self-employment is most common (the building sector, motor vehicle repair, IT activities, personal services and commercial education).

3.9.2 Type N2 adjustment

This adjustment concerns contraband tobacco, and the production and trafficking of drugs. Most of the sources used are from the French Drugs and Drug Addiction Monitoring Centre (OFDT).

3.9.3 Type N3 adjustment

This covers production for household own final use:

- Agricultural products are produced by family allotments and animal husbandry. This output is estimated on the basis of a survey of households and updated using the production indices for the products concerned.
- Agricultural households also produce fuel-wood, the figure for which are provided by the forestry statistics.
- Agricultural households also process agricultural products into food products and beverages intended for their own final consumption. There are estimated from the data on farms.
- Construction for own final capital formation in the form of dwellings is also attributed to households, this is estimated on the basis of the value of construction materials purchased by households, known from the household survey.

3.9.4 Type N4 adjustment

This adjustment covers entities specialising in horse racing, works councils and associations or foundations with market activity, which are poorly covered by ESANE due to their non-profit status. Although they are classified in the non-financial corporations sector, their accounts are not available (or are of poor quality) and an estimate must be made based on alternative methods (using administrative data on declared wages, specific surveys).

3.9.5 Type N5 adjustment

Not applicable. Tax statements are in principle exhaustive and if missing, it is imputed in Esane.

3.9.6 Type N6 adjustment

This adjustment concerns value added concealed for fraudulent purposes by units whose existence is recognised by the law. The impact of the fraud on output and intermediate consumption is evaluated by extrapolating to the entire scope of the declared units the amount of fraud estimated through tax audits. In addition to this representative adjustment for fraud to the results of these enterprises, there is the “VAT gap”, which is the difference between the VAT theoretically due (obtained by applying theoretical VAT rates to uses –final or intermediate consumption, GFCF – calculated excluding VAT) and the VAT actually collected. The VAT gap mainly picks up VAT fraud without complicity, but it also shows statistical uncertainties over the amounts for uses and theoretical VAT rates, and some accounting discrepancies, etc.

3.9.7 Type N7 adjustment

This adjustment concerns market producers’ production for own final use, which is not measurable via accounting data (mainly R&D, where the amount is estimated via the R&D survey), as well as tips and compensation and benefits in kind (estimates based on surveys on wage structure, and data from the housing satellite account for dwellings made available to staff free of charge).

3.10 Agriculture, forestry and fishing (NACE A)

3.10.1 Process table

3.10.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-45 Process table of Agriculture, forestry and fishing (NACE 01-03) of S.11+S.14AA, in EUR (million)

NACE A	Sources	Conceptual adjustments		Final estimate
	Survey and censuses	Allocation of FISIM	Financial leasing	
P.1	75 268	0	0	75 268
P.2	45 073	1 100	-637	45 536
B.1G	30 195	-1 100	637	29 732

3.10.1.2 Households (S.14B)

Table 3-46 Process table of Crop and animal production, hunting and related service activities (NACE 01) of S.14B, in EUR (million)

NACE 01	Exhaustiveness	Final estimate
	N3	
P.1	1 937	1 937
P.2	523	523
B.1G	1 414	1 414

Table 3-47 Process table of Forestry and logging (NACE 02) of S.14B, in EUR (million)

NACE 02	Exhaustiveness	Final estimate
	N3	
P.1	782	782
P.2		
B.1G	782	782

Table 3-48 Process table of Fishing and aquaculture (NACE 03) of S.14B, in EUR (million)

NACE 03	Exhaustiveness	Final estimate
	N3	
P.1	11	11
P.2		
B.1G	11	11

3.10.2 Agriculture and hunting (NACE 01)

First of all, agricultural holdings in the sense of the agricultural statistics are the reference units of agricultural activities excluding ancillary services used in agricultural accounts and stand for the version of the Local Kind of Activity Unit (LKAU) adapted to agricultural activity. Secondly, concerning ancillary services, their scope covers firms of agricultural works, cooperatives of common use of agricultural machines, agricultural services produced by farmers to others. Contrary to non-financial corporations sectors, output in the agricultural sector is not measured on the declarations made by farms on their activity but by totalling the output of the branch. Therefore, output is measured by identifying the products concerned.

The value added of agriculture is derived from a classical production approach as it is measured as the difference between output and intermediate consumption. Whereas output is mainly estimated by a functional approach multiplying quantities by prices for each product, intermediate consumption is measured based on the declarations made by farms.

3.10.2.1 Data sources

Most quantitative data are obtained from annual agricultural statistics (SAA) compiled by the Services of Statistics and Prospective (SSP), from the statistics department of the Ministry of Agriculture. This provides physical data on surface areas, yields and quantities of all vegetable products in accordance with a very

detailed nomenclature. It also provides a wide range of statistics on animal products (sizes of herds, quantities of milk produced, broken down by type of use, quantities of poultry, rabbits and various other animals bred and quantities of various animal products such as honey, wool etc.). The Ministry of Agriculture statistics department also provides statistics on slaughtering (slaughtering corrected for external trade) and gross domestic output of livestock. Those data from SAA are supposed to cover the whole scope of agricultural production. Indeed, the field of SAA involves small Local Kind of Activity Units (one ha, twenty acres of Useful Surfaces Area, one cow). In addition, the statisticians explain that the production is well estimated and consolidated by a network of investigators.

Statistics on physical quantities are also prepared by FranceAgriMer, the office for the management and regulation of agricultural markets, which replaced the previous offices specialised by product. FranceAgriMer can obtain the total collected harvests. There are also some inter-professional bodies that provide statistics on the quantities produced: the national inter-professional group for seeds (GNIS), the general confederation of sugar beet growers (CGB), the national inter-professional group for industrial potatoes and of processing industries (GIPT), the inter-professional committee for agricultural flax producers (CIPALIN), France-Tabac, etc. Lastly, some data are collected by other government entities. These are mainly statistics on wine production and output from wine cellars, compiled by the Directorate-General of Customs and Indirect Taxes (DGDDI) of the Ministry for Finance.

As for statistics on producer prices, for cereals, oleaginous and proteaginous crops, FranceAgriMer surveys of collectors is used, while prices of potatoes, industrial beet, tobacco and flax are taken from the annual statistical system run by the professional bodies. For other products, price levels are established by agricultural statisticians at regional level. Notably, this is the case for other industrial plants, plants and flowers, livestock, milk, poultry, eggs, and other livestock products.

Table 3-49 Data for valuing of output at producer prices by products, EUR (million)

Products	Value	Method	Sources
Cereals	13 043	Production (including intra-consumption) without seeds: Quantities x prices	FranceAgriMer, SAA
		Seeds (multiplied): quantities and values directly available	GNIS
		Seed (certified) produced by seeds establishments: values directly available	GNIS
Potatoes	1 961	Agricultural holdings: Quantities x price quantities	Quantities : annual agricultural statistics
		Family gardens: evolution of levels from base 2005	Evolution in quantity as the agricultural holdings quantity
Oleaginous	3 021	Production without seeds: quantities x price quantities	Annual agricultural statistics price (price of delivery to FranceAgriMer collectors)
		Seeds (multiplied) : quantities and values directly given	GNIS
		Seed (certified) produced by seeds establishments : values directly given	GNIS
Tobacco	47	Quantities x price: directly available	France-Tabac
Sugar-producing plants	950	Quantities x price: directly available	CGB for sugar beet
			SSP DOM for sugar cane

Products	Value	Method	Sources
Feed crops	4 990	Quantities x price: surface areas x cost/ha	Quantities: surface areas or collected production (SSP)
Feed crops	4 990	Quantities x price: surface areas x cost/ha	Quantities: surface areas or collected production (SSP)
Other industrial plants	1 748	Production without seeds: quantities x price quantities	Quantities Annual agricultural statistics
		Seeds : quantities x values directly available	GNIS
Plants and flowers	2 255	Quantities x price quantities	Quantities: Annual agricultural statistics
		Plantation: Production for own final use (gross formation of fixed capital)	Surfaces of plantations: vineyards (SSP), orchards (survey)
Fresh vegetables	3 914	Agricultural holdings: quantities x price quantities	Annual agricultural statistics price and quantities: SAA, SSP regional surveys
		Family gardens: evolution of levels from base 2005	
Fruits	2 981	Agricultural holdings: quantities x price quantities	Annual agricultural statistics price: SAA, SSP regional surveys
		Family gardens: evolution of levels from base 2005	
Cattle, calves, pigs, sheep, goats	10 032	Decomposition of the production in resources posts: slaughtering, livestock, inventory changes, gross formation of fixed capital, foreign trade	Quantities and values: statistics from the Agricultural department and customs
Raw milk	8 014	Quantities x price quantities	Quantities and prices: Annual agricultural statistics
Poultry	3 096	Quantities x price quantities	Quantities: Annual agricultural statistics price: Agricultural producer price index
Eggs	1 067	Quantities x price quantities	Quantities: Annual agricultural statistics price: Agricultural producer price index
Other livestock products	617	Quantities x price quantities	Quantities: Annual agricultural statistics price: Agricultural producer price index
Related services	3 943		Values: tax declarations, FADN Prices: PPI
Total agricultural products	61 679		
Wines	9 038		Quantities x price quantities: Annual agricultural statistics price: FADN, SSP regional surveys
General total	70 717		

The calculation of intermediate consumption by the agricultural branch mainly uses data from farms' surveys. Data from the Farm Accountancy Data Network (FADN) are a source of information on farming operating costs. This is an annual sample survey of farms, which provides information especially on their expenditure by value, excluding VAT. The FADN data is designed to cover 95% of the agriculture in the country. In practice, metropolitan farms with a size measured in terms of the Standard Gross Production

bigger than EUR 25 000 are covered. As a whole, 40% of intermediate consumption estimates are derived from the FADN data.

The intermediate consumptions of seeds are known in values thanks to the National Inter Profession Group of Seeds (GNIS). The animal food, bought to the food-processing industry, is given in quantity by the SAA and in the special case of dehydrated alfalfa by the survey Commercialised Production by the agro-food industry (SSP).

3.10.2.2 Valuation and adjustments

Output

Thanks to data at a refined level of products and the coverage of the Local Kind of Activity Units, the output is supposed to be exhaustively estimated. Regarding valuation, statistics on producer prices only differ from basis prices as they exclude product subsidies. Some adjustments are also carried on to record output on an accrual basis. This is for instance the case of meat production: in order to measure the output continuously and not only at the time of delivery, a demographic model of the different categories of livestock is used.

Furthermore, some adjustments recorded below have to be made to properly handle some cases.

First of all, wine is classified as a product of the food industries and not as an agricultural product. But, wine production made by the same units which grow the grape is treated as an agricultural activity. A production transfer is made for the product / branch transition.

For output estimation, ancillary agricultural services are an exception to the standard functional approach by products. They are estimated on the basis of information in terms of value and not on the basis of information on prices and quantities. For the basis year, fiscal data were used and this estimation is updated with the Farm Accountancy Data Network data.

Details can be given concerning the evaluation of the final output for own use. It concerns the production of households for their own consumption (output produced for final use in exhaustiveness N3) and the production of agricultural holdings for gross formation of fixed capital. Output by family gardens is evaluated for potatoes, fruits, vegetables, eggs, and added to the total output. The evolutions are given in prices thanks to Agricultural Producer Price Index (elaborated by Insee) or the producer prices of the agricultural holdings. The evolutions in quantity are given by the productions registered by the main sources (SAA, FranceAgriMer, GIPT). Output by farmers as households (that is for their own consumption) is estimated for a wider range of products (industrial plants, wine, honey) in the same way. The sum of the outputs of family gardens and farmers as households is considered as a final output for own use, which counterpart is auto-consumption for final use.

Plantations, cattle, sheep and goats, pigs are concerned by gross fixed capital formation. It is directly given by the SSP statistics for the animal products. Gross fixed capital formation for plantations concerns vineyards and orchards and is estimated thanks to the surfaces of plantations multiplied by the cost of plantations. The counterpart of gross fixed capital formation consists in output for own final use.

The adjustment for illegal production of drugs is not recorded in the agricultural activities but it is estimated on the basis on specific information and recorded in another sector of activity (*see chapter 7*). Output by households in family gardens and pens is included and designed for final consumption. Some

products are by nature destined for fixed capital formation by farms: breeding animals, plantations of orchards and vineyards... These components constitute production for own final use.

Intermediate consumption

Intermediate consumptions cover a wide scope of products and services, a large amount of them are agricultural products such as seeds, fodder for animal feed and ancillary services. Actually, a specificity of the agricultural branch is the weight of intermediate consumptions of products elaborated in farms for own production (for instance fodder for animals) that must be thus added considering its economic importance.

The general method is to estimate the intermediate consumptions of a list of products and services for the following actors involved in the agricultural production: agricultural holdings, seed producing establishments, agricultural ancillary services enterprises and households. The list of products and services consists in a scope of 56 posts.

The estimations of a large part of those items (for example animal feed manufacturing, chemicals and fertilizers, manufacture of coke and refined petroleum products) use the Farm Accountancy Data Network data: they are ratios (expenditure on fertiliser or phytosanitary products per hectare depending on the crops, veterinary expenditure per head of livestock...) which are applied to structural data taken from the Annual Agricultural Statistics (surface areas cultivated, livestock). As general remark, the Farm Accountancy Data Network data are not exploited in the same way as corporate accounting data, which can be used, for example, for other market activities where overall accounting consistency is preserved.

Concerning intermediate consumptions of agricultural products:

- Consumptions in seeds and plants are estimated with the data of the national inter-professional group for seeds GNIS (an inter-professional body).
- The estimation of the important post of animal food directly produced by farmers for their own animals is carried out when the product supply/use tables are compiled with the reference to a list of products (some kinds of cereals, potatoes). The very nature and the comprehensive information on these products imply that they can be assigned without ambiguity to intermediate consumption by the agricultural branch. By construction, it does not affect the value added of the branch.
- Ancillary agricultural services are estimated with a supply and use table, using the Farm Accountancy Data Network data.

By actors, some posts of intermediate consumptions by family gardens, enterprises serving agriculture and seed-producing establishments are extended in volume with outputs of agricultural holdings and in price with the evolution of the purchase prices of the means of agricultural production (IPAMPA, agricultural means of production purchasing price index calculated by Insee).

Let notice that the intermediate consumption of insurance services requires a different approach. The preparation of supply and use equilibrium for these products is in fact extended by setting intermediate consumptions for different branches – or groups of branches. This general process is applied to agriculture. Intermediate consumption of financial intermediation services indirectly measured (FISIM) is calculated using in-progress amounts that appear in the FADN and different information from Crédit Agricole.

Financial leasing appears in the accounts of agricultural companies as a rental of durable goods. As for non-corporation non-agricultural companies, thanks to data from Banque de France and ASF and a special survey of all leasing companies, the amount of financial leasing of agricultural companies is estimated and subtracted from intermediate consumption.

Lastly, the intermediate consumptions are evaluated including the Value Added Taxes (VAT), which percentage by products are given by the French General Directorate of the Treasury.

3.10.3 Forestry and logging (NACE 02)

For forestry activities, a continuous production process needs to be described. Output needs to be recorded throughout the period of growth of the trees prior to the felling. It is qualified as "work-in-progress". Total output from forestry and logging includes five components:

- increase in work in progress (forest growth);
- output intended for sale, which includes sales of standing timber, sales of felled timber trimmed and placed at the side of the road, and the output of felled timber by saw mills for their own use;
- output of consumer products intended for household use (fuel wood harvested by households);
- output intended for fixed capital formation (forestation and reforestation work);
- provision of logging and forest maintenance services.

3.10.3.1 Data sources

Forestry activity is exceptional in terms of the importance of the role of the State and local authorities. The annual report by the National Forestry Fund provides information on investments made with State financial participation or in the private domain of the State. Self-financing investment, especially when carried out by private operators, is estimated in proportion.

Projections for forestry are based on estimates by the National Institute for Geographic and Forest Information (National Forest Inventory) and provide quantities for annual biological production by species. This is evaluated from the sales prices of standing timber at the National Forestry Office (ONF) autumn sales. Quantities of wood (logged wood and standing timber) are estimated via an annual survey carried out by the statistical office of the Ministry of Agriculture on logging. There is also production of fuel wood for own final consumption by the producers (households). The estimate comes from agricultural statistics for quantities, and from the ONF for prices. The production of Christmas trees is estimated from commercial sales. Production by forestry services is taken from financial documents.

Intermediate consumption by the forestry branch is estimated by applying rates taken from available tax data on forestry enterprises to forestry production.

3.10.3.2 Valuation and adjustments

For sales of logged wood, the surveys carried out by the SSP (Ministry of Agriculture) are used for the quantities and prices. For sales of standing timber, we use the production in quantity of logged wood for the following year (we assume that trees are felled mainly during winter) and evaluate quantities from the prices from the sales in the autumn that are realised by the National Forestry Office (ONF). Those prices are not exhaustive since private sells are not concerned but actually, they are a reference for private sells.

The increase in work-in-progress is deduced by subtracting from biological production the sales of standing timber, wood collected by households for their own use and dead wood collected throughout the year.

3.10.4 Fishing and aquaculture (NACE 03)

3.10.4.1 Data sources

Fishing and aquaculture output is based on surveys, which evaluate the annual production of the goods concerned. These data are collected by FranceAgriMer mainly from sales in fish auctions. Intermediate consumption by the branch is based on estimates of the Ministry of fishing and aquaculture.

3.10.4.2 Valuation and adjustments

Several adjustments are applied to the gross figures. The most important aim at improving the exhaustiveness of coverage of the activity. An estimate for fishing in the overseas departments (DOM) – EUR 200 million – is added to the previous figures. A second adjustment takes the under-declaration of the amounts caught into account. An adjustment rate of around 15%, taken from an independent study, is applied to the value of fish landed. Other adjustments are of a technical nature. An adjustment is made for sales of unfinished products between shellfish farmers. Another is for the inclusion of household production of the products of fishing for own consumption.

3.11 Mining and quarrying (NACE B)

3.11.1 Mining and quarrying (NACE 05-09)

Table 3-50 Process table of Mining and quarrying (NACE 05-09), in EUR (million)

NACE	Sources	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	7 482	-385	0	-715	8	45	2	6 437
P.2	5 042	-535	47	-786	-23	-2	-1	3 742
B.1G	2 440	150	-47	71	31	47	3	2 695

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in mining and quarrying is mainly adjustments on particular legal units to correct identified errors in Esane (see 3.3.2.2 Data validation).

Conceptual adjustments

Mainly adjustments with no impact on value added (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

Further information

Mineral exploration in France is now negligible.

3.12 Manufacturing (NACE C)

3.12.1 Manufacture of food products, beverages and tobacco products (NACE 10-12)

3.12.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-51 Process table of Manufacture of food products, beverages and tobacco products (NACE 10-12) of S.11+S.14AA, in EUR (million)

NACE 10-12	Sources Combined Data	Adjustments						Final estimate	
		Data validation	Conceptual		Exhaustiveness				Balancing
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	150 179	-3 697	0	-5 695	388	1 353	508	88	143 124
P.2	114 101	-3 687	627	-5 561	92	-162	-57	-37	105 316
B.1G	36 078	-10	-627	-134	296	1 515	565	125	37 808

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in manufacture of food products, beverages and tobacco products is mainly the exclusion of winemaking (NACE 11). The winemaking (NACE 1102) is excluded from Esane to avoid a double count between Agriculture figures and Esane (see 3.10 Agriculture, forestry and fishing). It represents EUR -3.5 billion of output and EUR -2.7 billion of intermediate consumption, so a value added of EUR -0.8 billion in 2010.

The taxes discrepancy is also high in this industry (EUR 0.8 billion, see 3.3.2.2 Taxes).

Conceptual adjustments

Conceptual adjustments in manufacture of food products, beverages and tobacco products are mainly adjustments with no impact on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness are mainly non-declared employment in manufacturing of bakery-pastry products and pasta, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.1.2 Households

Table 3-52 Process table of Manufacture of food products, beverages and tobacco products (NACE 10-12) of S.14B, in EUR (million)

NACE 10-12	Exhaustiveness	Balancing	Final estimate
	N3		
P.1	404	324	728
P.2	199	160	359
B.1G	205	164	369

Exhaustiveness

Agricultural households are engaged in the processing of agricultural products into food industrial products, which are also intended for their final consumption. The estimate comes from farm data.

Balancing

The balancing column is used to make consistent estimation from production approach and the estimates from expenditure approach.

3.12.2 Manufacture of textiles, wearing apparel and leather products (NACE 13-15)

Table 3-53 Process table of Manufacture of textiles, wearing apparel and leather products (NACE 13-15), in EUR (million)

NACE 13-15	Sources Combined Data	Adjustments						Final estimate	
		Data validation	Conceptual		Exhaustiveness		Balancing		
			Allocation of FISIM	Other conceptual	N1	N6			N7
P.1	19 064	-858	0	-370	211	73	175	1	18 296
P.2	12 994	-880	148	-515	88	-61	-5	-4	11 765
B.1G	6 070	22	-148	145	123	134	180	5	6 531

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in manufacture of textiles, wearing apparel and leather products is mainly adjustments on particular legal units to correct identified errors in Esane (see 3.3.2.2 Data validation).

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.3 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (NACE 16)

Table 3-54 Process table of Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (NACE 16), in EUR (million)

NACE 16	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	10 764	4	0	-93	84	26	0	10 785
P.2	7 510	-16	54	-253	-29	-3	-3	7 260
B.1G	3 254	20	-54	160	113	29	3	3 525

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.4 Manufacture of paper and paper products (NACE 17)

Table 3-55 Process table of Manufacture of paper and paper products (NACE 17), in EUR (million)

NACE 17	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	17 254	-2	0	746	22	62	0	18 082
P.2	12 831	-21	86	643	-26	-3	-5	13 505
B.1G	4 423	19	-86	103	48	65	5	4 577

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of paper and paper products are mainly adjustments neutral on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.5 Printing and reproduction of recorded media (NACE 18)

Table 3-56 Process table of Printing and reproduction of recorded media (NACE 18), in EUR (million)

NACE 18	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	10 679	-64	0	-149	47	59	0	10 572
P.2	6 696	-1	44	-496	-50	-3	-2	6 188
B.1G	3 983	-63	-44	347	97	62	2	4 384

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.6 Manufacture of coke and refined petroleum products (NACE 19)

Table 3-57 Process table of Manufacture of coke and refined petroleum products (NACE 19), in EUR (million)

NACE 19	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	60 211	395	0	-10 081	26	130	389	51 070
P.2	49 019	495	38	-1 052	-14	-3	-17	48 466
B.1G	11 192	-100	-38	-9 029	40	133	406	2 604

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of coke and refined petroleum products are mainly adjustments linked to the transformation into the basic prices (important in this industry because of the TICPE) and adjustments neutral on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.7 Manufacture of chemicals and chemical products (NACE 20)

Table 3-58 Process table of Manufacture of chemicals and chemical products (NACE 20), in EUR (million)

NACE 20	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	69 157	2 213	0	-3 573	48	1 012	23	68 880
P.2	52 531	2 168	265	-3 584	-95	-27	-18	51 240
B.1G	16 626	45	-265	11	143	1 039	41	17 640

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in manufacture of chemicals and chemical products is mainly adjustments on particular legal units to correct identified errors in Esane, the impact on value added is weak, see 3.3.2.2 Data validation.

Conceptual adjustment

Conceptual adjustments in manufacture of chemicals and chemical products are mainly adjustments neutral on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D and software, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.8 Manufacture of basic pharmaceutical products and pharmaceutical preparations (NACE 21)

Table 3-59 Process table of Manufacture of basic pharmaceutical products and pharmaceutical preparations (NACE 21), in EUR (million)

NACE 21	Sources Combined Data	Data validation	Adjustments					Balancing	Final estimate
			Conceptual		Exhaustiveness				
			Allocation of FISIM	Other conceptual	N2	N6	N7		
P.1	31 890	-234	0	-1 077	42	5	780	-1	31 405
P.2	21 278	-972	68	-3 593	0	-93	-7	-6	16 675
B.1G	10 612	738	-68	2 516	42	98	787	5	14 730

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of basic pharmaceutical products and pharmaceutical preparations are mainly adjustments to transfer R&D from intermediate consumption to GFCF, see 3.3.2.3 *Conceptual adjustments*.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D, see 3.3.2.4 *Exhaustiveness*.

Balancing

See 3.3.2.5 *Balancing*.

3.12.9 Manufacture of rubber and plastic products (NACE 22)

Table 3-60 Process table of Manufacture of rubber and plastic products (NACE 22), in EUR (million)

NACE 22	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	34 445	-4	0	-1 780	41	654	2	33 358
P.2	22 888	-33	121	-2 115	-54	-9	-7	20 791
B.1G	11 557	29	-121	335	95	663	9	12 567

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of rubber and plastic products are mainly neutral adjustments on value added, see 3.3.2.3 *Conceptual adjustments*.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D and software, see 3.3.2.4 *Exhaustiveness*.

Balancing

See 3.3.2.5 *Balancing*.

3.12.10 Manufacture of other non-metallic mineral products (NACE 23)

Table 3-61 Process table of Manufacture of other non-metallic mineral products (NACE 23), in EUR (million)

NACE 23	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	26 501	7	0	-838	86	186	0	25 942
P.2	18 147	23	118	-1 278	-48	-10	-6	16 946
B.1G	8 354	-16	-118	440	134	196	6	8 996

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of other non-metallic mineral products are mainly neutral adjustments on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.11 Manufacture of basic metals (NACE 24)

Table 3-62 Process table of Manufacture of basic metals (NACE 24), in EUR (million)

NACE 24	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	31 960	-13	0	2 415	19	194	1	34 576
P.2	25 498	170	86	2 721	-34	-24	-10	28 407
B.1G	6 462	-183	-86	-306	53	218	11	6 169

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of basic metals are mainly neutral adjustments on value added, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.12 Manufacture of fabricated metal products, except machinery and equipment (NACE 25)

Table 3-63 Process table of Manufacture of fabricated metal products, except machinery and equipment (NACE 25), in EUR (million)

NACE 25	Sources Combined Data	Data validation	Adjustments				Final estimate	
			Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	51 995	-7	0	-1 438	135	446	0	51 131
P.2	32 991	-51	183	-2 182	-135	-16	-11	30 779
B.1G	19 004	44	-183	744	270	462	11	20 352

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of fabricated metal products, except machinery and equipment are mainly neutral adjustments on value added, adjustments for financial leases and transfer of R&D into GFCF, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.13 Manufacture of computer, electronic and optical products (NACE 26)

Table 3-64 Process table of Manufacture of computer, electronic and optical products (NACE 26), in EUR (million)

NACE 26	Sources Combined Data	Data validation	Adjustments				Final estimate	
			Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	31 866	-173	0	-760	37	2 822	20	33 812
P.2	21 703	-119	143	-3 194	-46	-9	-6	18 472
B.1G	10 163	-54	-143	2 434	83	2 831	26	15 340

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of computer, electronic and optical products are mainly transfer of R&D into GFCF, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D and software, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.14 Manufacture of electrical equipment (NACE 27)

Table 3-65 Process table of Manufacture of electrical equipment (NACE 27), in EUR (million)

NACE 27	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	27 101	-5	0	-424	15	742	0	27 429
P.2	18 451	-24	78	-860	-44	-9	-6	17 586
B.1G	8 650	19	-78	436	59	751	6	9 843

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.15 Manufacture of machinery and equipment n.e.c. (NACE 28)

Table 3-66 Process table of Manufacture of machinery and equipment n.e.c. (NACE 28), in EUR (million)

NACE 28	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	38 843	318	0	-1 197	31	1 065	-1	39 059
P.2	26 052	198	111	-1 545	-87	-14	-9	24 706
B.1G	12 791	120	-111	348	118	1 079	8	14 353

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments in manufacture of machinery and equipment n.e.c. are mainly transport on output and transfer of R&D into GFCF, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.16 Manufacture of motor vehicles, trailers and semi-trailers (NACE 29)

Table 3-67 Process table of Manufacture of motor vehicles, trailers and semi-trailers (NACE 29), in EUR (million)

NACE 29	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	76 289	-1 416	0	1 586	19	1 924	0	78 402
P.2	61 189	-220	223	-2 531	-89	-63	-20	58 489
B.1G	15 100	-1 196	-223	4 117	108	1 987	20	19 913

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly subsidies discrepancy (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments in manufacture of motor vehicles, trailers and semi-trailers are mainly the transformation into basic prices and transfer of R&D into GFCF, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D, *see 3.3.2.4 Exhaustiveness*.

Balancing

See 3.3.2.5 Balancing.

3.12.17 Manufacture of other transport equipment (NACE 30)

Table 3-68 Process table of Manufacture of other transport equipment (NACE 30), in EUR (million)

NACE 30	Sources Combined Data	Adjustments					Balancing	Final estimate
		Data validation	Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	38 419	16 234	0	-300	23	2 987	-416	56 947
P.2	27 444	15 970	84	-1 204	-59	-8	-15	42 212
B.1G	10 975	264	-84	904	82	2 995	-401	14 735

Combined Data

It comes from Esane (*see 3.3.2.1 Esane*).

Data Validation

Data validation is mainly due to two corrections for Airbus, which are neutral on value added:

- for international trade (*see 3.3.2.2 Data validation*),
- for a mistake from Airbus tax return: sales recorded are only sales for the assembly made in France and not all the activity of Airbus in France. The sold production and purchase of raw materials were enhanced in 2010 to be equal to exportation except international trade, purchase from French companies (zero in 2010) and military GFCF (EUR 11.3 billion).

Conceptual adjustments

Conceptual adjustments in manufacture of other transport equipment are mainly the transfer of R&D into GFCF, *see 3.3.2.3 Conceptual adjustments*.

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D, *see 3.3.2.4 Exhaustiveness*.

Balancing

See 3.3.2.5 Balancing.

3.12.18 Manufacture of furniture, other manufacturing (NACE 31-32)

Table 3-69 Process table of Manufacture of furniture, other manufacturing (NACE 31-32), in EUR (million)

NACE 31-32	Sources Combined Data	Data validation	Adjustments					Balancing	Final estimate
			Conceptual		Exhaustiveness				
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	18 591	45	0	-743	338	257	260	-4	18 744
P.2	11 171	-27	94	-868	80	-47	-6	-4	10 393
B.1G	7 420	72	-94	125	258	304	266	0	8 351

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.12.19 Repair and installation of machinery and equipment (NACE 33)

Table 3-70 Process table of Repair and installation of machinery and equipment (NACE 33), in EUR (million)

NACE 33	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	27 643	10	0	-23	98	427	1	28 156
P.2	15 905	-17	93	-95	-192	-10	-5	15 679
B.1G	11 738	27	-93	72	290	437	6	12 477

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.13 Electricity, gas, steam and air conditioning supply (NACE D)

3.13.1 Electricity, gas, steam and air conditioning supply (NACE 35)

Table 3-71 Process table of Electricity, gas, steam and air conditioning supply (NACE 35), in EUR (million)

NACE 35	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	113 582	-4 738	0	661	4	842	-1	110 350
P.2	87 292	-3 957	150	-525	-687	-71	-28	82 174
B.1G	26 290	-781	-150	1 186	691	913	27	28 176

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in electricity, gas, steam and air conditioning supply is mainly adjustments for international trade, CTA and taxes discrepancy (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments in electricity, gas, steam and air conditioning supply are mainly adjustments for the transformation into basic prices, adjustments neutral on value added and transformations of changes in inventories, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly non-declared employment in electricity, gas, steam and air conditioning supply and production for own final use of R&D and software, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.14 Water supply; sewerage, waste management and remediation activities (NACE E)

3.14.1 Water collection, treatment and supply (NACE 36)

Table 3-72 Process table of Water collection, treatment and supply (NACE 36), in EUR (million)

NACE 36	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	12 953	35	0	-314	4	52	0	12 730
P.2	9 119	-189	489	-131	-8	-13	-3	9 264
B.1G	3 834	224	-489	-183	12	65	3	3 466

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.14.2 Sewerage (NACE 37)

Table 3-73 Process table of Sewerage (NACE 37), in EUR (million)

NACE 37	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	2 511	-31	0	-1 172	3	7	1	1 319
P.2	1 406	-1 239	21	-33	-16	-2	0	137
B.1G	1 105	1 208	-21	-1 139	19	9	1	1 182

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly the taxes discrepancy (3.3.2.2 Data validation).

Conceptual adjustments

Other conceptual adjustments are mainly the transformation into basic prices (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.14.3 Waste collection, treatment and disposal activities; materials recovery (NACE 38)

Table 3-74 Process table of Waste collection, treatment and disposal activities; materials recovery (NACE 38), in EUR (million)

NACE 38	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	20 792	2	0	-347	27	37	0	20 511
P.2	14 536	-73	56	-549	-76	-9	-5	13 880
B.1G	6 256	75	-56	202	103	46	5	6 631

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.14.4 Remediation activities and other waste management services (NACE 39)

Table 3-75 Process table of Remediation activities and other waste management services (NACE 39), in EUR (million)

NACE 39	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	622	0	0	0	2	5	0	629
P.2	394	-1	0	-21	-4	0	0	368
B.1G	228	1	0	21	6	5	0	261

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.15 Construction (NACE F)

3.15.1 Construction (NACE 41-43)

3.15.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-76 Process table of Construction (NACE 41-43) of S.11+S.14AA, in EUR (million)

NACE 41-43	Sources Combined Data	Adjustments						Final estimate	
		Data validation	Conceptual		Exhaustiveness				Balancing
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	256 411	-827	0	-18 645	7 781	8 024	449	-6	253 187
P.2	167 928	-1 737	1 042	-20 992	1 048	-580	-66	-52	146 591
B.1G	88 483	910	-1 042	2 347	6 733	8 604	515	46	106 596

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in construction is mainly taxes discrepancy and adjustments on particular legal units to correct identified errors in Esane (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments in construction are mainly adjustments neutral on value added, adjustments for leasing, adjustments for net non-life insurance premium, and adjustments for the transformation into basic prices, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly non-declared employment in construction:

- from underground producer in specialised construction activities (NACE 43),
- from mis-reporting by the producer in specialised construction activities (NACE 43).

Balancing

See 3.3.2.5 Balancing.

3.15.1.2 Households (S.14B)

Table 3-77 Process table of Construction (NACE 41-43) of S.14B, in EUR (million)

NACE 41-43	Exhaustiveness	Final estimate
	N3	
P.1	4 941	4 941
P.2	2 619	2 619
B.1G	2 322	2 322

Exhaustiveness

Households are supposed to have a construction activity for their own fixed capital formation in dwellings. The estimate is based on knowledge of the value of building materials purchased by households. These expenditures are known from household surveys. A fraction of the total expenditure that is supposed to be used for important work in the dwelling is determined.

Once the value of the materials used has been determined, the value added is calculated by applying the value added / intermediate consumption ratio to building materials of the individual firms engaged in the same activity. The ratio is corrected for the fact that households do not have the possibility to deduct VAT on their purchases while businesses do.

3.15.1.3 Further information

Sources

Alternative sources (comparison of declarations by enterprises with those by households, comparison of declarations by subcontractors and contractors with building permits) could be considered to measure concealed construction activity but such alternative methods are not conclusive: for example, structural corporate data provide information on the activities of subcontractors on the one hand, and the use of subcontracting by building enterprises on the other. The difference between these two declarations could be symptomatic of undeclared activity but the two figures are not comparable: information on the activities of subcontractors is mixed with construction work for real estate developers.

Structural corporate data can also be used to break down construction company turnover by type of customer, by identifying households. These data could be compared with household expenditure data (on investment, final and intermediate consumption) such as the family budget. However, it is difficult to identify this expenditure from the Family Budget Survey as it does not include household expenditure by non-occupier owners.

Finally, data on building permits provide some information on construction activity (even though not all construction work requires a permit) and they are used by the national accounts to produce indicators of change in volume in construction for the semi-definitive and provisional accounts, when the structural corporate data are not yet available. The Sustainable Development Ministerial Statistical Department (SOeS) uses this information to obtain the amount of GFCF for households in construction. It is a complex matter to evaluate these building permits and the method has been revised several times by the SOeS in recent years. However, figures on household GFCF published by the SOeS are currently lower than those used in the national accounts, which suggests that the national accounts are not under-estimating the occurrence of fraud.

Another possibility for validating construction output and adjusting for under-coverage (keeping once again in mind that our method for under-coverage lead to a total EUR 15.8 billion exhaustiveness adjustment on value added of construction...) would be to analyse supply and demand of building materials such as for example cement, but this approach proved to be inconclusive.

Construction surveys

Construction surveys include specific questions on exports (*see 10.1.1 Esane*).

Figure 3-1 Extract from business survey on construction

VI - PRODUCTION VENDUE À L'ÉTRANGER

Veuillez indiquer le montant de votre production vendue à l'étranger et non taxable en France au sens des bénéfices	<input type="text"/>	€
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Construction carried out abroad

In the French national accounts (NA), when there are construction sites abroad, this activity is considered as if it had been relocated. It is considered that the activity of a French company constructing a structure in China, for example, is being carried out by a fictitious Chinese unit. The activity of this fictitious unit, assimilated to a (Chinese) quasi-corporation, is the construction of the building. To do this, it uses local resources (labour in particular), but also resources financed from France (goods, engineering services provided by the parent company, etc.). All in all, the Chinese quasi-corporation makes a profit, which is repatriated. Finally, everything unfolds as if this quasi-corporation were a subsidiary of the French construction company responsible for the construction site; the profits from this subsidiary would then be repatriated to the parent company and recorded as property income. Symmetrically, construction work carried out in France on behalf of foreign companies gives rise to the transfer of property income from France to the rest of the world.

This treatment is in strict compliance with ESA 2010 for all works lasting more than one year and for those constituting gross fixed capital formation (irrespective of duration). Construction activities for less than one year and not constituting GFCF however should be recorded as trade in services.

In practice, the National accounts department (NAD) assumes that all of the works meet one of the two conditions. The NAD assumption that there is no need for a specific treatment for construction activities abroad lasting less than one year is not data based. Indeed, data provided by the Balance of Payments does not distinguish between constructions abroad for less or more than a year. It should be noted that the choice of recording construction sites abroad as revenue or as trade in services has no impact on current external balance (B.12) and GNI.

3.16 Wholesale and retail trade; repair of motor vehicles and motorcycles (NACE G)

3.16.1 Wholesale and retail trade and repair of motor vehicles and motorcycles (NACE 45)

Table 3-78 Process table of Wholesale and retail trade and repair of motor vehicles and motorcycles (NACE 45), in EUR (million)

NACE 45	Sources Combin ed Data	Adjustments							Final estimat e
		Data validation	Conceptual		Exhaustiveness			Balancin g	
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	35 761	159	0	-519	1 492	946	117	-4 455	33 501
P.2	15 632	432	291	-730	3	-31	-49	-5	15 543
B.1G	20 129	-273	-291	211	1 488	977	166	-4 450	17 957

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in wholesale and retail trade and repair of motor vehicles and motorcycles is mainly taxes discrepancy (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments in wholesale and retail trade and repair of motor vehicles and motorcycles are mainly adjustments for financial leases, see 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly non-declared employment in wholesale and retail trade and repair of motor vehicles and motorcycles, see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.16.2 Wholesale trade, except of motor vehicles and motorcycles (NACE 46)

Table 3-79 Process table of Wholesale trade, except of motor vehicles and motorcycles (NACE 46), in EUR (million)

NACE 46	Sources Combin ed Data	Adjustments							Final estimat e
		Data validat ion	Conceptual		Exhaustiveness			Balanc ing	
			Allocation of FISIM	Other conceptual	N2	N6	N7		
P.1	196 425	9 243	0	-30 849	1 410	464	2 188	3 716	182 597
P.2	99 991	-2 668	1 231	-884	0	-1 613	-140	-33	95 884
B.1G	96 434	11 911	-1 231	-29 965	1 410	2 077	2 328	3 749	86 713

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in wholesale trade, except of motor vehicles and motorcycles is mainly adjustments due to TICPE for valuation and adjustments on particular legal units to correct identified errors in Esane (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments in wholesale trade, except of motor vehicles and motorcycles are mainly adjustments for transformation into basic prices (mainly due to TICPE), and to a lesser extent to adjustments for financial lease (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness in wholesale trade, except of motor vehicles and motorcycles (see 3.3.2.4 Exhaustiveness) is divided between three components:

- N2: EUR 1.4 billion comes from drug trafficking (cannabis, cocaine, heroin, etc.) and corresponds to trade margins estimated by comparing retail prices sold to the consumers and wholesale prices of the purchase of dealers. These trade margins are broken down between wholesale trade (trade margins of important dealers purchasing important quantities of drugs) and retail trade (trade margins of retailers-selling drugs to consumers, see chapter 7).
- N6: This is mainly an under-reporting of gross output.
- N7: This is mainly production for own final use of software and R&D.

Balancing

See 3.3.2.5 Balancing.

3.16.3 Retail trade, except of motor vehicles and motorcycles (NACE 47)

Table 3-80 Process table of Retail trade, except of motor vehicles and motorcycles (NACE 47), in EUR (million)

NACE 47	Sources Combin ed Data	Adjustments						Final estimat e	
		Data validation	Conceptual		Exhaustiveness				Balan cing
			Allocation of FISIM	Other conceptual	N2	N6	N7		
P.1	133 863	3 794	0	-1 095	1 174	4 274	359	-398	141 971
P.2	56 071	4 518	1 223	-1 483	0	-1 951	-84	-21	58 273
B.1G	77 792	-724	-1 223	388	1 174	6 225	443	-377	83 698

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in retail trade, except of motor vehicles and motorcycles is mainly due to an adjustment neutral on value added linked to an Esane's treatment. In Esane, the whole turnover is included in sales of goods for all companies of NACE 47, even if companies recorded sales of services. To preserve the initial commercial margin rate of the accounts, Esane also transfers expenditures to goods purchases. Therefore it wrongly puts commissions paid by publishers/producers to tobacconists and newspaper in goods purchases. An adjustment is carried out to substrate from goods purchases and goods sales these

commissions to put them into expenditures and sold production. Other adjustments on particular legal units to correct identified errors in Esane are done. In particular a legal unit was wrongly classified in Nace 68, this adjustment lead to an increase of output (EUR 2.2 billion) and of intermediate consumption (EUR 1.7 billion), a symmetrical adjustment is realised in Nace 68.

Conceptual adjustments

Conceptual adjustments in retail trade, except of motor vehicles and motorcycles are mainly adjustments for financial lease and transformation of changes in inventories into the average price (*see 3.3.2.3 Conceptual adjustments*).

Exhaustiveness

Exhaustiveness in retail trade, except of motor vehicles and motorcycles (*see 3.3.2.4 Exhaustiveness*) is divided between three components:

- N2: It is tobacco smuggling for EUR 0.6 billion (margins realised by smugglers on imported tobacco) and drug trafficking for EUR 0.6 billion. It comes from drug trafficking (cannabis, cocaine, heroin, etc.) and corresponds to trade margins estimated by comparing retail prices sold to the consumers and wholesale prices of the purchase of dealers. These trade margins are broken down between wholesale trade (trade margins of important dealers purchasing important quantities of drugs) and retail trade (trade margins of retailers-selling drugs to consumers, *see chapter 7*).
- N6: This is mainly an under-reporting of gross output and the VAT gap.
- N7: This is mainly production for own final use of software and R&D.

Balancing

See 3.3.2.5 Balancing.

Further information on trade

The output of wholesale and retail services is measured with Esane consistently with private accounts and tax report of companies. Private accounting principles (PCG) allows to isolate purchases of goods for resale. Therefore, output is mainly measured by the trade margins realised. They are also measured by repair services and commercial services (services from trade intermediary "middlemen" who do not buy the goods but facilitate interaction between parties).

The accounting data allow the isolation of changes in inventories of goods for resale for trading companies. Therefore it is possible to carry out an adjustment for transformation of changes inventories into the average prices and to statistically eliminate holding gains and losses on inventories (*see 3.3.2.3 Conceptual adjustments*).

A survey on trade margins was coupled in 2012 with the annual survey on sales. This survey concerned mainly non-specialized retail trade (food department store in particular). This survey provides the breakdown of trade margins by product.

The general accounting plan (PGC) can isolate purchases and sales of goods, whatever the nature of the activity of the companies concerned. Therefore, there is not a double counting with branches who have trade as a secondary activity.

The demand and the supply side are confronted for retail and motor trade. Indeed, the tradable consumption of households is confronted every year with some sources available on the activity of

companies specialised in the retail trade, and consistency is also guaranteed. The accounting sources for motor vehicle repair companies are confronted with the turnover declarations (for VAT calculation purposes) used to estimate household consumption.

The tradable consumption of households (estimated by independent sources on detailed products, e.g. administrative registers for purchase of cars, surveys by the federation of clothing industry for purchase of clothes and shoes...) is confronted every year with the sources available on the activity of companies specialised in the retail trade, and consistency is guaranteed.

The PGC can isolate purchases and sales of goods, whatever the nature of the activity of the company concerned. So trade activities inside non-commercial organisations is properly estimated and included in the output estimate of distributive trades.

3.17 Transportation and storage (NACE H)

Holdings gains and losses are excluded from output storage services thanks to the PCG which isolated changes in inventories of goods for resale for trading companies (see 5.12 Changes in inventories).

3.17.1 Land transport and transport via pipelines (NACE 49)

Table 3-81 Process table of Land transport and transport via pipelines (NACE 49), in EUR (million)

NACE 49	Sources Combin ed Data	Data validation	Adjustments					Balancin g	Final estimat e
			Conceptual		Exhaustiveness				
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	82 026	-6 235	0	5 894	128	1 918	210	-2	83 939
P.2	44 340	-85	713	-3 252	11	-322	-94	-14	41 297
B.1G	37 686	-6 150	-713	9 146	117	2 240	304	12	42 642

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation in land transport and transport via pipelines is mainly adjustments due to subsidies discrepancy. It comes from transport companies of subways and trains (RATP and SNCF): they register the tariff aids for public transport in their sales whereas the valuation in Esane is at producer prices (EUR 6.0 billion). With the subsidies discrepancy adjustment, these aids are transferred from sales to subsidies. Then, the adjustment for transformation into the basic prices (in column conceptual adjustments in the Process Table) makes the transformation into the basic prices, as these aids are included in D.319.

Conceptual adjustments

Conceptual adjustments in land transport and transport via pipelines are mainly adjustments for transformation into basic prices, and to a lesser extent to adjustments for financial lease.

Exhaustiveness

Exhaustiveness is mainly an under-reporting of gross output (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.17.2 Water transport (NACE 50)

Table 3-82 Process table of Water transport (NACE 50), in EUR (million)

NACE 50	Sources Combined Data	Adjustments					Balancing	Final estimate
		Data validation	Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	13 300	-1	0	136	7	13	0	13 455
P.2	11 354	-22	39	-203	-24	-3	-4	11 137
B.1G	1 946	21	-39	339	31	16	4	2 318

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.17.3 Air transport (NACE 51)

Table 3-83 Process table of Air transport (NACE 51), in EUR (million)

NACE 51	Sources Combined Data	Adjustments					Balancing	Final estimate
		Data validation	Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	19 653	-156	0	-277	2	94	0	19 316
P.2	14 182	-497	52	-583	-7	-6	-5	13 136
B.1G	5 471	341	-52	306	9	100	5	6 180

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.17.4 Warehousing and support activities for transportation (NACE 52)

Table 3-84 Process table of Warehousing and support activities for transportation (NACE 52), in EUR (million)

NACE 52	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	64 573	-1 197	0	-15 324	100	99	0	48 251
P.2	40 741	-977	1 819	-18 517	-125	-35	-8	22 898
B.1G	23 832	-220	-1 819	3 193	225	134	8	25 353

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly the taxes and subsidies discrepancies (see 3.3.2.2 Data validation).

Conceptual adjustments

Other conceptual adjustments are mainly adjustment neutral on value added and the transformation into basic prices (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.17.5 Postal and courier activities (NACE 53)

Table 3-85 Process table of Postal and courier activities (NACE 53), in EUR (million)

NACE 53	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	14 972	-33	0	-1	10	12	0	14 960
P.2	4 535	507	62	-101	-12	-22	-2	4 967
B.1G	10 437	-540	-62	100	22	34	2	9 993

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.18 Accommodation and food service activities (NACE I)

3.18.1 Accommodation, food and beverage service activities (NACE 55-56)

Table 3-86 Process table of Accommodation, food and beverage service activities (NACE 55-56), in EUR (million)

NACE 55-56	Sources Combined Data	Data valid ation	Adjustments						Final estima te
			Conceptual		Exhaustiveness			Bala ncing	
			Allocation of FISIM	Other conceptual	N4	N6	N7		
P.1	80 302	779	0	127	1 509	7 616	3 351	-3	93 681
P.2	43 798	560	685	-1 057	750	424	0	-16	45 144
B.1G	36 504	219	-685	1 184	759	7 192	3 351	13	48 537

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly due to the addition of CROUS. All regional centres for Academic Works (CROUS) are not in Esane and are added thanks to administration source. They are public establishment but their activities is essentially commercial. So they are in S.11. They represent EUR 0.6 billion of output (P.1) and EUR 0.6 billion of intermediate consumption (P.2).

Conceptual adjustments

Conceptual adjustments are mainly adjustments for financial leases and net non-life assurance premium (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly N4, N6 and N7:

- N4: this is work councils,
- N6: this is fraud on turnover or operational expenses by legally registered units,
- N7: this is tips and wages in kind.

Balancing

See 3.3.2.5 Balancing.

Further information

Significant adjustments are made for fraud (N6: impact on value added of EUR 7.192 billion) and tips and benefits in kind (EUR 3.351 billion). But there is no confrontations with a price times quantity approach which is not very precise. A confrontation with households budget surveys (HBS) may be conducted but it

proves rather inconclusive: spontaneous estimates from HBS are much lower (24%) than National Accounts estimates. HBS spontaneous estimates were adjusted to take into account some under-coverage (case of households buying travelling services that entail a significant part of HORECA services; exclusion in HBS data of small periods spent in hotels – less than 4 nights). However, HBS data adjusted for under-coverage remain 14% lower than NA estimate of final consumption of HORECA services, which probably reflects the fact that there are far more non-resident tourists in France than there are resident tourists abroad (and tourism is likely to represent a significant part of expenses on accommodation and food services).

Sales recorded in accounts of hotels, restaurants and cafes do not separate the value of the goods (food and beverages) from the value of the services. The value of sales thus includes food and beverages consumed.

The French national accounts do not isolate exports and imports of hotel and restaurant services. Resident output is evaluated, mainly on the basis of accounting data readjusted to take account of fraud, and the consumption expenditure takes account of expenditure of non-residents in France (and symmetrically excludes the consumption expenditure of residents abroad). It is the territorial adjustment (measured via the balance of payments travel survey) that ensures that total consumption, exports and imports are consistent with the national accounts concepts.

3.19 Information and communication (NACE J)

3.19.1 Publishing activities (NACE 58)

Table 3-87 Process table of Publishing activities (NACE 58), in EUR (million)

NACE 58	Sources Combined Data	Adjustments						Final estimate	
		Data validation	Conceptual		Exhaustiveness				Balancing
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	27 155	-5	0	-1 562	162	65	1 473	0	27 288
P.2	16 200	-41	93	-1 819	0	-104	-13	-5	14 311
B.1G	10 955	36	-93	257	162	169	1 486	5	12 977

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments neutral on value added and transfer of R&D into GFCF (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly production for own final use of software and R&D (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.19.2 Motion picture, video and television programme production, sound recording and music publishing activities, programming and broadcasting activities (NACE 59-60)

Table 3-88 Process table of Motion picture, video and television programme production, sound recording and music publishing activities, programming and broadcasting activities (NACE 59-60), in EUR (million)

NACE 59-60	Sources Combin ed Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	27 375	-12	0	-1 330	45	-66	4	26 016
P.2	16 357	-349	131	-816	-87	-12	-5	15 219
B.1G	11 018	337	-131	-514	132	-54	9	10 797

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly the transformation into the basic prices, the taxes discrepancy and adjustments neutral on value added (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing

3.19.3 Telecommunications (NACE 61)

Table 3-89 Process table of Telecommunications (NACE 61), in EUR (million)

NACE 61	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	69 460	37	0	-576	34	766	486	70 207
P.2	38 387	869	151	-975	-169	-20	-13	38 230
B.1G	31 073	-832	-151	399	203	786	499	31 977

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly the taxes discrepancy (see 3.3.2.2 Data validation).

Conceptual adjustments

Conceptual adjustments are mainly the transfer of R&D into GFCF (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly production for own final use of R&D (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.19.4 Computer programming, consultancy and related activities, information service activities (NACE 62-63)

3.19.4.1 Non-financial enterprises (S.11+S.14AA)

Table 3-90 Process table of Computer programming, consultancy and related activities, information service activities (NACE 62-63), in EUR (million)

NACE 62-63	Sources Combined Data	Adjustments						Balancing	Final estimate
		Data validation	Conceptual		Exhaustiveness				
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	54 672	261	0	-3 662	1 231	210	3 760	1	56 473
P.2	26 810	259	98	-4 392	3	-164	-45	-8	22 561
B.1G	27 862	2	-98	730	1 228	374	3 805	9	33 912

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments neutral on value added and transfer of R&D into GFCF (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly production for own final use of software and R&D (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.19.4.2 More details about software and databases

The table above shows the Process Table for the economic activity of NACE 62-63 which included a part of software and databases. In this section, all details about software and databases is described: the specific source used, the calculation of production for own final use of software and databases and how the GFCF is estimated.

Data sources

The annual social data declaration (DADS) is a declaratory formality that must be completed by any company employing employees. In this common document for tax and social security administrations, employers provide annually and for each local unit, some information on their employees. In particular, for each employee the following information is reported: the nature of the job and qualification, the start

and end dates of the pay period, the number of hours worked, the employment condition (full-time, part-time), the amount of remuneration paid, etc.

Insee has access to all declarations and uses them to compile statistics on employment, wages and working conditions. To estimate the software and databases own-account production, the main variables used are occupation, sector of activity and net wages (salaries).

In addition, results from the annual sector survey (ESA) in IT and data processing are also used.

Validation

The DADS data are exhaustive. There are no alternative sources for measuring own account production. In base 2000, the comparison between the DADS and the population census showed discrepancies for identification of IT jobs. The results from DADS seemed more plausible. That is the reason why the DADS are used to estimate software and databases own account production.

Adjustments/calculation

Own account output (custom software)

A macro approach is used to measure own account production of software for non-financial and financial companies. Own-account production is supposed to be equal to the sum of the costs with a mark-up.

The net wages of occupations likely to develop software and databases are assessed with the DADS. Time spent on own account software is assumed to be:

- 50% for engineers executives and technicians, research development in computer science;
- 35% for engineers and administrative executives, maintenance support and computer user services;
- 25% for documentation and archiving occupations, and for production and exploitation technicians in information technology;
- 20% for IT project managers;
- 15% for technical sales executives and commercial computer technicians;
- 5% for telecommunication and network IT technicians.

The percentage of time spent is issued (with adjustments) from those proposed by the United Kingdom in its measure of own account output of software. The Profession and socio-professional category (PCS in French nomenclature) are relatively close, but they have not been revised since 2003. It may lead to a possible underestimation due to the poor identification of new occupations (in particular in the processing of information).

Wages are multiplied by 2.1 to obtain the total payroll including social contributions and other wage costs.

Non-wage costs (intermediate consumption and gross operating surplus) are added. They represent 85% of wage costs (50% for intermediate consumption and 35% for gross operating surplus). These ratio were in OECD task force report (2003).

Regarding General Government, own account production of software is derived from GFCF: it is almost a half of the GFCF according to experts.

Other output of software and databases (purchased software and databases and consultancy services)

The sales of these products are measured with Esane. The detailed breakdown of products sold by IT and data processing companies enable us to split between intermediate consumption and GFCF in the demand approach. All products related to standard software are considered as GFCF. Consultancy activities (including hardware consultancy) are considered as GFCF because only the amount of consulting in information systems or software is asked in ESA survey. Development of software is also GFCF. But maintenance, facility management, unspecified computer activities and computer programming are considered as intermediate consumption.

Methodology

Own account output

Own-account production is added to production and has a GFCF counterpart.

Other output of software and database (purchased output)

In the production approach, the value added is directly based on company accounts, which are not modified: indeed, purchases of software are in general capitalized by companies in their accounts as what must be recorded in National Accounts. Yet, the software used in return for of license payments (software as a service) are not adjusted: they all are included in expenditure (intermediate consumption).

In the expenditure approach, the GFCF/IC breakdown of the sold production is carried out thanks available information in Esane. Thus, production related to design activities, software development, consulting in computer systems and software is considered as GFCF. The maintenance and management of computer information are considered as intermediate consumption. In 2010, 75% of sales in programming, consulting and other IT activities (NACE 62) are allocated to GFCF. For standard software, the domestic use is solely GFCF. Software purchased as inputs for the manufacture of computer equipment, electronics or machinery is neglected.

Exports and imports of software are derived from Balance of payments and possibly custom data (for software considered as goods and not as services: software on physical media (e.g cdrom...)).

Breakdown by industry

The production for one final use is broken down by economic activities thanks to the breakdown of the output in Esane, with an overweight for industry that used more software and databases.

Table 3-91 Production for own final use of software and databases by Nace sections, in EUR (million)

	Databases	Software
A	0	0
B	3	26
C	203	2 250
D	27	307
E	4	44
F	24	267
G	133	1 482
H	43	472
I	4	52
J	359	4 008
K		1 968
L	7	73
M	264	2 944
N	47	535
O		1 100
P	12	138
Q	5	55
R	7	87
S	15	175
Total	1 157	15 983

Improvement

To improve own-account output measurement, the public administration own account output should be estimated from the DADS/DSN (the scope of DADS was extended in 2009 to public administrations). The list of occupations and time-spent should also be reviewed.

In the expenditure approach, the breakdown between GFCF and IC of production sold should be reviewed (a part of consultancy activities should be removed from GFCF, and programming activities should be seen as GFCF). Embedded software in computers or machines should also be taken into account thank to the new purchase survey (the amount is low).

Finally, the consistency between the production approach and the expenditure approach will be reinforced.

3.20 Financial and insurance activities (NACE K)

3.20.1 Financial service activities, except insurance and pension funding (NACE 64)

Table 3-92 Process table of Financial service activities, except insurance and pension funding (NACE 64), in EUR (million)

NACE 64	Sources		Adjustments		Final estimate
	Administrative Records	Extrapolations and models FISIM	Conceptual	Exhaustiveness	
			Other conceptual	N7	
P.1	75 530	50 276	0	1 131	126 937
P.2	64 159	0	-654	0	63 505
B.1G	11 371	50 276	654	1 131	63 432

Administrative Records

See 3.4.1 Data sources.

Extrapolations and models

Extrapolations and models are the calculation of FISIM, see 3.4.4 Detailed presentation of FISIM.

Other conceptual adjustments

Other conceptual adjustments are adjustments for financial leasing, net insurance premiums, UCITS and acquisition costs of fixed assets, see 3.4.3 Transition from private accounting to ESA 2010 national accounting.

Exhaustiveness

Exhaustiveness is mainly production for own final use of software (see 3.4.3 Transition from private accounting to ESA 2010 national accounting).

3.20.2 Insurance, reinsurance and pension funding, except compulsory social security (NACE 65)

Table 3-93 Process table of Insurance, reinsurance and pension funding, except compulsory social security (NACE 65), in EUR (million)

NACE 65	Sources	Adjustments			Final estimate
	Administrative Records	Conceptual		Exhaustiveness	
		Allocation of FISIM	Other conceptual	N7	
P.1	61 175	0	0	412	61 587
P.2	41 855	497	3 376	0	45 728
B.1G	19 320	-497	-3 376	412	15 859

Administrative Records

See 3.4.1 Data sources.

Allocation of FISIM

See 3.4.4 Detailed presentation of FISIM.

Other conceptual adjustments

Other conceptual adjustments are mainly UCITS, see 3.4.3 *Transition from private accounting to ESA 2010 national accounting*.

Exhaustiveness

Exhaustiveness is mainly production for own final use of software (see 3.4.3 *Transition from private accounting to ESA 2010 national accounting*).

3.20.3 Activities auxiliary to financial services and insurance activities (NACE 66)

Table 3-94 *Process table of Activities auxiliary to financial services and insurance activities (NACE 66), in EUR (million)*

NACE 66	Sources	Adjustments			Final estimate
	Combined data	Conceptual		Exhaustiveness	
		Allocation of FISIM	Other conceptual	N7	
P.1	26 336	0	0	425	26 761
P.2	13 801	407	-52	0	14 156
B.1G	12 535	-407	52	425	12 605

Combined Data

It comes from Esane (see 3.4.1 *Data sources*).

Allocation of FISIM

See 3.4.4 *Detailed presentation of FISIM*.

Other conceptual adjustments

Other conceptual adjustments are adjustments for financial leasing, and UCITS, see 3.4.3 *Transition from private accounting to ESA 2010 national accounting*.

Exhaustiveness

Exhaustiveness is mainly production for own final use of software (see 3.4.3 *Transition from private accounting to ESA 2010 national accounting*).

3.21 Real estate activities (NACE L)

3.21.1 Real estate activities (NACE 68)

The evaluation of the intermediate consumption of producers of housing services depends on the institutional sector:

- For non-financial enterprises, intermediate consumption is determined by Esane; however, information is not available at the level of the nomenclature allowing the identification of housing services but at the higher level "rental and operation of real estate", i.e. including the rental of other real estate than housing (offices in particular). Therefore, it is impossible to identify precisely the intermediate consumption rate of producers of housing services in the non-financial enterprises.
- For households, the intermediate consumption of actual rentals and imputed rentals is estimated with fixed keys apply to output. These fixed keys has been determined in 2010, thanks to the

housing survey. More precisely, the intermediate consumption (excluding Fisim) can be calculated on the housing satellite account (CSL), which shows all the charges attributable to owners by sector and in particular lessors who are natural persons (households producing a real housing service) and owner-occupiers (households producing imputed housing service). These keys are quite different for the imputed housing service (3.6%) and for the actual housing service (11.4%). This difference can be explained from an economic point of view by:

- intermediaries' fees, which do not exist for owner-occupiers;
- the charges for vacant dwellings accounted for as intermediate consumption of the production of real housing service while vacant dwellings give rise to no production (which mechanically increases the rate of intermediate consumption);
- the fact that rented dwellings are more often in collective dwellings, which implies higher trustee fees.

3.21.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-95 Process table of Real estate activities (NACE 68) of S.11+S.14AA, in EUR (million)

NACE 68	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	77 600	-1 847	0	-14 069	396	281	323	62 684
P.2	35 931	-1 880	3 726	-16 299	-356	-29	-7	21 086
B.1G	41 669	33	-3 726	2 230	752	310	330	41 598

Combined data

It comes from Esane (see 3.3.2.1 Esane).

Data validation

Data validation is mainly an adjustment on a particular unit. A legal unit was wrongly classified in Nace 68 (instead of Nace 47), this adjustment lead to a decrease of output (EUR 2.2 billion) and of intermediate consumption (EUR 1.7 billion), a symmetrical adjustment is realised in Nace 47.

Other conceptual adjustments

Other conceptual adjustments are mainly purchase cost of services resold as it is (neutral on value added), recoverable expenses (neutral on value added) and financial leases.

Exhaustiveness

Exhaustiveness is mainly:

- N6: fraud on turnover;
- N7: free rent. An adjustment is made for the free provision of dwelling services by employers to their employees (company accommodation). The amount is provided by the housing satellite account (CSL). It is added to the housing service production and to the wages in kind (EUR 0.3 billion in NACE 68).

Balancing

See 3.3.2.5 Balancing.

3.21.1.2 Households (S.14B)

Table 3-96 Process table of Real estate activities (NACE 68) of S.14B, in EUR (million)

NACE 68	Sources		Conceptual adjustments		Final estimate
	Commodity flow model	Dwellings - stratification method	Allocation of SIFIM	Other conceptual	
P.1		197 292			197 292
P.2	4 908		13 055	5 553	23 516
B.1G	-4 908	197 292	-13 055	-5 553	173 776

Commodity flow model

It is the intermediate consumption of actual rentals estimated by a key on P.11 (see 3.6.1.3 Data on real estate activities).

Dwellings – stratification method

The real estate activity of households is decomposed between imputed rentals (EUR 154.2 billion) and actual rentals (EUR 43.1 billion), the data mainly comes from CSL, see 3.6.1.3 Data on real estate activities and 10.3.3 Housing satellite account.

Other conceptual adjustments

It is the intermediate consumption of imputed rentals estimated by a key on P.12 (see 3.6.2 Conceptual adjustments).

3.22 Professional, scientific and technical activities (NACE M)

3.22.1 Legal and accounting activities, activities of head offices; management consultancy activities (NACE 69-70)

Table 3-97 Process table of Legal and accounting activities, activities of head offices; management consultancy activities (NACE 69-70), in EUR (million)

NACE 69-70	Sources	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	101 557	18 508	0	-268	2 451	2 583	40	124 871
P.2	55 107	5 519	3 253	37	-722	-70	-22	63 102
B.1G	46 450	12 989	-3 253	-305	3 173	2 653	62	61 769

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly the correction made for head office operation and the correction made for UESL (see 3.3.2.2 Data validation). A specific correction is carried out on a particular unit: this correction is neutral on value added and consists on transferring a part of the production to sales of goods, and the same part of expenditure to purchase.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness (see 3.3.2.4 Exhaustiveness) is mainly:

- N6: it is “Type II illegal work” (see chapter 7),
- N7: production for own final use of R&D and software.

Balancing

See 3.3.2.5 Balancing.

3.22.2 Architectural and engineering activities; technical testing and analysis (NACE 71)

Table 3-98 Process table of Architectural and engineering activities; technical testing and analysis (NACE 71), in EUR (million)

NACE 71	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	55 053	28	0	-4 199	497	4 271	0	55 650
P.2	30 577	118	210	-2 102	-329	-39	-10	28 425
B.1G	24 476	-90	-210	-2 097	826	4 310	10	27 225

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly purchase cost of services resold as it is (neutral on value added) and the transformation of R&D into GFCF (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly the production for own final use of R&D (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.22.3 Scientific research and development (NACE 72)

3.22.3.1 Non-financial enterprises (S.11+S.14AA)

Table 3-99 Process table of Scientific research and development (NACE 72), in EUR (million)

NACE 72	Sources Combined Data	Data validation	Adjustments				Final estimate	
			Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	7 214	44	0	-2	8	144	3	7 411
P.2	4 473	83	24	-58	-53	-6	-2	4 461
B.1G	2 741	-39	-24	56	61	150	5	2 950

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.22.3.2 More details about R&D

The table above shows the Process Table for the economic activity of R&D. In this section, all details about the R&D is described: the specific source used, the calculation of production for own use of R&D, how the GFCF is estimated... The account of the R&D branch is described.

A. Data sources

Since 1963, the Ministry in charge of research (MESRI) has been running several surveys on the resources devoted in France to research and experimental development (R&D). The methodological framework of these surveys is based on the definitions, measurement and classification principles recommended in the OECD Frascati Manual.

The annual survey of resources devoted to firms' R&D has been carried out since 1963. It is aimed at all companies (legal units or, in rare cases, groupings of legal units) likely to carry out research work. The sampling frame is based on "historical" companies, updated with administrative information, in particular with research tax credit files. The exhaustive part of the survey includes units with intramural R&D expenditures above EUR 400 million (about 4 000 units in the sampling frame), as well as new companies in the sampling frame (about 2 000). Half of the sampled part (about 5 000 units) corresponds to companies already surveyed the previous year. The rest of the sampled part are companies which have not already been surveyed. The annual surveys on the resources devoted to R&D in the public or public service bodies (government, and non-profit institutions) are addressed to bodies that run or finance R&D

work. Their initial scope, which focused on government, was extended to associations/foundations in 1992.

The main variable used is the intra-mural R&D expenditure. For a unit, it refers to all funds used for research and experimental development carried out by this unit, regardless of the source (internal or external) of these funds and regardless of the purpose of the work (own-account or sales). They are subdivided into current and capital expenditures.

Intramural expenditures of R&D = compensations of employees + intermediate consumption + capital expenditures.

In this survey, an important information is the “branch of research” which is different from the notion of “branch” in National Accounts and which corresponds to the research field, that is to say the economic activity benefiting from the R&D work. It is codified for statistical purposes using the NAF nomenclature (*see 10.1.4 Surveys on R&D*).

B. Validation

The intramural expenditure of companies is confronted with sales of research from Esane. This confrontation is made by units (micro approach). Sales of research are collected by business survey in Esane for units whose main activity is different from research. No specific business survey is addressed to units that are in research industry (NACE 72). In this case, the services sales of these companies are assumed to be equal to their research sales. The main activity carried out declared in the R&D survey is also compared with the activity in Esane.

Adjustments are made on R&D sales if there is a large discrepancy between Esane and the R&D firm survey (data validation in process table). In particular, as amounts of own-account production are important, we ensure that the output in R&D sold (sales of R&D branch in Esane) is less than intramural R&D expenditure by sector of activity. The main activity can also be updated.

C. Adjustments

Fraud is added to reported sales (*see chapter 7*) as in other branches.

As most companies carry out research for an industry other than R&D (fundamental research is not the most frequent case and even in this case it is arbitrarily linked to the core business) the amounts declared in the “research branch” (research fields) in the R&D survey are reallocated to the other research branches (in proportion to the amounts of the research branches declared in the survey). The same applies to amounts declared in mainly non-market or financial research branches.

In theory, the value of the output of R&D is equal to the value of discounted future benefits that a corporation can get from its R&D investment. As most R&D is produced on own-account and the future benefits are difficult to know, output of R&D and GFCF in R&D estimates are calculated as the sum of costs: the intra-mural R&D expenditure is indeed the starting point.

Output of R&D = compensations of employees+ intermediate consumption+ taxes – subsidies + CFC + mark-up.

With the definition of the Intra-mural expenditure of R&D (*see above*), this equation can be written:

Output of R&D = Intra-mural expenditure of R&D + (CFC – Capital Expenditure) + taxes – subsidies + mark-up.

This equation is used to estimate the output of R&D with some hypothesis:

- Capital expenditure is supposed equal to the CFC. The breakdown of capital expenditures by assets, which is necessary to estimate CFC, is indeed not very detailed in the R&D survey and the series by asset engaged in R&D activities began in 1963. Besides, they are affected by breaks on concepts/methodology (software included in capital expenditures in 1999 for example). Overall, the amount of depreciation expenses, close to the amount of CFC, reported by companies in Frascati survey is fairly close to the amount of capital expenditures, because the capital depreciate very quickly.
- Taxes less subsidies on production are not included in intra-mural expenditures and should be added but the amounts are small (*see below*). Indeed, the research tax credit is not considered as a subsidy but as an investment grant in National Accounts.
- As the companies in research industry (NACE 72) do not generate a positive operating surplus in Esane, the mark-up is supposed to be null (*see 3.3.2.4 Exhaustiveness*).

There is no correction for overlap on (double counting with) software. Investigations on this issue had not been conducted when National Accounts moved to the 2010 base.

D. Methodology by institutional sectors

Non-financial corporation

In 2010 base, most R&D work is capitalised (except that which is integrated into further R&D work), to take into account the 2008 SNA and ESA 2010. In business accounts, purchases and own-account production of R&D are not capitalised. Own-account production is then added to production and most of the intermediate consumption in R&D is transformed into GFCF in National Accounts (*see 3.3.2.4 Exhaustiveness*).

Own-account production in R&D is estimated on a balance basis from the supply and use table. It is deduced from the other equilibrium quantities (GFCF, IC, exports and imports):

$$\text{Own account production} = P.51 + P.2 + P.6 - P.7 - \text{Sales of R\&D}$$

In 2010 base, the GFCF in R&D of non-financial companies excluding VAT is close to intramural R&D expenditure of companies from the R&D survey (EUR 27 billion). GFCF in market R&D of government is worth EUR 3 billion (*see below*).

Intermediate consumption in R&D corresponds to the consumption of R&D by the R&D branch in the intermediate input table. This amount is close to the extramural expenditures of R&D industry, measured with the R&D survey. They are worth EUR 1 billion in 2010.

Exports and imports of R&D are derived from Balance of payments. In 2010 imports are worth EUR 4 billion and exports EUR 3 billion.

Production of purchased R&D (sales) is estimated with Esane. It is worth EUR 9 billion in 2010. A small amount (EUR 169 million) is added for sales of non-market branches.

Financial Corporation

The production and GFCF of R&D is assumed equal to zero. In the Frascati survey, financial companies report research expenditures, but there is no information on their research sales. Their R&D production is transferred to non-financial companies.

General Government

Regarding purchases of market R&D, the data from DGFIP is used: intermediate consumption of scientific R&D products is transferred to GFCF in all branches except the non-market R&D branch, in which it has to stay an intermediate consumption.

Besides, amounts of non-market R&D own-account production output have been fixed by the MESRI for base years and recorded in P.12 and P.512. The non-market R&D output in the DGFIP data (sum of the production costs of the non-market R&D branch) is lower than the amounts transmitted by the MESRI. In order to reconcile these two data sources, part of the wages and intermediate consumption of the non-market education branch (including universities) is considered to contribute to the non-market R&D output. This part is removed from the education branch and added to the non-market R&D branch so that the non-market R&D output reported by MESRI is equal to the sum of the costs of this branch, without affecting the General Government deficit. In the General Government account, non-market R&D production is performed by central government.

A distinction is made between R&D production and R&D diffusion in order to isolate the CFC corresponding to the R&D assets. On one hand, in the supply-use balance of R&D production, the output is production for own final use (P.12) with a counterpart in GFCF (P.51). In this supply-use balance, the CFC taken into account in the sum of costs does not include the one related to the R&D assets. On the other hand, in the supply-use balance of R&D diffusion, the output is non-market output (P.13), which is equal to the CFC corresponding to the R&D assets.

E. Breakdown by industry and by branch of research

The breakdown by industry of research sales and own-account production is carried out with the main activity of legal units as reported in the R&D survey and Esane.

The breakdown of GFCF by “research branch” (research field) is calculated using data from the R&D survey. This breakdown is used to determine which LKAUs invest in R&D product.

F. Improvement

Important improvement should be implemented in the framework of the next benchmark revision:

- In base 2010, we estimate the GFCF of the non-financial corporations as the domestic R&D expenditure and deduce the output from it, which is not correct. To estimate production and then GFCF, the sequence from the manual on R&D evaluation in ESA 2010 should be used. This sequence starts from R&D data to estimate output and then GFCF (and deriving own account production from total output and sales of R&D).
- The software double counting will be subtracted from R&D output. An evaluation based on a question from the R&D survey has already been carried out.
- Taxes and subsidies on production will be taken into account in the sum of costs for measuring R&D output.

- Capital expenditures will be removed and replaced by an estimate of the CFC in the sum of cost approach (for measurement of output). To estimate CFC, the depreciation reported by companies is compared to estimated CFC with PIM (permanent inventory method).
- Finally, the evaluation of the mark-up for market output should be also reviewed.

As mentioned in the note send for answering to the action point A8, this should be under the materiality threshold.

3.22.4 Advertising and market research (NACE 73)

Table 3-100 Process table of Advertising and market research (NACE 73), in EUR (million)

NACE 73	Sources Combined Data	Data validation	Adjustments					Final estimate
			Conceptual		Exhaustiveness		Balancing	
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	26 015	-147	0	-6 686	136	134	0	19 452
P.2	17 217	-264	181	-6 713	-168	-14	-4	10 235
B.1G	8 798	117	-181	27	304	148	4	9 217

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments neutral on value added (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.22.5 Other professional, scientific and technical activities, veterinary activities (NACE 74-75)

Table 3-101 Process table of Other professional, scientific and technical activities, veterinary activities (NACE 74-75), in EUR (million)

NACE 74-75	Sources Combin ed Data	Data validation	Adjustments						Final estimate
			Conceptual		Exhaustiveness			Balanc ing	
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	9 026	161	0	-5	84	352	92	0	9 710
P.2	4 489	223	156	-95	2	-100	-5	-2	4 668
B.1G	4 537	-62	-156	90	82	452	97	2	5 042

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.23 Administrative and support service activities (NACE N)

3.23.1 Rental and leasing activities (NACE 77)

Table 3-102 Process table of Rental and leasing activities (NACE 77), in EUR (million)

NACE 77	Sources Combined Data	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	29 088	-78	0	42	337	429	0	29 818
P.2	14 059	49	624	-1 082	-379	-7	-5	13 259
B.1G	15 029	-127	-624	1 124	716	436	5	16 559

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments for financial leases (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

Further information

Operational leasing expenditure is treated as turnover for the renters and as intermediate consumption of HFCE for consumers. The revenues from operational leasing are treated as output of services.

3.23.2 Employment activities (NACE 78)

Table 3-103 Process table of Employment activities (NACE 78), in EUR (million)

NACE 78	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	27 103	-9	0	0	45	149	0	27 288
P.2	3 134	-89	30	-155	-37	-49	-1	2 833
B.1G	23 969	80	-30	155	82	198	1	24 455

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.23.3 Travel agency, tour operator reservation service and related activities (NACE 79)

Table 3-104 Process table of Travel agency, tour operator reservation service and related activities (NACE 79), in EUR (million)

NACE 79	Sources Combined Data	Data validation	Adjustments				Balancing	Final estimate
			Conceptual		Exhaustiveness			
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	13 625	-6	0	-6 568	65	24	0	7 140
P.2	11 788	-42	29	-6 832	-49	-5	-2	4 887
B.1G	1 837	36	-29	264	114	29	2	2 253

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments neutral on value added (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

Further information

The PCG ensures that the turnover of travel agencies includes only the remuneration of their services (commissions). The output of tour operators is measured, in business accounts, by the full expenditures made by travellers to the tour operators. A conceptual adjustment is carried out to exclude from output goods or services purchased and resold without having undergone a transformation (see 3.3.2.3 *Conceptual adjustments*).

3.23.4 Security and investigation activities, services to buildings and landscape activities, office administrative, office support and other business support activities (NACE 80-82)

Table 3-105 Process table of Security and investigation activities, services to buildings and landscape activities, office administrative, office support and other business support activities (NACE 80-82), in EUR (million)

NACE 80-82	Sources Combin ed Data	Adjustments							Final estimate
		Data validation	Conceptual		Exhaustiveness			Balan cing	
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	60 788	-1 372	0	607	63	1 894	342	-6	62 316
P.2	31 179	-1 019	227	-661	0	-306	-52	-10	29 358
B.1G	29 609	-353	-227	1 268	62	2 201	394	4	32 958

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

Conceptual adjustments are mainly adjustments for financial leases and for net non-life insurance premiums (see 3.3.2.3 *Conceptual adjustments*).

Exhaustiveness

Exhaustiveness is mainly in N6 in the economic activities of services to buildings and landscape (NACE 81), see 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

3.24 Public administration and defence; compulsory social security (NACE O)

3.24.1 Public administration and defence; compulsory social security (NACE 84)

Table 3-106 Public administration and defence; compulsory social security (NACE 84), in EUR (million)

NACE 84	Sources	CFC(PIM)	Data validation	Adjustments		Final estimate
	Administrative Records			Conceptual		
				Allocation of FISIM	Other conceptual	
P.1	367 144	64 148	2 032	3 723	-117	436 930
P.2	100 595	0	1 915	3 723	-3 741	102 492
B.1G	266 549	64 148	117	0	1 998	332 812

It is the output and intermediate consumption of the General Government sector (S.13). As we presented figures by main activity, the whole General Government output is classified here and only it. See 3.5 *General Government* for more details.

Administrative Records

It comes from DGFIP (see 3.5.1 *Data sources*).

Extrapolation and models

It is the consumption of fixed capital, estimated using the Perpetual Inventory Method (PIM): to this purpose, lifetimes have been defined for several major asset categories (see 4.13 *Consumption of fixed capital*).

Data Validation

See 3.5.2 *Data validation adjustments*.

Conceptual adjustments

It is mainly transfer of R&D into GFCF and financial leasing, see 3.5.4 *Other conceptual adjustments*.

Exhaustiveness

It is supposed that units included in the General Government sector do not fraud and no correction related to underground and illegal producer is thus implemented.

3.25 Education (NACE P)

3.25.1 Education (NACE 85)

Three types of producers must be distinguished. First of all, the production of education services by local public education institutions (EPL) and public universities. Tuition fees represent a negligible portion of the production costs and these are non-market units and publicly owned. As such, they are considered as public administrations (sector S.13, NACE O).

Secondly, the production of education services by private institutions not under contract with the State: these units charge high tuition fees, which finance most of their production costs (a part of their production costs may also be covered by donations). These institutions are considered as market units (sector S.11, NACE P).

Thirdly, the production of education services by private institutions under contract with the State. In practice, the activity of such institutions is highly controlled by the contract with the State (school curriculum, opening of new classes, etc.) and all the staff costs are covered by the State. The tuition fees charged by these institutions only cover a minor part of the production costs as staff compensation is paid by the State. These entities are considered as non-market units (sector S.15, NACE P). It has to be noted that the main part of the production of these units is recorded in the S.13 account (though the education staff). Only the maintenance (of the building for instance) and the administrative management is recorded in S.15.

3.25.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-107 Process table of Education (NACE 85) of S.11+S.14AA, in EUR (million)

NACE 85	Sources Combined Data	Adjustments						Balancing	Final estimate
		Data validation	Conceptual		Exhaustiveness				
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	11 716	150	0	0	1 758	445	152	-2	14 219
P.2	6 010	201	41	-121	8	-202	-9	-2	5 926
B.1G	5 706	-51	-41	121	1 751	646	161	0	8 293

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly illegal work (N1), see chapter 7.

Balancing

See 3.3.2.5 Balancing.

3.25.1.2 NPISH (S.15)

Table 3-108 Process table of Education (NACE 85) of S.15, in EUR (million)

NACE 85	Sources		Final estimate
	CFC(PIM)	Other E&M	
P.1	1 113	4 974	6 087
P.2		2 485	2 485
B.1G	1 113	2 489	3 602

CFC (PIM)

See 4.13 Consumption of fixed capital.

Other E&M

Output is estimated by the sum of costs and intermediate consumption changes, in a current year, with the rhythm of wages (see 3.7 NPISH).

3.26 Human health and social work activities (NACE Q)

3.26.1 Human health activities (NACE 86)

Table 3-109 Process table of Human health activities (NACE 86) of S.11+S.14AA, in EUR (million)

NACE 86	Sources Combined Data	Adjustments						Final estimate
		Data validation	Conceptual		Exhaustiveness		Balancing	
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	64 873	257	0	4	3 316	65	0	68 515
P.2	19 463	1 958	457	-2 121	-1 778	-31	-7	17 941
B.1G	45 410	-1 701	-457	2 125	5 094	96	7	50 574

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation is mainly the taxes discrepancy (see 3.3.2.2 Data validation).

Conceptual adjustments

Other conceptual adjustments are mainly adjustment for net non-life insurance premiums (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

Exhaustiveness is mainly illegal work (N6), see chapter 7.

Balancing

See 3.3.2.5 Balancing.

Further information

Most healthcare expenditure is in practice covered by the public health insurance schemes. The distinction between what is market output and what is non-market output requires that the nature of the payments made by the health insurance schemes be analysed more precisely, according to the type of producer and whether it is at hospital or ambulatory care.

As regards hospitals, three types of producers must be distinguished : public hospitals, private for-profit hospital and private non-profit hospital. They all benefit from payments by the health insurance system (Per-activity pricing (T2A)), which is based on fixed rates per treatment. The recording of this payment depends on the kind of producer.

Firstly, the production of healthcare services by public hospitals. The sums paid by patients (which concern mainly accommodation costs) represent a negligible part of production costs. Public hospitals cannot freely choose to specialise in any particular fields of treatment and are not in real competition with each other (except in very densely populated regions like the Paris region, many hospitals operate a sort of local monopoly). It is public agencies, the regional health agencies (ARS) that decide the areas of specialisation

of each establishment. Against this background, the payments under the T2A scheme can be interpreted more as an instrument of rationalisation of the public offering than as a tool for increasing competition between public hospitals. The latter are all considered as non-market units (sector S.13).

Secondly, the production of healthcare services by private for-profit clinics: these units are free to choose the medical specialities they wish to offer and are in fierce competition with one another (clinics regularly go bankrupt). Patients' payments represent a larger part of operating costs than in public hospitals due to extra-billing not covered by the health insurance system. In this context, the payments under the T2A scheme can be analysed as a purchase of services by the health insurance system and these entities are considered as market units (sector S.11).

Thirdly, the production of healthcare services by non-profit establishments known as public interest private health establishments (ESPIC). Although legally private entities, these establishments operate under similar conditions to public hospitals (in terms of pricing and the role of the ARSs in determining their areas of activity). These entities are considered as non-market units and are classified inside General Government (sector S.13) due to the low level of autonomy.

Finally, ambulatory care is generally provided by self-employed practitioners (doctors, nurses, physiotherapists, etc.). Although most of their income comes from the payments of the health insurance system, they are paid by the act and are in competition with each other. In this context, the payments of the health insurance system are analysed as purchases of services, which is why these practitioners are classified as non-financial corporations and non-financial unincorporated enterprises (S.11+S.14AA).

3.26.2 Social work activities (NACE 87-88)

3.26.2.1 Non-financial enterprises (S.11+S.14AA)

Table 3-110 Process table of Social work activities (NACE 87-88) of S.11+S.14AA, in EUR (million)

NACE	Sources	Adjustments					Final estimate	
		Data validation	Conceptual		Exhaustiveness			Balancing
			Allocation of FISIM	Other conceptual	N6	N7		
P.1	15 880	0	0	0	0	2	0	15 882
P.2	3 030	0	0	-52	0	0	0	2 978
B.1G	12 850	0	0	52	0	2	0	12 904

See 3.3.4 Social action.

Further information

Regarding social work activities, the analysis for the distinction between market and non-market units is carried out activity by activity, in order to determine in which cases market revenues cover the majority of the production costs.

3.26.2.2 Households (S.14B)

Table 3-111 Process table of Social work activities (NACE 87-88) of S.14B, in EUR (million)

NACE 87-88	Survey and censuses	Exhaustiveness	Final estimate
		N1	
P.1	15 996	246	16 242
P.2			
B.1G	15 996	246	16 242

Survey and censuses

See 3.6.1.1 Social action.

Exhaustiveness

A part of the production of social action activity is supposed to be undeclared, so that some corrections are applied and recorded in N1 (see chapter 7). It is estimated on applying a coefficient to the prima facie wage bill (using data from agencies which collect social contributions in NACE 88) and not to the wages.

3.26.2.3 NPISH (S.15)

Table 3-112 Process table of Social work activities (NACE 87-88) of S.15, in EUR (million)

NACE 87-88	Sources		Final estimate
	Survey and Censuses	CFC(PIM)	
P.1	20 144	1 113	21 257
P.2	5 470		5 470
B.1G	14 674	1 113	15 787

Survey and censuses

The value of production is obtained by multiplying the number of places in social and medico-social establishments and a cost per place. Intermediate consumption is determined by balance (see 3.7.1.2 Survey and censuses).

CFC (PIM)

See 4.13 consumption of fixed capital.

3.27 Arts, entertainment and recreation (NACE R)

3.27.1 Creative, arts and entertainment activities, libraries, archives, museums and other cultural activities, gambling and betting activities (NACE 90-92)

3.27.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-113 Process table of Creative, arts and entertainment activities, libraries, archives, museums and other cultural activities, gambling and betting activities (NACE 90-92) of S.11+S.14AA, in EUR (million)

NACE 90-92	Sources Combin ed Data	Adjustments						Final estimat e	
		Data validation	Conceptual		Exhaustiveness				Balancin g
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	17 781	-4 477	0	-3 599	11	294	107	142	10 259
P.2	14 471	-8 918	46	691	0	-52	-5	139	6 372
B.1G	3 310	4 441	-46	-4 290	11	346	112	3	3 887

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

Data validation are mainly:

- the taxes discrepancy (see 3.3.2.2 Data validation),
- the addition of PMU (urban mutual betting), which is a horse betting company. It is not in Esane (because it does not fulfil a tax return) whereas it has to be in S.11 (because it produces a merchant service). It represents EUR 2.3 billion of output and EUR 0.4 billion of intermediate consumption. This amount comes from its annual report.
- an adjustment on French games (La Française des jeux) to subtract players winning (this is neutral on value added).

Conceptual adjustments

Other conceptual adjustments are mainly the transformation into the basic prices, due to duties for gambling and betting activities (see 3.3.2.3 Conceptual adjustments).

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

Further information

Payments for licenses to use entertainment, literary and artistic originals are recorded as sales and purchases of services (ESA 2010 §3.86), it comes from the rules of the French chart of accounts (PCG).

3.27.1.2 NPISH (S.15)

Table 3-114 Process table of Creative, arts and entertainment activities, libraries, archives, museums and other cultural activities, gambling and betting activities (NACE 90-92) of S.15, in EUR (million)

NACE 90-92	Sources		Final estimate
	CFC(PIM)	Other E&M	
P.1	85	2 141	2 226
P.2		766	766
B.1G	85	1 375	1 460

CFC (PIM)

See 4.13 consumption of fixed capital.

Other E&M

Production excluding consumption of fixed capital is estimated on the basis of the wage bill and the structure of expenditure. Intermediary consumption is deduced from other operations (see 3.7.1.3 Other extrapolation and models).

3.27.2 Sports activities and amusement and recreation activities (NACE 93)

3.27.2.1 Non-financial enterprises (S.11+S.14AA)

Table 3-115 Process table of Sports activities and amusement and recreation activities (NACE 93) of S.11+S.14AA, in EUR (million)

NACE 93	Sources Combined Data	Data validat ion	Adjustments							Balanc ing	Final estim ate
			Conceptual		Exhaustiveness						
			Allocation of FISIM	Other conceptual	N1	N2	N4	N6	N7		
P.1	7 358	87	0	22	73	0	791	335	40	1	8 707
P.2	4 483	117	28	-63	8	0	726	-39	-6	-2	5 252
B.1G	2 875	-30	-28	85	65	0	65	374	46	3	3 455

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly the addition of horse races (see 3.3.2.4 Exhaustiveness).

Balancing

See 3.3.2.5 Balancing.

3.27.2.2 NPISH (S.15)

Table 3-116 Process table of Sports activities and amusement and recreation activities (NACE 93) of S.15, in EUR (million)

NACE 93	Sources		Final estimate
	CFC(PIM)	Other E&M	
P.1	41	3 457	3 498
P.2		1 702	1 702
B.1G	41	1 755	1 796

CFC (PIM)

See 4.13 consumption of fixed capital.

Other E&M

Production excluding consumption of fixed capital is estimated on the basis of the wage bill and the structure of expenditure. Intermediary consumption is deduced from other operations (see 3.7.1.3 *Other extrapolation and models*).

3.28 Other service activities (NACE S)

3.28.1 Activities of membership organisations (NACE 94)

3.28.1.1 Non-financial enterprises (S.11+S.14AA)

Table 3-117 Process table of Activities of membership organisations (NACE 94) of S.11+S.14AA, in EUR (million)

NACE 94	Sources Combined Data	Adjustments						Final estimate
		Data validation	Conceptual	Exhaustiveness		Balancing		
			Allocation of FISIM	Other conceptual	N4		N7	
P.1	0	0	0	0	3 061	29	0	3 090
P.2	0	0	11	-23	1 531	0	0	1 519
B.1G	0	0	-11	23	1 530	29	0	1 571

Conceptual adjustments

See 3.3.2.3 *Conceptual adjustments*.

Exhaustiveness

Exhaustiveness is mainly the addition of associations acting as market producers (serving business, see 3.3.2.4 *Exhaustiveness*).

3.28.1.2 NPISH (S.15)

Table 3-118 Process table of Activities of membership organisations (NACE 94) of S.15, in EUR (million)

NACE 94	Sources		Adjustments	Final estimate
	CFC(PIM)	Other E&M	Allocation of FISIM	
P.1	206	9 935	584	10 725
P.2		3 334	584	3 918
B.1G	206	6 601	0	6 807

CFC (PIM)

See 4.13 consumption of fixed capital.

Other E&M

Production excluding consumption of fixed capital is estimated on the basis of the wage bill and the structure of expenditure. Intermediary consumption is deduced from other operations (see 3.7.1.3 Other extrapolation and models).

Allocation of FISIM

See 3.4.4 Detailed presentation of FISIM.

3.28.2 Repair of computers and personal and household goods (NACE 95)

Table 3-119 Process table of Repair of computers and personal and household goods (NACE 95) of S.11+S.14AA, in EUR (million)

NACE 95	Sources Combined Data	Data validation	Adjustments					Final estimate	
			Conceptual		Exhaustiveness				Balancing
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	5 497	71	0	-362	241	294	179	0	5 920
P.2	2 714	51	29	-427	41	-91	-4	-1	2 312
B.1G	2 783	20	-29	65	199	386	183	1	3 608

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

See 3.3.2.4 Exhaustiveness.

Balancing

See 3.3.2.5 Balancing.

Further information

The production estimates of the activity of repair of computers and personal and household goods are estimated thanks to detailed business data (Esane).

GFCF and IC are deducted from the confrontation between the production approach and the expenditure approach, knowing that, concerning computers, GFCG corresponds to important repairs extending their life length.

3.28.3 Other personal service activities (NACE 96)

Table 3-120 Process table of Other personal service activities (NACE 96) of S.11+S.14AA, in EUR (million)

NACE 96	Sources Combin ed Data	Data validation	Adjustments					Final estima te	
			Conceptual		Exhaustiveness				Balancing
			Allocation of FISIM	Other conceptual	N1	N6	N7		
P.1	13 765	277	0	-15	800	2 483	129	-2	17 437
P.2	5 499	169	87	-159	12	-765	-12	-2	4 829
B.1G	8 266	108	-87	144	788	3 248	141	0	12 608

Combined Data

It comes from Esane (see 3.3.2.1 Esane).

Data Validation

See 3.3.2.2 Data validation.

Conceptual adjustments

See 3.3.2.3 Conceptual adjustments.

Exhaustiveness

Exhaustiveness is mainly illegal work (N1 and N6, see chapter 7):

Balancing

See 3.3.2.5 Balancing.

Further information

No adjustment is explicitly made for prostitution. In France prostitution itself is not an offence (only procuring is). A distinction is made between street prostitution and the output in premises such as bars, massage parlours, etc. The former is massively practised by illegal immigrants, very often minors, who are coerced into it by pimps. The conditions under which street prostitution takes place mean that the criterion of mutual consent of parties is not guaranteed and this activity does not qualify as “output”. Prostitution in bars or massage parlours is not identifiable as such. When it is declared it is not possible to distinguish it from the actual bar or massage parlour activities. Prostitution in such places is presumed to be included in general sources (businesses' accounts) and adjustments are made for fraud (see chapter 7).

3.29 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (NACE T)

3.29.1 Activities of households as employers of domestic personnel, undifferentiated goods- and services-producing activities of private households for own use (NACE 97-98)

Table 3-121 Process table of Activities of households as employers of domestic personnel, undifferentiated goods- and services-producing activities of private households for own use (NACE 97-98), in EUR (million)

NACE 97-98	Administrative records	Exhaustiveness	Final estimate
		N1	
P.1	1 777	2 213	3 990
P.2			0
B.1G	1 777	2 213	3 990

Administrative Data

The production of domestic services by households employers of salaried domestic staff covers several activities: domestic workers, janitors and caretakers. This production is recorded in “Administrative data” in the process table (see 3.6.1.2 *Production of domestic services*).

Exhaustiveness

As explained previously, a part of the production of domestic services is supposed to be undeclared, so that some corrections are applied and recorded in N1. This undeclared output is estimated as the undeclared output of other institutional sectors thanks to fraud rate estimated by economic activity (see chapter 7).

Further information

The income in kind (in particular food, accommodation or mobile phone) is included in the wage from Acoos, which is used to fix the amount of remuneration paid to employed staff (D.1) and to calculate the output by the sum of costs.

3.30 Activities of extraterritorial organisations and bodies (NACE U)

This section is relevant for chapter 8. No description is required here.

3.31 Taxes on products, including VAT

3.31.1 The most important taxes on products

Table 3-122 The most important taxes on products, EUR (million)

Operation	Details	Amounts
D.211	Total	135 578
	VAT	135 578
D.212	Total	2 180
	Import duties	1 752
D.214	Total	75 427
	Domestic consumption tax on energy products	23 577
	Taxes on tobacco	10 784
	Transfer duties (additional tax)	9 567
	Special tax on insurance policies	6 021
	Taxes on beverages	3 237
	Electricity public service contribution	1 936
	Tax on vehicle registration certificates	1 917
	Tax on lottery revenue	1 800
	Electricity tax	1 781
	Contribution to the funding of universal health cover	1 637
	Construction tax	1 374
	Transport taxes	1 307
	Miscellaneous pollution taxes	1 167
	Taxes on professional services excluding transfer duties	1 043
	Tax on car insurance premiums	954
	Film companies' contribution	766
	Tax on horse race betting	754
	Tax on casino games	748

3.31.2 Classification rules and borderline cases

The main criteria to decide on borderline cases is whether the payment is unrequited or not, and is the payment compulsory. To be classified as a tax a payment must meet the two criteria (being unrequited and compulsory). Some taxes, not included in the table, correspond to the remuneration of a specific and identifiable service produced by the administration. If in addition, the amount paid by the taxpayer is directly related to the service provided, the transaction is then recorded as a purchase of a market service instead of a tax in National Accounts. Some payments to public administration can also correspond to the purchase of a right to engage in professional or commercial activities. In the case where the administration has a validation and verification role, these payments are deemed to be sales of service by the administration: the granting of certain licenses (IV licences for drinking establishments for instance) are thus recorded as sales of services.

In the GNI inventory we mention the two main "taxes" that are, after analysis, classified as purchase of service, which are:

- the road sweeping tax and the refuse collection tax (TEOM): the service (refuse collection) is very well identified. The TEOM covers the cost of this service and, moreover, the payment made by households depends on the size of the accommodation. The payment is therefore linked to the household's needs for refuse collection. Therefore, although compulsory, the TEOM is classified as a purchase of service. This tax is recorded as a production by the municipalities of a commercial service of "road and sanitation".
- the audio-visual licence fee: it is considered that the payment was not compulsory (the classification is about to change in 2018, following the new MGDD 2016, § I.2.4.7 rules) since French people can opt out by choosing not having a television set. According to the new rules this choice cannot no longer stand for a condition for the payment not to be compulsory. Moreover, as people who want to watch only private TV cannot do it without paying the fee, the payment is considered as being unrequited. These new rules lead to a reclassification of the audio-visual licence fee as a tax and also to the reclassification of the whole public broadcasting companies (TV and radio) into S.13 sector.

3.31.3 Valuation and adjustments

In French National Accounts, taxes on product are in general recorded on a time-adjusted cash basis because they are mostly "autoliquidé" tax, that is to say that the taxpayer declares and pays the tax at the same time and that the administration does not send a roll to specify the amount of tax.

For VAT, there is a specific methodology, *see chapter 7* for more details. In the specific case of VAT, reimbursements and exemptions are treated as reductions in revenues. The time-adjustment is based on the average time difference between the activity and collection of the tax (1 month for VAT):

- revenues of January N, related to the economic activity N-1 are removed whereas revenues of January N+1, related to the economic activity N are added;
- reimbursements requested in the beginning of the year N and related to the economic activity N-1 are removed whereas reimbursements requested in the beginning of the year N+1 related to the economic activity N are added.

As explained in the chapter 7 "Exhaustiveness", the VAT theoretically due can be calculated by applying the VAT rates to the ex VAT amounts of the uses. The difference between VAT theoretically due and the VAT actually collected is called VAT gap and is added to the production of the non-financial corporations.

3.31.4 Vehicle registration taxes

As indicated in the table, the vehicle registration taxes is treated as taxes on products. This tax is recorded in public local administration accounts and is payable each time a certificate of registration is issued by the administrative services. Once the tax is paid by a purchaser of a land motor vehicle (new or used), a certificate of registration is given to the owner. This certificate indicates the registration number assigned permanently to the vehicle. As the payment of the tax is directly linked to the purchase of a vehicle, it is analysed like any other tax on products.

3.32 Subsidies on products

3.32.1 The most important subsidies on products

Table 3-123 The most important subsidies on products, EUR (million)

Operation	Details	Amounts
D319	Total	15 686
	Transfer from the STIF to the SNFC and RATP	3 803
	Subsidy paid to EDF for the public electricity service	2 654
	Subsidies paid to the rail infrastructure company (RFF)	2 508
	Regional subsidies for regional express train services	1 948
	European agricultural guidance fund subsidies	1 207
	Clean vehicle subsidy	710
	Car scrap scheme	669
	Tax credit funding home-based services	607

3.32.2 Classification rules and borderline cases

The classification as subsidies on products and not as social transfer depends on the existence of a social risk. Thus, payments to offset tariff reductions in transport are not recorded as benefits but as subsidies on products, D.319, except in the case of reductions granted to large families: these reductions are recorded as social transfer because of the existence of a “family” risk.

The main borderline case identified is the tax credit received by households using a domestic help paid by a service provider. Returnable by nature, this tax credit is treated as an expense. Insofar as it is due for every transaction between the beneficiary household (which is not the employer) and the service provider, the amount of the tax credit is recorded under other subsidies on products (D.319).

3.32.3 Car scrap

Car Scrap schemes existed in the 1990s, and again from 2009 to 2012 in order to tempt households to buy a new less polluting car. The premium can be received when the buyer is an owner of an old car (ten years old) and if he buys a car which is enough clean. The purchase of a new car is obligatory. As the car-scrapping bonus was dependent on the purchase of a new vehicle, it was recorded under other subsidies on products (D.319).

3.32.4 Valuation

In most cases, cash receipts are used without adjustment. However there is an exception with subsidies paid to EDF for the public electricity service. These subsidies aim at compensating EDP for:

- selling electricity to low-income households at a low price
- purchasing electricity from renewable electricity producers at a price higher than the market.

There may be important delays between the transaction (sale or purchase of electricity by EDF) and the payment of the compensation by government, which makes an adjustment absolutely necessary. In practice, the estimates published by the CRE (Energy Regulatory Commission) which are based on the accrual principle are used.

4 THE INCOME APPROACH

4.1 GDP according to the income approach

The production approach and the income approach are not separate in the French National Accounts. They are in fact more complementary than competing. Truth to tell, there is no income approach. To take an example, the compensation of employees of the economy is not quantified on the basis of a unifying set of statistics covering the whole population of employees or even the major part of that population. On the contrary, the knowledge of the compensation of employees comes from the employers. This remark is even more relevant when it comes to the operating surplus, which is known only from sources belonging to each category of producer.

Hence, **for the market activities**, the gross operating surplus and the mixed income are directly estimated by the formula below, the value added is the one calculating in the production approach.

$$\text{Gross operating surplus (B.2) + mixed income (B.3) = value added (B.1) – compensation of employee (D.1) – taxes on production and imports (D.2) + subsidies (D.3).}$$

For **non-market activities**, the gross operating surplus is equal to the consummation of fixed capital (CFC) which is estimated by the PIM-model (*see 4.13 Consumption of fixed capital*). Table 4-1 below shows the production account and generation of income by domestic sector.

Table 4-1 The production account and generation of income by domestic sector, in EUR (million)

transactions and aggregates for the production and the generation of income accounts	Total economy	Non-financial corporation	Financial corporation	General Government	Non-profit institutions serving households	Households
	S.1	S.11	S.12	S.13	S.15	S.14
Output (at basic price)	3 544 834	2 424 264	213 026	436 930	44 471	426 143
- intermediate consumption	1 741 853	1 412 215	122 722	102 492	14 341	90 082
=gross value added	1 802 981	1 012 049	90 304	334 438	30 130	336 061
-Consumption of fixed capital	354 182	197 884	12 367	68 006	3 236	72 689
=Net value added	1 448 799	814 165	77 937	266 432	26 894	263 372
+ Other subsidies on production	29 655	18 481	259	3 486	693	6 736
-compensation of employees	1 040 212	661 644	48 803	259 844	26 549	43 372
-other taxes on production	81 961	49 241	5 981	9 155	1 038	16 546
=Net operating surplus/Mixed income	356 281	121 761	23 412	919	0	210 190

Table 4-2 Breakdown of income approach by industry, EUR (million)

NACE	Compensation of employees	Taxes on production and imports	Subsidies	Gross operating income	Gross mixed income
Total	1 040 212	295 146	45 341	588 076	122 386
A Agriculture, forestry and fishing	8 286	1 448	8 695	17 502	13 398
B Mining and quarrying	1 237	114	28	1 357	15
C Manufacturing	149 264	11 979	2 196	71 074	5 099
D Electricity, gas, steam and air conditioning supply	12 734	1 518	273	14 187	10
E Water supply, sanitation and similar	6 878	741	342	4 161	102
F Construction	65 631	3 658	758	18 199	22 188
G Wholesale and retail trade; maintenance and repair of motor vehicles	120 941	8 391	1 583	45 027	15 634
H Transportation and storage	58 415	5 303	1 461	20 728	3 501
I Hotels and restaurants	29 794	1 762	758	12 084	5 655
J Information and communication	47 547	2 697	1 505	38 728	2 196
K Financial and insurance activities	49 301	6 069	259	35 779	1 006
L Real estate activities	12 761	19 399	2 795	184 194	1 815
M Professional, scientific and technical activities	72 924	3 678	1 409	21 633	9 376
N Administrative and support service activities	52 373	2 610	781	19 230	2 793
O Public administration and defence; compulsory social security	259 844	220 368	17 773	68 925	0
P Education	6 760	325	365	2 346	2 829
Q Human health and social work activities	56 349	1 832	604	8 739	29 869
R Arts, entertainment and recreation	8 343	486	699	1 316	1 152
S Other service activities n.e.c.	15 668	790	480	2 868	5 748
T Household services	5 162	6	1 178		
U Agriculture, forestry and fishing		1 972	1 399		

4.2 The reference framework

The income approach is closely linked in the French National Accounts to the production approach. Hence, as for the production approach, for most of the activities, French National Accounts are constituted by institutional sectors according to the sources. The sources used for the income approach are basically the same as for the production. The reference framework and the sources used (surveys and administrative data) in chapter 3 also applies to this chapter.

As for chapter 3, it can be more understandable to divide this chapter according the institutional sectors or more precisely by grouping of sub-sectors. However, as this chapter is less dense than the production approach, it has been decided to follow the plan of the GNI inventory guide and to make many references to the previous chapter. Each section is divided between the five institutional sectors.

So, starting from sources, as in Chapter 3, the income approach can be broken down by institutional sub-sector groupings (table 4-3).

Table 4-3 Breakdown of income approach by institutional sub-sector regroupings, EUR (million)

Institutional sub-sector groupings		Compensation of employees	Taxes on production and imports	Subsidies	Gross operating income	Gross mixed income
Non-financial enterprises	S.11+ S.14AA	681 798	51 250	21 564	319 644	116 482
Financial enterprises	S.12+ S.12AF	49 301	6 069	259	35 779	1 006
General Government	S.13	259 844	220 368	17 773	68 925	0
Pure Households	S.14B	22 720	14 449	3 653	160 493	4 898
NPISH	S.15	26 549	1 038	693	3 236	0
Rest of the world	S.2	0	1 972	1 399	0	0
Total		1 040 212	295 146	45 341	588 077	122 386

Non-financial corporations and non-financial unincorporated enterprises (S.11+S.14AA)

The main source used for non-financial corporations and non-financial unincorporated enterprises is Esane. As explained in the chapter 3, Esane is almost exhaustive; it misses illegal activities and fraud, agricultural activities and some association activities.

In tax returns, legal units have to fulfil the wages and salaries (almost equivalent to D.11), the social charges (almost equivalent to D.12) and the employee participation to the result of the company (included in D.11). These data are in Esane. If these variables are equal to zero or are imputed with the previous year, they are compared to the same variable in the Clap data.

Clap is an information system powered by several sources. Data on salaried employment result from a coherence of the information coming from the exploitation of three sources:

- annual social data declarations (DADS);
- summary slips of contributions from Urssaf (Unions for the recovery of social security contributions and family allowances);
- the information system on the agents of the State;
- the data of the agricultural social mutuality (MSA) in addition to the data of the Urssaf for the sectors of activity related to agriculture.

The Clap's scope is all the legal units in France (without Mayotte) which have at least one day of activity in the current year, for all economic activities except legal units with the legal category in the defence sector and domestic jobs. A procedure is then used to determine the best level of wages and salaries to keep in Esane.

For agricultural activities, the data of the agricultural social mutuality (MSA) are generally used (administrative annual data). For farms, as for the production approach, the agricultural census data and surveys on farm structure are used.

The compensation of employee of the market social action (NACE Q) comes from Acoiss (organisation that collects social security contributions).

Financial intermediaries and insurance enterprises (S.12+S.14AF)

The main sources used for financial intermediaries and insurance enterprises are the same than in the production approach (*see chapter 3.4.1 Data sources*). Each source give also information on personnel costs.

General Government (S.13)

The main sources used for General Government are the same than in the production approach (*see 3.5.1 Data sources*). Each source give also information on personnel costs.

Households excluding unincorporated enterprises (S.14B)

The main sources used for households excluding unincorporated enterprises are the same than in the production approach (*see 3.6 Households*). The compensation of employees for households excluding unincorporated enterprises (S.14B) is divided between two components:

- wages paid for social action which is equal to the output of social action (without fraud EUR 16.0 billion)
- wages paid in domestic services, which comes from the assessment of the wage bill from the data of the organisations that collect the social contributions (EUR 2.9 billion).

NPISH (S.15)

The amount of compensation of employees of social action is deducted from production by applying the share of remuneration in the total costs of medico-social establishments excluding the consumption of fixed capital, using data from public accounts. The compensation of employee (D.1) is equal to EUR 26.6 billion (*see 3.7 NPISH*).

4.3 Borderline cases

The “Wages and salaries in cash” transaction in Esane encompasses most of the payments that make up the “Wages and salaries in cash” transaction in the National Accounts. Three adjustments are made (*see 3.3.2.4 Exhaustiveness*):

- For the provision of meals and drinks to employees by hotels and restaurants (section I of NACE). It is an unsold production of companies, which profits to employees, but this output is not accounting by companies. Thus, an adjustment is made to increase the output of the I sector of NACE (EUR 0.4 billion) and wages in kind.
- Goods and services made available to their employees by companies (not produced by companies but bought) are accounted by the companies in intermediate consumption. An adjustment is made to decrease the intermediate consumption (EUR 1.3 billion) and to increase wages in kind.
- For the free provision of dwelling services by employers to their employees (company accommodation). In general, they are not in Esane’s variables used to calculate the output, nor in labour cost surveys. It is added to the housing service production (estimation provided by housing satellite account) and to the wages in kind (EUR 0.4 billion).

The wages and salaries are said to be gross because they include the social contributions payable by employees. This method of accounting is the general rule in the Esane source files. However, an exception does exist for wages paid by enterprises subject to the non-commercial profits (BNC) regime: they are declared net in the tax return. A correction is therefore made at the Esane stage to turn them into gross wages. Thus, Esane wages and salaries are recorded homogeneously, as gross amounts.

Another important adjustment is made at the Esane stage to employee profit sharing: in business accounts, it is recorded in the distribution account whereas in national accounts, it is considered as compensation. The operating surplus produced by business accounts is therefore, in the Esane production process, reduced by the amounts paid to employees as profit sharing, and the amount of the compensation paid is raised symmetrically (treatment that has no impact on the estimation of value added).

Wages and salaries in kind exclude expenditure that benefits the employer because it is necessary for their production process such as business travel expenses and clothing used mainly at work, which are accounted in intermediate consumption according to the PCG.

The sources of financial corporations and General Government give data in accordance with the general accounting plan (PCG). So that the benefits in kind can generally be identified from these data, with the exception of the housing. This information is provided by the housing satellite account, which provides information on free housing based on the housing survey, the housing satellite account allows to distinguish the occupants between government employees and other types of employment, which makes it possible to allocate free housing services between government and other institutional sectors. By convention, all the adjustment outside government is made to non-financial corporations.

In State's source, compensation in kind included the following items:

- maintenance costs (clothing and food) of military personnel;
- coverage of reduced transport fares for military personnel when they are off duty;
- the subsidies paid to staff canteens to reduce the price of meals for the least well paid categories of staff;
- compensation for dwellings made available to staff free of charge;
- luncheon vouchers.

Intangible fixed assets are treated as GFCF and not as intermediate consumption (*see 3.3.2.3 Conceptual adjustments for non-financial enterprises but also 3.4.3 for financial enterprises and 3.5.4 for General Government*).

For the recording of taxes and subsidies on production and imports, reference is made to sections 4.9 and 4.10.

4.4 Valuation

The sum of compensation of employees, the balance of other taxes and subsidies on production and gross operating surplus / mixed income results in gross value added at basic price. For these components, no specific valuation aspects are at stake.

Wages and salaries in kind are valued at basic prices when the employer produces the provided product. If the employer purchases the products, they are valued at purchasers' prices.

Compensation of employees is generally recorded during the period in which the work is done. Bonus payments are also recorded in the year in which the work is done. This way of recording follows the accrual principle.

Adjustments made to bring recording of taxes on products (D.21) and subsidies on products (D.31) on accrual basis are explained in the chapter 3 (*see 3.31 Taxes on products and 3.32 Subsidies on products*).

For the other taxes and subsidies on production, see 4.9 Taxes on production and imports and 4.10 Subsidies.

4.5 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts

National accounts and business accounts do not always have the same definitions and concepts. There are many examples of differences. In particular, as the gross operating surplus and the mixed income are calculated from the value added of the production approach, all adjustments explained in the previous chapter have an impact on the income approach. For example, there are FISIM, transformation into basic prices, removal of lands, R&D into GFCF, financial leases, transformation of change in inventories into basic prices, net non-life insurance premium, UCITS (see 3.3.2.3 *Conceptual adjustments*). These adjustments are not described in this chapter because there are already explained in the previous chapter. They represent the most important part of the adjustments of the income approach. Only the other adjustments are described here. There are more details about the conceptual adjustments and references to the previous chapter in the following sections about the compensation of employees, taxes on production and imports, subsidies, gross operating surplus and mixed income.

In business accounts, some subsidies for particular expenses are not accounted in subsidies but in lesser charges. In particular, some subsidies on salaries like the “CUI” (single integration contracts: to facilitate the integration of young people with low skills into sectors of activity that are developing or have a strong social or environmental utility) are accounted as less compensation of employees. That is why an adjustment is made to add these subventions to the compensation of employees (D.1) and added it to subsidies (D.3). It represents EUR 2.3 billion, and it is accounted in other conceptual adjustments in the Process Table of non-corporation enterprises.

Households sharing common areas in a dwelling (for example several households in the flats of a building) may hire a caretaker via a property manager, which is a transparent structure: all its expenses are considered paid by the households. It represents EUR 1.3 billion in the column “other conceptual adjustments” of the Process Table.

In some specific cases, a housing service may be provided for free by public administration to public servants: this is the case, for example, for housing units occupied by teachers and hospital directors. This free housing service is a benefit in kind for public servants. This correction is based on information provided by the housing satellite account and amounts to EUR 1.6 billion. The same amount is also recorded as wages in kind as employee compensation (D.1), which has a direct impact on the non-market output equal to the sum of costs. The same adjustment is realised for non-financial corporation but it is in the income in kind (in exhaustiveness, N7). By convention, the total free housing service estimated by the housing satellite account is allocated between General Government (especially the State) and non-financial corporations. The other sectors are considered to be little concerned. This means that the amount of free housing service for the whole economy is consistent with the housing satellite account.

To ensure a satisfactory transition from private accounting and from government accounting to ESA 2010 concepts, the following adjustments, made in the production approach, impact the gross operating surplus (because it is deduced from the value added of the production approach):

- Durable goods of small value: in the PCG, they are accounted in intermediate consumption and not in GFCF; no adjustment has to be made.

- Major repairs and renovations: expenditure on fixtures and fittings, expenditure on replacements, large-scale renovation and maintenance counts as fixed assets in the PCG, no retreatment of the source data is required.
- Valuation of inventories: business account follows the principle of valuation at historic cost, an adjustment is carried out (see 3.3.2.3 *Conceptual adjustments*).
- Software and entertainment: adjustments are made to count software and data as GFCF (see 3.19.4.2 *More details about software and databases*).
- Research and development: adjustments are made to count R&D as GFCF (see 3.22.3.2 *More details about R&D*).
- Production and allocation of FISIM: adjustments are made to count production and consumption of FISIM (see 3.4.4 *Detailed presentation of FISIM*).
- Leasing: adjustments are made to count leasing as GFCF (see 3.3.2.3 *Conceptual adjustments*).
- The treatment of provision between private/public accounting and national accounts; especially in reference to decommissioning of large assets: provisions are not used for the transition from private accounting to national accounts, the CFC is estimated with the PIM-model (see 4.13 *Consumption of fixed capital*).

Table 4-4 Decomposition of conceptual adjustments, EUR (million)

	Allocation of FISIM	Other conceptual on added value	Other conceptual on -D1-D2+D3	Subsidies on salary	Caretakers	Free accommodations	Transformation into the basic prices	Taxes adjustments	Costs related to the acquisition of buildings	Other	Total conceptual
Compensation of employees	0	0	0	2 277	1 316		0	0	0	-140	5 079
Non-Financial Corporations				2 277						-140	2 137
Financial Corporations										0	0
General Government						1 626				0	1 626
Households					1 316					0	1 316
NPISH										0	0
Gross operating surplus + Mixed income	-35 275	-10 128	37 638	0	0		0	0	0	0	-7 765
Non-Financial Corporations	-21 316	-5 529	40 801							0	13 956
Financial Corporations	-904	-2 670	0							0	-3 574
General Government	0	3 624	-1 847							0	1 777
Households	-13 055	-5 553	-1 316							0	-19 924
NPISH	0	0	0							0	0
Taxes on production and imports	0	0	0	0	0		-50 105	-1 239	-1 149	221	-52 272
Non-Financial Corporations							-50 105	-1 239	-1 149	0	-52 493
Financial Corporations										0	0
General Government										221	221
Households										0	0
NPISH										0	0
Subsidies	0	0	0	3 139	0		-14 089	1 396	0	0	-9 555
Non-Financial Corporations				3 139			-14 089	1 396		0	-9 555
Financial Corporations										0	0
General Government										0	0
Households										0	0
NPISH										0	0

Note: Each adjustment is described in more details in the section on the operation they affect (compensation of employees, taxes on production and imports or subsidies).

4.6 The roles of direct and indirect estimations methods and benchmarks and extrapolations

In the income approach in the French National Accounts, the only direct and indirect estimations methods and benchmarks and extrapolations used is for the calculation of FISIM (see 3.4.4 *Detailed presentation of FISIM*), for the calculation of CFC (see 4.13 *Consumption of fixed capital*) and for the calculation of the compensation of employee in NPISH sector (see 4.8 *Compensation of employees*).

4.7 The main approaches taken with respect of exhaustiveness

Although in the French national accounts no independent estimate of GDP applying the income approach is made, additional estimates for exhaustiveness are added to observed data on compensation of employees and operating surplus / mixed income.

In particular, the treatment of production of household as employer (N1), income in kind, tips, a part of free rent (N7) leads to add EUR 10.1 billion of compensation of employees (*for more details see chapter 7*).

Table 4-5 Decomposition of exhaustiveness, EUR (million)

	N1	N2	N3	N4	N6	N7	Total exhaustiveness
Compensation of employees	2 459	0	0	2 277	0	5 375	10 111
Non-Financial Corporations	0	0	0	2 277	0	5 375	7 652
Financial Corporations	0	0	0	0	0	0	0
General Government	0	0	0	0	0	0	0
Households	2 459	0	0	0	0	0	2 459
NPISH	0	0	0	0	0	0	0
Gross operating surplus	0	0	0	179	20 032	35 329	55 540
Non-Financial Corporations	0	0	0	179	20 032	33 361	53 572
Financial Corporations	0	0	0	0	0	1 968	1 968
General Government	0	0	0	0	0	0	0
Households	0	0	0	0	0	0	0
NPISH	0	0	0	0	0	0	0
Mixed income	13 363	2 626	4 734	0	31 869	3	52 595
Taxes on production and imports	0	0	0	130	0	0	130
Subsidies	0	0	0	233	0	0	233

4.8 Compensation of employees

Summary and Process Table

Table 4-6 Summary of compensation of employees by institutional sectors, EUR (million)

	S.11+S.14AA	S.12+S.12AF	S.13	S.14B	S.15	S.1
D.1	681 798	49 301	259 844	22 720	26 549	1 040 212
D.11	519 890	35 109	175 483	17 648	19 888	768 018
D.12	161 908	14 192	84 361	5 072	6 661	272 194
D.121	151 002	13 337	46 333	5 072	6 661	222 405
D.122	10 906	855	38 028	0	0	49 789

Wages and salaries are computed by institutional sectors and not by NACE sections. Specific adjustments made for tax evasion are explained in chapter 7.

4.8.1 Non-financial corporations and unincorporated enterprises (S.11+S.14AA)

Only a few corrections introduce a difference between, on the one hand, the Esane personnel costs and, on the other, the compensation of employees in the national accounts. These corrections have the effect of increasing companies' value added:

- either by means of a reduction of intermediate consumption: purchased benefits in kind;
- or by means of an increase in output: tips, benefits in kind on production.

All employees are covered by the estimates of compensation of employees thanks to the quasi-exhaustive sources. As sources come from the employer, there is no distinction between resident or non-resident employees, all transactions from resident employers to resident and non-resident employees are counting in business accounts, and so in Esane for an activity on the national territory.

4.8.1.1 Combined data

To evaluate the compensation of employees paid by non-financial enterprises, the starting point in Esane is the variable “Personnel costs”, which aggregates the sub-variables “Gross wages and salaries” and “Employer social contributions”. The two latter items correspond respectively to “Wages and salaries” and “Social contributions” in the general accounting plan (PGC). To make the conversion to national accounts, it is necessary to refer to this level of detail, which exists for all the categories of enterprises that are included in Esane. The “Wages and salaries” transaction in Esane are said to be gross because they include the social contributions payable by employees. In Esane, gross wages and salaries are equal to EUR 456.5 billion and social contributions are equal to EUR 178.9 billion.

It should be noted that business accounts might include, in personnel costs, the compensation of the operator of unincorporated enterprises and the related social contributions. In that case, these amounts are deduced from the “personnel costs” and included in the mixed income.

In tax returns, wages from employee participation are in a special variable. This amount is added to the gross wages and salaries (EUR 7.1 billion).

4.8.1.2 Survey and censuses

Agricultural activities and the market social action are not in Esane (*see 3.3.1.1 Esane*). Wages and salaries from these activities are added in the Process Table in the column “Survey and Censuses”. It represents EUR 19.5 billion.

The compensation of employees for agricultural enterprises is calculated by differentiating the enterprises active in this sector:

- For farms, gross salaries are estimated by valuing the salaried annual work units using unit wages taken from the agricultural accounts information network. Salaried annual work units are measures of the volume of work: their estimation is based on agricultural census data and surveys on farm structure. The social contributions payable by agricultural employers are estimated by applying contribution rates taken from the agricultural social protection scheme (MSA), to the payroll calculated above.
- For forestry enterprises is evaluated based on data from the agricultural social protection scheme (MSA) and the national forestry commission (ONF). A specific calculation is applied to overseas departments (DOM).
- For the other enterprises, accounting data or the wages declared to the MSA are used.

The compensation of employee of the market social action comes from Acoff (organisation that collects social security contributions).

Table 4-7 Compensation of employee of non-financial enterprises, EUR (million)

	Combined data	Surveys and censuses		Total
	Esane	Agricultural activities	Social Market Action	
D.1	642 532	8 286	11 258	662 076
D.11	463 678	6 029	8 619	478 326
D.111	463 678	6 029	8 619	478 326
D.112	0			0
D.12	178 854	2 257	2 639	183 750
D.121	178 854	2 257	2 639	183 750
D.122	0			0

4.8.1.3 Data validation

As explained in the Chapter 3, many data validation adjustments are realised to correct Esane. These adjustments are described in the Chapter 3. They represent EUR 9.9 billion. For the compensation of employees, the most important ones are:

- Adding of head office for EUR 7.4 billion,
- An adjustment for a freelance who made a mistake of unity for EUR 1.3 billion,
- Adding of the CTA (Contribution Tarifaire d'Acheminement i.e. the tariff contribution of routing). It is a contribution paid by all electricity consumers to fund specific benefit for employees of the electric and gas industries. This represent EUR 1.1 billion in 2010. This amount comes from administrative data.

4.8.1.4 Other conceptual adjustments

There is some other conceptual adjustments. The most important is the one made for particular expenses, which are not accounted in subsidies but in lesser charges. In particular, some subsidies on salaries like the "CUI" (single integration contracts: to facilitate the integration of young people with low skills into sectors of activity that are developing or have a strong social or environmental utility) are accounted as less compensation of employees. That is why an adjustment is made to add these subventions to the compensation of employees (D.1) and to the subsidies (D.3). It represents EUR 2.3 billion, and it is accounted in other conceptual adjustments in the Process Table of non-corporation enterprises.

4.8.1.5 Exhaustiveness

There are two adjustments for exhaustiveness:

- N4: adding population who are not in Esane (*see below*);
- N7: income in kind (*see below*).

No other correction is made to compensation of employees to take account of the exhaustiveness of GDP. The only counterpart to the adjustments made for tax fraud and undeclared work is the gross operating surplus/mixed income. Even in the case of undeclared work, in the French accounts there is no correction for under-declaration of wages.

There is no information from a counterpart sector, namely households that would be liable to modify the evaluation of compensation of employees obtained based on data from enterprises.

A. N4

Due to its characteristics, the data from Esane is to be completed with data from other sources (see 3.3.2.4 *Exhaustiveness*), this adjustment is in N4:

- Work councils
- Horse races
- Other association serving business

The compensation of employees of these units comes from DADS (see 10.2.1 *DADS*).

Table 4-8 Details of N4 exhaustiveness of compensation of employees, EUR (million)

	Work Councils	Horse races	Other association serving business	Total
D.1	626	64	1 586	2 276
D.11	437	46	1 094	1 577
D.111	437	46	1 094	1 577
D.112				0
D.12	189	18	492	699
D.121	189	18	492	699
D.122				0

B. N7 (Income in kind)

In the compensation of employees, income in kind has to be counted. According to SEC 2010, “wages and salaries in kind consist of goods and services, or other non-cash benefits, provided for free of charge or at reduced prices by employers, that can be used by employees in their own time and at their own discretion, for the satisfaction of their own needs or wants or those of other members of their households”.

In the general case, in the accounting plan, there is no specific heading for benefits in kind. When they are purchased by the enterprise, they are recorded as operating costs, but they cannot be isolated as such in Esane, except in the following cases:

- Payments to work councils, some subventions for foods (restaurant titles) and for holidays or recreation (holidays check, read-check), child care are accounted in social contribution.
- Stock-options and bonus shares are accounted in wages.
- Goods and services produced by the company can be in charge transfers.

In sectors where benefits in kind are on a large scale, accounting adjustments are made so that they are included in wages and salaries:

- The provision of meals and drinks to employees by hotels and restaurants (section I of NACE). It is an unsold production of companies, which profits to employees (EUR 0.4 billion).
- Goods and services made available to their employees by companies, not produced by companies but bought (EUR 1.3 billion). They are estimated based on the four-yearly survey of labour costs, by applying rates drawn from this survey to the payroll of the sectors concerned. The counterpart is the adjustment of intermediate consumption in ESANE.

An adjustment is made for the free provision of dwelling services by employers to their employees (company accommodation). In general, they are not in Esane’s variables used to calculate the output. They

are not in the labour cost surveys. The amount is provided by the housing satellite account (CSL) and is broken down by economic activities with the structure of the wages in Esane by economic activities. It is added to the housing service production and to the wages in kind (EUR 0.4 billion).

Payments to canteens, charitable works and works councils are recorded as social contributions. So they are deducted from social contribution (D.12), to be counted in benefit in kind. The amounts come from the labour costs survey mentioned above, it is equal to EUR 10.3 billion. A large part of the benefits in kind is provided to employees through the work councils. Hence, they are well retreated by this adjustment.

None of these corrections has any impact on the gross operating surplus of the enterprises concerned.

Tips give rise to appropriate recording in the hotel industry: they are included in both output and wages. The national accounts however make a supplementary estimation of tips in the hotel and other activities. The amount is added to the enterprises' output and the compensation of employees (*see chapter 7*).

Attendance fees paid to employees who are members of company boards of directors are not estimated. This has the effect of overstating GOS without affecting value added.

4.8.1.6 The sharing between wages and salaries and Employers' social contributions

The amount of social contribution paid by the non-financial corporations (S.11+S.14AA) and recorded in the non-financial corporations accounts comes from the counterpart sectors, which are the various organisations that receive the social contributions in question: mostly the General Government account (S.13), but also some insurance (S.12) and the rest of the world (S.2). Indeed, amounts available in these sectors and in Esane data are different and the amounts of these counterpart sectors are deemed to be more reliable than Esane data for social contributions.

The difference is mainly due to differences in the classification between corporate accounts and national accounts: amounts recorded as social contribution by companies are wages and salaries for national accounts or vice versa. For example, payments to canteen, charitable works, works councils are social contributions in business accounts but not in national accounts. The social contribution gap is the balance between Esane data and counterpart sectors' data.

To calculate it, the method therefore consists of comparing the total amounts of social contributions received by the units that are part of social insurance and the rest of the world, and the amounts declared by employers. For this transaction, the difference is allocated to non-financial enterprises and divided between corporations and unincorporated enterprises. Of course, the Esane amount of social contributions will first have been corrected by the amounts that were integrated in wages and salaries, that is to say the paid leave payments of construction enterprises and the payments to canteens, charitable works and works councils (*see above*). Symmetrically, checks will have been made to ensure the social contributions received by the construction industry paid leave fund did not include any amounts reclassified as wages. Globally, employers and social bodies are supposed to follow the same rules when recording transactions.

Finally, the difference in actual social contributions is analysed as a difference in wages, resulting both from inaccuracies in the declarations made by enterprises and the adjustments made to absent enterprises' accounts or extrapolations made from incomplete accounts. The difference is therefore recorded under wages and salaries in cash. The total of personnel costs in Esane is therefore not modified for this "fitting" operation. In 2010, this gap is EUR 22.2 billion.

4.8.1.7 *The imputed social contributions*

Imputed social contributions represent the counterpart of social benefits paid directly by employers to their employees outside of any actual contributions circuit. In business accounting, these benefits are recorded under social contributions. For the purposes of the national accounts, employers' direct benefits are evaluated: the equality of this evaluation and the amount of imputed contributions is postulated. The evaluations are made using ratios taken from the labour costs survey and applied only to non-financial corporations. The amount obtained is deducted from the social contributions in Esane. It is useful to make a distinction between the case of public enterprises and that of other enterprises. The total of personnel costs in Esane is not affected by this correction.

The calculation of imputed contributions also involves the demographic compensation payment made by the retirement benefit regimes of certain public enterprises to the public pension regimes. The amount appears in the accounts of the enterprises concerned under labour costs. The correction consists of deducting this amount from wages and salaries in cash.

4.8.2 Financial enterprises (S.12+S.12AF)

Table 4-9 Compensation of employees of financial enterprises, EUR (million)

	Financial intermediaries	Financial auxiliaries	Insurance enterprises	S.12+S.14AF
D.1	33 302	6 800	9 199	49 301
D.11	23 659	4 764	6 686	35 109
D.12	9 643	2 036	2 513	14 192

Financial intermediaries

The compensation of employees is evaluated using the accounting data in the income statement. The accounting plan of credit institutions present charges by type, that is to say personnel costs are identified in the income statement.

At the most detailed level, personnel costs break down into:

- wages and salaries: the amounts are allocated to the transaction "Gross wages and salaries" in the national accounts classification;
- social charges: these are treated as social contributions, actual or imputed.

Normally, within the social charges, it is possible to isolate those that correspond to contributions paid to social insurance organisations and direct benefits. The latter are the subject of an imputed social contributions circuit.

Financial auxiliaries

The compensation of employees is evaluated in the same way as for non-financial enterprises. It consists of taking the "Personnel costs" item from the standard account in the intermediate system of financial auxiliaries. To this are added the compensation of the operator and employee profit sharing.

The personnel costs break down into:

- wages and salaries: the amounts are allocated to the transaction “Gross wages and salaries” in the national accounts classification;
- social charges: these are treated as social contributions. There is no calculation of imputed contributions. All the social charges are treated as actual social contributions.

The insurance enterprises

The accounting plan of insurance corporations records charges by purpose, and not by type. The information enabling the compensation of employees to be evaluated is therefore not directly available in the income statement. The statements provided by the ACPR (prudential supervisory and resolution authority) include, for each type of insurance, an annex with a table showing personnel costs. This is also the case for COFACE.

The data provided by the social insurance organisations include information on personnel costs. These figures are included, without any adjustment, in the national accounts. In particular, there is no adjustment to compensation of employees to take account of benefits in kind that are not already recorded under personnel costs.

The breakdown of the total thus calculated of the compensation of employees between the national accounting transactions – gross wages and salaries (D.11), actual social contributions (D.121) and imputed social contributions (D.122) – is carried out using, in the structure, the data from the INSEE's Labour Costs Survey relating to the insurance business.

4.8.3 General Government (S.13)

4.8.3.1 Administrative record

Table 4-10 Compensation of employees of General Government, EUR (million)

	Central		Local	Social Security funds	General Government
	State	Various central administration bodies			
D.1	116 930	15 284	68 859	58 771	259 844
D.11	70 655	12 274	50 090	42 464	175 483
D.12	46 275	3 010	18 769	16 307	84 361

A. The State

As far as the State is concerned, most transactions are recorded in the general budget, where expenditure is structured by ministry, and within each ministry, in articulated sections referring to the reason for the expense and its economic nature. The ministries' current operating expenses are tracked under heading III: “Departments' resources”, according to an extremely detailed classification.

We therefore have for each ministry:

- the compensations paid: salaries, bonuses, various allowances, etc.;
- the contributions payable by the State as an employer;
- social benefits except pensions paid to former employees.

In addition, the classification shows whether these compensations concern ministry staff or staff belonging to specialised, or in some cases decentralised, establishments. This facilitates the distribution by sector of

the operating costs. Conversely, it happens that the structure of these costs can only be appreciated for the whole of General Government. If we take the example of education, the entire compensation of the teaching and administrative staff is included in the ministries' expenditure. On the other hand, other operating expenses and gross fixed capital formation are recorded in the accounts of miscellaneous central government agencies (ODACs) in the case of tertiary education, in those of local government in the case of pre-primary, primary and secondary education.

Furthermore, the State pays the staff employed by private educational institutions that are under contract, which are classed as NPISH.

In principle, only the flows corresponding to expenditure in the economic territory, i.e. metropolitan France, the overseas departments and territorial enclaves outside metropolitan France, are included. Consequently, the staff costs of the civil service in the overseas territories as well as compensation paid to people doing voluntary service overseas (civilian or military) and French teachers abroad are recorded under "Current international co-operation" (D.74).

Compensation in kind includes more particularly the following items:

- maintenance costs (clothing and food) of military personnel;
- coverage of reduced transport fares for military personnel when they are off duty;
- the subsidies paid to staff canteens to reduce the price of meals for the least well paid categories of staff;
- compensation for dwellings made available to staff free of charge;
- luncheon vouchers.

The sharing between wages and salaries and Employers' social contributions

As far as social contributions are concerned, the mechanism for recording social contributions and benefits differs according to the category of personnel:

- For contract public employees, the State acts like a private employer and pays contributions to the different social security regimes (basic regimes, complementary social insurance schemes).
- For permanent public employees, the situation is more complex and varies according to the risks:
 - social security contributions for health and maternity only cover benefits in kind, as the State itself pays the cash benefits (wages maintained). The latter are not counted as imputed social contributions, but as gross wages and salaries, as it is not possible to isolate them to record them as direct social benefits and to create a circuit of imputed social contributions. This has no impact on the total amount of compensation of employees.
 - the obligatory family benefits are paid by the social security system and the State pays actual contributions in return, at the same rate as other employers.

Imputed social contribution

Concerning retirement pensions, the State pays them directly to its former civilian and military employees and the persons covered by their insurance. In the administration of this regime, it deducts a contribution from working civil servants' wages, which is recorded as actual social contributions payable by employees. The difference between these benefits and these contributions is the subject of an imputed social contributions circuit.

In addition, the State is involved in demographic compensation. This compensation is intended to remedy disparities between the regimes, connected to the ratios between the number of contributors and the number of beneficiaries. Each retirement pension regime is compared to a fictitious reference regime. In this comparative system, the State, as an employer, finds itself a beneficiary and it pays by way of compensation. This payment is a component in its wage costs and it is recorded under imputed social contributions.

Certain direct benefits, such as the family wage supplement, are detailed in the expenses of the different ministries. The same does not apply to retirement pensions. These, as well as the demographic compensation payments, appear lumped together in a Ministry of Finance subdivision, “common charges”. This allows the imputed social contributions to be calculated, but a fixed allocation key has to be used to divide the different imputed contributions between the different sectors.

For the State, benefits, net of actual contributions and imputed contributions are not equal. The imputed contributions are calculated as follows:

Imputed social contributions = Civilian and military pensions + Other benefits paid direct by the employer + State's demographic compensation payment + Retroactive affiliations – Deductions for civilian and military pensions

B. [The other General Government units](#)

The other General Government units concerned are those whose data are organised in accordance with the general accounting plan (PGC), whether they are non-market units: miscellaneous central government agencies (ODACs), local government and social security funds – or market units – and the market sectors of General Government in general.

The compensation of employees is evaluated using the accounting data. Account 64 “Personnel expenses” in the general accounting plan, which will vary in the amount of detail provided depending on the size of the unit, makes it possible to obtain satisfactory evaluations of the different sections of compensation of employees.

In the particular case of public employees belonging to local government or the hospital sector, the pensions received by retired employees do not give rise to direct social benefits and imputed social contributions circuit. Indeed, civil servants and their employers pay into a specific fund, which is classified as a social security fund. The imputed social contributions correspond to fringe benefits such as the family wage supplement.

[4.8.3.2 Other conceptual adjustments](#)

In some specific cases, a housing service may be provided for free by public administration to public servants: this is the case, for example, for housing units occupied by teachers and hospital directors. This free housing service is a benefit in kind for public servants. This correction is based on information provided by the housing satellite account and amounts to EUR 1.6 billion. The same amount is also recorded as wages in kind as employee compensation (D.1), which has a direct impact on the non-market output equal to the sum of costs.

4.8.4 Households (S.14B)

4.8.4.1 Administrative records

The compensation of employees paid by households is mainly for social action services (EUR 16.0 billion). It corresponds to the output of households for social action (without fraud). It is composed of:

- home help for the elderly (EUR 8.9 billion),
- childcare in the day by nursery assistants in their home (EUR 6.9 billion),
- host families for the elderly and disabled adults (EUR 0.2 billion).

The compensation for domestic services (EUR 2.9 billion) is also a part of the compensation of employees paid by households. The estimation is based on the assessment of the wage bill from the data of the organisations that collect the social contributions. This compensation is evaluated without fraud.

4.8.4.2 Other conceptual adjustments

Households sharing common areas in a dwelling (for example several households in the flats of a building) may hire a caretaker via a property manager, which is a transparent structure: all its expenses are considered paid by the households. It represents EUR 1.3 billion in the column “other conceptual adjustments” of the Process Table.

This amount comes from the Ministry of Housing for public housing (HLM) and Aprionis (French social protection group which provides data on the contributions and the wage bill of the guardians of buildings, those data are closed to DADS, *see 10.2.1 DADS*) for other dwellings.

4.8.4.3 Exhaustiveness

An adjustment is made to add the production of households as employers which is not registered (whereas it must be). It represents EUR 2.5 billion (*see chapter 7*) which can be divided between:

- Domestic social work activities (EUR 0.2 billion);
- Activities of households as employers of domestic personnel (EUR 2.2 billion).

4.8.5 NPISH (S.15)

Table 4-11 Compensation of employees of NPISH, EUR (million)

NACE	D.1	D.11	D.12
85	2 439	1 668	771
87	8 977	6 784	2 193
88	5 532	4 180	1 352
90	1 233	932	301
91	123	93	30
93	1 752	1 324	428
94	6 493	4 907	1 586
Total	26 549	19 888	6 661

The whole compensation of employees of NPISH is in the column “extrapolation and models” of the Process Table.

The compensation of employees of NPISH in education services (NACE 85) is deducted from the value of the current transfers of the branch: it is estimated that 22% of total current transfers to NPISHs paid by

the State and 6% of total current transfers to NPISHs paid by local governments are for the NPISHs of the non-market education branch. Then, D.11 is a fixed part of D751 (80.2%) and D.12 is a fixed part of D.1 (31.7%). It represents EUR 2.4 billion.

In the social action (NACE 87 and 88), the amount of compensation of employees is deducted from production by applying the share of remuneration in the total costs of medico-social establishments excluding the consumption of fixed capital, using data from public accounts. Contributions are based on a default employer contribution rate of 32.3%, which corresponds to the rate of the non-financial corporate sector. The compensation of employee (D.1) is equal to EUR 14.5 billion.

The rest of the compensation of NPISH's employees comes from the DADS (*see 10.2.1 DADS*).

The following equation is verified (in billion):

$$P.1 (44.471) = D.1 (26.549) + D.29 (1.038) - D.39 (0.693) + P.2 (14.341) + CFC (3.236).$$

4.9 Taxes on production and imports

Taxes on production and imports are defined in accordance with ESA 2010 (§4.14). They are divided into taxes on products (D.21, summarised in chapter 3 of this inventory) and other taxes on production (D.29). The analysis of the fiscal legislation is required in order to eventually perform the classification. For some taxes, an information regarding which unit is the taxpayer is needed, and in particular whether the taxpayer is a producer or a consumer. Indeed, taxes on production can only be recorded for producers. As some taxes can be paid either by producers or consumers, a split is necessary. This concerns motor vehicle tax or property tax for instance. In such a case, additional information is used, like matriculation register or cadastral data.

Some payments made by producers to General Government, although called "taxes" by the administration, are more borderlines cases and not classified as taxes in the system. It happens when, despite being compulsory, the payment corresponds to an identifiable service provided by the administration: for instance, the fee for garbage collection, is called "taxe sur les ordures ménagères" but is recorded as sale of services in National Accounts.

The "sweeping tax" (taxe de balayage) levied by the municipalities is determined in order to cover the expenditure incurred by the cleaning of the roads. This tax is recorded as a production of the municipalities of a commercial service of "road and sanitation".

Some payments to public administration are made in order to be allowed to engage in professional or commercial activities. In the case where the administration has a (real) validation and verification role, these payments are deemed to be sales of service by the administration: the granting of certain licenses (IV licences for drinking establishments for instance) are thus recorded as sales of services.

Finally, local governments make producers pay for the use of sidewalk, harbour or even communal forests or rivers. Those payments, being made for the use of a natural resource, are recorded as rent (D.45) even when they are called taxes by the local authority.

All taxes on production and import transit thought public treasury, which is the main source. Hence, the total amount of D.2 comes from General Government (DGFIP data). However, they are not all in the State's accounts: other units of General Government and the rest of the world received also taxes. In 2010, the rest of the world received EUR 2.0 billion and the French General Government EUR 293.2 billion.

The breakdown between institutional sectors can also depend on data of each institutional sectors. Generally, the balancing is done on the non-financial corporations sector.

Taxes on products and production (D.21) are detailed in Chapter 3. The table below therefore only details other taxes on production (D.29).

Table 4-12 Other taxes on production (D.29), EUR (million)

Other taxes on production	Amount
D.29 (Total)	81 961
Tax on build-up and non-build-up land	26 003
Payroll tax (TS)	11 440
Contributions on the business added value (CVAE)	10 346
Transport levy (VT)	6 344
Additional social solidarity levy (C3S)	5 090
Company real estate contribution (CFE)	4 941
National housing support fund levy (FNAL)	2 465
Autonomous solidarity contribution (CSA)	1 917
Levies for the wage guarantee scheme (AGS)	1 759
Flat rate tax on network corporations	1 223
Chamber of commerce levy	1 103

4.9.1 Non-financial corporations and non-financial unincorporated enterprises (S.11+S.14AA)

The other taxes on production of non-financial corporations are mainly taxes on build-up land, TS, CVAE, VT, C3S and CFE.

4.9.1.1 Surveys and censuses

The taxes paid by agricultural enterprises classified under other taxes on production are: land taxes, taxes on motor vehicles, agricultural development turnover tax (called ANDA, ADAR or CASDAR at different times), and the under-declaration of VAT on purchases of agricultural units concerning intermediate consumptions and gross fix capital formation. The amounts to be recorded in the generation of income accountants are obtained by applying a specific procedure to data from tax authorities.

4.9.1.2 Combined data and data validation

In business accounts, the taxes paid by enterprises on their products are in the item “Taxes, levies and similar payments”. It represents in Esane EUR 85.1 billion. To this amount, some data validation described in chapter 3 are added. It represents EUR 16.7 billion, mainly due to the adjustment for the TICPE and for the tax gap (see 3.3.2.2 Data validation).

4.9.1.3 Other conceptual adjustments

Other conceptual adjustments on taxes are mainly the transformation into the basic prices (see 3.3.2.3 Conceptual adjustments) for EUR 50.1 billion.

4.9.1.4 Exhaustiveness N4

In the N4 column of the Process Table, there are the taxes of work councils and of other associations serving business.

4.9.2 Financial corporations (S.12+S.12AF)

4.9.2.1 Financial intermediaries

All the taxes paid by financial intermediaries, apart from income tax, are recorded under the income statement item entitled “Taxes and levies”: this item corresponds partly to taxes classified as taxes on products in national accounts.

Taxes on products are identified by comparison with the data from the public accounts. The balance is classified under other taxes on production (D.29): the breakdown of this item into the different components in the classification is done at a later stage in the general synthesis of accounts.

All the taxes paid by financial auxiliaries, apart from income tax, are recorded under the income statement item entitled “Taxes and levies”: taken directly from the income statement. This item is assimilated with other taxes on production (D.29). There are no other taxes on production.

4.9.2.2 Insurance enterprises

Concerning taxes, they are of two types: a certain number of taxes specific to the insurance business, which are classified as taxes on products (*see 3.31 Taxes on products*); taxes on wages and taxes that, like professional tax, are classified as taxes on production.

4.9.3 General Government (S.13)

The other taxes on production (D.29) payable by General Government (EUR 9.2 billion) are mainly taxes on wages payable by employers.

All taxes on products less taxes on products for European Union (EUR 211.2 billion) are counted in “taxes on production and imports” of General Government in income approach.

The total amount in the Process Table (EUR 220.4 billion) is the sum of D.29 payable by General Government and all taxes on products for General Government (not for European Union).

4.9.4 Households (S.14)

The other taxes on production of households are mainly taxes on build-up land.

4.9.5 NPISHs institutions (S.15)

The amount of other taxes (D.29) on production paid by NPISH is mainly tax on payroll.

4.10 Subsidies

All subsidies transit through public treasury, regardless of the unit that is to the origin of the subvention. Hence, the total amount of D.3 comes from General Government (DGFIP data). A close examination of the account of each unit that distributes subsidies allows the classification between subsidies on products, other subsidies on production or investment grant.

In particular, other subsidies on production are defined in accordance with ESA 2010 (*see sections 4.36-4.40*). The major difference compared with subsidies on products is that the latter are granted on the basis of confirmed outputs (for example public transport), whereas other subsidies on production are based on inputs/costs incurred. The composition of subsidies on products in France is summarised in Chapter 3 of this Inventory.

Units that paid subsidies are General Government (EUR 43.9 billion) and the rest of the world (EUR 1.4 billion).

Subsidies on products and production (D.31) are detailed in Chapter 3. The table below therefore only details other subsidies on production (D.39).

Table 4-13 Other subsidies on production (D.39), EUR (billion)

Name	Amount
Total	29.7
Subsidies paid to agricultural enterprises	8.7
Subsidies paid by local authorities	7.1
Subsidies paid by the ASP	4.8
Refundable tax credit on interest due on loans taken out to purchase a main residence	1.5
Refundable tax credit on the expenditure of households as producers of domestic services	1.2
Refundable tax credit on granted to banks to compensate for their zero rate lending (PTZ)	1.0

The operating subsidies consist in direct aids for farms for their productive activities, and are composed by :

- agri-environmental aid which corresponds to the second pillar of the common agricultural policy: for instance compensations for natural disability, the herbage premium ;
- "single payment", since the application in France of the Luxembourg Agreements 2003.

The French department of agriculture collects each year the amounts from the paying agencies (services of the department and offices) that are in charge of the payments of the aid. The offices distribute the totality of the EU funds (European Agricultural Guarantee Fund and European Agricultural Fund For Rural Development).

4.11 Gross operating surplus

The gross operating surplus (GOS) and the mixed income are calculated as a residual:

$B.2g+B.3g=B.1g-D.1-D.2+D.3$

Table 4-14 GOS and mixed income by institutional sector, EUR (million)

	Allocation of FISIM	Other conceptual on value added	Other conceptual on -D.1-D.2+D.3	Total conceptual
Gross operating surplus + Mixed income	-35 275	-10 128	37 638	-7 765
Non-Financial Corporations	-21 316	-5 529	40 801	13 956
Financial Corporations	-904	-2 670	0	-3 574
General Government	0	3 624	-1 847	1 777
Households	-13 055	-5 553	-1 316	-19 924
NPISH	0	0	0	0

For more details about allocation of FISIM, see 3.4.4 Detailed presentation of FISIM.

Other conceptual adjustments on value added are the whole other conceptual adjustments on value added from production approach, see chapter 3.

Other conceptual adjustments on $-D.1-D.2+D.3$ are the whole other conceptual adjustments obtained by subtracting the other conceptual adjustments of D.1 and D.2 and by adding the other conceptual adjustments of D.3.

4.11.1 Non-financial corporations and non-financial unincorporated enterprises (S.11+S.14AA)

The gross operating surplus for non-financial enterprises is calculated as a residual. The share between GOS and mixed income is calculated thanks to the share between non-financial corporations (S.11) and non-financial unincorporated enterprises (S.14AA).

4.11.2 Financial corporations (S.12+S.14AF)

The gross operating surplus for non-financial enterprises is calculated as a residual. The share between GOS and mixed income is calculated thanks to the share between financial corporations (S.12) and financial unincorporated enterprises (S.14AF).

4.11.3 General Government (S.13)

The gross operating surplus of the non-market sectors is equal to their consumption of fixed capital (*see below*). For the market sectors, the gross operating surplus is calculated as a residual.

4.11.4 Pure households (S.14B)

The gross operating surplus for pure households is calculated as a residual. Only the production of own final use is accounted in mixed income and not in GOS (*see below*).

4.11.5 NPISH (S.15)

The gross operating surplus for NPISH is calculated as a residual.

4.12 Mixed income

The gross operating surplus (GOS) and the mixed income are calculated as a residual:

$B.2g+B.3g=B.1g-D.1-D.2+D.3$

Table 4-15 GOS and mixed income by institutional sector, EUR (million)

	Allocation of FISIM	Other conceptual on value added	Other conceptual on $-D.1-D.2+D.3$	Total conceptual
Gross operating surplus + Mixed income	-35 275	-10 128	37 638	-7 765
Non-Financial Corporations	-21 316	-5 529	40 801	13 956
Financial Corporations	-904	-2 670	0	-3 574
General Government	0	3 624	-1 847	1 777
Households	-13 055	-5 553	-1 316	-19 924
NPISH	0	0	0	0

For more details about allocation of FISIM, *see 3.4.4 Detailed presentation of FISIM*.

Other conceptual adjustments on value added are the whole other conceptual adjustments on value added from production approach, *see chapter 3*.

Other conceptual adjustments on $-D.1-D.2+D.3$ are the whole other conceptual adjustments obtained by subtracting the other conceptual adjustments of D.1 and D.2 and by adding the other conceptual adjustments of D.3.

4.12.1 Non-financial corporations and non-financial unincorporated enterprises (S.11+S.14AA)

The mixed income is calculated as a residual with the Esane data for the unincorporated enterprises (S.14AA).

The exhaustiveness is composed of:

- Non registered producers (EUR 13.4 billion)
- Illegal smuggling of tobacco (EUR 0.6 billion) and illegal production and trafficking of narcotics (EUR 2.0 billion)
- Fraud on turnover or operational expenses by legally registered units and VAT fraud with complicity (EUR 31.9 billion, the other part of this fraud is on GOS).

4.12.2 Financial corporations (S.12+S.14AF)

The mixed income is calculated as a residual with the Esane data for the financial auxiliaries that are unincorporated enterprises (S.14AF).

4.12.3 General Government (S.13)

No mixed income in General Government.

4.12.4 Pure households (S.14B)

For pure households, only the production of own final use is accounted in mixed income.

4.12.5 NPISH (S.15)

No mixed income in NPISH.

4.13 Consumption of fixed capital

The estimation of fixed capital is made in French balance sheets using the perpetual inventory method (PIM), which consists in obtaining a measure of capital by simulating the accumulation process of which capital is the result, based on past and present investments that are at the origin of it.

In order to be able to calculate fixed capital series using this method, it is necessary to have long series of gross fixed capital formation (GFCF) for each fixed asset, in particular for products with a long life span (such as buildings or infrastructure). The aim is to be able to ensure that all fixed assets recorded in the balance sheet accounts for year N have been recorded at some point as GFCF. For this purpose, there are GFCF series since 1959 in base 2010. They have been extended over more than a century using data from previous national accounts databases.

In addition, in the French accounts, the fixed capital approach by branch was considered more relevant, since within a branch we study a production process that is in principle homogeneous, i.e. using the same types of equipment regardless of the company in question. Fixed capital is thus calculated branch by branch for each fixed asset, and this for each institutional sector.

Since the classification of fixed assets is derived from that of products, it is necessary to have long series of cross-product*branches GFCFs for each institutional sector.

The construction of the capital series and therefore of the balance sheet account is based on fine-grained GFCF series: they must be cross-referenced by asset type, by industry and by institutional sector. Such series do not exist in this level of detail in the flow accounts, as the asset classification is specific to balance sheet accounts. They are reconstituted from the flow accounts which provide a detailed GFCF by product, branch and institutional sector in value and volume at the previous year's price. The detailed GFCF per branch and per asset is therefore calculated using a table of product-asset transitions (*see below*).

Table 4-16 Table of product-asset transitions

Assets	Products (NACE 88)
Dwellings without transfers costs	Parts of 41 and 43
Transfers costs for dwellings	Parts of 41, 68, 69 and 71
Buildings other than dwellings without transfers costs	Parts of 41 and 43
Transfers costs for buildings other than dwellings	Parts of 41, 68, 69 and 71
Other structures	42 and part of 43
Transport equipment	29 and 30 (except military)
Computer hardware	Parts of 26 and 95
Telecommunications equipment	Parts of 26 and 95
Other machinery and equipment	24, 25, part of 26, 27, 28, 31, 32 et part of 95
Weapons systems	30 (only military)
Cultivated biological resources	01
Research and development	72
Computer software	Part of 62
Databases	58, 63 and part of 62
Entertainment, literary or artistic originals	59, 60 and 90

The GFCF is not calculated at the level 88 of NACE but at a more detailed level (138). In the table below, the detail is only given at level 88.

4.13.1 Gross capital stock

The permanent inventory method, or chronological method, results from an analogy with the study of a population. Like a population, the equipment stock is affected by inflows (investments) and outflows (retirements or downgrades). In addition, there is also a phenomenon of wear and tear (consumption of fixed capital). The capital of a production unit is thus the result of an accumulation process that can be simulated to obtain a measure of this capital.

In the absence of direct information on downgrades and consumption of fixed capital, the perpetual inventory method makes it possible to calculate them on the basis of new equipment flows (GFCF) and respectively mortality laws and equipment depreciation laws, based on knowledge of the average useful lives of the various types of assets.

To reconstitute the value of the gross capital of a production unit (or institutional sector) on a given date, it is sufficient to cumulate the values of inputs (GFCF) minus outputs (downgrades) over all periods prior to that date, from the original date of creation of the unit (or from a date far enough away so that the weight of the elements that could have been acquired at that time and not downgraded in between) is negligible.

On the same principle, the value of net capital is calculated by adding the values of inputs less the consumption of fixed capital for all past periods. It is the value of net capital that is relevant in the context of asset accounts, because the national accounts approach is to try to account for the state of wear and tear and obsolescence of capital. However, since gross and net value are closely linked, the valuation of gross fixed capital remains important, especially since the concept of gross capital is used for its own sake in productivity calculations.

The accumulation model of the perpetual inventory method actually verifies the following two relationships:

- in gross: $CB(n) = CB(n-1) + GFCF(n) - DEC(n)$ (1)

- in net: $CN(n) = CN(n-1) + GFCF(n) - CCF(n)$ (2)

where CB stands for "gross capital", DEC for "downgrades", CN for "net capital", CCF for "consumption of fixed capital".

The implementation of the perpetual inventory method in French asset accounts is based on two assumptions: the first assumes that assets have log-normal mortality laws, the second assumes that depreciation is straight-line.

4.13.2 Technical calculations

For each sector and for each fixed asset in a given branch (i.e. with a given average lifetime d), the two previous assumptions make it possible to calculate four coefficient vectors S, D, C and N which will be explained below. These coefficient vectors are then coupled to GFCF vectors for each asset at 2010 prices, and will make it possible to calculate gross fixed capital, downgrades, consumption of fixed capital and net fixed capital for that asset in the branch in question, respectively, at 2010 prices.

Survival factors S measure the portion of a past or present investment that is not downgraded in year n . They are obtained using the survival function, which is complementary to the log-normal mortality function, whose density is expressed as follows:

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} * \frac{1}{x} * \exp\left(-\frac{1}{2} * \frac{(\log(x)-\mu)^2}{\sigma^2}\right)$$

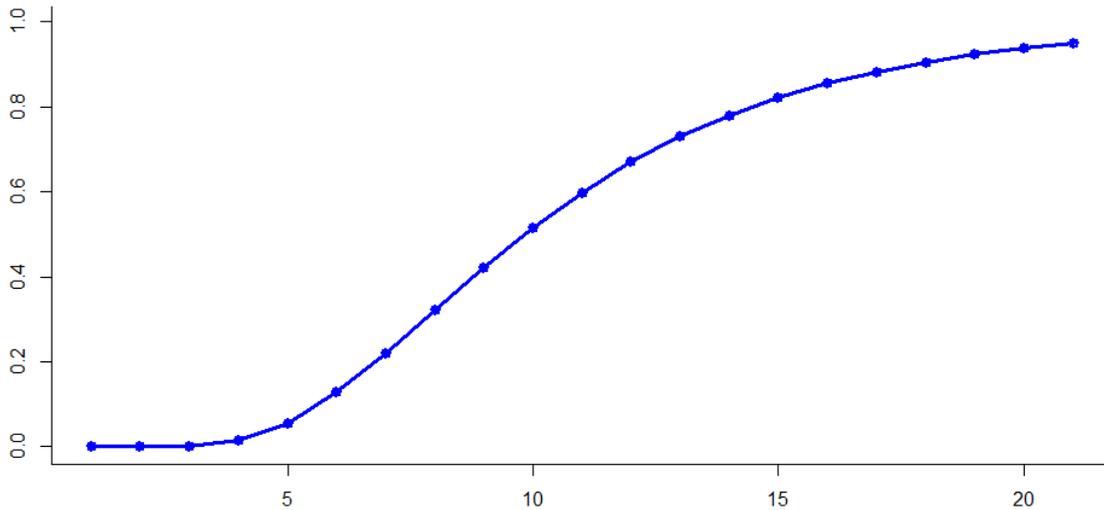
where:

- x is the number of years of existence of the asset in question,
- $\mu = \log(d) - \frac{\sigma^2}{2}$ is the first parameter associated with the log-normal law,
- d is its average lifetime since $E(x) = \exp\left(\mu + \frac{\sigma^2}{2}\right) = d$

S is the second parameter associated with the log-normal law. This parameter was set between 0.45 and 0.6 depending on the assets studied and their lifespan.

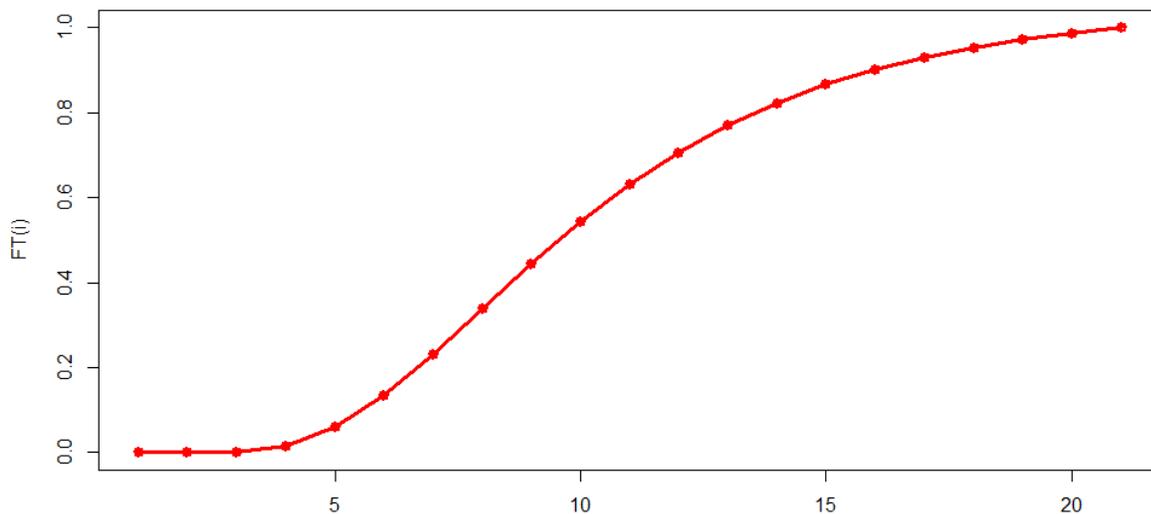
The distribution function associated with the log-normal law is shown below for an asset with an average life of 10 years and with $\sigma = 0.5$.

Figure 4-1 The distribution function associated with the log-normal law for an asset with an average life of 10 years and with $\sigma=0.5$.



In the accounts, assets have a maximum life span at the end of which it is certain that the asset is downgraded. This maximum life rated m is generally set at $3d$ or $2d$ for assets with the longest average lives. Thus, the allocation function must be truncated to ensure that after m years of existence, assets no longer exist. If F denotes the distribution function of f , the truncated function FT is written:

$$\forall i \in [1, m], FT_i = F(i)/F(m) \text{ and } FT_0 = 0 \text{ and } \forall i > m, FT_i = 1.$$



The survival coefficients S are calculated as follows:

$$\forall i \in [1, m], S_i = 1 - F(i)/F(m) = 1 - FT_i \text{ and } S_0 = 1 \text{ and } (\forall i > m \text{ and } \forall i < 0, S_i = 0).$$

The S coefficients make it possible to calculate, for each asset and each branch, the gross capital at year 2010 prices at the end of year n according to the following formula:

$$CB_n = \sum_{i=0}^m GFCF_{n-i} * S_i.$$

Coefficients of downgrades

The downgrades coefficients D are obtained using the coefficients S . They express the annual downgrades rate of a past or present investment:

$$\forall i \in [1, m], D_i = S_{i-1} - S_i \text{ and } D_0 = 0 \text{ and } (\forall i > m \text{ and } \forall i < 0, D_i = 0) \text{ and } \sum_{i=0}^m D_i = 1.$$

The downgrades at 2010 prices in year n of the assets and the industry studied are then calculated as follows:

$$DEC_n = \sum_{i=0}^m GFCF_{n-i} * D_i.$$

The coefficients S and D are represented in the graph below for $d = 10$ years and $m = 21$ years old.

Figure 4-2 The coefficients S for $d=10$ years and $m=21$ years old.

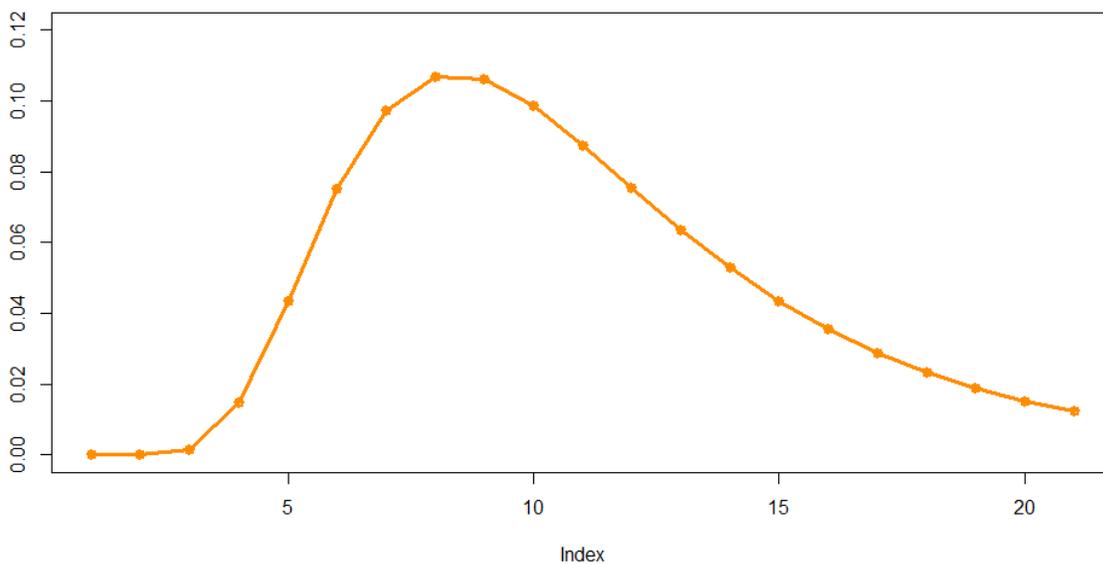
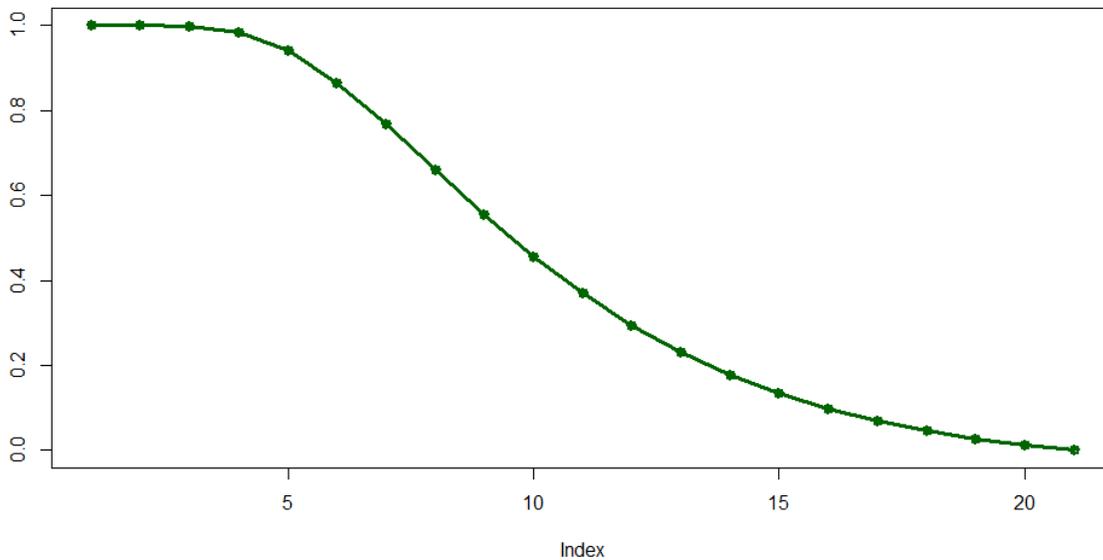


Figure 4-3 The coefficients D for d=10 years and m=21 years old.



The variables defined so far verify equation (1) of the model (in gross terms) at 2010 prices for each year n: $CB(n) = CB(n-1) + GFCF(n) - DEC(n)$.

Coefficients of consumption of fixed capital

The consumption coefficients of fixed capital C, which express the annual depreciation rate of a past or present investment, are then calculated from the decommissioning coefficients D. The following matrix is based on the straight-line depreciation assumption (for example, an asset with a life of 5 years will be depreciated by 1/5 for each year of its existence). This is a theoretical depreciation that does not necessarily correspond to the actual depreciation of the asset:

$$\begin{bmatrix} C_0 \\ C_1 \\ C_2 \\ C_3 \\ \vdots \\ C_m \end{bmatrix} = \begin{bmatrix} 1/1 & 1/2 & 1/3 & 1/4 & \dots & 1/(m+1) \\ 0 & 1/2 & 1/3 & 1/4 & \dots & 1/(m+1) \\ 0 & 0 & 1/3 & 1/4 & \dots & 1/(m+1) \\ 0 & 0 & 0 & 1/4 & \dots & 1/(m+1) \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 0 & 0 & 0 & 0 & \dots & 1/(m+1) \end{bmatrix} * \begin{bmatrix} D_0 \\ D_1 \\ D_2 \\ D_3 \\ \vdots \\ D_m \end{bmatrix}$$

This matrix reflects the fact that an asset that is downgraded in its k-th year of existence has been regularly used over these k years. Thus, for example, an asset downgraded in its third year of existence will be depreciated by one-third each year (the columns of the matrix). The fixed capital consumption coefficient for a given year therefore takes into account the depreciation of assets downgraded this year and all those that will be downgraded in future years (the rows of the matrix). The sum of each column of the matrix is 1, which means that $\sum_{i=0}^m C_i = \sum_{i=0}^m D_i$: the coefficients C can therefore be interpreted as the result of smoothing the coefficients D.

The CCF at prices for year 2010 of year n for the branch and asset under consideration in the sector studied is then obtained by the formula:

$$CCF_n = \sum_{i=0}^m GFCF_{n-i} * C_i$$

Survival coefficients (net)

The last step is to calculate the survival coefficients in net value N , from the coefficients C . These N coefficients express the unamortised portion of the capital of a past or present investment:

$$N_n = 1 - C_0 - C_1 - \dots - C_n \text{ with } (i < 0 \text{ and } i > m) \text{ or } (i < 0 \text{ and } i > m).$$

The net capital at year-end 2010 prices n in the assets studied, for the branch and sector in question, is then obtained as follows:

$$CN_n = \sum_{i=0}^m GFCF_{n-i} * N_i$$

The previous variables verify equation (2) of the model (net) at 2010 prices:

$$CN(n) = CN(n-1) + GFCF(n) - CCF(n)$$

4.13.3 Parameters by assets

For all assets except dwellings without transfers costs, the method used is the PIM method with a log-normal distribution and a maximum live rate, as explained above. The MIP does not distinguish between the main components of infrastructure assets in order to use separate lifetimes for these components.

In the table below, the parameters used for the log-normal distribution and the maximum live rate are given by assets. Transfers costs are treated as an asset for calculation but they are added to dwellings and buildings for the calculation of capital stocks. The parameters can be different in function of the branches (at level NACE 38), that is why in some cases of the table, there are several values. Most of the parameters come from a study realised in 1996. For computer hardware, the lifetime has been reduced to 5 years because of the acceleration of obsolescence of computer equipment. Some parameters were determined in 2010 because of the introduction of new assets underlined in the table (transfers costs, R&D, software, databases, weapons systems).

For dwellings (except transfers costs), the MIP method is not used. Experts in 1998 calculated a rate of CFC to make consistent the value of dwellings and lands with the housing surveys. This rate depends on a renewal rate calculated as: GFCF mean on the last 5 years divided by capital mean on the last 5 years.

Table 4-17 Parameters used for the log-normal distribution and the maximum live rate by assets

Assets		Method	Mean (d)	Max (m)	Standard deviation (σ)
Dwellings without transfers costs	N.111-without transfers costs	Specific	25	90	
<u>Transfers costs for dwellings</u>	<u>N.111-transfer costs</u>	MIP	<u>5</u>	<u>10</u>	0.5
Buildings other than dwellings without transfers costs	N.1121-without transfer cost	MIP	25 or 30	75 or 90	0.5
<u>Transfers costs for buildings other than dwellings</u>	<u>N.1121-transfers costs</u>	MIP	<u>5</u>	<u>10</u>	0.5
Other structures	N.1122	MIP	60	120	0.5
Transport equipment	N.1131	MIP	7, 9, 11 or 15	21 to 45	0.6
Computer hardware	N.11321	MIP	5	10	0.5
Telecommunications equipment	N.11322	MIP	10	20	0.5
Other machinery and equipment	N.1139	MIP	9, 11, 13, 15, 17, 19 or 21	27 to 63	0.6
<u>Weapons systems</u>	<u>N.114</u>	MIP	<u>20</u>	<u>40</u>	0.5
Cultivated biological resources	N.115	MIP	20	40	0.5
<u>Research and development</u>	<u>N.1171</u>	MIP	<u>10</u>	<u>20</u>	0.5
Computer software	N.11731	MIP	5	10	0.5
<u>Databases</u>	<u>N.11732</u>	MIP	<u>5</u>	<u>10</u>	0.5
Entertainment, literary or artistic originals	N.1174	MIP	3	6	0.5

Note: The new assets in ESA 2010 are underlined in the table.

4.13.4 Passage in value

The above calculations lead to the production of volume series at 2010 prices. The corresponding valuations are then deducted, for each sector, asset and branch, using the corresponding GFCF price. More specifically, the GFCF average year price is used to value downgrades and the CCF (GFCF in current prices divided by GFCF in chained prices), and the GFCF year-end price is used to value gross and net capital. This end-of-year price is calculated for year n as the geometric average of the average price for year n and the average price for year n+1 (square root of their product).

The GFCF in chained prices is evaluated thanks to several index prices as construction costs index¹², public works index¹³, aircraft purchases...

¹² <https://www.insee.fr/en/metadonnees/source/indicateur/p1626/description>

¹³ <https://www.insee.fr/en/statistiques/serie/001711007#Documentation>

4.13.5 CFC by institutional sectors and assets

Table 4-18 CFC by institutional sectors and assets, EUR (million)

	Non-financial enterprises	Financial enterprises	General Government	Pure households	NPISH
Dwellings	6 980	535	597	55 514	0
Buildings other than dwellings	43 767	4 547	22 183	0	1 977
Other structures	14 587	0	18 655	3 403	0
Transport equipment	24 102	330	2 430	0	313
Computer hardware	1 015	1 415	596	0	461
Telecommunications equipment	4 273	173	110	0	0
Other machinery and equipment	49 880	1 096	3 139	0	408
Weapons systems	0	0	3 284	0	0
Cultivated biological resources	690	0	0	0	0
Research and development	25 324	0	13 769	0	0
Computer software	25 685	3 139	2 359	0	74
Databases	11 982	1 170	792	0	4
Entertainment, literary or artistic originals	3 333	0	93	0	0
Total	211 618	12 405	68 007	58 917	3 237

The CFC of General Government (EUR 68.0 billion) is composed of CFC from non-market producers (EUR 64.1 billion) and from market producers (EUR 3.9 billion), *see below*.

4.13.6 Focus on CFC of non-market producers

As explained above, the CFC is obtained by the PIM thanks to the GFCF given by branches of activity, by institutional sectors and by assets. The CFC of market producers of non-market branches comes from the GFCF of market producers of non-market branches. The distinction between the GFCF of non-market producers and market producers comes from DGFiP data for the General Government. For the NPISH sector, the whole activity is non-market.

There is no reclassification of existing assets into the non-market sectors. All the cultivated assets are in the market sector: all the expenses of non-market sector in cultivated products are intermediate consumption.

The GFCF in construction of General Government is divided between dwellings (N.111), buildings other than dwellings (N.1121) and other buildings (N.1122). In other buildings, there are civil engineering: roads, railways, bridge, tunnel, water/electric/telecommunication networks, maritime and river works, industrial installation other than buildings like refinery or cemetery. Hence, roads are not separated from other infrastructures. The gross capital stocks of N.1122 of General Government (S.13) represents 9.9% of the gross capital stocks of fixed assets of all institutional sectors.

5 THE EXPENDITURE APPROACH

5.1 GDP according to the expenditure approach

The goods and services accounts is compiled using a general input/output approach in the context of product balances. The reconciliation principle adopted for the base year and the final accounts is that the GDP obtained by adding the components of final uses is aligned with the GDP valuation obtained through the production approach. As a consequence the expenditure approach is not considered in the French National Accounts as the main approach, it has no impact on GDP, and therefore on the level of GNI.

The table below describes the breakdown of GDP in 2010 according to the expenditure approach by component. Figures corresponds to final estimates, once the reconciliation process done.

Table 5-1 The breakdown of GDP in 2010 according to the expenditure approach, EUR (billion)

GDP	2 000.5
Final consumption expenditure	1 601.2
Households	1 085.4
General Government	476.2
NPISHs	39.6
Gross capital formation	437.9
GFCF	441.1
Changes in inventories	-3.9
Acquisition less disposal of valuables	0.7
Exports	520.5
Imports	559.1

5.2 The reference framework

5.2.1 Independence of the expenditure approach and the main sources used

The independence of the expenditure approach to GDP raises a general question. A completely independent approach would have to be based solely on information from the recipients of goods and services. This objective is beyond the reach of national accountants, especially when it comes to valuing household expenditure. It is a recognised fact that expenditure surveys completed by households omit a large proportion of their consumption, whatever the other qualities of this source of information. In France, however, we have virtually exhaustive accounting information covering almost all economic activities. This means that the production approach spontaneously provides the level closest to the level of GDP. This is why French national accountants essentially rely on the production approach to construct the level of GDP. The expenditure approach is not used in the measurement of GDP for the base year, it was designed as part of the measurement of growth, for the current years between two benchmark revisions.

Thus, the production processes within the expenditure approach do not account for the path between source data and the final level of GDP, as in the production approach. The expenditure approach makes it possible to reconcile within the IOT the resource-use balances of each product and the evolution of the value added of the branches. It thus reveals the tensions that may exist between sources specific to the expenditure approach (foreign trade, for example), and sources used in the production approach, but this tension is not specific to the base year. Finally, from the point of view of the expenditure approach, the base year is very close to a current year. So, the independence of the expenditure approach in the French

national accounts needs to be appraised in the light of these comments. This requires a brief review of the main components of expenditure.

External trade in goods and services, which is valued almost exclusively on the basis of administrative and balance of payments data, may be construed as an independent component of expenditure. In fact, it is considered as an exogenous item of data, which is not called into question by balancing requirements. The introduction of the Intrastat collection system for measuring intra-Community trade has certainly raised the standard of this information to a level closer to that of ordinary business surveys, although it is still not possible to gauge the impact of the resultant uncertainty on the measurement of trade. However, the exogenous and intangible nature of the external trade data in question has not been changed yet.

Expenditure by corporations is valued on the basis of their own declarations, as collated in the form of accounting data in Esane (*see 10.1.1 Esane*). Thus, valuations of corporations' tangible fixed assets are instrumental to the procedure for estimating fixed capital formation, of which they form the major part. This also applies to changes in inventories. As far as corporations' intermediate expenditure is concerned, it need only be noted that, as their output and value added are determined when GDP is estimated, the same applies implicitly to their intermediate consumption, at least at an overall level.

It is on household final consumption expenditure that independent sources are least sought after. Surveys of current expenditure completed by households may well be used but they are mainly used as background material and their estimates are rarely retained in the last resort. By contrast, extensive work is conducted on various sources in order to value each item of household consumption prior to balancing, in terms of volume growth at least. Sales by retailers assumed to be for households are instrumental to *prima facie* estimates of their particular field. Housing surveys completed by households are an important tool for valuing housing-related expenditure.

At the opposite end of the scale, all expenditure factors from 'exhaustive' sectors (general government and financial corporations) are independent components in the expenditure approach to GDP, but the sources are the same than those used in the production and income approaches.

As a general rule, compiling the goods and services accounts using a general input/output approach (especially within the context of product balances) can mitigate the shortcomings of an insufficiently independent expenditure approach. Together with the balancing method that gives pre-eminence to the value added approach to GDP, this method also guarantees that, as regards definitions, the method of quantification and the time of recording, the overall measurement of final demand complies with the national accounts rules, since every care is taken to ensure that the measurements of output and value added comply with those rules, as explained in Chapters 3 and 4. It should however be stressed that the concern to comply with the rules also underpins the work on the detailed valuations, even where the basic sources follow different rules: from this point of view the supply/use tables make a decisive contribution.

5.2.2 The demand evaluation framework: product balances

The principal of supply and use tables

Final expenditure is valued using methods which allow its components to be quantified either by subdividing them by product or, more generally, by aggregating detailed product estimations. It is therefore one of the tools used to compare all product supplies with all product uses (supply/use tables). Supply/use tables are used as validation (or even valuation) tools in the expenditure approach, which is why they merit a detailed description.

Product supply/use tables correspond to the lines of the input/output tables (IOT). A supply/use table records the origin and destination of products circulating in the economy. It is structured to take account of the various stages of product valuation, i.e.:

- supplies are measured at basic prices or at what is judged to be an equivalent price for imports (pre-tax price);
- uses are measured at purchasers' prices.

The following is a reference supply/use table:

Output at basic prices + Imports CIF + Distribution margins at basic prices + Taxes on products, net of subsidies

= Total supplies

= Total uses at purchasers' prices

= Intermediate consumption by industries + Final consumption expenditure and valuables + Gross fixed capital formation + Changes in inventories + Exports FOB

In terms of final consumption, the concept of expenditure, which appears to be closer to statistical sources, is preferred in supply/use tables to the concept of actual consumption. A distinction can be made between three categories of final consumption expenditure: that of households, of General Government and of NPISH.

Distribution margins distinguish between trade margins and transport margins.

The above structure is obviously adapted to the various products. The basic structure refers to product supply/use tables, which, depending on the level of detail at which they are compiled, may include all types of uses.

Supply/use tables for market services are generally simpler, in that there are no distribution margins, generally no changes in inventories and rarely any fixed capital formation. Supply/use tables for nonmarket services are simpler still, because there is no external trade and final consumption expenditure by general government predominates.

Supply/use tables for services subject to margins (distributive trades, transport) are a special case. They register all margins relating to all products as a negative figure, as do the pseudo supply/use tables for CIF/FOB corrections.

Level 139 product balances

Level 139 of the nomenclature for the national accounts is the level at which goods and services accounts and industry accounts are reconciled. This level of nomenclature detail is specific to the national accounts and does not equate directly with any single grouping (class or group) in the NAF, the French version of NACE (see chapter 9).

Level 139 supply/use tables integrate exactly into the IOT. They are complete, i.e. they include all transactions provided for goods and services with no item being used as a balancing item (residual). They are coherent with the IOT and, hence, with the accounts of the institutional sectors.

Total output of products on the supply/use table is equal to total output by branch, taking account of the treatment of distribution margins. The unit of homogenous production is the unit of production used for the IOT. The branches which group the units of production are therefore homogenous branches.

Consequently, the matrix linking output by branches with output of products is diagonal. Apart from transfers, output by each level 139 branches is equal to the output of the product directly associated with it.

There are matrices linking output from institutional sectors to output from branches. Non-financial enterprises (non-financial corporations and sole proprietorships) have a more detailed output matrix linking output from their sub-sectors of activity (classified in 139 activities in accordance with the nomenclature) with output from branches.

Total intermediate consumption of all products is equal to total intermediate consumption by all branches. From an instrumental point of view, a supply/use table only includes total intermediate consumption of the product, not its subdivision by branch. The person responsible for balancing a product does not generally manage distribution of the intermediate consumption of its product by industry, which is often an external matter, although there are exceptions to this rule.

Just as the nomenclature of industries distinguishes non-market producers, the nomenclature of supply/use tables distinguishes non-market products.

The level 139 supply/use tables also contain the following details:

- the gross fixed capital formation of a product is broken down by purchaser (institutional sector);
- final consumption expenditure is broken down by the institutional sector in question;
- changes in inventories distinguish between categories of inventories (producer inventories, user inventories, trade inventories).
- taxes and subsidies on products, including VAT, are coherent with the accounts of the institutional sectors in question (general government, rest of the world).

Table 5-2 shows the supply and use table for all products of the French economy and the supply/use tables for products from each of the three types of production.

Table 5-2 The supply and use table for all products by types of production, in EUR (million)

	Products from market output	Products from output for own final use	Products from non-market output	Total products
Output at basic price	2 881 852	252 390	410 592	3 544 834
Non-financial enterprises	2 567 948	54 277	0	2 622 225
Financial institutions	125 806	1 131	0	126 937
Financial auxiliaries and sole proprietorships	26 336	425	0	26 761
Insurance corporations	61 175	412	0	61 587
General Government	54 735	13 563	368 632	436 930
Pure households	43 341	182 582	0	225 923
NPISHs	2 511	0	41 960	44 471
=+ Imports	559 088	0	0	559 088
=+ Taxes on products	213 185	0	0	213 185
- Subsidies on products	15 686	0	0	15 686
=- Intermediate consumption	1 741 853	0	0	1 741 853
Total supplies/uses	1 896 586	252 390	410 592	2 559 568
Final consumption expenditure	1 012 970	177 641	410 592	1 601 203
Households	908 656	166 204	10 537	1 085 397
General Government	104 314	11 437	360 432	476 183
NPISH	0	0	39 623	39 623
Gross fixed capital formation	366 319	74 749	0	441 068
Non-financial enterprises	179 719	54 277	0	233 996
Financial institutions	8 877	1 131	0	10 008
Financial auxiliaries and sole proprietorships	1 039	425	0	1 464
Insurance corporations	1 176	412	0	1 588
General Government	69 373	13 563	0	82 936
Pure households	102 161	4 941	0	107 102
NPISHs	3 974	0	0	3 974
Acquisition of valuables	681	0	0	681
Changes in inventories	-3 856	0	0	-3 856
Exports	520 472	0	0	520 472

5.3 The borderline cases

5.3.1 The borderline cases for HFCE

Dwelling services produced by owner-occupiers

See chapter on dwellings (see 5.8.2.2 Detailed description of the main sources used and the calculation steps from source data to NA results).

Goods and services received as income in kind by employees

Income in kind is made up of goods and services provided free of charge, or at a price lower than their acquisition price, by employers as part of the compensation of employees. It may concern goods and services produced by the employer's enterprise, or which are purchased by that enterprise. These goods

and services are considered as always originating from market output (for example, meals provided to restaurant staff) and they are finally consumed by households benefiting from the income in kind.

If the goods or the service are provided free, the value of the income in kind corresponds to the acquisition price if the product is purchased by the employer, to the basic price if it is produced by the latter. If the goods or service are provided at a reduced price, only the part financed by the employer is part of the benefits in kind. In this case, it is the employee that incurs the rest of the expenditure and the entire value of the goods or service consumed is included in household final consumption expenditure.

For unsold output, output, wages and consumption are therefore increased by the amount corresponding to these benefits. This concerns three products: dwelling services (through free rents when the owner is not a household), accommodation and food services. Household consumption expenditure corresponds to the output of dwelling services for people housed free of charge when the owner is not a household (enterprises or general government, see *chapter 3*). This output is evaluated by the housing satellite account based mainly on a housing survey carried out with households every 5 to 7 years (see *10.3.3 Housing satellite account*). For accommodation and food services (NACE 55 and 56), the value relating to these incomes in kind is evaluated using rates applied to wages in the sector concerned. It is added simultaneously to output and wages. The counterpart for this output and these wages should have been added to household consumption expenditure, but this was not explicitly done. However, as the adjustment to wages and output was made and as the income and production approaches are favoured in the French national accounts, this did not have any consequences for GDP value and its evolution.

For a purchase and the supply of a product by an enterprise free or charge or at a reduced price, the wages paid to households are therefore increased as is household consumption expenditure. The intermediate consumption of enterprises is, for its part, reduced by the amount of these incomes in kind (EUR 1.3 billion in 2010, see *chapter 3*). The sources used for household consumption generally take implicitly numerous benefits in kind into account in household final consumption expenditure.

Goods or services produced as outputs of unincorporated enterprises owned by households

Self-consumption is the counterpart of households' output intended for their own final consumption. According to the SNA (§3.95.b.2) household final consumption expenditure includes goods or services produced as outputs of unincorporated enterprises owned by households that are retained for consumption by members of the household. Examples are food and other agricultural goods, housing services by owner-occupiers and household services produced by employing paid staff (servants, cooks, gardeners, chauffeurs, etc.). In theory, all types of goods can be self-consumed. In practice, self-consumption is only recorded if it is on a significant enough scale compared to the total supply of goods concerned. In the French accounts, self-consumption is only recorded for "pure households" (S.14AA). Household final consumption expenditure includes self-consumption only for agricultural and food products, and forestry. The self-consumption value of goods is determined by using panel data for agricultural and food products. It is estimated by using data from the French General Directorate of Customs for forestry (see *chapter 7*).

On the services side, self-consumption concerns two items (see *10.3.3 Housing satellite account*):

- Services produced by owners occupying their own dwellings (imputed rents);
- Domestic services produced by employing paid staff. This includes:
 - The services of domestic staff,

- Building caretakers: Household final consumption expenditure on building caretakers corresponds to the so-called recoverable part of the output of building caretakers, or to the part payable by the occupant of the dwelling when it is not vacant,
- Social work activities (such as childminding).

The services resulting from unpaid domestic activity are not part of household final consumption (nor of the output scope).

Materials for small repairs to and interior decoration of dwellings

The value of materials used for small repairs to and interior decoration of dwellings carried out by tenants and owners is included in household final consumption by using the structural enterprise data (Esane), see 5.8.2.2 Detailed description of the main sources used.

Materials for repairs and maintenance to consumer durables

Household consumption expenditure includes the materials used for repairs and maintenance to consumer durables (including vehicles). It is estimated by using the structural enterprise data (Esane), see 5.8.2.2 Detailed description of the main sources used.

Value of any goods purchased under hire-purchase agreements

Households have the possibility of purchasing goods under hire-purchase (“leasing”) agreements (cars mainly). This method of acquisition involves several concepts:

- A contract value which corresponds to tax inclusive value of the product sold;
- An instalment-type payment corresponding to the sum the purchaser must pay as a reimbursement (normally monthly or quarterly). This payment includes both the reimbursement of the principal, the amount of the interest and the VAT.

Unlike a “classical” purchase, the VAT on a hire-purchase agreement is payable gradually with the instalments and not in full when the goods are made available. The value added tax, proportional to the hire-purchase payment, is recorded in FISIM at the time it is actually paid whilst the tax exclusive amount relating to the purchase of the goods is taken into account in the household consumption expenditure for the goods in question.

Purchases and sales of second-hand goods included in the estimates

The recording in consumption expenditure of acquisitions of second-hand (or existing) goods is done in different ways depending on the type of agents involved in the transaction:

- When second-hand goods are sold between households with no intermediary, no consumption expenditure is recorded: the value of the goods excluding any margins is indeed a negative consumption expenditure for the seller, which exactly compensates for the positive expenditure. If, however, second hand goods are sold between households through an intermediary, the final consumption expenditure, taken overall, includes only the commercial margin made on the sale.
- When a household purchases a second-hand item from an enterprise (or when the second-hand item is imported), the total purchase value is recorded as household consumption expenditure.
- When a household sells a second-hand item to an enterprise, the sale is recorded as a negative household consumption expenditure.

In practice, sales and purchases of cars, furniture, books, audio and video equipment and household appliances are recorded in household consumption expenditure according to the principle described above.

The estimation of second-hand vehicle sales and purchases rests on the number of registrations according to type of seller (household or enterprise) and the average unit value of second-hand cars (data provided by the French car manufacturers' committee (CCFA)). When the sale is made thanks to an intermediary, only the intermediary's margin (estimated at 15% of the values of households' acquisitions) is recorded as a household consumption expenditure. In the case of a purchase from an enterprise, the value of the purchases is reduced by the value of the sales of vehicles by households to enterprises. The balance is then integrated into household consumption expenditure. Household consumption expenditure on second-hand vehicles is then confronted with retailers' sales in order to validate the estimation obtained (see 5.8.2.2 *Detailed description of the main sources used*).

Sales of furniture, books and audio and video equipment are estimated from retail sales (see 5.8.2.2 *Detailed description of the main sources used*).

For the other products, it is considered that households' purchases are made without the intervention of intermediaries or in the case of sales with intermediaries that the intermediaries' margins are marginal compared to the total consumption expenditure on the product.

FISIM used for final consumption purposes by households

The consumption of financial intermediation services indirectly measured (FISIM) is evaluated as part of the supply and use balance of FISIM.

The household consumption expenditure includes on the one hand, financial intermediation services not liable for VAT, that is to say the margins of financial intermediaries on demand deposits and the loans granted to them, and on the other hand, the value added tax on leasing for new private cars purchased by households. The financial leasing services concerned are services making new cars available to households without any capital investment on their part. National accounting records as consumption expenditure the entire value of the car purchased under a financial leasing agreement under the product "cars purchased by leasing"; as for the leasing instalments, they consist on the one hand the reimbursement of the principal and the interest, treated as a financial operation, and on the other hand, an amount of VAT proportional to the instalment. It is the latter that is conventionally recorded as consumption of product FISIM.

- The method of calculating the financial intermediation services not liable for VAT is described in the chapter on the production approach (see 3.4.4 *Detailed presentation of FISIM*).
- The value added tax on new vehicle financial leasing is determined using the VAT rate for purchases of new cars by households, which is applied to the instalments paid by households during year N. To calculate the latter, the instalments paid by all the economic players (data provided by the French Central Bank) are first of all broken down according to the financial leasing survey (real estate and equipment leasing, and leasing with an option to buy, see 3.5.4.2 *Other conceptual adjustments*). The portion attributable to households is worked out on a pro rata basis over the acquisitions of the last five years for equipment leasing and leasing with an option to buy among the different economic players (provided by the association of finance companies (ASF)).

Insurance services by the amount of the implicit service charge

The household consumption expenditure corresponds to the premiums and taxes paid by policyholders, the premium supplements (interest received by insurers on premiums invested) from which the claims paid by insurance companies and changes in reserves are deducted. The consumption of insurance services is valued as part of the supply and use balance of insurance services. The household final consumption expenditure corresponds to a part of the uses, by applying allocation keys by type of contracts, to final consumption and intermediate consumption. The method is described in the chapter on the production approach (see 3.4.3.2 *Net insurance premiums*).

Direct payments from insurer to repairer and other service providers

Expenditure relating to repair costs (goods and services) following a claim are recorded as household consumption expenditure whether the repairs are paid for by households or the insurers directly. In the first case (costs paid by households), two transactions are recorded: the first is the payment of an indemnity by the insurers equal to the value of the costs incurred, the second is the payment of the repair costs by the household. The costs are therefore entirely included in household final consumption expenditure. In the second case (costs paid by the insurer), in national accounting the transaction is recorded in exactly the same way as in the first case namely by means of two transactions as described above. Once again, this amounts to considering that the household directly pays the costs connected with the claims.

Car registration taxes as part of the taxes on products

The tax on vehicle registration certificates (formerly known as "cartes grises") relating to the acquisition of a vehicle by a household is recorded as household consumption expenditure. It corresponds to the counterpart of the taxes on products counted in output (D.21). The household consumption expenditure relating to this expenditure amounted to EUR 1.5 billion in 2010. The total amount of the tax (EUR 1.9 billion) was provided by the tax authority (Public Finance Directorate General - DGFIP). It is assumed that 80% of the total amount is targeted on households (the remaining part is assumed to be paid by businesses), see 5.8.2.2 *Detailed description of the main sources used*. The distribution has no impact on GDP.

Payments by households for licences, permits, etc. which are regarded as purchases of services

Among the different taxes and levies paid by households, only those corresponding to the purchase of a service from general government are included in household final consumption expenditure. Thus, refuse collection tax (TEOM) and road sweeping tax are treated as a remuneration of services produced by local government and therefore as household consumption expenditure (function 04 - Housing). Similarly, the audio-visual licence fee is treated as a purchase of programming and broadcasting services (function 09 - Leisure). Sums paid by households to obtain a licence, a permit, etc. are also recorded as household final consumption expenditure as a product (function 12 - Other goods and services). All these payments are valued directly from tax authority (DGFIP) data, see 5.8.2.2 *Detailed description of the main sources used*.

Pension funding services by the amount of the implicit charge

There is no pension funds in France. Thus, there is no pension funding services recorded in household final consumption expenditures.

Social transfers in kind

Individualisable expenditure of general government corresponding to expenditure on market goods and services that it transfers to households in the form of social transfers in kind. It is deducted from actual

household expenditure. This mainly concerns health goods and services, dwelling services and social work activities. The estimation of social transfers in kind is described in Chapter 5.10 Government final consumption expenditure.

Payments by households which are to be regarded as taxes

Among the different taxes and levies paid by households, only those corresponding to the purchase of a service from general government are included in household final consumption expenditure, *see 3.31 Taxes on products*.

Subscriptions, contributions and dues paid by households to NPISH; voluntary transfers in cash or in kind by households to charities etc.

Subscriptions, voluntary contributions, dues and donations, whether in cash or in kind, are recorded as uses in institutional sector S.14 as current transfers to NPISH (D.751). They are therefore not taken into account either in actual household expenditure or in household consumption expenditure.

Likewise, large gifts, donations or legacies are recorded in other capital transfers (D.99) and are therefore not recorded as household final consumption expenditure.

5.3.2 The borderline cases for GFCF

Various items are included in gross fixed capital formation as so-called borderline cases as defined in ESA 2010

R&D

In ESA 2010, produced assets extend to the results of research and development activities (R&D). As a result, R&D expenditure is now recorded as gross fixed capital formation (GFCF) with the exception of R&D subcontracting (purchase of R&D by an enterprise producing R&D), which remains intermediate consumption. The practical estimation of GFCF in R&D used data from the R&D survey conducted by the Ministry of Higher Education and Research (MESR), which has been available since the beginning of the 1960s. This survey, which is carried out with both enterprises and government entities, allows R&D expenditure to be isolated according to whether it is purchased externally or carried out in-house. *See 5.11 Acquisition less disposal of produced fixed assets*.

Mineral exploration and evaluation

No GFCF is recorded in mineral exploration in France. Mineral exploration in France is now negligible.

Computer software and databases

Market GFCF of software and databases is determined using a very detailed level in the product classification - "programming, consultancy and related activities" (NACE 62), "information service activities" (NACE 63) and "publishing activities" (NACE 58) - and deciding which of the services sold fall within GFCF and which intermediate consumption, for the enterprises that purchase them. These sales are classified using data from the annual sectoral surveys (ESA): these surveys enable enterprises' turnover to be broken down according to the different products sold. The market output of software and databases by enterprises whose main activity is not classified in 62, 58 or 63 is therefore also taken into account. The method proposed in base 2010 for measuring software and database production for own final use was inspired by the OECD Handbook on Deriving Capital Measures of Intellectual Property Products. This method is based on the payrolls of professions likely to produce software. An average time spent on the

production of software for own final use (at most 50% of the working time) is associated with each profession. *See 5.11 Acquisition less disposal of produced fixed assets.*

Entertainment literacy or artistic originals

The estimation methods used are specific to these assets. It is difficult to use accounting data in a method similar to that used for the tangible component because the intangible assets entered by enterprises in their own accounts include many more items than those entered in the field of fixed assets in the national accounts. In general, the method used corresponds more to the product approach. In particular, it is based on the observation that the creators of the intangible assets in question be they individuals or enterprises, use them personally in order to derive income from them. *See 5.11 Acquisition less disposal of produced fixed assets.*

Structures and equipment used by the military

GFCF of general government is mainly estimated based on data from the tax authority (DGFIP). DGFIP data are adjusted regarding military equipment. The first adjustment consists in transferring from GFCF to intermediate consumption the “light” military equipment. In data transmitted by DGFIP, all military equipment are accounted in GFCF, but the “light” military equipment (as bullets) has to be counted in intermediate consumption. The second adjustment in DGFIP data is related to time recording. Military equipment expenses are recorded at the payment time in DGFIP data, whereas in national accounts, it must be recorded upon delivery. This adjustment is estimated thanks to data from DGFIP and the Department of Defence. *See 5.11 Acquisition less disposal of produced fixed assets.*

Terminal costs

In the general accounting plan (PCG), companies immobilise the large costs associated with disposal (decommissioning costs or clean-up costs), therefore there are well accounted in GFCF.

For decommissioning costs of nuclear power stations, there have been no case in France yet (only one French nuclear power station does not work but its dismantling is not planned).

Agriculture products

The agricultural products for which fixed capital is formed are breeding livestock, including dairy livestock (cattle, sheep, goats, pigs, horses) and draught animals, as well as new orchards and vineyards. GFCF in livestock is subject to a quantity x price approach known from agricultural statistics.

Vineyard and orchard plantations are valued by multiplying the areas planted by an average planting cost per hectare, measured by the value of the plants, intermediate consumption and wage costs. *See 5.11 Acquisition less disposal of produced fixed assets.*

Financial leasing

In the national accounts, the acquisition of durable goods under financial leases is recorded by the lessee and not the legal owner, who is normally a financial corporation. Valuations are based on the accounts of the corporations which offer financial leases and long term leases with a purchase option. The total amount of rent to be deducted, the interest paid and the data on the value of leased assets are provided by the Banque de France and ASF (Association Française des données financières), which lists all companies authorised to act as lessors. These amounts are broken down by economic activities and counterpart sector thanks to an annual specific survey (Insee) of all leasing companies. This survey covers investments to be used for financial leases, disposals (at selling price) of investments used for leases and other information. Companies are divided on the basis of whether the assets are movable or immovable

property and investments are allocated by product and by the customer's economic activity. The Banque de France, ASF and the survey provide all the information needed in order to calculate total investments in financial leasing, reallocate total investments between gross fixed capital formation and household consumption of durable goods and allocate gross fixed capital formation to the institutional sectors in question. It also provides information on the subdivision by products and allows end-of-lease arrangements to be processed. *See 5.11 Acquisition less disposal of produced fixed assets.*

5.4 Valuation

The assessment of purchasers' prices plays a role for the GDP expenditure side aggregates, whereas output is assessed at basic prices.

Value added taxes

The supply and uses balances of the 139 product levels are balanced excluding VAT. These VAT-exclusive supply and use balances are estimated and balanced in such a way as to conform to the overall value added derived from the institutional data (after adjustments for concealed activity). These supply and use balances ultimately produce detailed estimates of the different domestic uses (final consumption, intermediate consumption and gross capital formation) calculated on a VAT-exclusive basis per product.

These supply and use balances are then converted into VAT-inclusive supply and use balances by applying theoretical rates of VAT to the uses, which are broken down per category of use and per product: these precise VAT rates are provided by the indirect taxation specialists of the General Directorate of the French Treasury. For a given product, the different uses are valued by applying the corresponding theoretical VAT rate to each use, excluding evasion with complicity (*see chapter 7*).

For household final consumption valuation can be made directly at the acquisition price or exclusive of tax (Esane for example). The balancing exercise of the SUT being carried out net of VAT, if necessary the valuation made from data sources value is « detaxed ». The value of the (modified) variable is simply retaxed in order to introduce VAT later on. For self-consumption or output for own final use, the theoretical VAT rate is nil.

For remind, as explained in the chapter 7 "Exhaustiveness", the VAT theoretically due can be calculated by applying the VAT rates to the ex VAT amounts of the uses. The difference between VAT theoretically due and the VAT actually collected is called VAT gap and is added to the production of the non-financial corporations, in order to correct the production at basic price.

GFCF

In the calculation of gross fixed capital formation the costs of ownership and transfer are explicitly added, (*see 5.11 Acquisition less disposal of produced fixed assets*).

In accordance with ESA 2010 a mark-up for own-account fixed formation is explicitly added when necessary. With regard to the production of marketable products:

- For products (other than software and databases, R&D and agriculture), the SNFEI's own-account production is derived from Esane data. Esane data corresponds to the sum of costs, so it is necessary to add a mark-up. In practice, revaluation coefficients calculated by averaging the net operating surplus/(P.11+P.12) ratios of the previous three years are applied to a list of products subject to own-account production, *see 3.3.2.4 Exhaustiveness*.

- For software and database, R&D and agriculture it is calculated by the product manager concerned:
 - As the analysis of the accounts of enterprises selling R&D did not reveal a significantly positive net operating surplus, it is even negative in some years, the mark-up used for enterprises with an R&D output for own final use is nil.
 - The method is based on the payrolls of professions likely to produce software. An average time spent on the production of software for own final use is associated with each profession. On the basis of the payroll of people engaged in production for own final use, a production for own final use figure to take account of social contributions, equipment costs (intermediate costs and consumption of fixed capital) and gross operating surplus is extrapolated by using Esane data (*5.11 Acquisition less disposal of produced fixed assets*).

For own-account production of fixed capital products by non-market producers, no mark-up is added. Estimates are based on costs of production.

The measurement of goods and services produced by households for own final consumption is not subject to revaluation as it is calculated by reference to a market price. In case of households employing staff at home (domestic services) no revaluation is calculated as no capital is used.

Changes in inventories

In the determination of changes in inventories, the central conversion method in national accounts focuses on the elimination of holding gain and losses. It must be ensured that the changes in inventories reported in the national accounts are based on actual physical stocks movements and not solely on changes in the price of the stored goods.

In French national accounts, changes in inventories are mainly in the non-financial corporations sector. Esane gives changes in inventories by economic activities. In business accounts, changes in inventories are evaluated by the difference between the inventories at the end of accounting year and the inventories at the beginning of accounting year. Inventories at the beginning are at acquisition cost (for produced products at the production cost). Inventories at the end of accounting year are evaluated with different method (weighted average unit cost or “first in, first out”). An adjustment is made to these inventories to evaluate them in accordance with the ESA recommendations (valued at market price) by eliminating inventory appreciation (*see 3.3.2.3 Conceptual adjustments*).

Exports and imports

Exports and imports of goods and services are valued almost exclusively on the basis of data from the Foreign Trade Statistics Directorates (FTSD) and balance of payments data that do estimate fob-fob exports and imports of goods and services. However, to ensure a consistent fob-fob record of export and import of goods and services in the NA estimates two cif-fob adjustment are applied to import of goods and to import and export of freight transportation (*see 5.14 Balance of exports and imports*).

5.5 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts

The definition and measurement concepts of the statistical sources for the calculation of national accounts are tested for consistency with ESA, and if necessary, adjusted. The summary table presented below shows the size of the various conceptual adjustments as recorded in the process table.

Table 5-3 Adjustments in the expenditure approach, in EUR (million)

	Sources		Adjustments				Final estimation
	Direct methods	Indirect methods	Data validation	Conceptual	Exhaustiveness	Balancing	
Final consumption	907 812	665 665	1 089	12 647	14 035	-45	1 601 203
<i>Household</i>	445 253	601 517	1 554	23 083	14 035	-45	1 085 397
<i>Government</i>	422 936	64 148	-465	-10 436	0	0	476 183
<i>NPISH</i>	39 623	0	0	0	0	0	39 623
GFCF	78 856	284 401	-1 679	35 406	41 732	2 352	441 068
Inventories	7 488	1 158	-2 714	-10 385	0	597	-3 856
Acquisitions less disposals of valuables	0	681	0	0	0	0	681
Exports	536 136	5 161	-7 274	-14 240	685	3	520 472
Imports	587 576	3 469	-2 079	-30 897	1 100	-81	559 088
GDP	942 717	953 597	-8 499	54 325	55 353	2 988	2 000 480

In the expenditure approach, the total adjustments identified in the process tables equal EUR 104.2 billion. Conceptual adjustments (including allocation of Fisim) increases GDP estimated through data sources by EUR 54.3 billion. Exhaustiveness adjustments and balancing also lead to an increase of GDP (EUR 55.4 billion and EUR 3.0 billion respectively). On the contrary, the data validation process decreases the GDP estimates (EUR 8.5 billion).

A number of the concept-related adjustments relating to the expenditure approach are described below. Not all of them were identified in the process table as such in the adjustment columns. References to other parts of the inventory where explanation is given are made.

5.5.1 Consumption

Non-life insurance service charge

One important conceptual difference in the case of insurance is the recording of the so-called 'service charge', instead of the insurance premium. Private consumption expenditure on insurance does not comprise the payment of gross premiums but only the service charge, i.e. the insurance companies administration expenses plus profit. This takes into account the fact that major portion of the gross premiums paid by the policy holders flows back to them in various forms, representing in other words a redistribution of the money between policyholders (risk pooling), within and across institutional sectors. The service charge from premiums is calculated by summing up gross premiums written and premium supplements and deducting expected indemnities. This calculation is based on data from the ACPR, see 3.4.3.2 *Net insurance premiums*.

Tips, payments in kind and own account consumption

There are other conceptual differences in relation to tips, payment in kind and own account consumption. Tips are mainly counted in business account, therefore they are counted in national account. However, some tips which are directly cashed by staff and are unknown to the employer are not accounted in business account. So, an adjustment is made to add to output and wages these tips. This adjustment is evaluated by a rate broken down by economic activities and applied to the output and the wages issued from Esane and its associated data validation, see 3.3.2.4 *Exhaustiveness*.

Income in kind is made up of goods and services provided free of charge, or at a price lower than their acquisition price, by employers as part of the compensation of employees. Their counterpart is final consumption expenditure (valued at market price). It may concern goods and services produced by the employer's enterprise, or which are purchased by that enterprise. These goods and services are considered as always originating from market output (for example meals provided to restaurant staff). In practice, a distinction is made between two types of benefit: professional and non-professional benefits in kind. Output, wages and final consumption are therefore increased by the amount corresponding to these benefits (see 5.3.1 the borderlines cases of HFCE).

With regards to own account consumption please refer to exhaustiveness (see chapter 7). Adjustment for own account consumption is recorded in the process table as exhaustiveness adjustment (N3 type) and equals EUR 3.1 billion in 2010.

Allocation of FISIM

The provision of financial services by financial institutions (indirectly measured Fisim) does not correspond to accounting rules. The method of calculating the financial intermediation services not liable for VAT is described in the chapter on the production approach (see 3.3.4 Detailed presentation of FISIM). In the expenditure approach, the total amount corresponding to the Fisim adjustment equals EUR 12.3 billion allocated to general government (EUR 3.7 billion) and to households (EUR 8.5 billion). The sector allocation of Fisim comes from data provided by the French Central Bank.

Major repairs and renovations

The value of materials used for small repairs to and interior decoration of dwellings carried out by tenants and owners is included in household final consumption by using the structural enterprise data (Esane, see 5.8 HFCE). Household consumption expenditure also includes the materials used for repairs and maintenance to consumer durables (including vehicles). It is estimated by using the structural enterprise data (Esane, see 5.8 HFCE). Not all expenditure of households on repairs – in particular dwellings – is household final consumption expenditure, but may rather be intermediate consumption in the area of housing services.

Leasing

Households have the possibility of purchasing goods under hire-purchase (“leasing”) agreements (cars mainly). This method of acquisition involves several concepts:

- A contract value which corresponds to tax inclusive value of the product sold;
- An instalment-type payment corresponding to the sum the purchaser must pay as a reimbursement (normally monthly or quarterly). This payment includes both the reimbursement of the principal, the amount of the interest and the VAT.

Unlike a “classical” purchase, the VAT on a hire-purchase agreement is payable gradually with the instalments and not in full when the goods are made available. The value added tax, proportional to the hire-purchase payment, is recorded in FISIM whilst the tax exclusive amount relating to the purchase of the goods is taken into account in the household consumption expenditure for the goods in question. National accounting records as consumption expenditure the entire value except for the value added tax of cars purchased under leasing agreements, that is recorded under the product “cars purchased by leasing”.

5.5.2 Gross fixed capital formation

In terms of capital formation, the main differences between the private accounting and administrative concepts to national accounts rules are based on the different definition and calculation principles.

R&D

In ESA 2010, produced assets extend to the results of research and development activities (R&D). As a result, R&D expenditure is now recorded as gross fixed capital formation (GFCF) with the exception of R&D subcontracting (purchase of R&D by an enterprise producing R&D), which remains intermediate consumption. The practical estimation of GFCF in R&D used data from the R&D survey conducted by the Ministry of Higher Education and Research (MESR), which has been available since the beginning of the 1960s. This survey, which is carried out with both enterprises and government entities, allows R&D expenditure to be isolated according to whether it is purchased externally or carried out in-house.

Software and entertainment

The detailed breakdown of products sold by IT and data processing companies enable us to split between intermediate consumption and GFCF in the demand approach. All products related to standard software are considered as GFCF. Consultancy activities and development of software are recorded as GFCF. However, maintenance, facility management, unspecified computer activities and computer programming are considered as intermediate consumption.

Literary and artistic originals

The estimation methods used are specific to these assets. It is difficult to use accounting data in a method similar to that used for the tangible component because the intangible assets entered by enterprises in their own accounts include many more items than those entered in the field of fixed assets in the national accounts. In general, the method used corresponds more to the product approach. In particular, it is based on the observation that the creators of the intangible assets in question be they individuals or enterprises, use them personally in order to derive income from them. Rather than using balance sheet data, it is more convenient to measure GFCF in intangible assets by the capitalised production costs of these enterprises, which is shown on the income statement, and which certainly only concerns these assets. GFCF in intangible assets of an audio-visual nature is measured by the capitalised production of the companies whose main activity is one of the audio-visual activities. GFCF made by publishers is measured by their capitalised production, as for the audio-visual sector. On the other hand, the measurement of GFCF for own-account production carried out by independent artists and authors does not appear in the enterprise data compiled in ESANE. Finally, there are statistics concerning copyright paid by publishers and collecting societies, (see 5.11 *Acquisition less disposal of produced fixed assets*).

5.5.3 Changes in inventories

Three main conceptual adjustments are applied. These adjustments are described in 3.3.2.3 *Conceptual adjustments*.

Removal of lands

In construction of buildings (NACE 41) and real estate activities (NACE 68), inventories include the value of lands which are not produced. That is why an adjustment is made to reduce inventories of the value of lands.

Construction activity

For the construction activity (F41A, L68A and L68R), business accounts are particular: companies can declare in inventories of finished goods or work-in-progress or in inventories of goods purchased for resale uncompleted structures or buildings not sold yet. However, in national-accounts concepts, these economic activities cannot have inventories of work-in-progress nor inventories of goods purchased for resale. Therefore, changes in inventories of finished goods or work-in-progress and of goods purchased for resale in these economic activities are transferred into changes in inventories of raw material and supplies. This adjustment is neutral on value added.

Appreciation

In French National Accounts, appreciation is defined by the difference between the two measurements of inventory change (inventory change in business accounts – inventory change in national accounts). This must be distinguished from holding gains which, in the National Accounts, represent the balance between inventory at the beginning of the period and inventory at the end of the period, even when, like the holding gains, it originates in price movements that affect stored goods.

5.5.4 Balance of exports and imports

The discrepancies between the current account in national accounts and in balance of payments (BoP) data has essentially to do with differences in calendars and methodology. Indeed, regular publications of Insee (between two benchmark revisions) are based on semi-definitive data from the BoP, which can be revised afterwards. Moreover, BoP can possibly implement major revisions of exports and imports at each publication, whereas Insee only implements major revisions when a benchmark revision is conducted in coherence with the rest of national accounts. Therefore, between two benchmark revisions, exports and imports of services are computed in national accounts by applying BoP evolution rates ($n/n-1$) to the levels of the national accounts of the previous year. For benchmark years, national accounts department tries to realign the NA estimates in trade in services with those of the BoP. However, when the construction of benchmark years happens too early, the BoP cannot provide definitive data. For the construction of the benchmark years 2009 and 2010, national accounts department received semi-definitive data from the BoP. Between the construction of the benchmark year at Insee (in March) and the publication of the BoP annual report (in September), the BoP had revised its estimates by EUR 4.8 billion for exports and by EUR -1.6 billion for imports. This explains the difference of levels between Insee and BoP for exports of services even for the benchmark year.

5.6 The role of direct and indirect estimation methods and of benchmarks and extrapolations

Direct and indirect methods of estimation are used on the expenditure side of GDP. Direct estimation methods are considered here to be those where the required figures (final consumption expenditure, fixed capital formation, exports and imports) are recorded directly as statistical data. Conversely, these figure are not collected directly in the case of indirect estimation methods, but are derived indirectly from statistical sources or administrative records that need to be modified to be consistent with national accounting concepts by using other values, generally on the basis of a model.

Table 5-4 Extrapolation and models in the expenditure approach, in EUR (million)

	Benchmark extrapolations	Commodity Flow Model	CFC (PIM)	Dwellings - stratification method	FISIM	Other E&M	Total Extrapolation + Models
Total final consumption expenditure	192 138	120 474	64 148	214 473	0	74 432	665 665
Households	192 138	120 474	0	214 473	0	74 432	601 517
NPISH	0	0	0	0	0	0	0
General Government	0	0	64 148	0	0	0	64 148
GFCF	0	134 221	0	0	0	150 180	284 401
Changes in inventories	0	-392	0	0	0	1 550	1 158
Acquisitions less disposals of valuables	0	0	0	0	0	681	681
Exports	0	0	0	0	3 916	1 245	5 161
Imports	0	0	0	0	1 803	1 666	3 469

Final consumption

Indirect methods are predominantly used for the calculation of household final consumption expenditure (EUR 665.7 billion), since for the most part consumption expenditure is not determined by means of households surveys. The main products are:

- Dwellings (EUR 214.5 billion): an econometric model is used to estimate actual and imputed rentals within the framework of the housing satellite account. The econometric model based on the Housing survey links the rentals with the characteristics of the dwelling (size, location, etc...), see 10.3.3 Housing satellite account.
- Commodity flow (EUR 120.5 billion): for various expenditures estimates make use of ESA, the annual sectoral survey in different ways. For example estimates based on the breakdown of sales by type of customers for services. This breakdown makes it possible to divide all type of supplies between household uses, assimilated with individual customers, and those of the other institutional sectors, and therefore to estimate the household consumption expenditure (main products concerned are restaurants and mobile food services).
- Benchmark extrapolation (EUR 192.1 billion): in such case the 2010 level of the 2005 benchmark has been renewed for the products. Many reasons explain this choice. There is no alternative data source for direct level measurement, although it is possible to estimate output, sources to separate its uses are lacking. In this case, national accounts are the best estimates themselves (EUR 94.4 billion including estimates for electric power distribution, distribution of gaseous fuels,...). In addition, the estimation of aggregates can follow a validation process through confrontation with other sources (passenger transport by train, footwear, cocoa, chocolate and sugar confectionery,...).

More details are provided in chapter 5.8.

Direct methods of estimation are primarily used in the expenditure approach when calculating government final consumption expenditure based on public finance statistics as well as in the calculation of import and exports on the basis of information from the foreign trade and balance of payments statistics.

Gross fixed capital formation

When calculating gross fixed capital formation, the process table indicates that indirect estimation methods are predominantly used (EUR 284.4 billion).

- Other extrapolation and model (EUR 150.2 billion): major part is related to GFCF in tangible assets that is mainly estimated thanks to Esane for corporations. Esane is a combined data classified as « Other extrapolations and models » in the process table for GFCF because the GFCF target is estimated by combining Esane data, hypothesis and models.
- Commodity flows method cover two type of assets (EUR 134.2 billion) that are estimated by the sector-product managers :
 - GFCF in dwellings for households (EUR 102.2 billion): the main data source used to estimate GFCF in dwellings is the annual structural survey on Construction together with secondary sources such as the housing satellite account and the annual survey of the National Federation of Public Works (FNTP, *see 5.11 Acquisition less disposal of produced fixed assets*);
 - GFCF in intangible assets for corporations (EUR 32.1 billion): consists mainly in GFCF in software and databases (excluding own-account production) that is determined by using a very detailed level in the product classification coming from the annual sectoral survey (ESA, *see 5.11 Acquisition less disposal of produced fixed assets*).

5.7 The main approaches taken with respect to exhaustiveness

As with the other approaches, the question of exhaustiveness of the measurement of GDP also arises with the expenditure approach. However, there is no explicit strategy specific to the expenditure approach in the French accounts which is designed to achieve an exhaustive measurement.

Of the sources specific to the expenditure approach, only surveys of households may be subject to exhaustiveness adjustments, both to the population used, in order to extrapolate results, and to the integrity of the households' declarations of their expenditure. Surveys of households (family budget surveys, food surveys, housing surveys) use housing as the sampling base. Censuses are used as the reference for extrapolating data on households. As far as spending reported by households in replies to surveys is concerned, the first point which needs to be borne in mind is the well-known tendency to underestimate expenditure on some specific products such as alcohol or tobacco. With more ordinary expenditure, it is sometimes said that consumption of certain products reported by households may reveal under-reporting by producers. This viewpoint is irrelevant to the French accounts, which take a different approach to the question of exhaustiveness by directly correcting the declarations made by producers (*see chapter 7*).

As independent valuations of expenditure components are integrated into a system of product balances in which producers' declarations are corrected to make them exhaustive, they undergo an exhaustiveness test during the valuation procedure. The question of the exhaustiveness of the expenditure approach as an independent approach, therefore becomes irrelevant: exhaustiveness is guaranteed by the production approach.

The table below shows the exhaustiveness adjustments identified in the 2010 process table. A total exhaustiveness adjustment of EUR 55.3 billion is applied to data source estimates. It is mainly targeted on gross fixed capital formation (EUR 41.7 billion), the major part being the production of own final use of

R&D, software and database (EUR 35.3 billion). Household final consumption estimate is also affected by a significant exhaustiveness adjustment (EUR 14.1 billion), including various type of exhaustiveness adjustments:

- N1: EUR 4.2 billion adjusting for activities of households as employers of domestic personnel, undeclared work for some products estimated thanks to Esane;
- N2: EUR 3.7 billion production and trafficking of narcotic drugs, and tobacco smuggling;
- N3: EUR 3.1 billion covers household production for own final use;
- N6: EUR 3.0 billion for fraud on market health services.

More explanation on the exhaustiveness adjustment by demand components in the following chapter and on exhaustiveness in general in chapter 7.

Table 5-5 Exhaustiveness in the expenditure approach, in EUR (million)

	N1	N2	N3	N4	N6	N7	Total exhaustiveness
Total final consumption expenditure	4 177	3 726	3 134	0	2 998	0	14 035
Household final consumption expenditure	4 177	3 726	3 134	0	2 998	0	14 035
NPISH final consumption expenditure	0	0	0	0	0	0	0
General government final consumption expenditure	0	0	0	0	0	0	0
Gross capital formation	0	0	4 941	1 459	0	35 332	41 732
Gross fixed capital formation	0	0	4 941	1 459	0	35 332	41 732
Changes in inventories	0	0	0	0	0	0	0
Acquisitions less disposals of valuables	0	0	0	0	0	0	0
Exports of goods and services	0	0	0	685	0	0	685
Imports of goods and services	0	1 100	0	0	0	0	1 100

5.8 Household final consumption expenditure (HFCE)

5.8.1 Overview

Household final consumption expenditure (HFCE) basically covers expenditure incurred by resident households in order to acquire consumer goods and services. In practice, it also includes goods and services received as income in kind, even though they are not paid for by households, but it excludes expenditure by households to acquire dwellings and carry out major maintenance work (which is recorded as fixed capital formation) and to acquire valuables.

In the French National Accounts, household final consumption expenditure is estimated within the framework of supply/use tables and is therefore valued by product at a very detailed level. The classification used to compile consumption therefore corresponds to a product classification and not a functional classification. It classifies products from a standpoint based on manufacturing processes and the material of the object consumed (textiles, wood, chemicals, etc.). It distinguishes between on one hand goods and services and on the other hand market and non-market. Over 400 elementary items are tracked. The total household final consumption expenditure is obtained by aggregation of these elementary items.

HFCE estimates by COICOP items presented in the process table and in the tables 5-6, 5-7 and 5-8 below are produced thanks to a products/functions bridge table that enables the products to be broken down according to the functional classification.

Table 5-6 shows the HFCE by COICOP items broken down between data source and adjustments. The HFCE total estimate is made of estimates from data sources to which conceptual adjustments are added. The conceptual adjustments account for 3.6% in the final estimate. The biggest shares of conceptual adjustments applies to “alcoholic beverages, tobacco and narcotics” (10.1%, among which adjustment for illegal smuggling of tobacco) and “Miscellaneous goods and services” (12.2%, among which allocation of Fism).

Table 5-6 HFCE final estimates by COICOP items and data source/adjustment, in EUR (million)

	Total (sources)	Total (adjustments)	Final estimate
Total	1 046 770	38 627	1 085 397
01 - Food and non-alcoholic beverages	135 660	4 793	140 453
02 - Alcoholic beverages, tobacco and narcotics	35 545	3 986	39 531
03 - Clothing and footwear	47 110	757	47 867
04 - Housing, water, electricity, gas and other fuels	289 783	-11 491	278 291
05 - Furnishings, household equipment and routine household maintenance	55 332	4 041	59 373
06 - Health	41 536	3 011	44 547
07 - Transport	138 945	7 036	145 981
08 - Communication	33 882	8	33 890
09 - Recreation and culture	90 598	5 533	96 131
10 - Education	8 680	721	9 401
11 - Restaurants and hotels	65 056	4 777	69 833
12 - Miscellaneous goods and services	110 865	15 455	126 320
Transition to national concept	-6 221	0	-6 221

Tables 5-7 provide more details about the type of sources used by COICOP items. The main type of data sources used to compile household final consumption expenditures is “extrapolation and models”, in particular for HFCE on housing, transport and restaurants and hotels. Household final consumption expenditures on health and communication are mainly based on administrative data. Household final consumption expenditures for food, non-alcoholic beverages and clothing and footwear are mainly estimated by surveys.

Table 5-7 HFCE data sources estimates by COICOP items and type of data sources, in EUR (million)

	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models	Total (sources)
Total	150 371	140 898	153 984	601 517	1 046 770
01 - Food and non-alcoholic beverages	85 372	0	42 905	7 382	135 660
02 - Alcoholic beverages, tobacco and narcotics	17 883	0	0	17 662	35 545
03 - Clothing and footwear	29 306	-39	2 694	15 148	47 110
04 - Housing, water, electricity, gas and other fuels	0	3 393	2 105	284 284	289 783
05 - Furnishings, household equipment and routine household maintenance	6 273	2 516	23 963	22 581	55 332
06 - Health	0	40 290	154	1 092	41 536
07 - Transport	1 950	1 527	25 443	110 025	138 945
08 - Communication	2 077	30 032	0	1 772	33 882
09 - Recreation and culture	13 731	9 646	35 446	31 775	90 598
10 - Education	0	2 141	0	6 539	8 680
11 - Restaurants and hotels	0	0	733	64 323	65 056
12 - Miscellaneous goods and services	0	51 392	20 540	38 933	110 865
Transition to national concept	-6 221	0	0	0	-6 221

Tables 5-8 provide more details about the type of adjustments applied to data sources estimates by COICOP items.

Table 5-8 The type of adjustments by COICOP items, in EUR (million)

	Data validation	Conceptual		Exhaustiveness	Balancing	Total (adjustments)
		Allocation of FISIM	Other conceptual			
Total	1 554	8 581	14 502	14 035	-45	38 627
01 - Food and non-alcoholic beverages	220	0	2 224	2 373	-23	4 793
02 - Alcoholic beverages, tobacco and narcotics	10	0	-17	3 994	0	3 986
03 - Clothing and footwear	34	0	725	0	-2	757
04 - Housing, water, electricity, gas and other fuels	242	0	-12 214	494	-13	-11 491
05 - Furnishings, household equipment and routine household maintenance	79	0	1 752	2 213	-3	4 041
06 - Health	-17	0	30	2 998	0	3 011
07 - Transport	130	0	5 193	1 718	-4	7 036
08 - Communication	23	0	-15	0	0	8
09 - Recreation and culture	21	0	5 511	0	0	5 533
10 - Education	721	0	0	0	0	721
11 - Restaurants and hotels	22	0	4 755	0	0	4 777
12 - Miscellaneous goods and services	68	8 581	6 559	246	0	15 455
Transition to national concept	0	0	0	0	0	0

5.8.2 Main data sources and their conversion to national accounts results

The description of the compilation process of household final consumption estimates for the 2010 benchmark year is presented in two parts. The first parts presents an overview of the main steps of the compilation process. The second part presents the main data sources used and the adjustments applied to get to the final estimates.

5.8.2.1 General approach to estimate HFCE

For the 2010 benchmark year the compilation of the consumption expenditure by product is the result of a compilation process that can be described in 3 steps:

1. Expert assessment of the sources and estimation methods with confrontation of sources;
2. Conceptual adjustments;
3. Balancing procedure: confrontation with the other uses in the supply and use balances.

A. Step 1. Expert assessment of the sources and estimation methods

The aim of this stage is to validate the different sources available and ensure that they cover both the scope of household consumption and that of the products tracked in the elementary item. Indeed, certain sources provide information at a greater level of detail than that of the classification of items used for household consumption (such as panels of distributors Nielsen or GfK). Other sources enable global levels of expenditure to be defined, but include intermediate consumption or business investments, even exports. This is the case in particular for business statistics sources. The geographical coverage of the different sources available in levels is also verified.

Confrontation of sources on level estimates

At this step of the process, if several sources are available for a given product, an assessment is made by confronting the different sources available, namely data from the business statistics (Esane), panels of distributors or consumers and various administrative sources such as satellite accounts, the French Central Bank, etc. The best source is chosen from the alternative sources available. Certain data available at the most detailed level of the classification cover all or almost all the scope of the products in question. The levels that result from these sources are then used to set the benchmark levels.

B. Step 2. Conceptual adjustments

The conceptual adjustments applied to the HFCE data source estimates are the following:

VAT

Household expenditure is valued at the acquisition price. The sources used for compiling expenditures by product can give the consumption directly at the acquisition price (satellite accounts for example) or consumption exclusive of tax (Esane for example). To switch from a tax-free price to an acquisition price theoretical VAT rates are used. Whatever the source used, pre-tax household consumption is validated as part of the supply and use balances at a fine level of detail, which are exclusive of tax. After balancing the supply and use balances, the transition to consumption at the acquisition price is carried out again by applying the theoretical VAT rates for each product at the most detailed level (*see chapter 5.4 Valuation*).

Exhaustiveness

The sources available to calculate household consumption expenditure do not include fraud and undeclared work. Therefore, it is necessary to increase household consumption expenditure on certain products to take account of fraud or undeclared working (*see chapter 7*).

Allocation of Fisim

The consumption of financial intermediation services indirectly measured (Fisim) is assessed as part of the Fisim supply and use balance (Financial service activities, except insurance and pension funding product, *see 3.4.4 Detailed presentation of FISIM*).

Other adjustments

Some other specific adjustments are made for double count on intermediate consumption, tax credit or housing allowances and building caretakers, they are described in the next section.

C. Step 3. Balancing: confrontation with the other uses in the supply and use balances

The evaluations of household final consumption expenditure is introduced into the supply and use balances drawn up by the sector-product managers, from an output-based standpoint. The confrontation is then carried out on pre-tax data over valued added. If the consumption valuations proposed are deemed incompatible with the supplies and other uses estimated by the sector-product managers, the sources are checked and re-examined, taking account of their degree of accuracy in order to arrive at converging estimates. For benchmark year, this step does not lead to major balancing adjustment as levels are carefully examined.

5.8.2.2 Detailed description of the main sources used and the calculation steps from source data to NA results

A. Data sources and estimation methods – overview

A wide range of sources and methods is used to value household final consumption as the assessment of household final consumption is carried out at a fine level of products (nearly 400 products). The amounts by product (level A.17 of the Nace code classification) shown in Table 5-9 represent the household final consumption expenditure corresponding to the data source estimates (before any adjustment) carried over into the supply and use tables.

Table 5-9 Household final consumption expenditure by data source and products, in EUR (million)

	Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	Dwellings	Other E&M
AZ - Agriculture, forestry and fishing	21 529		4 955	691			
C1 - Manufacture of food products, beverages and tobacco products	81 726		45 673	26 047			
C2 - Manufacture of coke and refined petroleum products				6 966			36 849
C3 - Manufacture of electrical, computer and electronic equipment; Manufacture of machinery	16 470	653	12 929	1 672			
C4 - Manufacture of transport equipment	997	1 568	17 163	731	1 893		37 582
C5 - Other manufacturing	32 949	16 372	47 953	33 264	4 998		
DE - Mining and quarrying; energy, water supply, sewerage, waste management and remediation activities		3 393	57	43 609			
FZ - Construction					14 736		
GZ - Wholesale and retail trade; repair of motor vehicles and motorcycles			8 669		463		
HZ - Transportation and storage				33 894			
IZ - Accommodation and food service activities					64 323		
JZ - Information and communication	1 968	30 032	13 900	2 762	6 073		
KZ - Financial and insurance activities		50 743					
LZ - Real estate activities				866		214 473	
MN - Professional, scientific, technical, administrative and support service activities	953			11 230	8 877		
OQ - Public administration and defence, education, human health and social work activities		25 880	2 685	20 715	4 842		
RU - Other services activities	-6 221	12 258		9 691	14 268		
Total	150 371	140 898	153 984	192 138	120 474	214 473	74 432

B. Data sources and estimation methods – detailed description

Survey and censuses data

Survey and censuses data group three kind of sources: data from distributor or consumer panels, data from professional organisations and from the Balance of Payment.

Table 5-10 Survey and censuses data of HFCE, in EUR (million)

	Basis for NA Figures	Share of total %
Total	150 371	
of which : Panels of distributors or consumers	151 000	100.4
of which : Nielsen	71 827	47.8
FranceAgriMer / Kantar	31 429	20.9
French Fashion Institut (IFM)	29 306	19.5
GfK	18 438	12.3
Professional organisations	5 592	3.7
Balance of payments	-6 221	-4.1

Data from panels of distributors or consumers

Household consumption can be assessed using data from panels of consumers or distributors (Nielsen, GfK, FranceAgriMer/Kantar, IFM-Kantar French Fashion Institute).

The Nielsen panel data represent EUR 71 827 million within the source data. The most important amounts concern cheeses, brandies, yogurts and fresh dairy desserts, the manufacture of biscuits, rusks and preserving pastry, as well as non-alcoholic drinks. Nielsen's data are obtained by extrapolating the responses of a panel (Scantrack panel) of representative stores of the hypermarket and supermarket universe, including hard discount stores, spread throughout France. They cover sales, in quantities and amounts, and are broken down by product in a generally very detailed commercial classification. For the purposes of the national accounts, the Nielsen source is used only for sales of products identified by this source with sufficient precision with regard to the most detailed nomenclature of the national accounts (400 products) and for which hypermarkets and supermarkets constitute the usual channel for supplying households.

The FranceAgriMer / Kantar panel data represent EUR 31 429 million within the source data. The largest amounts concern fresh vegetables, fruit from temperate climates, PDO (Protected Designation of Origin) and high quality wines, fishery products and dried, smoked and canned fish. FranceAgriMer uses the results of the permanent Consoscan survey carried out by the survey company Kantar Worldpanel for purchases of products with "gencoded" bar codes. The survey covers household purchases for home consumption, in quantities and amounts, excluding consumption in hotels, cafés and restaurants as well as consumption by tourists outside their usual homes.

The French fashion institute (IFM - Institut Français de la mode) publishes information from a panel of distributors or consumers, on annual changes in retailers' turnover and the purchases made by households in the apparel field. IFM data comes from Kantar Fashion Panel. The IFM / Kantar's data represent EUR 29 306 million within the source data. It is considered that Kantar Fashion Panel source is reliable on the textile perimeter. The IFM / Kantar source does not make it possible to establish consumption in value terms for all detailed products however.

Panel research firm GfK (Gesellschaft für Konsumforschung) provides, based on a panel of distributors, information on purchases of manufactured goods, household equipment and publishing. The GfK Institute's data represent EUR 18 438 million within the source data. The largest amounts concern computers and other peripheral equipment, electric stoves, and electronic game publishing. GfK has a panel of distributors representative of the various forms of retail sales (supermarkets, specialised stores,

distance selling, etc.), and is able to communicate, each year, both the coverage rate of its panel of distributors and the total amount of sales of products recorded by the distributors who are members of the panel.

Data from professional organisations

Data from professional organisations represent EUR 5 592 million within the source data. The largest amounts concern games and toys (source federation of toy and childcare industries – FJP), bicycles (source national confederation of cycle professionals - CNCP), and roadworthiness tests activities (source of the French car manufacturers' committee – CCFA).

Data from the Balance of payments

Balance of payments data on territorial correction represent EUR -6 221 million in the source data. The estimate of household final consumption is based on various sources that measure total consumption in France, whether carried out by residents or non-residents. To this first estimate, it is therefore necessary to add the consumption of French residents abroad, remove the consumption of foreigners in France. These two amounts, the balance of which is called "territorial correction", are estimated by the French Central Bank's balance of payments (BoP) and are transmitted to Insee. However, they are not evaluated on a product-by-product basis: only an evaluation of the total, compiled in a "fictitious" product, is available. Indeed, for reasons of difficulty in statistical production, the official statistical system can only assess by product a territorial consumption, representing all purchases made in the territory by resident or non-resident households. Total consumption is obtained by subtracting the consumption of non-residents in the territory and adding the consumption of residents outside the territory. Thus, the territorial correction corresponds to the "travel" line of the balance of payments, (*see 5.14 Balance of exports and imports*).

Administrative sources

Administrative sources represent EUR 140 898 million from source data. Various administrative records are used to get HFCE estimates. The main ones are described below.

Table 5-11 Administrative sources of HFCE, in EUR (million)

	Basis for NA Figures	Share of total %
Total	140 898	
of which : Central Bank' Prudential Control and Resolution Authority (ACPR)	44 216	31.4
<i>Health satellite account</i>	35 910	25.5
Regulatory Authority for Electronic Communications and Posts (Arcep)	30 032	21.3
<i>French Central Bank</i>	6 527	4.6
<i>Public Finance Directorate General (DGFIP)</i>	13 158	9.3
<i>of which : Non-market health and education</i>	6 521	4.6
<i>Refuse collection and disposal</i>	3 393	2.4
<i>Car registration certificates</i>	1 534	1.1
<i>Other</i>	1 710	1.2
<i>Central Agency of Social Security Organisations (Acos)</i>	2 516	1.8
<i>Other : PMU, FdJ, Arjel etc.</i>	8 540	6.1

French Central Bank data on financial services

The French Central Bank data represent EUR 6 527 million within the source data. The products concerned are invoiced financial intermediation services and UCITS (Undertakings for Collective Investment in Transferable Securities) services. The 2010 level of final consumption of financial services (excluding Fisim) is derived by applying a fixed rate to the amount of financial services on the domestic market (production + imports – exports, excluding Fisim).

Health satellite account on health expenditures

Data from the health accounts represent EUR 35 910 million within the source data. The main products concerned are pharmaceuticals, doctors, dentists, medical auxiliaries, private hospitals, medical tests, and corrective glasses. For those products the level of household consumption expenditure excluding fraud in 2010 was set as the balance between actual consumption and individual consumption expenditure of the Government (S.13) by using as main source the Health satellite account compiled by the Directorate of Research, Studies, Evaluation and Statistics (DREES) of the Ministry of Labour, Employment and Health.

DREES mobilises several sources to establish the health satellite account among which:

- Data from the National Health Insurance Fund (CNAM) for reimbursed expenditure, reimbursable expenditure and overruns, by type of care and place of performance;
- Data from the Public Finance Directorate General (DGFIP) on hospitals;
- Data from the Social Security Directorate (DSS) - Social Security account;
- Publications from professional unions concerning medicines and thermal cures.

DREES provides the all-tax inclusive amount of drug expenditures.

The choice of the Health satellite Account to set the 2010 benchmark year level followed a two steps data confrontation:

- The total amount of individual consumption expenditure of General Government (S.13) for all health goods and services was confronted with that provided by the DGFIP;
- For the products forming part of marketable consumption, the levels of actual household consumption from the DREES source and information from annual business statistics program (Esane) were compared on retail sales (e.g. for medicines).

Central Agency of Social Security Bodies (Acos) data

Acos (Central Agency of Social Security Bodies) data on domestic services (excluding social work) represent EUR 2 516 million within the source data. Household consumption of domestic services as such represents the costs incurred by individual households in employing employees at home and paying them directly, provided that the benefits do not fall within the scope of social work services. It includes domestic services related to the employment of housekeepers as well as other specialised domestic services (cooks, gardeners, drivers, governesses and au pairs or nannies, etc.). It also includes services related to the use of childcare in the parents' homes, preceptors, private secretaries, private boat crews, etc. The level of household consumption expenditure in 2010 corresponds to the balance between actual consumption and the individual consumption expenditure of General government (S.13). The 2010 level of actual consumption was obtained by using data source from the Acoss (*see 10.2.2 Acoss and Urssaf*). Acoss collects the information contained in the administrative forms filled-in by individuals who employed people at their home. It provides the values of the contribution base, net wages and exemption. It

distinguishes the field of the non-fragile public from the fragile public (the latter falling within the field of social work services). It also gives the rates of employee and employer social security contributions for home services.

The level of individual consumption expenditure by public administrations was determined from the DGFIP source. Individualisable general government expenditure corresponds to the benefits paid by general government for childcare, i.e. through prefinanced universal service vouchers (Cesu).

Public Finance Directorate General (DGFIP) data

Data from the DGFIP represent EUR 13 158 million in data source and is the main source to cover various products among which non-market health and education, waste collection and management, as well as registration certificates. The DGFIP data source is adjusted regarding non-market health and education only.

- Non-market health and education - DGFIP data source for estimating non-market health and non-market education expenditures represent EUR 6 521 million within the source data. The 2010 level of household final consumption expenditure on non-market health and education were obtained both from the amount of partial payments from the Public Finances Directorate General (DGFIP).
- Refuse collection and disposal - Household consumption in refuse collection and disposal includes the collection of non-hazardous solid waste at the local level (including recoverable materials), disposal and treatment before disposal of non-hazardous waste, collection of hazardous waste such as used cooking oils and fats and batteries, use of landfills for non-hazardous waste disposal, disposal of non-hazardous waste and treatment of organic waste for the purpose of disposal. The 2010 level represents EUR 3 393 million from the Public Finances Directorate General (DGFIP).
- Car registration certificates - Concerning the tax on registration certificates, the 2010 level (EUR 1 534 million) was obtained from the General Directorate of Public Finance (DGFIP) source that gives the total amount of the tax on registration certificates (EUR 1 917 million). It is assumed that 80% of the total amounts is targeted on households while the remaining part targets businesses.

Arcep (Regulatory Authority for Electronic Communications and Posts) data

Arcep data on telecommunications services represent EUR 30 032 million in source data. Household consumption of these services includes fixed communication, mobile communication, Internet access provision (including in cybercafés and wifi access) and advanced services (known as "value-added services", i.e. SMS services, downloading of ringtones, logos, alert and information services, etc.). It does not include music downloads, cable or satellite subscriptions. Arcep publishes quarterly and annually the amounts of access fees, subscriptions and additional services, call revenues from fixed-line stations, direct mail revenues and subscriber and prepaid card revenues. Revenues do not include the part of the revenue from multi-pack offers related to television. It also publishes quarterly and annually the number of minutes of communication from mobiles and the number of SMS and MMS messages exchanged. The 2010 level was obtained from the Regulatory Authority for Electronic Communications and Posts (Arcep) source by breaking down the estimate into the different components of telecommunications services: fixed telephony, fixed Internet, mobile Internet and mobile telephony outside the Internet.

ACPR (Central Bank' Prudential Control and Resolution Authority) data

ACPR data on insurance services represent EUR 44 216 million in source and final data (no correction). The main products concerned are health, transport, housing, and liability insurance for EUR 27 111 million.

ACPR is responsible for the authorisation and supervision of banking and insurance institutions. It provides the amount of premiums and benefits for bodily injuries and transport, housing and liability insurance.

- **Non-life insurance:** the General Directorate of Public Finance (DGFIP) provides the total amount of taxes in non-life insurance. The 2010 level (EUR 27 111 million) was obtained from data from ACPR and the Public Finances Directorate General (DGFIP) by applying the following method. Insurance premiums paid to insurance companies and premium supplements is given by the ACPR. The total tax on insurance contracts is provided by the DGFIP. A matrix allows, for example, to assign a part of it to health contracts (for health insurance). This amount is added to the premiums paid by the insured to obtain the taxed premiums. To this amount, premium surcharges are added and expected (or adjusted) allowances from insurance companies, given by the ACPR, are deducted to obtain household consumption.
- **Life insurance:** ACPR data for life insurance and capitalisation services represent EUR 17 105 million in data source. Household consumption of these services includes the purchase of insurance policies providing for the payment of benefits to beneficiaries following the death of the insured person or the expiry of the policy in the event of survival. They correspond, for example, to life insurance, disability insurance, etc. Household consumption corresponds to premiums and taxes paid by policyholders, premium supplements (financial income received by insurers for the investment of premiums) less claims paid by insurance companies to policyholders and changes in provisions. ACPR provides the amount of premiums, benefits and provisions for life insurance services. The 2010 level was obtained using the following method. The amount of expenditure on life insurance services and capitalisation is calculated from the insurers' sector account according to the following formula: premium supplements and taxes on insurance contracts are added to the premiums paid by policyholders. Then the indemnities paid by insurance companies and changes in provisions are deducted.

Combined data

Combined data accounts for EUR 153 984 million in total data source and relates mostly to annual business statistics program (Esane).

Table 5-12 Combined data of HFCE, in EUR (million)

	Basis for NA Figures	share of total %
Total	153 984	
of which : Annual Business Statistics Program (Esane)	151 299	98.3
Financial Act and National Family Allowances Fund	2 685	1.7

Esane (annual business statistics program)

Data from the annual business statistics program (Esane) represent EUR 151 299 million within the source data. The main products concerned are the manufacture of parts and accessories for motor vehicles (EUR 14 168 million), production of meat and poultry meat products (meat, dried, salted, in smoked gold brine, offal, blood and other parts of slaughtered animals' preparations as sausage and similar products, breaded meat, all kind of pâté etc.) (EUR 13 381 million), perfumes and toilet preparations (EUR 12 373 million), maintenance and repair of motor vehicles services (EUR 8 661 million) and bread (EUR 7 815 million). The Esane data correspond to the estimates used in the data confrontation on

tradable consumption. Thus it correspond to data adjusted to properly take into accounts taxes and to adjust data to take account that not all retail sales by traders are necessarily intended for end users (see 5.8.2.1 General approach to estimate HFCE).

Financial Act and National Family allowances Fund

The data from administrative sources concern only the childcare services and represent EUR 2 685 million in the source data. This includes the childcare services in the homes of day nurseries (including childminders), collective nurseries (neighbourhood, company or parental nurseries), family nurseries as well as drop-in day-care centres (and after-school nurseries). The 2010 level of household consumption expenditure was obtained from the sources Quality and Efficiency Program (PQE) and National Family Allowances Fund (CNAF), as in the current campaign. The "Family" Quality and Efficiency Program (PQE), resulting from the draft law on the financing of Social Security, gives the number of places with approved childcare workers in practice and in early childhood care institutions. It also provides the overall amount of benefits (Complément de libre choix du Mode de Garde - supplement for childcare of the parents' choice) and the amount of public expenditure associated with the operation of early childhood care facilities. It gives the total monthly cost of childcare for a child by a childminder and in a nursery school. The National Family Allowances Fund (CNAF) is the family branch of the Social Security system. It is responsible for the payment of family benefits, housing assistance and assistance to people in precarious situations. Actual household consumption is estimated by multiplying the number of beneficiaries of the allowance Supplementary childcare allowance (Paje - source CNAF) by the average monthly costs associated with each type of childcare (source PQE).

Benchmark extrapolation

Benchmark extrapolation represent EUR 192 138 million from source data.

Table 5-13 Benchmark extrapolation of HFCE, in EUR (million)

	Basis for NA Figures	share of total %
Total	192 138	
<i>of which : 2005 benchmark extrapolation</i>	180 062	93.7
<i>of which : Pure benchmark</i>	94 360	49.1
<i>Tradable consumption</i>	62 724	32.6
<i>Other confronted</i>	22 978	12.0
<i>of which : ESA - Annual sectoral survey</i>	9 514	5.0
<i>IFM - French Fashion Institut</i>	5 158	2.7
<i>SNCF -French National Railway Company</i>	4 819	2.5
<i>Arcep - Regulatory Authority for Electronic Communications and Posts</i>	1 771	0.9
<i>CCFA - French automobile manufacturers' association</i>	1 716	0.9
<i>Other benchmark extrapolation</i>	12 076	6.3

2005 benchmark extrapolation

As a general rules, current year values for HFCE are often obtained by applying indicators to the values for the previous year. Products classified as 2005 benchmark extrapolation are product for which the 2010 levels correspond to the estimate obtained following the current year methodology from the 2005

benchmark year levels. For these products, the National Accounts Department considers that the best level is the 2005 benchmark.

Data corresponding to 2005 benchmark levels represent EUR 180 062 million. The 2010 level of the 2005 benchmark has finally been renewed for the underlying products for various reasons:

- Absence of alternative data on level estimates. EUR 94 360 million classified as “pure 2005 benchmark”. The main products concerned are the electric power distribution (EUR 21 846 million), the distribution of gaseous fuels through mains (EUR 11 035 million), passenger air transport (EUR 8 589 million), services for parking and toll facilities (EUR 7 038 million) and educational courses for adults and continuous training (EUR 6 049 million).
- After confrontation with business data, the 2005 benchmark levels were kept for various reasons (close estimates or balancing needs). EUR 62 724 million classified as “tradable consumption”. The main products concerned are tobacco products (EUR 17 636 million), footwear (EUR 8 790 million), cocoa, chocolate and sugar confectionery (EUR 7 367 million) and liquid fuels (EUR 6 871 million).
- After confrontation performed by using targeted data sources such as IFM, SNCF, Arcep, CCFA.... the 2005 benchmark levels were kept for various reasons (close estimates or balancing needs). EUR 22 978 million classified as “other confronted”. The main products concerned are passenger transport by train (EUR 4 819 million), hire of personal and domestic effects (EUR 3 409 million), clothing accessories such as ties, scarves, gloves, mittens etc. (EUR 3 001 million).
 - Confrontation with French fashion institute (IFM) - The data from the 2005 benchmark following the arbitration of sources represent EUR 5 158 million in source data. The IFM publishes information, from a panel of distributors or consumers, on annual changes in retailers' turnover and the purchases made by households in the apparel field. It is considered that the IFM source is reliable on the textile perimeter. The IFM source do not make it possible to establish consumption in value terms for all detailed products however. The 2010 level was finally obtained from the balance between the 2005 benchmark level at an aggregated level to which level estimates from the French Fashion Institute (IFM) for some specific products were deducted.
 - Confrontation with SNCF - The data from the 2005 benchmark following the arbitration of sources represent EUR 4 819 million in source data. The SNCF provides the decomposition of the number of passenger-kilometres and the turnover by type of ticket or subscription. In addition, SNCF periodically carries out a "passenger" survey to determine the share of households in intercity rail transport by class and by fare. This makes it possible to know the value of household consumption. This value was compared to the 2010 level of the base 2005.

Other benchmark extrapolation

Data corresponding to “other benchmark year extrapolation” represent EUR 12 076 million corresponding to:

- Market accommodation of elderly people: the 2010 level of household final consumption was obtained by applying the method used for a final account in the current year, i.e. by the balance between actual consumption and individual consumption expenditure by public administrations.

Annual level data from the DREES (Survey source on departmental social assistance, housing subsidies, Health Account) that is used in current annual production was also used for the 2010 benchmark estimate. Actual household consumption in 2010 for the dependency and accommodation components was obtained by multiplying the number of persons accommodated (from the DREES' STATISS source) and by the average annual tariff for each type of establishment. The average annual tariff is derived from the surveys of residential establishments for the elderly (EHPA) carried out in 2007 by the DREES and revalued annually by the consumer price index for retirement homes and other services for the elderly. The actual consumption relating to care is estimated from the Health Satellite Account. The total effective consumption corresponds to the sum of the three components (dependency, accommodation and care). The components of individual expenditure of public administrations related to dependency, accommodation and care are estimated from the DREES source (Departmental Social Assistance Survey, housing assistance, Health Account), as in the current campaign. The 2010 level of individual General Government expenditure corresponds to the sum of the three components.

- Services for disabled facilities (social centres without accommodation and accommodation) estimated as part of the NPISHs account (*see 3.7 NPISH*).

Commodity flow

Commodity flow represent EUR 120 474 million from source data.

	Basis for NA Figures	share of total %
Total	120 474	
<i>of which : Breakdown of sales by type of customer (ESA)</i>	71 270	59.2
<i>ESA at aggregated level and balance/other info on detailed products being part of the aggregate</i>	22 893	19.0
<i>Average between benchmark 2005 extrapolations and ESA</i>	12 693	10.5
<i>Expert assessment at aggregated level and product split with panel (Nielsen)</i>	4 998	4.1
<i>Other</i>	8 620	7.2

Breakdown of sales by type of customer for services - ESA (Annual sectoral survey)

The annual business surveys (ESA) provide information on the breakdown of the sales of services by type of customer (“enterprises and competitive public sector”, “general and local government” or “individual customers”). This breakdown of sales makes it possible to divide all the supplies (retrieved from the supply and use balances) between household uses, assimilated with individual customers, and those of the other institutional sectors. The household uses is then broken down between intermediate consumption, fixed capital formation and final consumption by applying the breakdown of household uses from the existing supply and use balances.

The main products concerned are restaurants and mobile food services (EUR 34 175 million), canteens, cafeterias and refectories services (EUR 9 715 million), hotels and similar accommodation (EUR 6 854 million), beverage serving (EUR 6 719 million) and holiday and other short-stay accommodation (EUR 4 414 million).

Some of the data from the ESA at aggregated level are balanced with other information on detailed products being part of the aggregate level. The main products concerned are:

- Legal activities: the data relating to legal activities (advisory, legal assistance services and notary services) represents EUR 6 290 million in data source. The 2010 level was obtained from the balance between the ESA source level and the level used for the product accounting, bookkeeping and auditing activities as well as tax consultancy (whose 2010 level from the 2005 benchmark was renewed for the 2010 benchmark).
- Small home maintenance and repair: the data on small home maintenance and repair were determined by a sector expert after confrontation of various sources (business statistics data, satellite housing account, family budget 2006, etc.) at an aggregate level. At an aggregate level the ESA has finally been retained and represents EUR 13 772 million in the source. Even if they are not explicitly detailed in corrections N1 and N6, fraud and undeclared work have been taken into account in fixing the amount. Household consumption in small household maintenance and repair represents floor and wall coverings, painting, small masonry and routine household maintenance. It corresponds only to maintenance or repairs at the expense of the occupant of the dwelling, excluding what is considered to be investment (GFCF). Household consumption corresponds to the cost of labour, possibly increased by the cost of small equipment.
- Television programming and broadcasting activities: the data represent EUR 2 831 million in the source. The levels of household consumption in ESA database and the Public Finances Directorate General (DGFIP) source that gives the amount of revenue on taxes related to public service broadcasting contribution was confronted before determining the data source estimate.
- Data on household consumption on.

Other commodity flow

The main products are manufacture of soap and detergents, cleaning and polishing preparations (EUR 4 998 million) and home help (EUR 4 842 million). Consumption in home help represents services for people who are frail (elderly, disabled or other people who are in need of human assistance in everyday life or in the essential acts of life). The 2010 level was obtained from the Statistical Service of the Ministry of Labour (Dares), AcoSS (Central Agency of Social Security Bodies) and the departmental welfare survey of the Directorate of Research, Studies, Evaluation and Statistics (DREES).

Dwellings

The housing satellite account (CSL - Compte Satellite du Logement) is the main source used to estimate dwelling expenditures (EUR 214 473 million). The CSL is compiled by the Statistical directorate of the Ministry of Sustainable Development (SDES) and provides data that feeds directly National accounts on rentals and real estate agencies, *see 10.3.3 Housing satellite account*.

Table 5-14 Dwellings, in EUR (million)

	Basis for NA Figures	share of total %
Total	214 473	
<i>of which : Satellite account of housing</i>	214 473	100.0
<i>of which : Imputed rentals for housing</i>	153 473	71.6
<i>Actual rentals for housing</i>	60 394	28.2
<i>Real estate agencies</i>	606	0.3

Rentals

In real estate activities, French national accounting identifies:

- “buying and selling of own real estate and real estate activities on a fee or contract basis”,
- “actual renting and operating of real estate including the letting of dwellings and also offices, shops, etc...”,
- “imputed rentals of owner-occupied dwellings”.

French national accounting is unable to identify the dwelling rental services output account separately from that of rental services for other real estate.

For the 2010 benchmark year the SDES provided to the national accounts department the estimation of production of dwellings broken down by type of landlords (*see table below*), for the production corresponding to household expenditures. Each type of landlords is associated with an institutional sector: natural persons with the household sector, social housing and other legal person with non-financial corporations, other social landlords with the government sector. Owner-occupied dwellings relates to the household sector.

The production of dwellings estimated by the CSL in the below table is fully allocated to household final consumption expenditures (EUR 213 867 million, before adjustment) as the table scope covers rentals actually paid by household and imputed rentals to households only.

Table 5-15 Data from housing survey, in EUR (million)

	Natural person landlords	Social housing landlords	Other social landlords	Other legal person landlords	Owner occupied dwellings	Total
Main dwellings and garages (1)	39 421	17 329	5 229	1 407	131 613	195 000
Market production	39 421	17 329	5 229	1 407	0	63 387
<i>Of which free housing</i>	2 992	254	1 627	169	0	5 042
Non market production	0	0	0	0	131 613	131 613
Second homes (2)	0	0	0	0	18 868	18 868
Non market production	0	0	0	0	18 868	18 868
TOTAL (3) = (1) + (2)	39 421	17 329	5 229	1 407	150 481	213 867
Market production	39 421	17 329	5 229	1 407	0	63 387
<i>Of which free housing</i>	2 992	254	1 627	169	0	5 042
Non market production	0	0	0	0	150 481	150 481

For the 2010 benchmark year the dwelling rental services was directly extracted from the satellite housing account (CSL) and represent EUR 213 867 million in the total household final consumption expenditures, broken down between:

- Imputed rentals (EUR 153 473 million), corresponding to the CSL direct estimates for non-market production of owner-occupied dwellings for main dwellings and second homes (EUR 131 613 million + EUR 18 868 million) plus free housing when landlords are natural persons (EUR 2 992 million). Data on free housing recorded for non-financial corporations

(EUR 423 million) and government sectors (EUR 1 627 million) are taken from the same CSL source, see 10.3.3 *Housing satellite account*.

- Actual rentals (EUR 60 394 million), corresponding to the CSL direct estimates of market production (EUR 63 387 million) from which free housing offered by natural persons landlords (EUR 2 992 million) is deducted.

The output of real estate activities (including rents actually paid by institutional sectors other than households) is estimated from the structural enterprise data (Esane) for non-financial enterprises, from French Central Bank data for financial corporations, and from the Public Finance Directorate General (DGFiP) for general government at the aggregate level.

Real estate agencies

Real estate agencies estimate corresponds to “buying and selling of own real estate and real estate activities on a fee or contract basis” is directly taken from the Housing Satellite Account (EUR 606 million).

Other extrapolations and models

Other extrapolations and models represent EUR 74 432 million within the source data. These are mainly sales of cars (new, second-hand, demonstration, leasing) and fuels (diesel and super), for which multiplication of prices by quantities methods are applied.

Table 5-16 Other extrapolations and models of HFCE, in EUR (million)

	Basis for national accounts Figures	share of total %
Total	74 432	
of which : Multiplication of prices by quantities	74 432	100.0
of which : French automobile manufacturers' association (CCFA)	37 582	50.5
of which : New motor cars	27 900	37.5
Second-hand motor cars	9 682	13.0
French council for petroleum (CPDP)	36 849	49.5
of which : Diesel	19 578	26.3
Petrol	13 826	18.6
Liquid fuels	2 148	2.9
Lubricant	1 297	1.7

French car manufacturers' committee (CCFA) for the registration of consumption (EUR 37 582 million)

The estimation of new and used car consumption rests on the availability of exhaustive data relating to new and second-hand car registrations. This information comes from the vehicle registration database operated by the French car manufacturers' committee (CCFA). The method of evaluation differs for new cars and second-hand cars.

- New car consumption (EUR 27 900 million)

The valuation of purchases of new cars by households is carried out every year. This valuation enables the level for base 2010 to be fixed. The amounts determined in this way are confronted with the tradable consumption data. Two types of data are used to estimate new car consumption: first, the number of registrations detailed by type of car, and secondly, the price list of new cars. The price list is adjusted to

take account of ecological bonuses and penalties. The data on the detailed number of registrations are valued by using the prices of new cars.

A ratio of changes in consumer prices of new cars with promotional offers and that without promotional prices is applied to take account of trade discounts. In addition, in the years when there is a car scrap scheme, the amount of the car scrap allowance (according to the DGFIP) reduces the previous valuation (*see chapter 2*).

- Second-hand car consumption (EUR 9 682 million)

The estimation of second-hand vehicle sales and purchases rests on the number of registrations according to type of seller (household or enterprise) and the average unit value of second-hand cars (data provided by CCFA). When the sale is made thanks to an intermediary, only the intermediary's margin (estimated at 15% of the values of households' acquisitions) is recorded as a household consumption expenditure. In the case of a purchase from an enterprise, the value of the purchases is reduced by the value of the sales of vehicles by households to enterprises. The balance is then integrated into household consumption expenditure. Household consumption expenditure on second-hand vehicles is then confronted with retailers' sales in order to validate the estimation obtained (*see 5.8.2.1 General approach to estimate HFCE*). When the sale takes place from household to household without an intermediary, the consumption included in the national accounts is considered as nil.

French council for petroleum (CPDP) for petroleum fuels (EUR 36 849 million)

Petroleum professionals (French council for petroleum, CPDP) supply large amounts of monthly data on quantities delivered on the domestic market, by category of product and according to the use made of them. To fix the benchmark levels, the valuation is based on average monthly prices (supplied by the CPDP or the French council for butane-propane (CFBP) and the quantities per product. The breakdown by type of use is performed using the CPDP data (divided into different uses) and the data from the transport account which break down quantities of fuel used according to user (private cars, motorcycles, heavy goods vehicles, etc.).

C. Adjustments

Table 5-17 Adjustments of HFCE, in EUR (million)

Nace A17	Basis for NA Figures	Adjustments				Final estimate
		Data validation	Conceptual	Exhaustiveness	Balancing	
AZ - Agriculture, forestry and fishing	27 175	68	465	2 296	-6	29 998
C1 - Manufacture of food products, beverages and tobacco products	153 447	162	2 544	1 562	-17	157 697
C2 - Manufacture of coke and refined petroleum products	43 815	36	-89	0		43 763
C3 - Manufacture of electrical, computer and electronic equipment; Manufacture of machinery	31 724	64	1 835	0	-3	33 620
C4 - Manufacture of transport equipment	59 934	46	3 677	0		63 656
C5 - Other manufacturing	135 536	118	6 385	3 002	-2	145 039
DE - Mining and quarrying; energy, water supply, sewerage, waste management and remediation activities	47 059	40	-34	0	-5	47 060
FZ - Construction	14 736	27	1 438	0		16 201
GZ - Wholesale and retail trade; repair of motor vehicles and motorcycles	9 132	9	1 702	1 718		12 561
HZ - Transportation and storage	33 894	44	0	0	-4	33 934
IZ - Accommodation and food service activities	64 323	22	4 715	0		69 060
JZ - Information and communication	54 736	23	1 523	0		56 282
KZ - Financial and insurance activities	50 743	0	8 888	0		59 631
LZ - Real estate activities	215 339	176	-12 356	0	-8	203 151
MN - Professional, scientific, technical, administrative and support service activities	21 060	0	1 112	0		22 172
OQ - Public administration and defence, education, human health and social work activities	54 122	704	-1	3 244		58 069
RU - Other services activities	29 996	15	1 278	2 213		33 502
Total	1 046 770	1 554	23 083	14 035	-45	1 085 397

Data validation (EUR 1 554 million)

- Mayotte (EUR 868 million)
- Data adjustment on human, health and social work activities (EUR 686 million in OQ). Data from Public Finance Directorate General (DGFiP) are used to correct the product classification.

Conceptual adjustments (EUR 23 083 million)

The consumption of financial intermediation services indirectly measured (Fisim) is assessed as part of the Fisim supply and use balance (Financial service activities, except insurance and pension funding product, see 3.4.4 Detailed presentation of FISIM). The sector allocation of Fisim comes from data provided by the French Central Bank (EUR 8 581 million).

Household expenditure is valued at the acquisition price. The sources used for compiling expenditures by product can give the consumption directly at the acquisition price or consumption exclusive of tax (Esane for example). To switch from a tax-free price to an acquisition price theoretical VAT rates are used. Whatever the source used, pre-tax household consumption is validated as part of the supply and use balances at a fine level of detail, which are exclusive of tax. After balancing the supply and use balances, the transition to consumption at the acquisition price is carried out again by applying the theoretical VAT rates for each product at the most detailed level (*see chapter 6*). In total EUR 32 967 million of VAT should be added corresponding to products for which the data source is exclusive of tax, mainly product estimated thanks to Esane.

Some sources used to establish household consumption allow the total level of consumption to be established for each product. It is the case, when we use the Esane source for the trade sector. The sales of product may correspond to the household final consumption or intermediate consumption. Initially, household final consumption expenditure is based on the sales of companies to households, which may still include purchases by some companies (sole proprietorships) already included in their intermediate consumption. Household consumption expenditure is therefore adjusted. The removal of double counts (EUR -3 405 million) between household final consumption and intermediate consumption therefore reduces household consumption. An assessment of these adjustments during the benchmark year exercise is performed.

The own-final output of households in respect of the employment of a person at home or the purchase of a homework service is subject to a tax credit. Where the household is an employer, the tax credit is considered to be another subsidy on production. Where the household purchases a service, the tax credit is a subsidy on products. Tax credit for childcare for child under 6 is considered as individual consumption expenditure from government. The correction of the household final consumption expenditure (EUR -2 705 million) corresponds to the tax credit for employment of home-based employee and for childcare for child under 6; the other tax credit are already integrated in the sources.

- The tax credit for the employment of a home-based employee is estimated by using data from the State Budget. The total tax credit covers domestic services either directly paid by households or through an intermediary. 66% of the tax credit targets households are direct employer (EUR -1 785 million). The remaining part of the tax credit is recorded in benchmark extrapolation and relates to cleaning and landscape service activities. The allocation key is based on data on home-based jobs (source Dares – Ministry of employment - 1 <http://travail-emploi.gouv.fr/IMG/pdf/2012-060.pdf>).
- Data on tax credit is available from the Financial Act. The amount (EUR -920 million) targeted here focus on tax credit related to childcare for child under 6 years old.

Housing allowances (EUR -13 897 million) and building caretakers (EUR 1 541 million): those adjustments are specific to dwellings expenditures and explained in more details in 10.3.3 Housing satellite account.

- Housing allowances (EUR -13 897 million) for low-income households: the adjustment consists in deducting the housing allowances received by households for renting their dwellings from household final consumption expenditure. This is a social transfer in kind from general government. This transfer is calculated thanks to data from the Housing Satellite Account.
- Building caretaker (EUR 1 541 million):

- EUR 666 million for households occupying the dwelling is the owner or the dwelling is a secondary residence.
- EUR 874 million for households occupying the dwelling as a tenant.

Exhaustiveness (EUR 14 035 million)

The data sources available to calculate household consumption expenditure do not always include fraud and undeclared work. Therefore, it is necessary to increase household consumption expenditure on certain products to take account of fraud or undeclared working (*see chapter 7*):

- N1: unobserved activity of entities without an existence in law (due to fiscal and social security fraud, EUR 4 177 million);
- N2: production and trafficking of narcotic drugs, and tobacco smuggling (EUR 3 726 million);
- N3: covers household production for own final use (EUR 3 134 million);
- N6: unobserved activity of entities with a legal existence but which underestimate their profits due to engaging in fiscal and social security fraud (EUR 2 998 million).

5.8.3 Detailed calculations by COICOP items

HFCE estimates by COICOP items are produced thanks to a products/functions bridge table that enables the products to be broken down according to the functional classification.

5.8.3.1 Car scrap schemes

Different car scrap schemes were implemented in France in 1992, then 1994-1996 and 2009-2010. An ecological bonus/penalties system has also been in place since 2008; it is intended to encourage people to buy clean vehicles without the condition of already owning a vehicle. In accordance with ESA 2010, these car scrap schemes are considered as subsidies on products, whilst the ecological penalties is considered as a tax on products. As a result, household consumption expenditure is reduced (bonuses generally weigh heavier than penalties). The car scrap schemes and the ecological bonus/penalties scheme only have an impact on consumption expenditure.

5.8.3.2 Insurance services

The household consumption expenditure on non-life insurance corresponds to: the premiums and taxes paid by policyholders, plus the premium supplements, less the expected claims (*see chapter 3*). The consumption of non-life insurance services is valued as part of the supply and use balance of insurance services. The household final consumption expenditure corresponds to a part of the uses, by applying allocation keys by type of contract (risk insurance) to final consumption (households) and intermediate consumption (other resident policyholders). For instance, the share of households is 100% for the risk of bodily injury and 23% for legal protection and various pecuniary losses or credit and surety.

With regard to household final life insurance consumption, it is assumed that all life insurance production is consumed by households.

In total, household final life insurance consumption equals EUR 17 105 million and household non-life insurance final consumption equals EUR 15 082 million.

5.8.3.3 Expenditure on software, including games

The annual sectoral surveys (ESA) provide information on the breakdown of the turnover by type of customer (“enterprises and competitive public sector”, “general and local government” or “individual

customers”). The sector-product manager has used this information to determine the benchmark level for software consumption. This method was only used when preparing the levels for the benchmark year.

5.9 NPISH final consumption expenditure

The final consumption expenditure of non-profit institutions serving households (NPISH) concerns only the non-market services that they produce (EUR 39.6 billion). It is equal to their production of non-market services, minus the payments made by households when these services are provided (partial payments). Sources and methods to compile production is described in the section devoted to GDP calculated by the production approach (see 3.7 NPISH).

Table 5-18 Link between output of NPISH and final consumption expenditure of NPISH, in EUR (million)

	Output of NPISHs (non-market production)	Household final consumption expenditure (partial payment)	Final consumption expenditure of NPISH
P – Education (P85N)	4 868	1 383	3 485
Q – Human health and social work activities (Q87N, Q88N)	20 643	954	19 689
R – Arts, entertainment and recreation (R90N, R91N, R93N)	5 724	0	5 724
S – other service activities (S94N)	10 725	0	10 725
Total consumption expenditure	41 960		39 623

5.10 Government final consumption expenditure

General government has two types of final consumption expenditure:

- expenditure on market goods and services which it transfers to households in the form of social transfers in kind (EUR 118.6 billion);
- expenditure on non-market services which it produces itself (EUR 304.4 billion).

As a large part of the Government final consumption expenditure is directly related to the estimate of output, for expenditure on non-market services, this section regularly refers to chapter 3.

5.10.1 Overview

5.10.1.1 Data sources

The sources enabling the final consumption expenditure of General Government to be evaluated are the same as those used to calculate their output and value added (see 3.5 General Government).

5.10.1.2 Process table

The table below provides some details on the process table, by breaking down the Government final consumption expenditure between consumption of market goods and services and consumption of non-market services.

Table 5-19 The government final consumption expenditure by consumption of market goods and services/non-market services, in EUR (million)

		Consumption of market goods and services	Consumption of non-market services	Total
Total	of which			
Administrative records		118 564	304 372	422 936
Extrapolation and models		0	64 148	64 148
	CFC	0	64 148	64 148
Data validation		-3 733	3 268	-465
	Correcting data sources	0	1 358	1 358
	Substitution of sources	-3 733	1 910	-1 823
Allocation of FISIM		0	3 723	3 723
Other conceptual		920	-15 079	-14 159
	VAT corrections	0	221	221
	Software correction	0	-1 099	-1 099
	R&D correction	0	-15 817	-15 817
	Financial leases	0	-896	-896
	Insurance	0	520	520
	Free accommodation	0	1 626	1 626
	Reimbursement of professional expenses	0	-413	-413
	Holding UCITS	0	779	779
	Tax credits for child care expenditure	920	0	0
Total		115 751	360 432	476 183

5.10.2 The final consumption expenditure of general government in market goods and services

5.10.2.1 Presentation by subsector

A. Social security bodies

The final consumption expenditure of social security bodies in market goods and services encompasses:

- total or partial reimbursements, by the social security schemes, of goods or services already paid for by households. This means healthcare reimbursements concerning medicines, glasses or optical items, medical and dental treatments, medical apparatus or equipment, etc.
- the coverage of market goods or services, which concerns patient transport, home helps or medical assistance in the home, family housing benefit.

Whether expenses are reimbursed or paid directly, this expenditure applies only to social security bodies. It comes mainly from the basic health schemes, and more particularly the National Health Insurance Administration (CNAM).

B. Expenditure made by Government departments other than social security bodies

General government expenditure on goods and services also concerns social assistance benefits in kind made by government units other than social security bodies. They may be funded by miscellaneous central government agencies (ODAC). Thus, the benefits funded by two organisations, the national housing benefit

fund (FNAL) and the national housing fund (FNH) cover participations in households' dwelling expenditure. In the case of local government, these are covered by the Departments. This expenditure is mainly for the benefit of the disabled, the elderly and children.

5.10.2.2 *Adjustment to data sources*

A. *Data validation*

The amounts transmitted by the DGFIP concerning social transfers in kind are appraised and compared with other sources of information and are adjusted accordingly. In 2010, this data validation step leads to a decrease in the total amount of social transfers in kind paid by general government of EUR 3.7 billion.

Certain specific transfers are reclassified as social benefits in cash when the analysis on the nature of these transfers leads to a change in the classification initially retained by the DGFIP. For example, the account entitled "Actions individualisées d'action sanitaire et sociale" ("Individualised health and social action measures") in the accounting classification of social security bodies is reclassified as cash benefits (EUR 0.7 billion). For 2010, these reclassifications lead in total to a decline in the amount of social transfers in kind of EUR 2.2 billion.

Other flows are adjusted on the basis of external data providing a more precise separation between benefits in kind, cash benefits and other types of transfers than that presented in the DGFIP source data. In the area of health and social action, the data are compared with those of the statistical service of the Ministry of Health (DREES), while in the area of housing they are compared with those of the statistical service of the Ministry of Housing (SOES). For example, part of the expenses related to the "couverture maladie universelle" ("universal health coverage") policy do not correspond to the purchase of market goods but to transfers to hospitals, and information on this amount to be reclassified is sent by the DREES. For 2010, these reclassifications lead in total to a decline in the amount of social transfers in kind of EUR 1.6 billion.

B. *Conceptual corrections*

A unique conceptual correction is applied to the data source and comes from the recording of the tax credit for childcare expenditure. The tax credit adjustment is recorded as a "conceptual adjustment" in the process table because it is not included in the DGFIP data. The tax credit is recorded in the form of a social benefit in kind (D.631) as a non-market social action product. This operation simply covers the various cases of childcare (childcare assistant where production is provided by S.14A or nursery where production is provided by APU or NPISH). The recording of this tax credit as a social benefit in kind allows to get a consistent treatment with all types of childcare.

5.10.3 *The final consumption expenditure of general government in non-market services*

When government entities produce a service without any financing by users, the final consumption expenditure of general government in non-market services is equal to the output of those services (evaluated by the sum of costs for producing those services). This applies in particular to most collective services. In other cases, when they provide non-market services, government entities receive incidental revenues from sales. It is then possible to distinguish two situations.

In a first case, the revenue from sales concerns a product that is sold at market price and that is not a result of the main activity of the non-market government producer, without the possibility to identify a distinct production unit for that product in the form of an establishment. An example of this is a paid supply of a television service by a hospital. These are, therefore, secondary products of a non-market

activity. In the terminology of the French national accounts, this revenue is known as “residual sales” (incidental sales - in ESA 2010).

In a second case, the revenue is directly linked to the production of individual non market-services to households. This is remains to be paid by households in their consumption of non-market services (education and health mainly or else museum entrances fees). In the terminology of the French national accounts, this revenue is known as "partial payments".

5.11 Acquisitions less disposal of produced fixed assets

5.11.1 Overview

The gross fixed capital formation (GFCF) is the acquisitions less disposals of fixed assets realised by resident producers. In the French accounts, the GFCF is estimated via a dual approach: an institutional sector approach and a product approach.

- In the institutional sector approach, tax returns are used to estimate the GFCF of each sector for all products as a whole.
- In the expenditure approach in general, intermediate consumption and GFCF are not known and are the balance of supply-use equilibrium. However, the method used vary depending on the type of product. For some products GFCF by product can be deducted from the supply and use balances when they are carried out at a sufficiently detailed level, which enables supplies of products to be identified that virtually exclusively give rise to GFCF. For other products such as agricultural products a quantity * price valuation is applied.

There is no reason, a priori, to give priority to one approach over the other. In fact, on the sectoral side, the compilation method contains several causes for uncertainty (data on businesses with gaps in their balance sheet data are extrapolated, the division between land and other tangible fixed assets is sometimes fragile or is extrapolated, the value of disposals is estimated etc.). Tax returns however do not cover the entire field of GFCF in the sense of the National Accounts. In particular, for the non-financial corporation (S.11+S.14AA), only the GFCF in tangible assets is taken into account. In addition, there are no institutional sources for estimating household GFCF.

On the product side, it is the principle of the method itself which attracts criticism. The estimation of gross fixed capital formation using the product supply/use table method has its limitations. It is based on the nature of the products, whereas even expensive equipment may be no more than the component of a more complex product, meaning that it is reported as intermediate consumption with the final product alone accounting for capital formation. Lifts in buildings are a classic example.

Confrontation of the two approaches for GFCF in tangible assets of non-financial enterprises

The method entails confronting the GFCF in tangible assets of the non-financial enterprises (S.11+S.14AA) from the sector approach (based on accounting data from Esane) to the GFCF estimate coming from the product approach. The calculation of GFCF within the meaning of the national accounts based on company accounts involves uncertainties linked to differences in scope and the ability to properly manage company mergers or acquisitions, so that the GFCF resulting spontaneously from Esane can only constitute an initial estimate that makes it possible to initiate the demand approach. It is not a target value; it simply makes it possible to initiate the process of convergence between the two approaches.

The restriction of the scope of the convergence process between the two approaches consists in eliminating from both sides (products and sectors) any gross fixed capital formation which is identical because of the sources used to value it. Any gross fixed capital formation recorded on one side only (product or sector).

The first set of restrictions applies to products. The following products are excluded from the balancing exercise:

- Services included when valuing gross fixed capital formation in intangible fixed assets. This applies to software, audio-visual assets and literary and artistic assets as the same estimation is retained on both sides.
- Services included in the cost of transferring ownership of assets (real estate development costs and ancillary costs).

The second set of restrictions applies to investor sectors:

- Gross fixed capital formation valued on the basis of the accounting data of certain institutional sectors is not questioned during balancing. This applies to financial corporations (financial institutions, insurance corporations, financial auxiliaries) and general government. Gross fixed capital formation by NPISH is likewise considered to be exogenous, if only because the small amount involved precludes its inclusion in the overall balancing exercise.
- An initial estimation of gross fixed capital formation in dwellings is available for households except sole proprietorships. This estimation is also excluded from the balancing exercise.

As is often the case in the French national accounts, agriculture and agricultural products are subject to special treatment. The same applies to forestry. All gross fixed capital formation by agricultural holdings in all product components is determined exogenously. This applies both to goods which account directly for gross fixed capital formation in the form of assets and to gross fixed capital formation expenditure which adds to the value of land.

Once the above restrictions have been applied, only the following products remain:

- products from manufacturing industry, with the exception of amounts identified as the counterpart of gross fixed capital formation by exogenous sectors (agricultural and forestry enterprises, government, financial corporations and NPISH). The products in question are very specific products (agricultural equipment, motor vehicles, electronic equipment);
- construction products, with the same restrictions as for exogenous sectors. Household dwellings and agricultural land improvement work are also excluded;
- architects' and civil engineering services, with the restrictions which apply to exogenous sectors.

All that remains on the sectoral side are non-agricultural and non-forestry non-financial enterprises (non-financial corporations and sole proprietorships) with respect to their tangible fixed assets (except land). In theory, the two valuations thus defined are homogenous from the point of view of their content and a genuine balancing exercise (i.e. a choice between two valuations) is therefore possible.

Once the reconcilable portion of GFCF in tangible assets identified the comparison is performed on the overall aggregate only (in other words the comparison of the approaches on the reconcilable portion is

not performed by product). Following the data confrontation the GFCF in tangible assets of non-financial enterprises is sometimes arbitrated. These arbitrations amounts EUR -2.4 billion for the year 2010.

A sector approach for the exogenous sectors

The institutional sector approach is followed for exogenous sectors. The term ‘exogenous’ sectors is used to designate the institutional sectors or sub-sectors for which the valuation of gross fixed capital formation is not balanced between approaches. Exogenous sectors are:

- General Government and financial corporations for which accounting data allow a direct estimate of GFCF
- NPISH for which hypothesis are needed as GFCF cannot be valued directly from the information available on this sector.

A product approach for agriculture and households

Accounting data are not available for all categories of investors in which case the expenditure approach must be followed. This applies in particular to agricultural companies and households in their capacity as owners of dwellings:

- agricultural and forestry enterprises. Gross fixed capital formation by agricultural corporations is valued independently. It has two main components: gross fixed capital formation in agricultural products and gross fixed capital formation in non-agricultural products. A quantity*price method is followed thanks to detailed data. Esane does not cover agricultural products.
- households, except sole proprietorships as owners of dwellings. Gross fixed capital formation by households except sole proprietorships is confined to acquisitions of dwellings and major maintenance work carried out on dwellings and is valued using a product approach. Part of this gross fixed capital formation forms the counterpart to output produced by households for their own use.

Intangibles

The GFCF of non-financial corporation in intangible assets is estimate by the expenditure approach. The GFCF in information and communication products, in the product of R&D and in creative, arts and entertainment products are considered as intangible assets.

Tables

The tables below show acquisitions less disposals of fixed assets by type of assets, Nace sections and institutional sector. An excerpt from the process tables show the value derived from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustment.

Table 5-20 GFCF by assets and institutional sectors, in EUR (million)

		Non-Financial Enterprises	Financial Enterprises	General Government	Pure Households	NPISH	Total
AN	Total	233 996	13 060	82 936	107 102	3 974	441 068
111-112	Dwellings and other building and structures	83 113	4 942	50 815	107 102	3 974	249 946
113	Machinery and equipment	78 773	2 711	6 406	0	0	87 890
114	Weapons systems	0	0	6 752	0	0	6 752
115	Cultivated biological resources	542	0	0	0	0	542
117	Intellectual property products	71 568	5 407	18 963	0	0	95 938

Table 5-21 GFCF by products and institutional sectors, in EUR (million)

	Non-Financial Enterprises	Financial Enterprises	General Government	Pure Households	NPISH	Total
Agriculture, forestry and fishing	843	0	0	0	0	843
Manufacturing	77 628	2 711	12 957	0	1 433	94 729
Construction	65 338	4 942	49 126	88 442	2 213	210 061
Information et communication	43 450	4 827	3 050	0	77	51 404
Real estate activities	595	86	0	4 394	0	5 075
Professional, scientific, technical, administrative and support service activities	44 438	359	17 513	14 266	251	76 827
Other services activities	1 704	135	290	0	0	2 129
Total	233 996	13 060	82 936	107 102	3 974	441 068

Table 5-22 The process table (sources) of GFCF by institutional sector, in EUR (million)

	Basis for NA Figures				Adjustments	Final estimate
	Administrative Records	Combined Data	Extrapolation and Models			
			Commodity Flow Model	Other E&M		
Total	74 882	3 974	134 221	150 180	77 811	441 068
Non-Financial Enterprises	0	0	32 060	149 141	52 795	233 996
Financial Enterprises	10 053	0	0	1 039	1 968	13 060
General Government	64 829	0	0	0	18 107	82 936
Pure Households	0	0	102 161	0	4 941	107 102
NPISH	0	3 974	0	0	0	3 974

Table 5-23 The process table (adjustments) of GFCF by institutional sector, in EUR (million)

	Sources	Adjustments					Balancing	Final estimate
		Data validation	Conceptual	Exhaustiveness				
				N3	N4	N7		
Total	363 257	-1 679	35 406	4 941	1 459	35 332	2 352	441 068
Non-Financial Enterprises	181 201	-1 934	17 554	0	1 459	33 364	2 352	233 996
Financial Enterprises	11 092	0	0	0	0	1 968	0	13 060
General Government	64 829	255	17 852	0	0	0	0	82 936
Pure Households	102 161	0	0	4 941	0	0	0	107 102
NPISH	3 974	0	0	0	0	0	0	3 974

5.11.2 Main data sources and their conversion to national accounts results

5.11.2.1 Main data sources

A. Non-financial enterprises

Tangibles

The GFCF of non-financial enterprises in tangible assets are mainly evaluated thanks to Esane (tax returns and survey, see 10.1.1 Esane). In the National Accounts, GFCF includes the cost of transferring ownership

of these assets and also the value of goods and services incorporated in them with the objective of increasing their lives, increasing their productive capacity or improving their productivity. GFCF does not include lands.

From the point of view of investor sectors, acquisitions less disposals of tangible fixed assets are equal to net tangible fixed assets, as reported in their accounts, less land, plus the cost of transferring ownership of these assets, which is not usually capitalised. Both accounting principles and investment practice indicate that the concept of fixed assets as reported in the accounts espouses that of gross fixed capital formation. In particular, there is no need to estimate the part of gross fixed capital formation which would represent 'non-capitalised maintenance', because it is accounted in intermediate consumption of companies. Big repairs are capitalised and accounted in GFCF.

Intangibles

The GFCF of non-financial enterprises (S.11+S.14AA) in intangible assets is estimated by the expenditure approach. The GFCF in information and communication products (NACE J), in the product of R&D (NACE 72) and in the creative, arts and entertainment products (NACE 90) are considered as intangible assets.

B. Households

Households' GFCF (excluding unincorporated enterprises) is estimated according a product-based approach. It encompasses GFCF of construction (part of which is output for own final use) as well as all the costs relating to real estate (legal and accounting activities, architectural activities, buying and selling of own real estate). The estimation of the GFCF of households in construction products (excluding output for own final use) is based on construction output and the information provided by construction enterprises on the breakdown of their turnover by customer type. The estimation of GFCF in related costs is also based on turnover at a detailed level in the classification as well as the breakdown of turnover by customer type, which is known from the structural enterprise data. GFCF of legal and accounting activities for households corresponds essentially to transfer duties, which are known.

C. General Government

GFCF of general government is mainly estimated based on data from the tax authority (DGFIP), whether it is the State accounts or accounting data more or less in line with the general accounting plan, but with a much more important detail (*see 10.1.2 DGFIP*). Adjustments are made to take account of the output for own final use of general government in R&D, software and databases, as well as government's acquisitions by financial leasing.

D. NPISH

Due to a lack of information, the GFCF of NPISH is estimated on the basis of hypotheses put together in particular from observations made in the general government sector, which vary from branch to branch. The amount of investments is assumed to be linked to the activity of NPISH, measured from the payroll. The amount of NPISH's GFCF for each branch is therefore estimated from the amount of the payroll of the branch and the investment/payroll ratio observed for government entities in the same branch.

5.11.2.2 Main adjustments

Capital assets of lands

In business accounts, land development and layout are capitalised in the land asset, therefore, this investment is not accounted spontaneously in the GFCF measured in a first step from Esane. However, the nomenclature used in the national accounts classifies these activities under construction. It is impossible

to estimate from tax returns the share of fixed assets in land that comes under construction as defined in the French activity classification.

In Esane, the investment in lands (which are not accounted to calculate the GFCF from Esane) is EUR 4.5 billion in 2010. It has been agreed to add half of these amounts to the amount of GFCF from Esane (EUR 2.2 billion) as GFCF in construction for land developments and layout.

Financial leasing

Financial leasing includes financial leases proper and long-term leases with a purchase option. These two mechanisms allow fixed assets to be financed by divorcing legal ownership from full power of disposal over an item of equipment.

In the national accounts, the acquisition of durable goods under financial leases is recorded by the lessee and not the legal owner, who is normally a financial corporation. Leasing is likened to an investment for the user of the good, financed by a loan from the lessor (who then has a loan in its assets instead of a tangible capital asset). The value of the asset when the contract is signed is then counted as GFCF while the leasing rents are loan repayments.

Valuations are based on the accounts of the corporations which offer financial leases and long-term leases with a purchase option. These corporations need authorisation to act as lessors and are listed by the Banque de France and ASF (Association Française des données financières). Their accounts are communicated to the Banque de France and ASF. Thanks to these data, these institutions evaluate the total amount of rent, the interest paid and the data on the value of leased assets. These amounts are broken down by economic activities and counterpart sector thanks to a specific survey of all leasing companies. This annual survey covers investments to be used for financial leases, disposals (at selling price) of investments used for leases and other information. Companies are divided on the basis of whether the assets are movable or immovable property and investments are allocated by product and by the customer's economic activity.

The survey and data from Banque de France and ASF provide all the information needed in order to calculate total investments in financial leasing, reallocate total investments between gross fixed capital formation and household consumption of durable goods and allocate gross fixed capital formation to the institutional sectors in question. It also provides information on the subdivision by products and allows end-of-lease arrangements to be processed. Gross fixed capital formation can be subdivided into major categories. There are also a number of well-identified major financial leasing transactions with the rest of the world.

In the Process Table, financial leases counted in GFCF represents:

- EUR 11.4 billion for S.11+S.14AA in "other conceptual adjustments" of AN.113,
- EUR 0.9 billion for S.13 in "other conceptual adjustments" of AN.112 and AN.113.

Real estate development costs

Agents specialising in real estate development are frequently involved in the purchase of dwellings or buildings for commercial use. Real estate development costs include commission paid to these developers. These costs undoubtedly form part of the acquisition value of the goods which are reported as fixed capital formation.

Under business accounting rules, development costs are reported as charges rather than as fixed assets. They therefore have to be added to the gross fixed capital formation calculated on the basis of data on fixed assets alone. A symmetrical correction is applied to the value added of non-financial enterprises.

Real estate development costs are valued on the supply/use tables for the products in question: EUR 0.1 billion.

Ancillary fixed asset acquisition costs

These are the costs incurred for transferring ownership of fixed assets or land and include fees paid to intermediaries. Most are accounted for by registration fees and other taxes on the acquisition of fixed assets.

Investing corporations report these costs as charges rather than fixed assets and they therefore need to be added to gross fixed capital formation calculated on the basis of fixed assets alone.

Miscellaneous taxes on the acquisition of fixed assets are taxes on products of legal activities. The corresponding gross fixed capital formation is at purchasers' prices. It represents EUR 1.1 billion (70% of product M69Z except the agriculture branch). A symmetrical correction is made to value added, it is in other conceptual adjustments of the Process Table (*see 3.3.2.3 Conceptual adjustments*).

5.11.3 Detailed estimation methods used by institutional sector and by product

In the French accounts GFCF estimates are compiled by institutional sectors and by product. A asset*product matrix is used to publish GFCF estimate by AN code.

5.11.3.1 Main data sources and their conversion to national accounts results - Institutional sector approach

A. Total GFCF of non-financial enterprises (S.11+S.14AA)

Table 5-24 The process table of GFCF of non-financial enterprises (S.11+S.14AA), in EUR (million)

AN	Basis for NA Figures		Adjustments				Final estimate	
	Commodity Flow Model	Other E&M	Data validation	Other conceptual	Exhaustiveness			Balancing
					N4	N7		
Total	32 060	149 141	-1 934	17 554	1 459	33 364	2 352	233 996
111		17 404			1 459			18 863
112		64 250						64 250
113		66 945	-1 934	11 410			2 352	78 773
114		0						0
115		542						542
117	32 060			6 144		33 364		71 568

i. Tangible assets (AN.111, AN.112, AN.113, AN.114, AN.115)

Main data sources

Esane is the main data source classified as other extrapolations and models for non-financial enterprises tangible assets. Esane gathers two information:

- In tax returns, companies fulfil the “fixed asset” data, which provides details of movements during the financial year affecting the (financial and non-financial) fixed assets shown on corporations' balance sheets, with tangible fixed assets reported separated from intangible fixed assets and subdivided by main types (land, structures, technical installations).

- In the annual business survey, information on contributions of assets following corporate restructuring (which are called “apport” in this section) and the actual value of disposals of fixed assets.

Esane is a combined data but the GFCF is calculated with estimation (for example in the calculation of capital gain or losses) and hypothesis – *see below*. For that reason, it is classified as “Other extrapolations and models” for GFCF.

Other data sources classified as “other extrapolations and models” in the Process Table are:

- Agriculture data (*see 5.11.3.2 Main data sources and their conversion to national accounts results*) is added for EUR 10.7 billion.
- In Esane, the real estate development cost and the ancillary fixed asset acquisition costs are not included in GFCF (*see above*), so the GFCF of the products of real estate (L68A) and of legal and accounting services (M69Z) is added, it is estimated thanks to data from DGFiP and notarial data (number of housing transactions). It represents EUR 2.6 billion. The share of these products which is not ancillary fixed asset acquisition costs or real estate development cost are then subtracted in data validation (*see below*).

The Esane’s conversion to national accounts results

As explained, Esane is the main data source for non-financial enterprises tangible assets. In this source, the GFCF concept is not directly available and some calculations and hypothesis are made to obtain the GFCF. In this section, these steps are described.

Acquisitions of tangible fixed assets by a company are calculated as follows:

$\text{GFCF} = \text{acquisition without contributions received} - (\text{decreases without contribution received} - \text{accumulated depreciation} + \text{capital gain or losses})$
--

Where the acquisition/decreases is the immobilisation declared by the company (increase or decrease), the contribution received or transferred are the contribution received or transferred in the case of a restructuring, accumulated depreciation is declared by the company and capital gain or losses is estimated according to tax returns.

In a restructuring, the contribution received or transferred must not be counted in GFCF, these contributions are therefore removed from the flows recorded in the tax returns. In this section, the word “contribution” is used to name the contribution received or transferred in a restructuring. The amounts of these contributions are provided by the ESA survey.

Besides, movements of fixed assets that do not involve modifying production capacity but moving it (for example: from one producer to another) do not modify the total amount of GFCF if the transaction concerns entities belonging to the same institutional sector. To meet this principle, a correction is applied to the decreases of fixed assets, so that decreases and increases of fixes assets are valued in the same way. Indeed, if it was not the case, in case of simple movements of fixed assets between two non-financial enterprises, some GFCF could be wrongly recorded in National Accounts.

As mentioned above, the asset acquisition and the asset sales have to be valued in the same way to properly estimate GFCF. These flows are net of land inflows and outflows.

The acquisition in property, plant and equipment are measured by the item “acquisitions, creation, contributions and transfers from one item to another, excluding revaluations or equity method” in the tax return, from which the contributions received during restructuring are withdrawn. It is valued at the buying prices plus some directly attributable costs (for example shipping costs). This is in keeping with the national accounts valuation.

The decreases in property, plant and equipment are measured by the items “decrease” in the tax return, from which the contributions transferred in a restructuring are withdrawn. The decrease is valued at the buying prices which is not necessary the sale prices.

Corrections are made to record decreases (of the seller) with the same valuation that the one applied by the acquirers in their accounts: the depreciation is subtracted from decreases (of the seller) and the capital gain or losses are added.

The acquisitions of tangible fixed assets is estimated by four types of products, called “great products”, distinguished in tax returns: a) construction, b) technical installations, equipment and industrial tools, c) transportation equipment, and d) other property, plant and equipment.

The variable “capital gain or losses” is not directly given by tax return, but an estimation is done thanks to companies that reported disposals for only one great products. This treatment is carried out, so that disposals of assets from one company to another are valued at the same price in the accounts of both companies (and thus have neutral impact on the estimation of GFCF).

Data Validation

In the column “Data Validation” of the Process Table, some corrections are made to decrease the GFCF from data sources. The main correction (EUR 2.5 billion) concerns the investment calculated from the water unions, which was overestimated in Esane in 2010. The 2010 year was indeed the first time when Esane includes water unions in its data, and this first estimation was not corrected yet. Other corrections are made to subtract the GFCF which are in Esane and in another source (agriculture or the GFCF of the product L68A and M69Z) to avoid a double counting. Moreover, the correction for capital assets of lands increased the GFCF from Esane.

Conceptual adjustments

It is the adjustment for the financial leasing (*see above*).

Exhaustiveness N4

Esane is not considered as a good source for some economic activities: social work activities (NACE 87-88) and activities of memberships organisations (NACE 94), *see 3.3.2.4 Exhaustiveness*. Therefore, the GFCF in tangible assets which comes from Esane in these economic activities is subtracted: EUR 0.5 billion. In parallel, the GFCF in tangible assets in these economic activities is added. It represents EUR 1.9 billion of GFCF in tangible assets (in dwellings, AN.111). This amount is estimated in two steps:

- First, the GFCF of these economic activities is estimated with a fix share of the production of these economic activities (EUR 2.3 billion).
- Second, the breakdown by products is realised with a matrix predefined.

Work councils are not in Esane. Their GFCF in tangible assets is added (EUR 0.1 billion), and it is estimated as 25% of wages of work councils from DADS, the key 25% comes from the account of the work council IEG which is published. Their whole GFCF is supposed to be in tangible assets (in dwellings, AN.111).

Balancing

The GFCF from Esane in tangible assets is compared to the GFCF from the expenditure approach. Only tangible assets from the expenditure approach are used in the comparison. The GFCF from Esane is corrected for difference of fields:

- the GFCF of the agriculture branch is added;
- the share of the GFCF of the product L68A which is a real estate development cost (EUR 0.1 billion) is added;
- the share of the GFCF of the product M69Z which is the ancillary fixed asset acquisition costs (EUR 1.1 billion) is added;
- the capital asset of lands is added;
- the water unions are subtracted;
- the social market and work councils are added;
- the financial leasing is added.

The table below summarises the comparison.

Table 5-25 Comparison between the GFCF from Esane and from expenditure approach, in EUR (billion)

Esane	135.9
Addition of agriculture (except intangible asset)	10.4
Real estate development costs	0.1
Ancillary fixed asset acquisition costs	1.1
Capital asset of lands	2.2
Water unions	-2.5
Addition of social market (except intangible assets)	1.9
Social market in Esane	-0.5
Addition of work councils	0.1
Financial leasing	11.4
Total 1	160.1
GFCF from the expenditure approach	234.0
Intangible assets	-71.6
Total 2	162.4
Balancing (2-1)	2.4

ii. Intangible assets (AN.117)

The GFCF of non-financial enterprises (S.11+S.14AA) in intangible assets is estimated by the expenditure approach. The GFCF in information and communication products (NACE J), in the product of R&D (NACE 72) and in the creative, arts and entertainment products (NACE 90) are considered as intangible assets.

Main data sources - Commodity flow (EUR 32.1 billion)

Commodity flow includes:

- EUR 28.7 billion for the GFCF in software and databases except production for own final use. Market GFCF of software is determined using data from the annual sectoral survey (see 5.11.3.2 *Main data sources and their conversion to national accounts results*);
- EUR 3.3 billion for the GFCF in other intangible products (neither R&D, neither software and databases) which comes from production for own final use. It is mainly production for own final use in motion picture, video and television programme products, sound recording and music publishing products, programming and broadcasting products (NACE 59-60, see 5.11.3.2 *Main data sources and their conversion to national accounts results*);
- EUR 0.1 billion for production for own final use in R&D of agriculture activity.

Other conceptual adjustments (EUR 6.1 billion)

In other conceptual adjustments, there is the production of R&D except the production for own final use which is in exhaustiveness N7. The R&D GFCF use data from the R&D survey conducted by the Ministry of Higher Education and Research (MESR). The total for “other conceptual adjustment” includes the agriculture activity, so it is not strictly equal to the amount in chapter 3. It represents EUR 6.1 billion.

Exhaustiveness N7 (EUR 33.4 billion)

It includes production for own final use of R&D (except agriculture activity which is in “combined data”), software and database. The amount comes from chapter 3 (see 3.3.2.4 *Exhaustiveness*).

B. Total GFCF of financial enterprises (S.12+S.14AF)

Table 5-26 The process table of GFCF of financial enterprises (S.12+S.14AF), in EUR (million)

	Administrative Records	Other E&M	Exhaustiveness N7	Final estimate
Total	10 053	1 039	1 968	13 060
111-112	4 615	327		4 942
113	2 364	347		2 711
114				0
115				0
117	3 074	365	1 968	5 407

i. Tangible assets

Main data sources (EUR 7.7 billion)

The main data source is the accounting document for financial intermediaries and insurance corporations: acquisitions of tangible fixed assets is calculated on the basis of tax return transmitted by the Bank of France as followed (acquisitions of tangible fixed assets = acquisition – decreases).

Leasing, which is likened to an investment for the user of the good, is recorded as GFCF of financial intermediaries and insurance corporations. Finally, acquisitions of lands, which must not be recorded as GFCF in National Accounts, are removed from accounting data. Those adjustments are not shown in the adjustment column in the process table. The adjusted data are shown in the “data source” column.

The GFCF thus issued from Bank of France data is recorded as “Administrative data” in the process table and amounts to EUR 6.979 billion.

Other extrapolation and model (EUR 0.7 billion):

Gross fixed capital formation in tangible fixed assets by financial auxiliaries comes from Esane. The method used to value their gross fixed capital formation is therefore the same as for non-financial enterprises (see above on non-financial enterprises).

ii. Intangible assets (AN.117)

The GFCF of financial corporation (S.12+S.14AF) in intangible assets is estimated by the products approach. In particular, the GFCF in information and communication products (NACE J), in the product of R&D (NACE 72), in legal and accounting activities (NACE 69), in real estate activities (except dwellings) are considered as intangible assets.

Main data sources

GFCF of financial corporations in intangible assets can be thus divided:

Table 5-27 Process table of GFCF in intangible assets of financial enterprises, in EUR (million)

	Administrative records	Extrapolations and models	Exhaustiveness N7 (output for own-final use)	Total
Financial intermediaries	2 458		1 131	3 439
Insurance corporations	616		412	1 968
Financial auxiliaries	0	365	425	5 407

Exhaustiveness N7 (EUR 2.0 billion)

It includes production for own final use of software and database. The amount comes from chapter 3 see 3.3.2.4 Exhaustiveness).

C. Total GFCF of General Government (S.13)

Table 5-28 The process table of GFCF of General Government, in EUR (million)

	Administrative Records	Adjustments		Final estimate
		Data validation	Other conceptual	
Total	64 829	255	17 852	82 936
111	1 501	-116	23	1 408
112	55 772	-5 338	-1 027	49 408
113	6 201	-589	794	6 406
114	10	6 742	0	6 752
115	0	0	0	0
117	1 345	-444	18 062	18 963

Main data sources

GFCF of general government is mainly estimated based on data from the tax authority (DGFIP), whether it is the State accounts or accounting data in general in line with the general accounting plan. In the first case, the GFCF is identified as category of budget expenditure. In the second case, the accounting data is treated in much the same way as that of non-financial enterprises, but in much more detail. The heavy military equipment is classified as GFCF in the DGFIP data.

Data validation

Data validation accounts for S.13 is mainly composed with two adjustments. The first one consists in transferring from GFCF to intermediate consumption the “light” military equipment. In DGFIP data, all military equipment are accounted in GFCF, but the “light” military equipment (as bullets) has to be counted in intermediate consumption. That is why EUR 1.8 billion is subtracted from GFCF and added to intermediate consumption. The broken down by products (and so by assets) is realised with the same matrix that breaks down the total DGFIP GFCF in NACE 84 branch (*see above*). Hence, a large part of this adjustment is made on construction assets. This adjustment concerns tangible and intangible assets.

The second one is also for military equipment. In DGFIP data, military equipment expenses are recorded at the payment time, whereas in national accounts, it must be recorded upon delivery. This adjustment is estimated thanks to data from DGFIP and the Department of Defence. It represents EUR 2.1 billion:

- EUR 6.7 billion is added to weapons products (military equipment expenses upon delivery);
- EUR 4.7 billion is subtracted to DGFIP data (military equipment expenses at payment time).

Conceptual adjustments

There are two main conceptual adjustments for tangible assets. One correspond to the leasing adjustment (EUR 0.9 billion in asset AN.112 and AN.113), consisting in recording as GFCF the value of the asset at the time of signing (*see 3.5.4.2 Other conceptual adjustments*).

The second one is an adjustment on construction asset for balancing on other sources. The amount of GFCF of general government in some products (NACE 62 and NACE 58) is determined by the product approach and is equal to the output for own final use of general government in software and databases. However, with the matrix used to break down the total DGFIP amount of GFCF by products, an amount of GFCF is already allocated to these products. So, an adjustment in intangible asset consists to increasing the amount allocated to these products, and as the total amount of this adjustment has to be equal to the output for own final use in software and databases, the balance is subtracted from construction products (the most important asset in general government GFCF). It represent EUR 1.1 billion.

For intangible assets, adjustments are made to take account of the output for own final use of general government (*see 53.5.4.2 Other conceptual adjustments*) in R&D, software and databases. An adjustment is also made to transfer the market production in R&D from intermediate consumption to GFCF (EUR 3.7 billion).

D. Total GFCF of other institutional sectors

Pure households

Gross fixed capital formation by households except sole proprietorships is confined to acquisitions of dwellings and major maintenance work carried out on dwellings and is valued using a product approach. Part of this gross fixed capital formation forms the counterpart to output produced by households for their own use.

Table 5-29 The process table of GFCF of pure households (S.14B), in EUR (million)

AN	Commodity Flow Model	Exhaustiveness N3	Final estimate
111-112	102 161	4 941	107 102

NPSIH

Due to a lack of information, the GFCF of NPISH is estimated on the basis of hypotheses put together in particular from observations made in the general government sector, which vary from branch to branch. The amount of investments is assumed to be linked to the activity of NPISH, measured from the payroll. The amount of NPISH's GFCF for each branch is therefore estimated from the amount of the payroll of the branch and the investment/payroll ratio observed for government entities in the same branch.

Table 5-30 The process table of GFCF of NPISH (S.15), in EUR (million)

AN	Combined Data	Final estimate
111-112	3 974	3 974

5.11.3.2 Main data sources and their conversion to national accounts results - product approach

Gross fixed capital formation is valued using the product approach in order to estimate the potential supply of products which may, by definition, be used for gross fixed capital formation. This method comes within the framework of supply/use tables at their most detailed level. However, it is not confined to that framework and makes use of other information, especially data which are more detailed than the nomenclature of the supply/use tables. The methods vary depending on the types of product in question. In this section description for specific products are detailed.

A. Agricultural products

The agricultural products for which fixed capital is formed are breeding livestock, including dairy livestock (cattle, sheep, goats, pigs, horses) and draught animals, as well as new orchards and vine-yards. GFCF in livestock is subject to a quantity x price approach in which:

- acquisitions are represented by the flows of entry into the herd, by growth or by import;
- disposals are represented by the flow of livestock leaving the herd for export or slaughter.

The balance of inflows and outflows is measured by the change in livestock numbers, known from agricultural statistics. Prices and numbers are known by category. The price of animals for slaughter is identified.

Vineyard and orchard plantations are valued by multiplying the areas planted by an average planting cost per hectare, measured by the value of the plants, intermediate consumption and wage costs.

The agricultural products concerned by own-use production are plants and flowers on the one hand, and cattle, pigs, sheep and goats and horses on the other. For those products GFCF correspond to own-fixed formation.

B. Industrial products

Gross fixed capital formation in industrial products is valued when the supply/use tables of the products in question are compiled. The method entails estimating the amounts available for gross fixed capital formation by partitioning the domestic market. The total domestic market is obtained from the following equation:

$$\text{Domestic market} = \text{Output} - \text{exports} + \text{imports}$$

Valuation factors need to be introduced if the valuation is to be conceptually correct. As taxes (excluding VAT) are often negligible, these factors are basically distribution margins, especially any trade margins. As these are identified by applying rates to each type of use, the sums available for gross fixed capital formation can be deduced as and when a rate is determined for partitioning the domestic market as defined above.

A key for partitioning the market cannot generally be defined without expert advice, which is why very detailed information is used. As a general principle, so-called 'industry surveys' are used. The purpose of industry surveys is to monitor the activity of manufacturing industry at the most detailed level possible more than once a year. These same surveys are the statistical source for the industrial production index and are conducted either by the statistics departments of the supervisory authorities or by the professional organisations in question, in close liaison with government. The initial data sets are derived from the SIRENE register. The data collected from industry surveys relate mainly to manufactured products, where applicable in physical quantities. The survey is predicated on activities and therefore varies from one activity to another. Sales data at the level of the French version of Prodcom are generally available.

The method is based on the principle that, the greater the level of detail, the more unequivocal the definition of product use. At this level, the use of a product can be divided between:

- gross fixed capital formation and household consumption, where both uses are possible,
- gross fixed capital formation and intermediate consumption (surveys generally distinguish between finished goods and components/spare parts).

Some surveys include product use in terms of types of user. Where industry surveys allow, it is therefore possible to partition uses of products manufactured in France. All that remains is to partition external trade in activities which are basically open to international trade. This objective can generally be achieved using the most detailed levels of customs nomenclatures.

One of the strategies used involves compiling micro supply/use tables at the level of the Prodcom nomenclature, on the basis of sales data from industry surveys and external trade data, the most detailed nomenclature of which correlates comfortably with the Prodcom nomenclature. Rules for partitioning the domestic market can therefore be defined at this level of detail.

Other working methods are more simplified. One possible working method is to match a product or family of products with the activities which invest in it, the gross fixed capital formation of which is identified elsewhere (aircraft with airlines, agricultural equipment with agriculture, means of transport with transport companies etc.). This allows mini-balancing exercises to be carried out.

C. Construction

In the French accounts construction is shared between four separate products: a) F41A: Real estate development of buildings; b) F41B: Residential and Non-residential Building Construction; c) F42Z: Civil Engineering; d) F43Z: specialised construction work. Products F41B and F43Z are first estimated as a global product and then ventilated. The other two products (41A and 42Z) are estimated separately.

i. Supply/use table balancing parameters

Uses in the supply/use tables are known; they consist of output at basic prices and taxes on products. Output consists of sales by non-financial enterprises (corporations and sole proprietorships) only. Sales

have undergone all the corrections needed to make them exhaustive. Output also includes output produced for own final use.

Balancing the supply and uses balance requires a breakdown of production between the different uses: GFCF by institutional sector, change in inventories, final household consumption, and intermediate consumption specifying the sub-contracted part.

The resolution of the balance relies on a method that consists in crossing products and purchasers, and on a number of specific sources. First, it presupposes that the components of demand, particularly GFCF, are properly identified. GFCF comprises three components/products: non-residential building; housing (or residential building); and public works. The building itself includes new construction and major maintenance (work that results in an increase in the value or life span of the assets on which it is built).

Consumption - final and intermediate - covers minor maintenance, ordinary repair and maintenance work, which is simply aimed at maintaining or returning the assets to which it applies in a normal state of use. In national accounts, minor maintenance is counted as consumption, intermediate if the purchaser is a producer, final if the purchaser is a household with no production activity. The other important component of intermediate consumption is subcontracting.

The changes in inventories of construction within the supply and use balance correspond to buildings constructed at the initiative of developers who have not yet found a final purchaser. They do not constitute GFCF of an institutional sector and are recorded as changes in user inventories of the products F41B and F43Z.

There is no foreign trade for construction products, since all activity outside France is assumed to be carried out by non-resident branches or subsidiaries of French companies; there are no trading margins: the activity of property developers is not analysed as a resale activity.

ii. [Sources on uses](#)

The main source of the supply and uses balance is the annual structural survey (ESA) Construction. Part of the ESA Construction provides a double breakdown of the turnover of construction companies

- total turnover and subcontracted turnover by type of work built (individual and collective residential / non-residential / public works) referenced with the type of work carried out (on new or existing buildings); work on existing buildings corresponds to maintenance work.
- total turnover by type of customer (developers and contractors / private individuals / other private customers / public administrations) cross-referenced with the main types of works (building / public works).

Other, secondary sources are used among which:

- The Housing Satellite Account: allows the sharing of residential building turnover allocated to legal entities between private companies and sole proprietorships and General Government (S.13).
- The annual survey of the National Federation of Public Works (FNTP) on the activity of public works companies: allows the calculation of a new/maintenance ratio for the civil engineering activities of F43Z.

iii. *Estimated purchase costs for services resold as is*

These costs are inherent in the supply and use balances for real estate development (F41A and F42Z for infrastructure development). As the developer is considered a real estate service provider, the output of the product "Real estate development of buildings" (F41A) is considered to be the "margin" recreated by developers on the sale of real estate programmes.

The key to calculating the purchase cost of services resold as is for the entire real estate development is estimated from the analysis of studies on the breakdown of the price of a new real estate program available in the press or from professionals, arbitrated by the analysis of the structure of the income statement of real estate development companies.

D. *R&D*

In ESA 2010, produced assets extend to the results of research and development activities (R&D). As a result, R&D expenditure is now recorded as gross fixed capital formation (GFCF) with the exception of R&D subcontracting (purchase of R&D by an enterprise producing R&D), which remains intermediate consumption.

The case of market entities

A market entity can either purchase an R&D service from an external entity or it can perform R&D activities in-house. In the second case, the expenditure incurred for R&D constitutes output for own final use in base 2010. The expenditure in question covers, of course, the compensation of employees exercising an R&D activity, but also the purchase of equipment, buildings, etc. In principle, the corresponding output for own final use should be equal to the sum of these expenses plus a mark-up corresponding to the net operating surplus derived from the R&D activities. However, as the analysis of the accounts of enterprises selling R&D did not reveal a significantly positive net operating surplus, the mark-up used for enterprises with an R&D output for own final use is nil. It should be noted that this market output may be produced by non-market entities (less than 0.5% of market R&D, however).

The case of non-market entities

As for market entities incurring in-house R&D expenses, ESA 2010 leads us to consider that the expenditure of non-market entities for their R&D activities constitute an output for own final use, also estimated via the production costs, which include not only intermediate consumption but also consumption of fixed capital (CFC).

The recording of R&D expenditure as GFCF leads to the appearance of CFC in assets derived from R&D, which then increases the non-market output of the non-market enterprises, with as its counterpart an increase in the collective consumption of general government. This CFC is calculated via the perpetual inventory method, whilst supposing that the assets have log-normal mortality functions and that straight-lined depreciation is applied. The lifetime fixed for assets derived from R&D is conventionally 10 years.

Practical estimation of R&D

The practical estimation of GFCF in R&D used data from the R&D survey conducted by the Ministry of Higher Education and Research (MESR), which has been available since the beginning of the 1960s. This survey, which is carried out with both enterprises and government entities, allows R&D expenditure to be isolated according to whether it is purchased externally or carried out in-house (*see 3.22.3.2 More details about R&D*). The R&D survey, however, does not cover the activities of lecturer-researchers in universities: an adjustment is made to take account of this component. The non-market R&D output in the DGFI data

(sum of the production costs of the non-market R&D branch) is lower than the amounts transmitted by the MESRI. In order to reconcile these two data sources, part of the wages and intermediate consumption of the non-market education branch (including universities) is considered to contribute to the non-market R&D output. This part is removed from the education branch and added to the non-market R&D branch so that the non-market R&D output reported by MESRI is equal to the sum of the costs of this branch.

E. [Software and databases](#)

Market GFCF of software and databases

Market GFCF of software and databases is determined using a very detailed level in the product classification - "programming, consultancy and related activities" (NACE 62), "information service activities" (NACE 63) and "publishing activities" (NACE 58) - and deciding which of the services sold fall within GFCF and which intermediate consumption, for the enterprises that purchase them.

These sales are classified using data from the annual sectoral surveys (ESA): these surveys enable enterprises' turnover to be broken down according to the different products sold. The market output of software and databases by enterprises whose main activity is not classified in 62, 58 or 63 is therefore also taken into account.

Software and database production for own final use

The method proposed in base 2010 for measuring software and database production for own final use was inspired by the OECD Handbook on Deriving Capital Measures of Intellectual Property Products. This method is based on the payrolls of professions likely to produce software (*see 3.19.4.2 More details about software and databases*). An average time spent on the production of software for own final use (at most 50% of the working time) is associated with each profession. The list of professions was supplemented to take account of database production for own final use. Then, on the basis of the payroll of people engaged in production for own final use, a production for own final use figure to take account of social contributions, equipment costs (intermediate costs and consumption of fixed capital) and gross operating surplus is extrapolated. The payroll of the professions in question is measured on the basis of the Annual Declaration of Social Data (DADS) in the private and public sectors.

F. [Entertainment, Literary and Artistic Originals \(AN.1174\)](#)

The estimation methods used are specific to these assets. It is difficult to use accounting data in a method similar to that used for the tangible component because the intangible assets entered by enterprises in their own accounts include many more items than those entered in the field of fixed assets in the national accounts. In general, the method used corresponds more to the product approach. In particular, it is based on the observation that the creators of the intangible assets in question, be they individuals or enterprises, use them personally in order to derive income from them.

Audio-visual assets

As audio-visual activities are divided into categories in the French classification of activities (NAF), it is easy to identify the enterprises that, in Esane, carry out a main activity of this type. Not all of their activity leads to the creation of assets: the production of advertising or commercial films and the production of one-time television broadcasts are not likely to generate revenues after their initial use, and therefore they do not contribute to the creation of assets. Moreover, there are numerous and often complex organisational methods.

Despite this diversity, a creation of intangible assets that conforms to the definition given by ESA 2010 can be identified, with the intangible assets created by enterprises within the scope of their own activity. Rather than using balance sheet data, it is more convenient to measure GFCF in intangible assets by the capitalised production costs of these enterprises, which is shown on the income statement, and which certainly only concerns these assets. This production is included in the standard ESANE account, and is one of the components of the production of products of the resources — uses balance concerned.

The international flows relating to these products relate to the income generated rather than the sales and purchases of the assets themselves. It is therefore assumed that intangible audio-visual assets are not imported or exported.

Therefore, GFCF in intangible assets of an audio-visual nature is measured by the capitalised production of the companies whose main activity is one of the audio-visual activities.

Other literary and artistic assets

The production process for literary and artistic assets is simpler outside the audio-visual field. Independent producers – authors and artists – play a significant role in it. Their activity is covered by the usual statistical sources for enterprises, under “Non-commercial profit”. However, their capitalised production is not identified and furthermore, their GFCF cannot be measured by balance sheet data. And to an even greater extent than for the audio-visual sector, foreign trade – in the assets themselves – may be neglected.

Finally, literary and artistic assets result from the activities of two types of producers:

- publishers, which remunerate authors on a lump sum basis and which retain ownership of the original work;
- independent authors who personally exploit their own rights.

GFCF made by publishers is measured by their capitalised production, as for the audio-visual sector. On the other hand, the measurement of GFCF for own-account production carried out by independent artists and authors does not appear in the enterprise data compiled in ESANE. Finally, there are statistics concerning copyright paid by publishers and collecting societies.

5.12 Changes in inventories

Changes in inventories are evaluated by institutional sectors. They are mainly in the non-financial enterprises sector (S.11+S.14AA). In the institutional sectors S.12 and S.15, given their specific activities, changes in inventories must be weak. As it is difficult to isolate changes in inventories in the data used to estimate S.12 and S.15's accounts, they are supposed to be equal to zero.

Table 5-31 Change in inventories by institutional sectors, in EUR (million)

	Materials and supplies	Work-in-progress	Total
S.11+S.14AA	-632	-3 539	-4 171
S.12+S.14AF	0	0	0
S.13	228	5	233
S.14B	82	0	82
S.15	0	0	0
S.2	0	0	0
Total	-322	-3 534	-3 856

5.12.1 Non-financial enterprises (S.11+S.14AA)

In this section, the method used to fulfil the changes in inventories in the Process Table is described. The different steps in the computation are the same than for the production approach (see 3.3.2.3 *Conceptual adjustments*).

5.12.1.1 *Surveys and censuses*

This section concern changes in inventories of agricultural branches.

Changes in producer inventories (line “work-in-progress in the Process Table) concern the following products: soft wheat and spelt, durum wheat, barley, grain maize, other cereals, oil seeds and oleaginous fruits, other industrial crops, potatoes, tobacco, wine, cattle, pigs, equines, sheep, goats and forestry. The main sources are FranceAgriMer, the Annual Agriculture Statistics and the National Institute of Geographic and Forestry Information. There are evaluated at EUR -596 million.

Changes in material and supply inventories concern the following products: fertilizers and phytosanitary. The source used is the Annual Agricultural Statistics.

5.12.1.2 *Combined data*

The main source to carry out the changes in inventories of non-financial enterprises (S.11+S.14AA) is Esane. Two types of inventories are detailed:

- changes in inventories of materials and supplies (which regroup changes in inventories of raw material and supply and of goods for resale): EUR 5.2 billion;
- changes in inventories of work-in-progress (which regroup changes in inventories of finished goods and work-in-progress): EUR 2.5 billion.

In business accounts, changes in inventories are evaluated by the difference between the inventories at the end of accounting year and the inventories at the beginning of accounting year. Inventories at the beginning are at acquisition cost (for produced products at the production cost). Inventories at the end of accounting year are evaluated with different method (first in first out, the weighted average cost method...). In business accounts, the following equality is respected in physical quantity and in value:

$\text{input} - \text{output} = \text{closing inventories} - \text{opening inventories.}$

5.12.1.3 *Extrapolation and models*

Transfer from Esane by economic activities to products

To fulfil the Process Table and more specifically extrapolation and models and balancing, the breakdown of changes in inventories by products is necessary. Esane gives changes in inventories by economic activities. In addition of data validation, two adjustments are made to Esane’s data before the transformation into products:

- changes in inventories in the construction (F41A, L68A and L68R) are reduced because of the lands;
- changes in inventories of finished goods or work-in-progress and of goods purchased for resale in real estate activities are transferred into changes in inventories of raw material and supplies

The transformation into products is carried out by types of changes in inventories:

- Inventories of finished goods and work-in-progress are broken down by products using the matrix for the breakdown of non-stocked production of non-financial enterprises (which comes from Esane and the ESA survey, *see 10.1.1 Esane*).
- For inventory of goods purchased for resale, the distribution by products is derived from a matrix which was realised from the Annual Business Survey (EAE).
- For inventories of raw material and supplies, the breakdown is realised with the intermediate input matrix.

Then, an adjustment is done: as for economic activities, construction products (F41A, L68A and L68R) cannot be in inventories of finished goods or work-in-progress, nor in inventories of goods purchased for resale. So changes in inventories of finished goods or work-in-progress and of goods purchased for resale in these products are transferred into changes in inventories of raw material and supplies. As a result of this method, changes in inventories by products and by types of stocks are determined.

However, this transformation from economic activities to products is not considered as the better source for changes in inventories of some products: agricultural products (A01Z, A02Z, A03Z) and manufacture of beverages (C11Z). For example, agricultural products obtained by this method are the result of data from Esane by economic activities (so comes from many economic activities not only agriculture) which are transformed by matrix to be by products, but data for agricultural products exists. That is why other sources are used and some adjustments are made to cancel change in inventories in these products obtained by the above method.

In Commodity flow models in the Process Table, they are changes in inventories of products which have to be deleted because another data is preferred which gives directly changes in inventories of some products (and not of an economic activity):

- for changes in inventories of work-in-progress: changes in inventories of agricultural products and manufacture of beverages (negatively counted). It represents EUR 0.1 billion;
- for changes in inventories of materials and supplies: changes in inventories of agricultural products (negatively counted). It represents EUR -0.5 billion.

To estimate these changes of inventories, the data obtained above (changes in inventories by products and by types of stocks from Esane) is used. In other extrapolations and models in the Process Table, changes in inventories of these products (for non-agricultural branches) are added and are estimated with data from the Ministry of Agriculture.

5.12.1.4 Data validation

Data validation regroups all adjustments made by Esane's analysis. In general, they are small adjustments which depend on tax returns of individual company. There is only one substantial adjustment on military equipment. Since ESA 2010, military equipment (frigates, aircraft carriers, fighter jets or even armoured car with weapons) have been public investment (GFCF) and have been recorded at the time of delivery. Hence, most companies which create military equipment records down payments from the State in their sales in accordance with the principles of progress accounting. Indeed, for equipment such as a submarine, the production process includes technical milestones that correspond to identified parts of the submarine. State payments correspond to these milestones. Therefore, payments higher than deliveries may justify storage and conversely, deliveries greater than payments destocking. That is why there is an adjustment in function of the public GFCF to enhance or reduce storage. This adjustment is neutral on value added:

- either there are deliveries: sales are enhanced and changes in inventories of finished goods or work-in-progress are reduced;
- or there are no delivery but only down payments: sales are reduced and changes in inventories of finished goods or work-in-progress are enhanced.

The amount comes from public administration who knows the amount of GFCF for military equipment in function of their delivery status. It is added (or subtracted) from production sale and subtracted (or added) to their changes in inventories of finished goods or work-in-progress. They represent EUR 2.7 billion in 2010.

5.12.1.5 Other conceptual adjustments

There are three conceptual adjustments. These adjustments are described in 3.3.2.3 Conceptual adjustments.

Removal of lands

Changes in inventories in the construction (F41A, L68A and L68R) are reduced because of the lands. In construction of buildings (NACE 41) and real estate activities (NACE 68), inventories include the value of lands which are not produced. That is why an adjustment is made to reduce inventories of the value of lands. In these two sectors, changes in inventories are decreased of 40% of producer inventories, 40% of merchandises changes in inventories and 30% of raw material changes in inventories.

Construction activity

For the construction activity (F41A, L68A and L68R), business accounts are particular: companies can declare in inventories of finished goods or work-in-progress or in inventories of goods purchased for resale uncompleted structures or buildings not sold yet. However, in national-accounts concepts, these economic activities cannot have inventories of work-in-progress nor inventories of goods purchased for resale. Therefore, changes in inventories of finished goods or work-in-progress and of goods purchased for resale in these economic activities are transferred into changes in inventories of raw material and supplies. This adjustment is neutral on value added.

The same adjustment is done by products: as for economic activities, construction products (F41A, L68A and L68R) cannot be in inventories of finished goods or work-in-progress, nor in inventories of goods purchased for resale. So, changes in inventories of finished goods or work-in-progress and of goods purchased for resale in these products are transferred into changes in inventories of raw material and supplies (*see below*).

Appreciation

In French National Accounts, appreciation is defined by the difference between the two measurements of inventory change (inventory change in business accounts – inventory change in national accounts). This must be distinguished from holding gains which, in the National Accounts, represent the balance between inventory at the beginning of the period and inventory at the end of the period, even when, like the holding gains, it originates in price movements that affect stored goods.

5.12.1.6 Balancing

Changes in inventories are mainly determined by Esane. Nevertheless, a limited residual balancing adjustment is made in order to assure the resources/uses balance for each product. It represents EUR 0.7 billion for changes in inventories of work-in-progress and EUR -0.1 billion for changes in inventories of materials and supplies.

5.12.2 General Government (S.13)

The main source is administrative record: DGFIP gives changes in inventories. The valuation methods for accounting stocks are "weighted average cost" and first in first out (FIFO). The data is available by type:

- changes in inventories of finished good and work-in-progress, classified in work-in-progress in the Process Table;
- changes in inventories of materials and supplies.

The amount of these changes in inventories are not very high: EUR 0.1 billion.

An adjustment is made to account for forests growth, which are in general government. The amount comes from the Ministry of Agriculture. It is EUR 0.1 billion.

According to the public accounting classification, the product weapons and ammunitions (C25C) could be treated as changes in inventories. Attempts were carried out to estimate stocks and changes for this product: it was really complex to fix satisfactory levels for 2010, and it was too fragile to do that every year. Also, it was decided to treat this product as an intermediate consumption. Indeed, this treatment does not affect nor the public B9, neither the GNI.

5.12.3 Households (S.14B)

Changes in inventories of households are changes in inventories of finished goods and work-in-progress in the product forestry and logging (A02Z). It represents EUR 0.1 billion.

5.12.4 Link with holding gains less holding losses adjustments

Holding gains and losses are not equal to appreciation. The difference comes from definition of this notion. The below formulas explain the link between these variables.

Table 5-32 Link between holding gains less holding losses adjustments, in EUR (million)

	S.11&S.14AA	S.13	S.14B
Opening balance sheet	323 995	14 707	5 716
Transactions	-4 171	233	82
Other changes in volume	10 423	898	931
Holding gains and losses	-75	75	0
Closing balance sheet	330 172	15 913	6 729

By the business general plan of accounts (PCG), the balance between the closing balance sheet and the opening balance sheet is equal to change in inventories (with a business definition):

$$\Delta_{\text{business balance sheet}} = \text{business change in inventories}$$

In National accounts, the balance between the closing and opening balance sheet is not equal to changes in inventories (or transactions):

$$\Delta_{\text{NA balance sheet}} = \text{NA changes in inventories} + \text{other changes in volume} + \text{holding gains and losses}$$

In French National Accounts, "appreciation" is often defined by the balance between changes in inventories in business accounts and in national accounts, but more precisely it is:

$$\text{Appreciation} = \text{business change in inventories} - \text{removal of lands} - \text{NA changes in inventories}$$

With these three formulas, appreciation checks the following equality:

$$\text{Appreciation} + \text{removal of lands} = \Delta \text{business balance sheet} - \Delta \text{NA balance sheet} + \text{other changes in volume} + \text{holding gains and losses}$$

And, by hypothesis in French National accounts (*see 3.3.2.3 Conceptual adjustments*), the closing inventories are evaluated at a price close to the price at the end of the year. Faster the inventory turnover is, more true the hypothesis is. Hence:

$$\Delta \text{NA balance sheet} = \Delta \text{business balance sheet}$$

Therefore:

$$\text{Appreciation} + \text{removal of lands} = \text{other changes in volume} + \text{holding gains and losses}$$

For non-financial enterprises (S.11+S.14AA,) the sum of holding gains less holding losses adjustments (EUR 10 423 million) and other changes in volume (EUR -75 million) are almost equals to other conceptual adjustments in the Process Table (EUR 10.385 billion). The balance between these two amounts is less than EUR 40 million and it is the result of a different sources used for inventories of woods and forests. This difference is not relevant. These minor differences are due to the overlap between the timetables for the compilation of the balance sheet and the non-financial accounts. As it is a very weak amount, this has not been corrected yet. It is for the same reason than General Government's transactions (EUR 296 million) are not exactly equal to General Government's changes in inventories (EUR 233 million) in non-financial accounts.

5.13 Acquisition less disposal of valuables

Valuables are not subject to an in-depth statistical investigation in the French national accounts. Only households acquire items of value. It has been decided to limit valuables to goods made of precious metals, ingots and goldsmiths' wares. In this way, an arbitrary amount has been deducted from the initial estimate of household consumption on the corresponding products and allocated to the acquisition, net of disposals, of valuables. It totalled EUR 681 million in 2010 (*see below*).

Table 5-33 The supply and use table of precious metals and ingots and goldsmiths' wares, in EUR (million)

	Precious metals	Ingots and goldsmiths' wares	Total
Supply	19 505	8 512	28 017
Output	8 705	2 578	11 283
Imports	9 962	2 402	12 364
Margins	838	3 532	4 370
Use	19 505	8 512	28 017
Intermediate consumption	13 216	487	13 703
Household final consumption expenditure	106	5 739	5 845
GFCF	0	15	15
Inventories (change)	-333	-224	-557
Exports	6 262	2 068	8 330
Acquisition less disposals of valuables	254	427	681

5.14 Balance of exports and imports

This section presents the details of the foreign trade component of national accounts (NA), as published each year by the National accounts department (NAD). Foreign trade is mainly derived from two statistical sources:

- trade in goods is recorded by the French Directorate General of Customs and Excise;
- trade in services and complementary data (especially on goods not crossing the border) are estimated by the Directorate of Balance of payments (BoP), which is in France integrated to the French Central Bank.

The treatment of exports and imports is almost entirely symmetric in NA: the general principles apply to both sides of the balance. The treatment of exports and imports is therefore described jointly. Nevertheless, when necessary, specific adjustments (e.g. international merchanting) applied to one side of the balance only are described in detail.

It should be noted as a preamble (*see the focus below*) that the tables presented in this document show minor discrepancies with the process tables. This is due to the treatment of goods sent abroad for processing which differ between annual publications (as presented in this document) and the process tables. It only changes the goods vs. services breakdown of exports and imports and not the total amount.

Focus: The treatment of goods sent abroad for processing in the Process tables and in the regular publications

For the needs of the supply and use tables, the net record of goods crossing the border for processing abroad are included in the trade in goods in annual publications of the NA. In the process tables however, the part of trade in goods sent abroad for processing estimated by the Balance of Payments is classified as trade in services. In this section, we have chosen to return to the presentation of the published accounts in order to be able to describe at the most detailed level the processing of the balance of payments data.

The tables presented below are coherent with regular publications of the NAD and show discrepancies with the process tables attached:

- in annual publications, the NAD considers goods sent abroad for processing as trade in goods (on a net basis, *see infra*). This is due to the needs of supply-and-use tables: the net value of trade in goods sent abroad for processing is imputed on each type of goods.
- in the process tables, and in coherence with ESA 2010, the value of the service linked to trade in goods sent abroad for processing is classified as trade in services.

This difference does not change the volume or the balance of foreign trade. In particular, the NAD fully complies with the principle of the “net record” of goods sent abroad for processing. This change only applies to the breakdown between trade in goods and services (*see table 5-35*).

Table 5-34 The treatment of goods sent abroad for processing in the process tables and in the published national accounts, in EUR (million)

	Treatment of goods sent abroad for processing in the process tables	Treatment of goods sent abroad for processing (published)	Difference (process tables vs. published)
Exports	-9 876	-9 876	0
Exports of goods	-13 950	-9 876	-4 074
Exports of services	4 074	0	4 074
Imports	-9 436	-9 436	0
Imports of goods	-11 630	-9 436	-2 194
Imports of services	2 194	0	2 194

5.14.1 Exports and imports of goods

Tables 5-36 and 5-37 below exhibit a process table decomposition of exports and imports of goods with an intra/extra EU decomposition, in coherence with published NA.

Table 5-35 The Process table of exports and imports of good, in EUR (million)

	Basis for NA Figures		Adjustments				Final estimate	
	Administrative Records	Extrapolation and Models	Data validation	Conceptual	Exhaustiveness			Balancing
					N4	N5		
Exports of goods	392 764	1 245	-166	-3 921	685	0	-22	390 586
Imports of goods	459 184	1 666	1 155	-30 769	0	1 100	-107	432 229

Table 5-36 Exports and imports of goods intra-EU and extra-EU, in EUR (million)

	Intra-EU	Extra-EU	Total
Exports of goods	233 254	157 332	390 586
Imports of goods	249 692	182 536	432 229

Note (reminder): As detailed above (*see focus above*), these tables (and the following) exhibit differences on the conceptual adjustments and therefore on the total with the 2010 GNI inventory process tables, due to different classifications of goods sent abroad for processing.

5.14.1.1 Data sources

Table 5-37 Decomposition of data sources of trade in goods, in EUR (million)

	Exports	Imports
Data sources	394 009	460 850
Administrative Records (special trade statistics + military equipment)	392 764	459 184
Extrapolation and Models (Intrastat exchanges below the threshold)	1 245	1 666

A. Administrative Records (exports: EUR 392.8 billion; imports: EUR 459.2 billion)

Trade in goods is measured by the Department of Statistics and economics studies of the French Directorate general of customs and excise (DGCE). This department (hereby Foreign Trade Statistics Department, FTSD) is part of the French official statistical system and therefore subject to the same requirements as all producers of public statistics (including INSEE): quality of statistics, independence, etc. This department also publishes each month its own balance of trade in goods, which is based on the same data as NA but may differ conceptually.

Each month, FTSD transmits to NAD the details of “special trade statistics”, which record most of the transactions of goods crossing the border. More specifically:

- Each good traded with countries outside the EU has to be declared at the border through the “document administratif unique” (single administrative document, DAU). Trade in goods with non-EU countries are therefore directly recorded at the border.
- Each good traded by large firms inside the EU has to be declared each month by the firms to monitor VAT compliance through “déclarations d’échanges de biens” (goods trading declarations, DEB). Trade in goods for small and medium businesses inside the EU is extrapolated by FTSD (*see below*).

Flows of military goods are also sent each month by the FTSD in a separate file for confidentiality issues, but included in the trade statistics both of the FTSD and of the NAD.

B. Extrapolation and Models (EUR 1.2 billion; EUR 1.7 billion)

As detailed above, intra-EU trade is directly declared by large firms only, according to the intra-Community Intrastat framework. Indeed, in 2010 in France:

- intra-EU trade did not have to be declared by firms exonerated from VAT;
- intra-EU imports did not have to be declared if the sum of imports of the previous year was below EUR 150 000; above EUR 150 000, transactions had to be declared with various levels of precision depending on supplementary thresholds (EUR 230 000 and EUR 2 300 000).

The same EUR 150 000 threshold applied to the declaration of exports but a simplified declaration was still required below that threshold. The level of detail needed for exports also depended on two other thresholds (EUR 460 000 and EUR 2 300 000).

Therefore, FTSD proceed to an extrapolation of the transactions under these thresholds, based on VIES declarations for exports (VAT Information Exchange system between European countries) and on national VAT declarations (“CA3”) for imports. The NAD uses the total correction (EUR +1.2 billion for exports and EUR +1.7 billion for imports in 2010) made by FTSD and breaks down this estimation by products for the supply-and-use tables proportionally to their share in FTS among European countries.

5.14.1.2 Adjustments

Table 5-38 Decomposition of adjustments made upon trade in goods, in EUR (million)

		Exports	Imports
Total adjustments		-3 423	-28 621
Data validation		-166	1 155
	Correction of Mayotte	-166	289
	Imports of uranium		866
Conceptual adjustments		-3 921	-30 769
	Withdrawal of Airbus coordinated manufacturing	-6 411	-7 039
	Correction on goods sent abroad for processing (alignment on BoP data)	-9 876	-9 436
	Withdrawal of goods reclassified as services	-3 127	-3 576
	Addition of bunkering and victualling	2 349	1 534
	Addition of repair activities (BoP estimates)	3 550	2 008
	Addition of BoP international merchanting (exports)	9 594	
	Cif-fob adjustment (imports)		-14 260
Adjustments for exhaustiveness		685	1 100
	Correction of international merchanting (exports)	685	
	Tobacco and drugs smuggling (imports)		1 100
Balancing		-22	-107

Data validation (exports: EUR +0.2 billion; imports: EUR +1.2 billion)

Several minor adjustments are made to supplement foreign trade statistics (FTS).

First, FTS data prior to 2014 are corrected to include Mayotte into the scope of national accounts from 2010 onward. In order to correctly include Mayotte in national accounts, then DGCE has provided data on exchanges between Mayotte and Metropolitan France (both withdrawn from imports and on the exports) and on exchanges between Mayotte and the rest of the world (added). In 2010, this correction amounts to EUR -0.2 billion for exports and to EUR +0.3 billion for imports.

Imports of uranium (EUR +0.9 billion of imports) are reclassified from uranium originally identified as sent to France for processing to imports for intermediate consumption of French nuclear plants. This reclassification comes from a specific investigation between INSEE, DGCE and BoP for the benchmark year 2010.

Conceptual adjustments (exports: EUR -3.9 billion; imports: EUR -30.8 billion)

Conceptual adjustments are required to comply with ESA 2010 concepts. Most of these adjustments apply to exports and imports jointly.

a) Coordinated manufacturing by Airbus

Coordinated manufacturing by Airbus is withdrawn from FTS (EUR -6.4 / - EUR -7.0 billion). Coordinated manufacturing is very similar to goods sent for processing abroad (*see below*). Indeed, aircrafts often transit between Toulouse and Hamburg (German) for the needs of the coordinated manufacturing process of Airbus, mainly for installation of cabins of A320 and A380. As for goods sent for processing abroad (but recorded in a different nature of transaction by FTSD), FTSD records gross flows of aircraft each time it crosses the border, even without change of economic owner-ship.

The data corresponding to such activities are withdrawn from FTS and the value of the manufacturing service is counted by the BoP in the estimates of goods sent abroad for processing.

b) Trade in goods sent for processing abroad

Trade in goods sent for processing abroad is recorded on a net basis; hence, gross flows are corrected (EUR -9.9 billion on exports; EUR -9.4 billion on imports). As recommended by ESA 2010 1.51f, the gross flows of goods crossing the borders for processing abroad or in France are no longer included in national accounts. However, such goods are still measured at the border by the DGCE and included in FTS and in raw data on goods sent by DGCE. Therefore, gross flows of goods sent to France/abroad for processing (or returning abroad/to France after processing) have to be withdrawn from imports/exports statistics. Instead, the value of the processing service is added (following BoP estimates).

For the needs of the supply and use tables, the net record of goods crossing the border for processing abroad are included in the trade in goods in annual publications of the NA. In the process tables however, the part of trade in goods sent abroad for processing estimated by the Balance of Payments is classified as trade in services (*see focus above*).

c) Trade in goods for victualling and bunkering

Trade in goods for victualling and bunkering is added (EUR +2.3 / +1.5 billion). Exports of bunkering/victualling (i.e. fuel and food bought by non-resident airlines in resident airports) are collected by FTSD but not included in their own publication (hence classified as adjustment). Moreover, for the benchmark year 2010, EUR 0.4 billion have been added from FTSD estimates to correct for a plausible underestimation of the level of exports of bunkering/victualling due to a transition to a numeric declaration system.

On the imports side (fuel/food bought by resident airlines in non-resident airports), FTSD is not able to collect data. As a benchmark, NAD uses data transmitted by the French Directorate general for civil aviation (DGAC) from 1996 and assumes a stability of these imports in volume, which may lead to a small underestimation of the imports of victualling/bunkering. New data transmitted by the DGAC for the 2010 GNI Inventory show that the consumption (in volume) of fuel by French aircraft returning from abroad has increased by 52 % between 1996 and 2010 (and is rather stable afterwards). It is therefore likely that the

imports of bunkering and victualling are underestimated by EUR 800 million ($=0.52*1.534$) in 2010. Moreover, the BoP also computes its own estimates of bunkering and victualling, which can be used as a benchmark: in 2010, imports amounted to EUR 2 billion according to the BoP, hence indicating an underestimation by EUR 500 million of imports in NA.

All in all, it seems that the underestimation of imports of bunkering and victualling in the NA may range between EUR 500 and 800 million. This issue will be investigated further for the 2020 benchmark revision, but seems non material in the 2010 benchmark revision.

d) Repair activities

Repair activities are added from BoP estimates (EUR +3.6 / EUR +2.0 billion). This corresponds to the net amount of the industrial services (as for goods for processing abroad). Contrarily to goods sent for processing abroad, gross flows of goods crossing the border for repair are not included in FTS and do not have to be withdrawn to comply with ESA 2010 §3.166d. Repair activities are also included in trade in goods for the needs of supply-and-use tables.

e) Reclassification of certain products

Finally, certain products classified as goods in FTS are reclassified as services in NA (EUR -3.1 / EUR -3.6 billion). Such goods are related to publishing; the production of cinematographic films, video and television programmes; sound recording and musical publication; architectural and engineering activities; technical inspection and analysis activities; other specialised scientific and technical activities; creative, artistic and entertainment activities; library, museum and other cultural archives and other service activities.

Finally, two conceptual adjustments made respectively to exports and imports:

f) International merchanting (exports)

International merchanting, estimated by the BoP, is added to exports on a net basis (EUR +9.6 billion) to account for trade in goods without physical transformation made by resident firms without crossing the French borders.

g) Cib-fob adjustments (imports)

Imports are measured cif but appear fob in the global account of imports after the cif-fob adjustment (EUR -14.3 billion). The cif-fob adjustment corresponds to the value of the transportation and insurance costs in the territory between the partner country and the French border. These costs are included in the value of goods imported to France – but not in the value of exports. In order to harmonize the comparison of exports and imports (fob-fob), both FTSD and NAD proceed to a cif-fob adjustment of imports.

In practice, and even if FTSD and NAD follow the exact same principle, the NAD proceeds to its own adjustment because the perimeter of imports differs between FTS and NA for all reasons detailed above. The NAD adjustment is largely driven by information given by FTSD: using FTSD survey data, the cif-fob adjustment is estimated to be proportional (3.2 %) to imports of goods after the various adjustments of NAD.

Focus: The estimation of international merchanting in the National Accounts

The estimation of international merchanting in the French NA mostly relies on the raw data sent by the BoP. International merchanting data from the BoP data are built on two sources, as for the rest of trade in services: large firms (DDG) and small and medium businesses (ECEIS survey).

International merchanting is estimated to EUR 9.6 billion in 2010 by the BoP (2012 annual report), of which EUR 8.2 billion for DDG and EUR 1.4 billion for ECEIS. The total amount is broken down by products following data collected on DDG.

For exhaustiveness reasons, NAD also adds international merchanting for large firms that are not included in the BoP data (EUR +0.7 billion in 2010) by using firms data. The final NA estimates of international merchanting therefore amount to EUR 10.3 billion in 2010.

Table 5-39 International merchanting from the BoP to the NA, 2010, in EUR (million)

BoP Surveys and Records (published in their 2012 annual report)	Of which : DDG	Of which : ECEIS	International merchanting not included in BoP data (N5)	Total in the NA (added as exports of goods)
9.6	8.2	1.4	0.7	10.3

Exhaustiveness (EUR +0.7 billion on exports; EUR +1.1 billion on imports)

As described above, international merchanting is corrected and added to exports for large firms not included in the BoP data (EUR +0.7 billion on exports).

On the imports side, tobacco and drugs smuggling are specifically estimated by INSEE and added as an exhaustiveness adjustment (N2): this estimation is detailed in chapter 7.

5.14.1.3 Compliance of trade statistics to ESA 2010

To the extent possible, French accounts comply to ESA 2010.

NAD strives to record the flows of goods fully in accordance with the notion of change in economic ownership, as required in ESA 2010, §1.51f. In particular, goods sent for processing abroad are registered on a net basis, as detailed above. Moreover, imports and exports of goods for repairs, temporary entries or goods in transit are excluded from the trade in goods as recommended in §3.166d (the corresponding service is however recorded as trade in goods for the needs of supply-and-use tables, *see above*).

Deliveries between affiliated enterprises involving a resident unit and a non-resident unit are included in the special foreign trade statistics, because goods cross the border. No special adjustment is therefore required to meet the exhaustiveness required in ESA 2010, §3.163. No price adjustment is made to the data because the “nature of transaction” code in the FTS does not distinguish intra-group transactions from other transactions. However, specific problems regarding (but not limited to) misspecification of prices for intra-group trade may be identified in the supply-and-use tables and lead to further investigation with data providers and, in some cases, to specific corrections. No corrections were introduced for the benchmark year 2010.

Most of the trade in goods not crossing the border is taken into account through international merchanting estimates (§3.164 d). Regarding other parts of ESA 2010, §3.164:

- The Foreign Trade Statistics Department (Directorate General for Customs and Excises) has informed the NAD that fishery products in international waters sold directly on extra-EU coasts (Seychelles islands, Gulf of Guinea, etc.) are actually included by the Foreign Trade Statistics Department and are therefore included in National accounts. The NAD considers that fishery products are correctly included in NA.

- The residency of transport equipment, and especially of ships imported in France is carefully examined by FTSD, according to the Compilers Guide on European statistics on international trade in goods. The classification of “French” ships by the FTSD is guided by the concept of economic ownership, mostly determined by the flag and the home port, but also other criteria such as by financial ties between French and non-resident operators (especially for leasing operations). Therefore, the NAD follows the FTSD classification.
- About destroyed products, it should be noted that FTSD correctly accounts for goods destroyed during or after border crossing. Since the NAD has no other possibility to account for goods destroyed before border crossing but after a change of economic ownership (which is a very specific theoretical case), the NAD does not proceed to other corrections.

Goods corresponding to cases a-j in ESA 2010, §3.165, are directly accounted for in special trade statistics because such transactions are recorded in FTS at the country’s border. Imports corresponding to tobacco and drugs smuggling (case k), and transmissions below the threshold (case l) are also included in the national accounts after specific corrections (adjustments for exhaustiveness on imports).

As recommended in ESA 2010, §3.166, goods corresponding to cases a, c and d are either not accounted for in FTS (flows of goods in transit, or of goods for repair) or withdrawn by national accountants (goods sent abroad for processing). They are therefore excluded from accounts. Goods that leave the country temporarily may be recorded by FTSD but are withdrawn by national accountants. However, goods in transit which are lost or destroyed are recorded on a geographical basis and not on an economic basis (i.e. goods are accounted for if they cross a border, no matter if the economic ownership changed before or after the crossing).

As recommended by the GNP Committee Task Force on Intrastat (CPNB 203), trade statistics are regularly subject to international comparisons. The DGCE itself has conducted significant work as part of the SIMSTAT project.

Finally, output and imports are set against final uses in the supply and use balance during each account production campaign and at each detailed level of product.

5.14.2 Exports and imports of services

Tables 5-41 and 5-42 below exhibits a process table decomposition of exports and imports of services with an intra-EU/extra-EU geographical breakdown, in coherence with published NA.

Table 5-40 The process table of exports and imports of services, in EUR (million)

	Basis for NA Figures		Adjustments			Final estimate
	Surveys & Censuses	FISIM	Data validation	Conceptual	Balancing	
Exports of services	143 372	3 916	-7 108	-10 319	25	129 886
Imports of services	128 392	1 803	-3 234	-128	26	126 859

Table 5-41 Exports and imports of services intra-EU and extra-EU, in EUR (million)

	Intra-EU	Extra-EU	Total
Exports of services	74 643	55 243	129 886
Imports of services	79 720	47 139	126 859

Note (reminder): As detailed above (*see focus*), these tables (and the following) exhibit differences on the conceptual adjustments and therefore on the total with the 2010 GNI inventory process tables, due to different classifications of goods sent abroad for processing.

The methodology between exports and imports of services is symmetric and is therefore described jointly.

5.14.2.1 Data sources

Table 5-42 Data sources for trade in services, in EUR (million)

	Exports	Imports
Data sources	147 288	130 195
Surveys and Censuses (trade in services)	143 372	128 392
Extrapolation and Models (FISIM)	3 916	1 803

A. Surveys and Censuses (exports: EUR 143.4 billion; imports: EUR 128.4 billion)

Trade in services is estimated in the Balance of Payments, which is published by the statistical directorate of the French Central Bank (Banque de France). More specifically, the relevant data for national accounts are mainly collected through two sources:

- the declarations made by large firms – direct general declarants (DDG) – which were about 120 in 2010. DDG are firms operating abroad for more than EUR 30 million in services or income. They include (but are not limited to) large insurance companies;
- the survey conducted on more than 5 000 small and medium businesses (SMBs) in the Additional Survey of International Trade in Services (ECEIS), designed by the BoP and stratified by sector and volume of sales (including an exhaustive sample of “large” SMBs).

The French Central Bank (Banque de France) and the Directorate general for Entreprise (DGE) also conduct an ad hoc survey in airports/railway stations (Enquête auprès des visiteurs venant de l'étranger), to estimate expenses made by foreign tourists in France. Another monthly survey is conducted on 20 000 individuals to estimate expenses made by French tourists abroad (Enquête Suivi de la Demande Touristique).

All the data are collected by the BoP on an accrual basis (ESA 2010, §3,177). For DDG, data are collected on a monthly basis and are revised quarterly (for late declarations), and up to 3 years. For ECEIS, data are collected on a yearly basis and three distinct estimates are made upon the survey data:

- for the year n-1, in the annual report published each year n, ECEIS data are estimated through an extrapolation (based on previous data);
- a first estimation (semi-definitive results) is made with preliminary survey data for the year n-2;
- a final estimation (definitive results) for the year n-3 with definitive survey data.

B. Extrapolations and models

FISIM data (exports: EUR 3.9 billion; imports: EUR 1.8 billion) are estimated through the French Central Bank services (*see 3.4.4 Detailed presentation of FISIM*). The content of foreign trade in FISIM integrates

trade in margins between resident financial institutions and non-financial institutions. Therefore, financial services estimates take account of both the explicit service (estimated in the BoP) and the implicit service.

5.14.2.2 Adjustments

Table 5-43 Decomposition of adjustments made upon trade in services, in EUR (million)

		Exports	Imports
Adjustments		-17 402	-3 336
Data validation		-7 108	-3 234
	Correction of space transportation	-499	-2
	Correction of health services	124	-292
	Adjustment for the recording of reinsurance exchanges	-1 776	-1 776
	Anticipation of correction of financial services data (exports only)	1 574	
	Correction of transportation services	-6 531	-1 164
Conceptual adjustments		-10 319	-128
	Addition of goods reclassified as services	3 127	3 576
	Addition of UCITS exports	1 079	
	Withdrawal of international merchanting (reclassified as exports of goods)	-9 594	
	Withdrawal of construction services (reclassified as income flow)	-4 931	-3 147
	Correction of credit-leasing of French national transportation societies (imports only)		-557
Balancing		25	26

A. Data validation (exports: EUR -7.1 billion; imports: EUR -3.2 billion)

Several corrections are made upon BoP data on the following parts of trade in services.

Space transportation (exports: EUR -0.5 billion)

Space transportation is estimated in the NA through fiscal records of Arianespace and only counted as exports. The fiscal record of Arianespace estimates replace the BoP estimates. This correction amounts to – 0.5 billion for imports and – 0.02 billion for imports.

Health services (exports: EUR +0.1 billion; imports: EUR -0.3 billion)

Similarly, exports and imports of health services are estimated through social security administration data (CNAM). The impact is EUR +0.1 billion on exports and EUR -0.3 billion on imports.

Reinsurance services (EUR -1.8 billion on both sides)

Reinsurance services are counted in the NA on a net basis to avoid negative exports or imports which can happen in case of large insurance liabilities. In 2010, exports of reinsurance services amounted to EUR 1.8 billion and imports to EUR 1.9 billion: therefore, the net amount of EUR 0.1 billion is imputed on the imports side (and exports were set to null).

Financial services (EUR +1.6 billion on exports)

From 2011 on, the BoP has implemented a major renovation of data collection from financial intermediaries. In particular, all types of financial intermediaries have been included in the survey panel. As a result, exports of financial services have dramatically increased in 2011 (EUR +2.5 billion, i.e. +88 %, in the 2011 annual report), without link to economic activity. In order to use 2011 levels as benchmark levels, EUR 1.2 billion are added to exports of financial services in 2009 and EUR 1.6 billion in 2010.

Correction of estimates of freight transportation services (EUR -6.5 billion on exports and EUR -1.2 billion on imports)

Two types of corrections are made upon BoP data on freight transportation:

- the correction of the “fobisation” lines (EUR -5.0 billion on exports and EUR -5.4 billion on imports);
- the correction of road transportation services (EUR -1.5 billion on exports and EUR +4.3 billion on imports).

The “fobisation” lines in the balance of payments are added by the BoP to the observed settlements between resident (respectively non-resident) firms and non-resident (resp. resident). These lines are needed to ensure the coherence with the fob-fob records of trade in goods. After investigation together with the BoP to understand its compliance with ESA 2010 Tables 3.3 and 3.4 for the territory in-between, the NAD considers that the global balance of the “fobisation” lines is correct, but that both sides of the balance are overvalued. The NAD reevaluates this correction on both sides of the balance. Moreover, the global amount of freight transportation services is rescaled to ensure the coherence with cif-fob correction on goods in the NA (this explains the impact on the balance of EUR +0.4 billion).

Contrarily to the BoP, which considers that the part of road transportation services recorded by the BoP in France and in the partner country are balance-neutral, the NAD does its own correction based on survey data from the Ministry of Transportation. The impact on the balance is EUR -5.8 billion and explains nearly the whole difference on the balance of transportation services between national accounts and the BoP.

B. Conceptual adjustments (exports: EUR -10.3 billion; imports: EUR -0.1 billion)

Several adjustments are needed to ensure compliance of trade in services with ESA 2010.

The following parts of trade in services are added to the BoP estimates:

- trade in specific goods included in FTS and reclassified as services in NA, as listed in 3.1 (publishing, production of cinematographic films, etc.), are added to trade in services. The impact is EUR 3.1 billion on exports and EUR 3.6 billion on imports.
- UCITS exports estimated with French Central Bank data are added on the exports side (EUR 1.1 billion).

The following parts are withdrawn from BoP data:

- international merchanting (EUR -9.6 billion on exports): as explained above, international merchanting is included in exports of goods;
- construction services (EUR -4.9 billion on exports and EUR -3.1 billion on imports): BoP data does not distinguish between constructions abroad for less or more than a year. In NA, both are therefore implicitly classified as revenue (D.42) in the GDP-GNI adjustment (*see Chapter 8*). It should be noted that the choice of recording construction sites abroad as revenue or as trade in services has no impact on current external balance (B.12) and GNI;
- financial leases are withdrawn from BoP imports (EUR -0.6 billion on imports). Such leases correspond to rents paid by resident transportation companies to non-resident financial leasing companies. As explained in Chapter 3 (*see 3.3.2.3 Conceptual adjustments on financial leases*), transportation equipment is counted as GFCF of transportation companies which enjoy the economic ownership of equipment. Therefore, the NAD neutralises the rents counted in BoP for such transactions.

C. Balancing (exports: EUR +0.0 billion; imports: EUR +0.0 billion)

Minor adjustments are made upon exports and imports (less than EUR 50 million) as a result of balancing operations.

5.14.2.3 Compliance to ESA 2010

The trade in services published in national accounts is as close as possible to the concepts listed in ESA 2010.

Data sources and adjustments cover all transactions listed in ESA 2010, §3.173 (and 3.174), except for installation of equipment when a project is of limited duration by its nature (§3.173 f) and services of owner-occupied holidays homes of non residents (k):

- installation of equipment of limited duration is included in construction services as measured by the BoP but not distinguished from long term operations. All these activities are included in GNI as property income from a quasi-corporation (D.42).
- the exclusion of services for holiday homes certainly leads to an overestimation of GNI. The imputed rents of foreigners owning holiday homes in France (which are certainly higher than rents of French residents owning homes abroad) are actually included in the calculation of GDP but are not repatriated into the account of the rest of the world in the calculation of GNI. Previous works have estimated this overestimation between 0 and EUR 1 billion (see Chapter 8).

Specific adjustments are made to estimate transportation services (§3.174 and 3.175) to ensure the coherence between the fob-fob valuation of goods and the transportation services (see 5.14.2.2 Adjustments).

Exports of insurance services and of FISIM are correctly included in the NA. As detailed above, insurance services are estimated by the BoP; reinsurance services are recorded in the NA on a net basis; FISIM data come from another service of the French Central Bank (SESOF).

The fees charged for processing service are estimated by the BoP and specifically included in the trade in goods (see focus above).

Travel expenses (§3.176) are estimated through the “travel” line of the BoP, which is not broken down between business expenses and tourist expenses. All travel expenses are therefore imputed on household final consumption (territorial correction). This approximation does not change the estimation of GDP. GDP is indeed the result of the sum of value added by branches, which is computed through supply and use tables that do not include territorial correction. Travel expenses are only imputed as a whole on final consumption.

Furthermore, GNI is also correctly computed since the distinction between intermediate consumption and final consumption is not relevant to compute flows between France and the rest of the world.

Software exports and imports are estimated through BoP and FTS:

- for “specific software”, FTS record the carrier value, which is added in trade in services to the software value measured by the BoP;
- for standard software, FTS do record software at full value;
- for BoP data, the payment of computer service and royalties and license fees does not allow to identify specific payments relative to software.

Focus: Revision policies and discrepancies between National accounts and BoP data.

The discrepancies between the current account in NA and in BoP data is a well-known subject and has essentially to do with differences in calendars and methodology. Indeed, regular publications of Insee (between two benchmark revisions) are based on semi-definitive data from the BoP, which can be revised afterwards. Moreover, BoP can possibly implement major revisions of exports and imports at each publication, whereas Insee only implements major revisions on the current account when a benchmark revision is conducted in coherence with the rest of NA.

Therefore, between two benchmark revisions, exports and imports of services are computed in NA by applying BoP evolution rates ($n/n-1$) to the levels of the NA of the previous year.

For benchmark years, NAD tries to realign the NA estimates in trade in services with those of the BoP. However, when the construction of benchmark years happens too early, the BoP cannot provide definitive data. For the construction of the benchmark years 2009 and 2010, NAD received semi-definitive data from the BoP. Between the construction of the benchmark year at Insee (in March) and the publication of the BoP annual report (in September), the BoP had revised its estimates by EUR 4.8 billion for exports and by EUR -1.6 billion for imports. This explains the difference of levels between Insee and BoP for exports of services even for the benchmark year. Nevertheless, this difference has no impact on GDP and GNI.

6 THE BALANCING OR INTEGRATION PROCEDURE, AND VALIDATING THE ESTIMATES

6.1 Introduction

The process of convergence between the three approaches of GDP

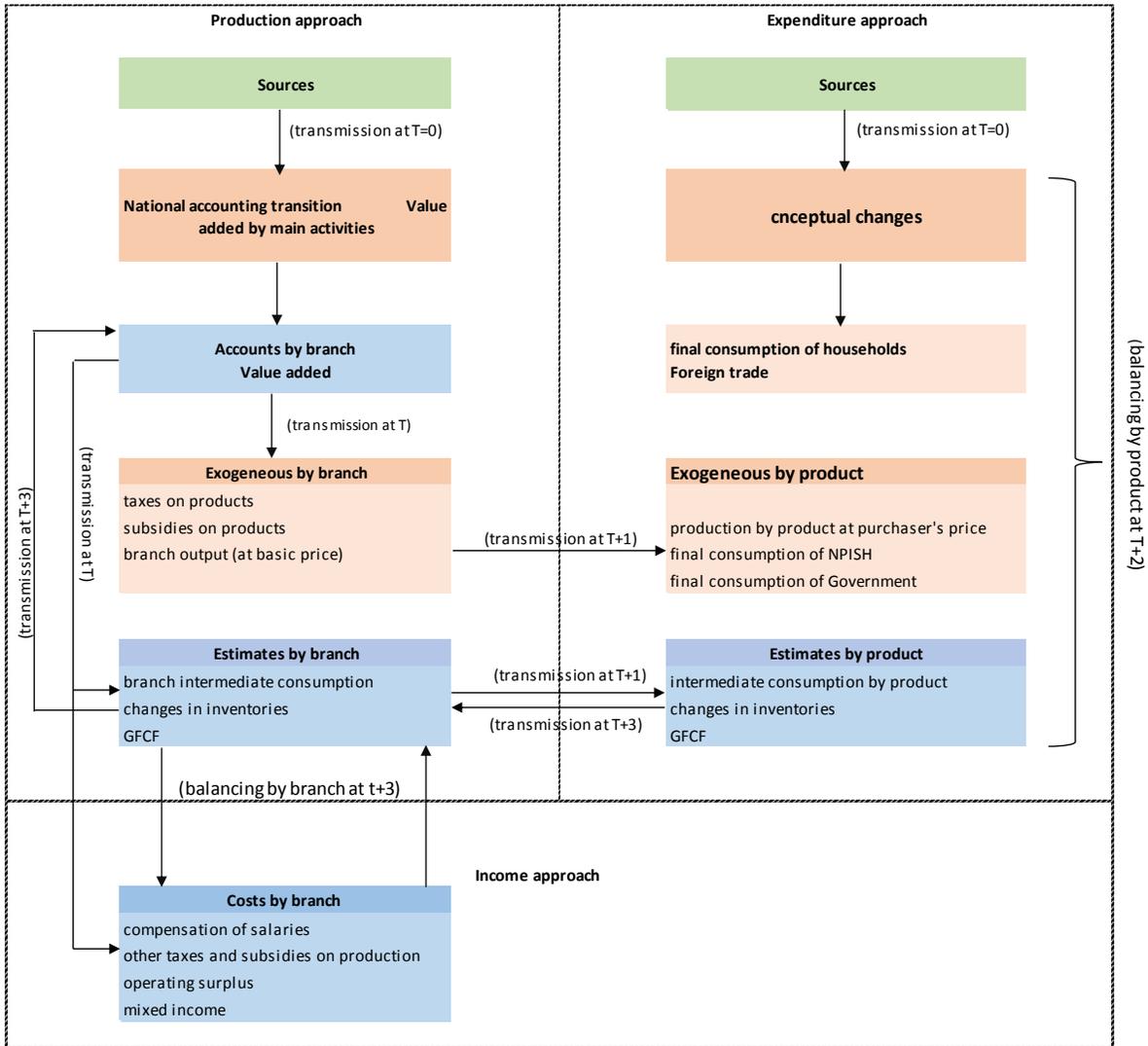
The compilation of the accounts involves reconciling the work carried out by the various approaches. In the French national accounts, we saw in the previous chapters that the production approach is the predominant approach to determining the level of GDP. The income and production approaches are integrated: they are based on the same sources and they follow the same process of accounting transition. That is to say that any adjustment to value added - either via production or via intermediate consumption - affects an income component. It is in the most cases the gross operating surplus or mixed income that are impacted, but also compensation of employees (in the case of wages in kind), or even taxes or subsidies (changes in taxes and subsidies recorded in the company accounts which affect the initial intermediary consumption of non-financial corporations).

As for the expenditure approach, it does not constitute a stand-alone approach in determining the level of GDP, but rather compares it with the production approach in the process of compiling the accounts, in order to refine the measurement of the various aggregates. The comparison between the three approaches to GDP is therefore part of a process of convergence; it is not carried out in a final stage, which would aim to balance three autonomous approaches to GDP.

Chart 6.1 does not present the whole national accounts process, but a very simplified and therefore reductive view of the convergence process. In particular, during the elaboration of the national accounts, the problems encountered in the balance of uses and resources by products may lead us to detect errors in accounting transition or sources from the production approach, which moreover contributes to the quality of the whole. In addition, the diagram does not show the integration between the production and income approaches: the national accounting transition described in the production approach also simultaneously determines the components of the income approach by main activities. The emphasis here is on the convergence process that makes it possible to describe the economy consistently across branches (the different production processes are described) and the use of the different products. The blue parts are those impacted by the convergence process.

The compilation of the account is initiated (in $T=0$) by the provision of source data. Once these source data have been translated in national accounting concepts, it is possible to initiate a first convergence process (in T) between the three approaches. For the compilation of GDP in a given year, this process is initiated as many times as necessary.

Figure 6-1 A simplified diagram of the process of the convergence of the three approaches



The production approach controls the aggregate level of GDP, as well as the value added of the institutional sectors. Their levels are not impacted by the balancing. The latter only affect the distribution by branch through intermediate consumption; they also affect the distribution by branch of the operating surplus and mixed income without impacting their total for the economy as a whole, or those of resident institutional sectors.

However, in practice, the value added of the production approach is calibrated at the very end of the process, when the amount of the balancing becomes residual approximately 0.01 point of GDP, and then national accountants estimate that it is then easier to calibrate the production approach to the level of GDP resulting from the expenditure approach. This final balancing is in the way the end of compilation process.

What arbitrations are useful for understanding the overall process

In this convergence process, the first level of GDP of the demand approach (T=1) does not constitute an autonomous estimate of GDP by the demand approach, it is clearly initiated by the production approach. In other words, there is no spontaneous level of the demand approach at T=0 in our compilation process. Under these conditions, the total balancing (from T=1 to the last convergence process) is meaningless.

We have thus chosen to include in this chapter the final arbitration, for the production approach and the income approach (the two approaches are completely linked), i.e. the calibration on the demand approach.

With regard to the demand approach, we have chosen to describe the impact of the various arbitrations on data considered as exogenous, such as household final consumption and foreign trade or aggregates for which the accounting transition from business accounts makes it possible to provide an initial estimate.

Validation of national account aggregates

The convergence process described here allows the statistical quality of the national accounts to be monitored as they are compiled. Indeed, when the approaches do not converge on an aggregate, national accountants are led to go back to the data sources and question producers on the reliability of the methods used, exceptional events that would not be taken into account, a failure to collect, which contributes to the improvement of the data sources and in return of the national accounts.

6.2 GDP balancing procedure

6.2.1 Balancing of the final accounts for 2010

The table below provide values of components of GDP according to the production, expenditure and income approach before and after balancing and the balancing adjustment made to these components, for the final account for 2010, as presented in the process table.

Table 6-1 Balancing in the process table, in EUR (million)

	Total before balancing	Balancing	Final estimate
GDP PRODUCTION APPROACH			
Output of goods and services (at basic prices)	3 544 563	271	3 544 834
Intermediate consumption (at purchasers' prices)	1 742 048	-195	1 741 853
Gross value added (at basic prices)	1 802 515	466	1 802 981
Taxes on products	213 185	0	213 185
Subsidies on products	15 686	0	15 686
Gross domestic product	2 000 013	466	2 000 480
GDP EXPENDITURE APPROACH			
Total final consumption expenditure	1 601 248	-45	1 601 203
Household final consumption expenditure	1 085 442	-45	1 085 397
NPISH final consumption expenditure	39 623	0	39 623
General Government final consumption expenditure	476 183	0	476 183
Gross capital formation	434 944	2 949	437 893
Gross fixed capital formation	438 716	2 352	441 068
Changes in inventories	-4 453	597	-3 856
Acquisitions less disposals of valuables	681	0	681
Exports of goods and services	520 469	3	520 472
Imports of goods and services	559 169	-81	559 088
Gross domestic product	1 997 493	2 988	2 000 480
GDP INCOME APPROACH			
Compensation of employees	1 040 212	0	1 040 212
Non-Financial Corporations	681 798	0	681 798
Financial Corporations	49 301	0	49 301
General Government	259 844	0	259 844
Households	22 720	0	22 720
NPISH	26 549	0	26 549
Gross operating surplus (1)	587 872	204	588 076
Non-Financial Corporations	319 440	204	319 644
Financial Corporations	35 779	0	35 779
General Government	68 925	0	68 925
Households	160 492	0	160 492
NPISH	3 236	0	3 236
Mixed income	122 124	262	122 386
Taxes on production and imports	295 146	0	295 146
Subsidies	45 341	0	45 341
Gross domestic product	2 000 013	466	2 000 480

For the production approach, the reconciliation principle for the 2010 benchmark year is that the GDP obtained by adding the components of final uses is aligned with the GDP valuation obtained from the figures for value added. In practice, the alignment with value added is not 100 per cent. It may for convenience's sake in the final stages be necessary to make marginal corrections to the output and/or

intermediate consumption initially obtained. It was the case in 2010, for EUR 0.5 billion. For the revenue approach, this correction affects the operating surplus (EUR 0.2 billion) and the mixed income (EUR 0.3 billion).

For the expenditure approach, the table combines the effects of the balances and the final adjustments affecting variables which are not normally balanced as GFCF and changes in inventories.

- As part of the reconciliation, the GFCF from Esane is compared to the expenditure approach. The value of GFCF prior to balancing corresponds to the valuation by the sector approach. The GFCF value adopted after balancing is, if not perhaps that appearing in the SUT prior to balancing, at least a value approximating to it. In 2010 the difference between the two approaches is significant (EUR 2.4 billion) whereas it is less than one billion in 2009 and 2011.
- Changes in inventories are mainly determined by Esane. Nevertheless a limited residual balancing adjustment is made in order to assure the resources/uses balance for each product. It represents EUR 0.7 billion, for changes in inventories of work in progress and -0.1 billion for changes in inventories of materials and supplies. It should be noted that the arbitration on inventory changes roughly corresponds to the arbitration on production and intermediate consumption, which is logical since the shift from inventory changes in the business accounts to those calculated by the national accountants affects the value added in the production approach.

The use of the Esane data source, recognised as an exhaustive source for non-financial corporations, in both the production and income approaches and the expenditure approaches explains the relatively low amount of the balancing.

In addition, the 2010 benchmark capitalises on the previous benchmarks. Indeed, if the sources used are of good quality and if the aggregates are not affected by changes in concepts, there is no reason to correct these estimates. Moreover, in some cases, estimates from a balancing exercise can be considered to be of better quality than estimates from an isolated source. There is therefore a kind of inertia linked to the account of previous benchmark balances in the estimates.

Temporal analysis of the balancing

The table below shows the balancing values according to the production approach for the period 2009-2014. The figures show the very final reconciliation stage.

Table 6-2 The balancing values according to the production approach for the period 2009-2014, in EUR (million)

	2009	2010	2011	2012	2013	2014
Output of goods and services (at basic prices)	-243	-53	71	572	436	901
Intermediate consumption (at purchasers' prices)	-505	-355	145	784	757	955
Gross value added (at basic prices)	262	302	-74	-213	-321	-54

As already in introduction, the benchmark year does not differ from current years (between two benchmark years) in terms of balancing between approaches.

The table below shows the GFCF balancing value related to the expenditure approach for the period 2009-2014.

Table 6-3 The GFCF balancing value related to the expenditure approach for the period 2009-2014, in EUR (million)

	2009	2010	2011	2012	2013	2014
Sector approach	130 883	135 047	143 948	142 942	139 852	142 181
Product approach	130 861	137 399	144 741	143 276	143 452	144 311
Gap	-22	2 352	793	334	3 600	2 130

6.2.2 General description of the balance mechanisms

6.2.2.1 Strengths and weaknesses of the components of the different approaches

As with value added, not all the types of final uses can play a part in the reconciliation of the valuations resulting in GDP. It is therefore worth reviewing them.

External trade in goods and services

External trade in goods and services remains exogenous data and the value is not called into question in the process of compiling the accounts.

Changes in inventories

For the most part, the same applies for changes in inventories. This requires some clarification, starting with the equation which defines GDP, omitting the quantification elements (taxes and subsidies on products) which complicate the expression:

$$\begin{aligned} \text{GDP} &= \text{Value added} = \text{Final uses} \\ &= \text{Output} - \text{Intermediate consumption} \\ &= \text{Final uses not placed into inventory} - \text{Imports} + \text{Changes in inventories} \end{aligned}$$

The fact is that two items in this equation are not independent. In the French national accounts system, the major part of the market components of output and intermediate consumption are measured from the calculation of output not placed into inventory (which is derived from sales) and from purchases for intermediate consumption. Starting from the expression above, this gives the following equation:

$$\begin{aligned} &\text{Output not placed into inventory} - \text{Intermediate consumption purchases} + \text{Changes in inventories} \\ &= \text{Final uses not placed into inventory} - \text{Imports} + \text{Changes in inventories} \end{aligned}$$

In other words, since changes in inventories appear on both sides of the equation linking value added and final uses, it follows that they can have no part to play in the reconciliation of their respective values in the event of a discrepancy. This applies only for changes in inventories used in an output calculation method that takes sales as its starting point. Where, as with many agricultural products for example, the statistical sources allow output to be calculated directly, changes in inventories may have a part to play in the reconciliation between value added and final uses since their valuation makes the transition from output to deliveries possible.

Gross fixed capital formation

Gross fixed capital formation is *a priori* a good candidate for balancing when seeking to reconcile GDP estimates obtained by different approaches. The GFCF valuation is the subject of a pre-reconciliation, the

principles of which are described in Chapter 5, between two valuations made from the respective points of view of investors and the products invested in.

Final consumption expenditure

The final consumption expenditure forms the greater part of GDP. For the benchmark year the household final consumption expenditure is estimated at a very detailed level, making use of various data sources, and confronting data sources on specific products (*see chapter 5*). As a consequence as a general rule household final consumption expenditure is not a good candidate for final stage reconciliation.

Final consumption expenditure of NPISHs and General Government is by construction identical on the three approaches, which are based on the same sources. The final consumption expenditure of General Government or NPISH cannot be balanced either since the counterpart correction to output would affect value added by the same amount.

6.2.2.2 Reconciliation process

The reconciliation principle for the 2010 benchmark year is the following: the GDP obtained by adding the components of final uses is aligned with the GDP valuation obtained from the figures for value added. Reconciliation takes place in an input-output table, that is in a framework where producers are presented by branch and not by main economic activity. In addition, final uses must be balanced in the system of quantification of uses, that is at purchasers' prices, which means that VAT is included.

A. Materials available

The materials available prior to reconciliation are in an environment excluding VAT. It is justified partly because corporations, which are the main producers concerned by VAT, keep accounts where their turnover excludes all VAT, this being accounted for in third-party accounts. This situation does not come down solely to a problem of taxation. It is when VAT is introduced into the account compilation tools that the VAT gap, the resolution of which has the effect of modifying output as measured up to that point, is measured.

The production and generation of income accounts

On the producer side we have, at the point of reconciliation, production and generation of income accounts, most of which are compiled for institutional sets.

The accounts are compiled at basic prices for output and at purchasers' prices for intermediate consumption, which means that the value added is also at basic prices. The valuation of intermediate consumption at purchasers' prices means that it includes all non-deductible taxes. VAT is not in fact always deductible. Producers who are not taxable persons do not deduct VAT on their purchases, deductibility is not allowed for some products, and some market producers who are taxable persons are not able to deduct all the VAT they pay on their purchases. The value of purchases appearing in the producers' accounts therefore includes non-deductible VAT.

The supply/use balances

The supply/use balances (SUB), i.e. the rows of the IOT, are complete. Uses exclude all VAT; it has therefore sometimes been necessary to 'detax' those uses which the statistical sources gave at purchasers' prices. There is no VAT on the supply side. The intermediate consumption of products is not known by product. Only the total is known.

Output is the link between the expenditure and production approaches

The two approaches are not independent. Indeed, output makes the link between the two points of view. Output is in fact constantly rendered consistent between main economic activity on the one hand and branches and products on the other. This comment is truly relevant only for market producers, since it is tautological for the others (non-market producers and producers for own final use).

We saw in the chapter on production that the starting point for the valuation of market output is output sold, the source for which lies for the most part with main economic activities. Subsequently, especially when corrections or additions of conceptual or statistical origin are made in the same way to the output of products for the compilation of the supply/use tables and to the output of the main economic activities.

B. Construction of the IOT

Reconciliation takes place in the IOT. When the convergence process begins, it is still incomplete:

- output appears in both supplies of products and supplies of branches: it is correlated with the output of main economic activity by means of a 'main economic activity x branch' transition, this transition is provided by surveys in Esane (ESA and EAP);
- the SUT are complete, but VAT is missing;
- the intermediate consumption table (ICT) is, if not empty, at least largely incomplete, with only the 'fixed' boxes appearing; the fixed boxes are product-branch combination with the most reliable sources; For example the intermediate consumption of the product 'agriculture' is provided by the national market regulation agencies and the joint trade associations. For the branch 'agriculture' the source is the RICA.
- overall, there is no intermediate consumption of branches observed and hence no value added observed of branches.

As output has been constantly harmonised between the two approaches, it clearly must have no part to play in the balancing stage, since the approaches will not be reconciled by modifying it.

Therefore, reconciliation will focus on intermediate consumption. To this end it is necessary to:

- move from a valuation of the intermediate consumption of products that excludes VAT to a valuation that includes non-deductible VAT, so that it can be compared with the intermediate consumption of producers;
- break down intermediate consumption by product.

This latter point is justified by the desire to steer the reconciliation. The French accounts choose not to effect an overall balance at the level of GDP or an aggregate such as household consumption. Rather, they prefer to look at discrepancies at the most detailed level possible.

The overall intermediate consumption of the supply and use table of the economy is calibrated on the intermediate consumption of the institutional sectors following the production approach.

In practice, the two aims coincide. In order to estimate non-deductible VAT, it is in fact necessary to know the purchasers of intermediate consumption products. The deductibility rules in fact make quite extensive reference to the breakdown by product and branch.

Product breakdown of intermediate consumption

The breakdown of intermediate consumption into products and branches is technically quite a complex process, but it is used because there is no regular overall source for producers' purchases by product.

The method has the following stages:

- output must be broken down by branch upstream;
- the supply/use tables are calculated in volume terms;
- technical coefficients, together with the fixed boxes, are used to provide an initial distribution of intermediate consumption by branch and by product, in terms of volume and then of value. This distribution provides the structure.

The intermediate consumption table (ICT) is compiled at level 139 of the French nomenclature. The ICT does not constitute a complete observation of the breakdown of intermediate consumption between branches and products. It is a statistical tool that makes it possible to link the three approaches to GDP. It was estimated in-depth for 1999 with the 'distributive trades' product. It was constructed from the French sources available for the period 1994 - 2001, and is underpinned by international comparisons. The product – branch combinations with the most reliable sources are referred to as 'ICT fixed boxes'. Where the boxes cannot be 'fixed', the intermediate consumption (IC) can often be inferred from the supply and use balances (SUB), where the other uses can generally be found. It is also ensured that:

- in the rows: the overall intermediate consumption of the economy is calibrated on the intermediate consumption of the institutional sector accounts, in particular that of non-financial enterprises;
- in the columns, by branch, the ICT is calibrated on the IC of the corresponding sector of main economic activity from Esane following the breakdown by institutional sector and a main economic activity-branch transition for corporations.

Compilation of an IOT incorporating non-deductible VAT

'Taxation' of the IOT requires a matrix of theoretical VAT rates taking account of:

- VAT legislation, to allocate rates to products;
- knowledge of the uses of products;
- the deductibility rules, for both products and users.

Application of the theoretical rates 'reveals' a VAT gap (*see chapter 7*). For the most part, this gap is resolved by correcting output. The gap is broken down by both branch and main economic activity.

All through this process the whole IOT (SUB, production and generation of income) is compiled. However, in practice the validation process is organised in consecutive steps. The validation focuses first on SUB, second on ICT, third on the production accounts, and fourth the generation of income accounts.

Following this process, the SUBs and the production and generation of income accounts for institutional sectors, are consistent. The Table of integrated economic account (TIEA) can be finalised. The TIEA synthesises the whole transactions for institutional sectors, and describes sequentially output, value added, operating surplus and mixed income, disposable income, savings, lending/borrowing and capital formation.

C. Balancing stage

Once a structure for the intermediate consumption table is available and the VAT gap is resolved, a process of adjustment can begin, at the end of which the intermediate consumption obtained from the value added approach is broken down by branch and, within each branch, by product, and output has its full value, including the counterpart of the VAT gap.

6.2.3 Balancing process in practice

6.2.3.1 National Accounts Stakeholders

The compilation of the national accounts directly mobilises around sixty people at INSEE, divided between the Business Statistics Directorate and the Economic Studies and Syntheses Directorate within which the National Account Department (NAD) is located. Two separate Divisions within the NAD take part in the annual accounts compilation: one is mainly responsible for producing institutional sector accounts and as such is responsible of producing the TIEA (<https://insee.fr/en/statistiques/4132168?sommaire=4132171&q=TEE#titre-bloc-123>); the other one is responsible for producing the IOT (SUT, production and operating account per branches).

Some of major stakeholders of the production of annual accounts are described below through their roles and responsibilities.

Sector-product manager – expenditure approach

Product-sector managers are experts in a business sector, branch or product. They are the ones who carry out the supply and use balances (SUBs). There are about thirty of them, and most of them are located in the Business Statistics Directorate. There are "special" product-sector managers in the accounts department that deal with particular branches (insurance, banks, non-market supply and use balances, tourism balance) because these branches are determined in the same way than the sector account they produce. Product-sector managers are generally responsible for several of the 139 product levels of the nomenclature and the corresponding lower levels. They are also in charge of validating the branch accounts that are derived from the ICT.

Product-sector managers also precisely analyse Esane on data of the branch there are responsible for. A lot of data validation are realised thanks to their analyses. In particular, before the use and the diffusion of the definitive structural business statistics (Esane in France), they analyse, report errors and then validate the data on their scope.

Exogenous sector accounts - sector approach

The exogenous sector accounts are compiled in the National Accounts Department. These are the account of banks, insurance, financial auxiliaries, the General Government account, the household account, the NPISHs and the rest of the world account. The work of the exogenous sector accounts consists in retrieving the source data that will serve as a working base (data from the French Central Bank, the insurance supervisory authority, the public accounts department to name only the largest contributors). Once translated into the national account format, the "exogenous" elements are provided to the sector-product manager. Each one then provides a complete sector account to the person responsible of the synthesis that carries out the TIEA. It is also these persons who carry out, for their institutional sectors, the generation of income account by branches.

Non-financial enterprise account Managers

The non-financial business accounts is compiled for non-financial corporations (S.11), unincorporated enterprises (S.14AA) and thus non-financial enterprises (S.11+S.14AA). Non-financial enterprise account

Managers produce the whole production approach of non-financial enterprises. They also provide balance sheet and an estimate of changes in inventories and GFCF.

Synthesis Managers

Two synthesis Managers are identified: one for the TIEA and one for the IOT. These people have different roles:

- to "compile" the information produced by the other accountants and to aggregate it to obtain the total for the economy. Their main function is to centralise the individual work of each accountant.
- ensuring the circulation of information between the different accountants. Since each transaction produced by one must be taken into account by the others, all results must be centralised and then redistributed to avoid "cross-checking" information. It is the person in charge of the synthesis who gives the "start" and "stop" for all the accountants.
- role of arbitrator: in the event of a "dispute" between two accountants, it is they who must put them in contact and decide if no agreement has been reached: they therefore have a binding role between the account managers who finally work relatively independently and who are not necessarily aware of all the implications of their evaluations for the others.
- ensure the accounting consistency of the account, i.e. to check that the information to be used by several people is identical everywhere, that the constraints have been respected, that the IOT is consistent with the TIEA.
- calculate the transactions that depend on all the others. Let's take the calculation of the ICT as an example. If we look at the determination of the intermediate consumption of the automobile industry in textile products, we have no source, so it must be estimated. The sector-product manager of the automobile industry knows its branch well, the sector-product manager of the textile industry knows its product well. Using both pieces of information, we can estimate this Intermediate Consumption, but only the person who makes the link between the different accounts can calculate this data. The summaries will therefore calculate all the "mixed" data, i.e. all those for which no direct information is available and where several data produced by different people have to be combined.
- checking the economic consistency of the account, i.e. alerting the various accountants when developments seem unlikely, and working with them to find solutions to correct the valuations if necessary. This means that the persons in charge of the syntheses must be familiar, albeit in a general way, with the work, techniques and sources of each sub-account they uses to make their syntheses.

In fact, a person in charge of a synthesis has an important role in the quality of the major macroeconomic estimates, since these are ultimately only the result of the sum of meso-economic evaluations. This is why he/she always have a right of review on each figure given to him/her by the account managers.

Responsible for exogenous data

In the National account department one person is responsible for summarising the exogenous data. This work consists in collecting from all the national accountants the information considered reliable or fairly reliable, and standardising it in order to make it comparable (withdrawal of VAT, for example, where it exists) and making it available to the sector-product managers, who will use it to estimate unknown transactions. "Non-negotiable" data (exogenous data) and first estimate data are transmitted to the sector-product managers. At the beginning of the process of calculation of the annual accounts, especially in the first two or three weeks, changes in exogenous are very frequent: the person responsible for exogenous must then systematically inform the sector-product managers of any changes so that the flow of information is as clear and transparent as possible. This person must also make sure after each synthesis

that the exogenous have been respected and, if necessary, report it to the sector-product manager concerned, so that the difference between the exogenous and the supply and use figures disappears at the next synthesis.

6.2.3.2 *Consecutive stages to compile the IOT*

Value added calculation

The value added calculation is performed following the income/production approach by using Esane for non-financial enterprises value added. The synthesis leads to the « integrated economic accounts » table (TIEA).

Exogenous data

Data suppliers have to send their data following a very exact timing: Esane (Insee), data for General Government sectors and customs data (Ministry of Finance), external trade data (Balance of payments), satellite accounts (concerning health, dwellings, transports...), households consumption (panellists...).

Data validation work: expertise, corrections

The validation work is performed throughout the whole process, including while calculating the value added and compiling the exogenous data. Two examples are:

- concerning Esane (enterprise value added and exogenous data for output) by sector-product manager: it is data validation to correctly deal with firms reorganisation or with changes in industries;
- concerning households consumption (exogenous data): work to choose the best economic indicator, output by output (*see chapter 5*).

Supply/uses balances by product

For each of the 139 products, «balancing» a supply/use is to find equality between supplies (=resources: production, importations) and uses (intermediate consumption, final consumption, GFCF and exportations). The work of the product-sector manager can be divided in four steps:

- the first step consists in integrating exogenous data for the non-financial enterprises (output), for General Government, NPISHs, financial corporations and household sectors (output, intermediate consumption, final consumption, GFCF, changes in producer stocks, taxes end subsidies, foreign trade, etc.).
- the second step consists in balancing the supply/use in value. Most supply/use for services are balanced by using the intermediate consumption of non-financial enterprises as the balance item. A large part of supply/use related to industry shares the balance between consumption and non-financial enterprises GFCF (*see example for "Other Electrical Equipment Manufacturing" below*). Other supply/use are more complex to balance (e.g. cars, construction, aeronautics, trade, agriculture, etc.), mostly because there are many more data sources or on different transactions (e.g. for investment in cars, or for stock changes in agriculture).
- the third step consists in determining the volume of the various transactions. Some exogenous data are provided in terms of value and volume. For the determination of the volume-price split for other transactions, price index are used (on industrial production, on production of services, on imports and exports, on consumption, on construction for housing, etc...

- the last step consists in balancing the supply/use in volume terms, following the methodology applied in value term.

Table 6-4 SUB of Other Electrical Equipment Manufacturing in 2010

		2009	2010				Status (source of information)	
		value, in M€	volume (%)	volume, in M€	price (%)	value, in M€		value (%)
L1	Non-financial enterprises branch sales	16 957	3.5%	17 544	1.3%	17 758	4.7%	Exogenous (Esane after adjustments for transition to National Accounts and "main economic activity*branch" matrix)
L2	Changes in inventories - producer inventories	-269	-156.5%	152	1.3%	154	-157.2%	Exogenous (from Esane or General Government account and households)
L3	Non-financial enterprises own-account production	460	17.4%	540	1.3%	547	18.9%	Exogenous (Esane and mark-up estimation)
L4	Taxes	-29	-6.9%	-27	0.0%	-27	-6.9%	Exogenous (DGFiP)
L5	Subsidies	-7	-28.6%	-5	0.0%	-5	-28.6%	Exogenous (DGFiP)
L6	Branch output, at basic price	17 112	6.4%	18 204	1.2%	18 427	7.7%	L1 + L2 + L3 + L4 + L5
L7	Market production of non-market branches	63	0.0%	63	1.6%	64	1.6%	Exogenous (General Government and NPISHs)
L8	Product output, basic price	17 175	6.4%	18 267	1.2%	18 491	7.7%	L6 + L7
L9	Importations	12 216	21.7%	14 866	2.0%	15 169	24.2%	Exogenous (Customs and Balance of Payment)
L10	Custom taxes	59	22.0%	72	6.9%	77	30.5%	Exogenous (Customs)
L11	Total transport margins	436	7.8%	470	0.4%	472	8.3%	Exogenous (product-sector manager on transport)
L12	Total trade margins	6 671	4.7%	6 983	0.7%	7 033	5.4%	Exogenous (product-sector manager on retail trade)
L13	Taxes on products	29	-6.9%	27	0.0%	27	-6.9%	Exogenous (General Government)
L14	Subsidies on products	0	0.0%	0	0.0%	0	0.0%	Exogenous (General Government)
L15	Total supplies	36 586	11.2%	40 685	1.4%	41 269	12.8%	L8 + L9 + L10 + L11 + L12 + L13 + L14
L16	Intermediate consumption	18 088	6.5%	19 267	2.9%	19 827	9.6%	Balance apart from intermediate consumption for exogenous sector
L17	Household final consumption expenditure	2 165	-0.2%	2 160	1.0%	2 182	0.8%	Exogenous (source on consumption)
L18	Final consumption expenditure	2 165	-0.2%	2 160	1.0%	2 182	0.8%	
L19	Non-financial enterprises GFCF	2 553	7.1%	2 733	2.5%	2 802	9.8%	Balance
L20	Financial enterprises GFCF	7	-14.3%	6	0.0%	6	-14.3%	Exogenous (financial enterprises)
L21	General Government GFCF	166	0.6%	167	2.4%	171	3.0%	Exogenous (general government)
L22	Total GFCF	2 726	6.6%	2 906	2.5%	2 979	9.3%	L19 + L20 + L21
L23	Changes in inventories - producer inventories	-269	-156.5%	152	1.3%	154	-157.2%	Exogenous (changes in inventories - producer)
L24	Changes in inventories - user inventories	-288	-158.0%	167	1.8%	170	-159.0%	Possible use for balancing purpose however a general target from Esane must be followed on total changes in inventories on total products
L25	Changes in inventories - commercial inventories	-294	-133.3%	98	2.0%	100	-134.0%	
L26	Total changes in inventories	-851	-149.0%	417	1.7%	424	-149.8%	L23 + L24 + L25
L27	Exports	14 458	10.2%	15 935	-0.5%	15 857	9.7%	Exogenous (Customs and Balance of Payment)
L28	Total uses	36 586	11.2%	40 685	1.4%	41 269	12.8%	L16 + L18 + L22 + L26 + L27

Most supply/use balances are compiled at the 139 products level. However, some of them are balanced at a more detailed level.

Supply/use overall balance is performed through several iterations, according to a strict calendar agreed at the very beginning of the compilation work. For each iteration, the organisation is as follows:

- Exogenous data are sent to sector-product managers;
- Each sector-product manager works on the product balance and sends the results separately to the synthesis (which has previously set a deadline, in agreement with the other synthesis);
- On D-Day, all the accountants stop, and the people in charge of the synthesis run their program to aggregate and check the data;
- Once the synthesis completed, the starting signal is given and each product-sector manager retrieve from the synthesis the information he needs to enrich his account;
- There is then a new synthesis that integrates all this new information.

This last synthesis closes what is called "one round". At the end of this round, the results can be analysed (relevance of the account, size of the discrepancy between the data to be arbitrated, etc.), and the following round can start.

There is traditionally a large meeting organised with most of the accountants in order to take stock of the account and arbitrate the evaluations. This meeting is traditionally referred to as a "concertation meeting". At the end of this meeting, arbitrations, instructions and decisions are made allowing the production and expenditure approach to converge. When everything is arbitrated (it takes several rounds to identify and resolve most problems) a final round takes place and the account is frozen: no one is allowed to change anything.

At each round the whole IOT (SUBs, production and generation of income accounts) is compiled. However, in practice the validation process is organised in four consecutive steps: first validation of the SUBs followed by the validation of the ICT. Once the total intermediate consumption per branch are finalised, the production accounts are validated followed by the validation of the generation of income.

Following this process, the IOT and the production and generation of income accounts for institutional sectors, are consistent. The TIEA can be finalised.

6.3 Other approaches used to validate GDP

6.3.1 Three versions of the same account

For a given year, there are several versions of the account, which vary according to the availability of the sources that are mobilised. These different versions of the account make it possible to improve the quality of the estimates produced over time. At each new version of an account, the consistency with the last version is analysed and all the gaps are studied to understand why the previous version was reviewed.

The final account or definitive account

The final account shall be produced between September and December of year $n+2$. It is the account for which there is the most reliable information, and where the main source, i.e. company data from Esane, is fully available.

The Semi-final Account

The semi-final account is generated between December of year $n+1$ and February of year $n+2$. The sources are then almost all available, with the exception of Esane in its final version. The Esane data are only available in a so-called "semi-final" format, because the breakdown by branch is not yet available and is not subject to all the corrections and precise analyses by the product-sector managers. If in a final account Esane is considered as an "exogenous" element for intermediate production and consumption, it is much less so for a semi-final account. For a semi-final account only the value added is considered as exogenous. This means that in a semi-final account, production is not exogenous in the supply/use balance and the product-sector managers are free to estimate it as they wish. This does not mean that there is no confrontation between Esane and the supply/use balances. As in a final account, there is a main source activity*branch matrix and an output estimated from Esane for non-financial enterprises, but they only serve as framing elements. The matrix and the output estimated must ultimately be aligned with the output of the supply/use balance.

The provisional account

Quarterly accounts are usually published quarter by quarter at $t+3$ months on the basis of short-term indicators (IPI, CPI, etc.), which means that in March of year $n+1$ they have all four quarters at their disposal and that, in sum, they are able to reconstitute the account for the whole year.

In the meantime, numerous annual estimation, often partial and therefore provisional, have been made specifically for the past year (e.g. a first version of the General Government account, a first version of the banks' account, etc.). The quarterly accounts have also received the semi-definitive version of the account for the year $n-2$ and the final version of the $n-3$ account, and can therefore improve their econometric models to take account of the revisions given to them by the annual accounts.

In this context, there will be a consultation and therefore a trade-off between the sum of the four quarters published by the quarterly accounts, improved by the two new annual accounts provided, and the first elements available to the annual accountants on what the final account is likely to be.

The provisional account is summarised by the quarterly accounts, the elements coming from the sector accounts being considered as exogenous (except for the non-financial enterprise account, for which no information is available at that time, and which is therefore made available by the quarterly accounts team). There is consultation on output between the quarterly accounts and each product-sector manager conducted at an aggregated level (48 products).

6.3.2 Check tools

Three different methods are used to investigate inconsistencies between source data:

1/ First, an analysis is performed on the source data. In particular, Esane data is analysed by the national accounts to determine possible errors either directly in business statistics or during the transition to the concepts of national accounts. At each account, a lot of questions are asked to the responsible of Esane data to understand some strange evolutions, some important contribution of individual company or some apparent inconsistency in individual data. Before each account, a lot of mistakes are corrected before the definitive Esane data thank to the analyse of national accounts. During each account, other mistakes are corrected as "data validation", around a hundred corrections are made, generally for relatively small effects on GDP.

2/ Secondly, global checks are made.

For instance, for each round, national accountants compare supply-use balances aggregated data, and aggregated exogenous data. That way, supply-uses balances in which exogenous data are not respected are identified and discussed with people responsible for supply-uses balances to understand why.

Global checks are also the opportunity to compare supply-uses balances aggregated data and Esane aggregated data. That way, we can identify a problem in the data source (Esane), which, for instance, would not have been treated in the same way by the person in charge of Esane in the National accounts department and the person responsible of the concerned supply-use balance.

We also compare at each round, the three approaches of GDP, and we assess the gap between the expenditure approach estimates and the income/production approach targets (value added, GFCF and changes of inventories targets).

All these elements are synthesised in a specific document, the "GDP sheet". At the end of each round, the person in charge of the SUT synthesis calculates the "GDP sheet". The GDP sheet is a summary table that represents the state of progress of the account, the main discrepancies, the different "valuations of GDP" according to different approaches. It shows GDP valuation including VAT. Four quadrants are identified in the GDP sheets, which correspond to four methods to compute the GDP:

- Two quadrants shows GDP estimates in volume and value terms from the GDP expenditure approach.
 - The first one is made up of the different elements of final demand from the supply/use balances, from which imports have been removed to arrive at GDP.
 - The second one shows the production of products and the intermediate consumption of products, to which taxes on products have been added and subsidies on products removed. If transport and trade margins are zero, as well as production transfers, on total products, and all the supply/use balances are balanced between resources and uses, this approach gives the same GDP as the "demand" approach.
- The third quadrant comes from the production/income approach. It shows the output (Output - IC + taxes - subsidies) as recorded in the TEIA. The source is the exogenous sector accounts, plus the account of the non-financial enterprises. For a final account, it is this quadrant that defines the value added target.
- The last quadrant still represents the production, but from the point of view of the main economic activity*branch matrix for production and the ICT for intermediate consumption. This approach links the production from the supply/use balances with the production from the sector accounts. This part makes it possible to check quickly, when the data from the supply/uses and the non-financial enterprises account are very divergent.

The final goal is that four quadrants of the GDP sheet result in the same GDP. Each quadrant gives estimate of the same concepts and helps identifying discrepancies.

3/ Thirdly, each supply-use balance is regularly examined by the national accounts department. We contact people responsible of supply-uses balances in which we identify specific inconsistencies.

If in a supply-use balance, the growth of exports is much more dynamic than the growth of all uses, and if consequently, intermediary consumption decreases, national accountants contact the Balance of

Payments to understand the strange growth of exports: it may result from a firm reorganisation or from accounting movements we have to neutralise in national accounts.

If the change of the final consumption raises a problem in a supply-uses balance, national accountant examine the different available indicators and we finally choose the one which is the most consistent with the other uses.

These exchanges and discussions are conducted each week with the people responsible of supply-uses balances, but furthermore, specific meetings (“concertation meetings”) are organised at the end of the campaign: during one week, people responsible meet the person in charge of the SUB synthesis to adjust together their supply-use balances. The aim of the discussion is validate the quality and to obtain a value-added in the expenditure approach consistent with the value added calculated in the income/production approach.

7 OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS

7.1 Introduction

7.1.1 Geographical coverage

The economic territory covered by base 2010 of the national accounts includes, under § 2.05 of ESA 2010:

- Metropolitan France
- French Overseas Departments (DOM): Guadeloupe, French Guiana, Martinique, Reunion, Mayotte.

The Overseas Collectivities (COM) do not form part of the economic territory. Admittedly, in some of these territories, military bases (in French Polynesia) or scientific bases (in the French Southern and Antarctic Lands) have been established. They are then included in the French economic territory in the capacity of territorial enclaves (ESA 2010, § 2.05-d). The exclusion of the COM from the economic territory conforms to the European Commission's decision of 26 July 1991 (91/450/EEC, Euratom) and to the European Commission regulation 109/2005.

The case of Mayotte requires clarification: Mayotte became a French department in 2011 and only obtained the status of Outermost Region (OR) of the European Union in 2014. Consequently, Mayotte has only been included in GNI, which is submitted to Eurostat for budgetary needs (with GNI to a large extent determining the apportionment of Member States' contributions to the EU budget), since 2014, and not for the previous years. On the other hand, the national accounting data themselves have included Mayotte throughout the entire period covered by the national accounts (1949 to the present day). Consequently, the economic activity of Mayotte has been incorporated into the estimation of the GDP and GNI published on insee.fr throughout the entire period since 1949. This issue is detailed in the annex of the chapter 1.

7.1.2 General approach to exhaustiveness

There is a systematic search for completeness in the French national accounts, in the sense that the aggregates are intended to represent, without omission or duplication, the whole economic activity defined by the conceptual framework of the national accounts. In order to report on total economic activity, national accounts face to three types of problem: the exhaustiveness of administrative and statistical sources on their respective fields, fraud and illegal activities. Each of completeness of scope requires a particular approach.

The production approach is the approach where the totality of the exhaustiveness adjustments are implemented: the exhaustiveness adjustments in the revenue approach are simply deduced from the production approach. Regarding the expenditure approach, apart some specific adjustments, most of the time, exhaustiveness adjustments are implicit, obtained through the balancing of the supply-use equilibrium.

7.1.2.1 Exhaustiveness of statistical and sources

The strategy of completeness is necessarily differentiated to take into account the diversity of the three sets identified:

- sectors with complete, exhaustive accounting;
- sectors with completed and adjusted accounting;
- other units whose activity is indirectly identified by various sources.

Sectors with complete, exhaustive accounting

By construction, this set is deemed to be exhaustive. The repositories used – the reports of public accounting via the network of Treasury accountants, the bodies responsible for supervision – lead, by their nature, to a census of the units concerned. There may be limited cases of absence. The General Government (S.13) and the financial corporation (S.12+S.14AF) are generally in this set.

Sectors with completed and adjusted accounting

The ESANE system combines administrative fiscal and social data and survey data from a sample of enterprises questioned about their activities via a specially designed questionnaire. Completion and adjustment of the accounting data are the subject of a very complete treatment and have an essential impact on the completeness of the accounts. This point is the subject of a separate development. A large part of the sector of non-financial enterprises (S.11+S.14AA) is in this set.

Other units

This set is inherently heterogeneous with respect to the issue of comprehensiveness. The methods are therefore diverse. For a part, the adjustments are implicit. A classic example is provided by agriculture. Evaluations of agricultural production and income are based on the valuation of observed productions, and not on the statements made by farmers. If there is fraud, it is implicitly entered.

However, when there is no implicit adjustment, methods for completeness are necessarily more various:

- A part of these units belongs to the S.11 or to the S.14 institutional sector: in that case, the comparison of tax declarations and data issued from tax control may allow an estimate of fraud rates.
- A part of these units is illegal units or non-profit units that are outside the tax source and public institutions. The accounts of these units, which are not systematically centralized by the administration, are not available. It is also not possible to rely on the SIRENE directory to extrapolate partial results: illegal activity is rather based on expertise or cross-checking of various sources.

Finally, regarding households activities involving the employment of salaried staff, estimates of fraud are also mainly based on expertise, but take account as much as possible of changes in legislation.

7.1.2.2 Fraud

Reviewing fraud rates or illegal-work rates is a huge work, which can not be led on a very regularly basis. Consequently, most of the rates have been estimated a long time ago and need to be again evaluated. This is a target for the next benchmark revision and the fiscal administration should provide data issued from tax control for this purpose. There is no control of exhaustiveness based on employment sources: on the contrary, the estimates of hidden employment rely on the rates used to calculate the hidden value added.

7.1.2.3 Illegal activities

Illegal activities include drug trafficking and tobacco smuggling. Estimates are based on a demand-side type of approach. The consumed values were estimated on the basis of analyses by experts from the French Drugs and Drug Addiction Monitoring Centre (Observatoire français des drogues et toxicomanies – OFDT).

7.1.3 Different types of exhaustiveness (known as N-types)

Non-exhaustiveness can have various causes, but they can be assigned to specific types:

- N1: hidden activities by units without an existence in law
- N2: illegal production, drugs, prostitution
- N3: household's own-account production
- N4: units not present in business statistics
- N5: registered entrepreneurs not included in statistics
- N6: hidden activities by legal units
- N7: benefits in kind and own-account production (market entities)

This European nomenclature of corrections to ensure the exhaustiveness of national accounts, are detailed in the case of France in the production approach.

7.2 Allowances for exhaustiveness in the production approach

The production approach is the approach where the totality of the exhaustiveness adjustments are implemented. The table 7-1 presents the impact of adjustments on output, intermediate consumption, value added and GNI. In 2010, the total impact on GNI was EUR 118.3 billion. The most important corrections concern N6 and N7 adjustments. N6 adjustments cover on the one hand the fraud on turnover or operational expenses by legally registered units, and on the other hand, the VAT fraud without complicity, measured through the « VAT gap ». These adjustments only have an impact on the non-financial enterprises (S.11+S.14AA). N7 adjustments results mainly from the own final use for market entities of intangible assets. This adjustment is broken down between the non-financial enterprises (S.11+S.14AA), financial corporations (S.12) and General Government (S.13).

Table 7-1 Process Table of exhaustiveness of production approach, in EUR (million)

Operation	Sector	N1	N2	N3	N4	N6	N7	Total
Output	S.11+S.14AA	14 759	2 626		5 361	39 532	37 424	99 702
	S.12+S.14AF						1 968	1 968
	S.14B	2 459		8 075				10 534
Intermediate consumption	S.11+S.14AA	1 396			3 007	-12 369	-1 315	-9 281
	S.14B			3 341				3 341
Value added	S.11+S.14AA	13 363	2 626		2 354	51 901	38 739	108 983
	S.12+S.14AF						1 968	1 968
	S.14B	2 459		4 734				7 193
GNI (production approach)	S.0	15 822	2 626	4 734	2 354	51 901	40 707	118 144

7.2.1 Identification of types of non-exhaustiveness (for which adjustments are needed)

7.2.1.1 Hidden activities by units without an existence in law (N1)

This category includes the unobserved activity of entities without an existence in law (due to fiscal and social security fraud). Adjustments made for moonlighting correspond to two types of situation:

- self-employed persons, possibly employed elsewhere, or companies producing without being declared;
- employees making an undeclared contribution to the production of their employer's company, this production being under-reported to the tax authorities.

The main activities targeted are building, car repair, computer activities, personal services, education.

Hidden activities by units without an existence in law covers also the services made by households as employers that have failed to declare the employment of domestic staff.

7.2.1.2 Illegal production, drugs, prostitution (N2)

This category includes the production and trafficking of narcotic drugs, and tobacco smuggling. Alcohol smuggling is assumed to be negligible. A large proportion of prostitution activities is assumed to fall outside the scope of output (minors and/or persons residing without authorization who are forced into prostitution by criminal networks, which can be likened to a form of slavery). The rest of prostitution (unidentifiable as it is carried out under the cover of other activities such as bars and massage parlours) is assumed to be covered by accounting sources and N1 and N6-type adjustments.

7.2.1.3 Household's own-account production (N3)

In French national accounts, this category is not very important. It only covers household production for own final use:

- own-account production of agricultural products by households,
- own-account production of manufactured products by households,
- own-account production of construction services by households.

It is due to the large scope of the register of statistical units in France. The scope of the register of statistical units in France is SIRENE – the Computerised System for the Register of Companies. Its role is to be the register of “natural persons exercising a non-payroll profession independently, corporations under public law or private law, institutions and services of the State and territorial authorities. When they are listed in the register of trade and businesses, the trade directory, or if they employ payroll workers, they are subject to tax obligations or may benefit from public financial transfers”.

It is therefore a register where the reference unit is a legal one, and is not a directory based on locating local units. In fact it is an inter-administrative register managed by INSEE. It is updated via a network of associated bodies which reflect the diversity of the partners concerned and the units that the register is intended to include. The fact that social bodies are stakeholders, for example, means that all employers appear in the register; but enterprises with no employees are also listed.

In 2014, about 3.9 million legal units that could be considered as institutional units were listed in SIRENE (of these, 2/3 have no employees). They are divided equally between natural persons and corporations. Each unit is identified by:

- name, if it is a natural person, company name if it is a corporation;
- address of registered office;
- legal form.

INSEE gives each unit that is added to SIRENE a fixed identification number. The unit's establishments – in the sense of local units – are also given an identification number based on that of the parent unit. Units

make a declaration when they start up, when there is a change in their situation and when they cease their activity.

In addition to data identifying units and their establishments, the register also contains two items of statistical information: the number of payroll employees and the main activity, based on the NAF classification (French classification of activities, formerly NACE). These two items are updated annually when it concerns units that are included within the scope of surveys on the productive system (see 10.1.1 *Esane*). Managing the register means regular scanning to eliminate units that appear to have ceased activity without recording this fact.

Almost all producing units (corporations, unincorporated enterprises, associations, foundations...) are registered in SIRENE and hence have a SIREN identification number that allow matching between different administrative or statistical files. The only exception is for some production activities of households (typically dwelling services or domestic services). That is why, the N3-type exhaustiveness is only composed of own account production of household.

7.2.1.4 Units not present in business statistics (N4)

In French national accounts, this category is not very important because *Esane* is almost exhaustive (see 10.1.1 *Esane*). This category includes market activities, which are poorly covered by the *ESANE* source as they are carried out by an entity with special status (often officially non-profit associations or foundations): works councils, organisers of horse races, etc. Their activity is reflected in a variety of sources (see 3.3.2.4 *Exhaustiveness*).

7.2.1.5 Registered entrepreneurs not included in statistics (N5)

This category is not applicable to France. The national accounts are based on statistical systems that correct problems of exhaustiveness. For example, there may be certain thresholds below which legally declared units may escape inclusion in administrative sources, or certain units may be omitted from administrative sources, but the statistical systems correct these shortcomings in the coverage of administrative data. This is the case, for example, with the *Esane* system or the Balance of Payments.

7.2.1.6 Hidden activities by legal units (N6)

This category includes the unobserved activity of entities with a legal existence but which underestimate their profits due to engaging in fiscal and social security fraud. The under-reporting of VAT is also included in this category.

7.2.1.7 Benefits in kind and own-account production (market entities, N7)

In this category, they are the benefits in kind and production for own final use of market entities that are not capitalised in their accounts. This primarily concerns the production for own final use of intangible assets (software, databases and R&D).

7.1.1 Adjustments made for the different types of non-exhaustiveness

The table 7-2 provides an overview of the French corrections for exhaustiveness. The methods are described below.

Table 7-2 Overview of the corrections for exhaustiveness in the production approach, EUR (million)

Type	Details	P.1	P.2	B.1G	Methods
N1	Total	17 218	1 396	15 822	
	Non registered producers	14 759	1 396	13 363	Expert judgement on fixed rates applied to turnover
	Production of households as employers	2 459		2 459	Fixed rates applied to wages
N2	Total	2 626	0	2 626	
	Illegal production of narcotics	1 958	0	1 958	Research reports and expert judgement
	Illegal trafficking of narcotics	42	0	42	Research reports and expert judgement
	Smuggling of tobacco	626	0	626	Research reports and expert judgement
N3	Total	8 075	3 341	4 734	
	Own-account production of agricultural products by households	2 730	523	2 207	Survey and production index to breakdown between sold output and production for own final used
	Own-account production of manufactured products by households	404	199	205	Forestry statistics (production of fuelwood)
	Own-account production of construction services by households	4 941	2 619	2 322	Households survey and hypothesis
N4	Total	5 361	3 007	2 354	
	Work councils	1 509	750	759	Calculation from wages (DADS) and accounts of a work council
	Horse races	791	726	65	Calculation from wages (DADS) and accounts of PMU
	Other association serving business	3 061	1 531	1 530	Calculation from wages (DADS) and the state budget
N6	Total	39 532	-12 369	51 901	
	Fraud on turnover or operational expenses by legally registered units	28 372	-12 369	40 741	Fixed rates evaluated by tax audits
	VAT fraud without complicity	11 160	0	11 160	Balancing between VAT received and theoretical VAT
N7	Total	39 392	-1 315	40 707	
	Income in kind S.11+S.14AA	418	-1 315	1 733	Fixed rates from survey applies to wages
	Tips S.11+S.14AA	3 220	0	3 220	Fixed rates from administrative data applies to wages
	Free rent S.11+S.14AA	422	0	422	Housing satellite accounts
	Own final use product on R&D S.11+S.14AA	21 424	0	21 424	Calculations from survey
	Capital services (mark-up) S.11+S.14AA	500	0	500	Calculation from Esane
	Own final use product on software and databases S.11+S.14AA	11 440	0	11 440	Calculations from wages (DADS)
	Own final use product on software and databases S.12+S.14AF	1 968	0	1 968	Calculations from wages (DADS)
Total	112 204	-5 940	118 144		

No individual method is directly used: various individual data (tax audits, surveys) have been used either to measure fraud rates or to estimate levels, but the calculation *in fine* remains based on a general calculation (or for each sector). The share of individual methods in the total amount of estimated fraud is therefore considered nil.

7.1.2 Exhaustiveness methods

7.1.2.1 Employment method

As mentioned above, in French National Accounts, there is no control of exhaustiveness based on employment sources: on the contrary, the estimates of hidden employment rely on the rates used to

calculate the hidden value added. Hence, it has no impact on the GNI. That is why, the method used to estimate the hidden employment is not very detailed.

A. General estimate

The main source for the estimation of employment in the national accounts is the ESTEL system (localised job estimates), which is itself based on primarily administrative sources (employment declared by employing units). The data in the national accounts are published in numbers of people but also in full-time equivalents.

The ESTEL source is used to calculate an annual overall target for employment in numbers of people. The annual target is then broken down between institutional sectors granted to various data (DGFIP data and DADS for S.13, social data for households and S.15).

The employment data in numbers of people are then translated into full-time equivalents, using part-time coefficients and multi-activity coefficients, estimated either from surveys (ACEMO for example) or from social data (DADS).

The employment data obtained spontaneously from these sources are available in non-homogeneous branches. They are decomposed in a second time into a homogeneous branch from production matrix.

B. Non-declared employment

The differences between declared employment (ESTEL) and employment estimated via Census are small. There are doubts as to whether they reflect the extent of undeclared employment (perhaps some of the people interviewed during the Census hesitate to reveal an undeclared activity).

In number of people, employment according to the national accounts is slightly higher than employment in ESTEL and in the population Census, which are very close (*see table 7-3*).

Table 7-3 Comparison between employment data, annual average (thousand), 2010

Nace	Estel	Census	National accounts
	Metropolitan France	France	France
Agricultural, forestry and fishing	662	757	766
Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities	3 442	3 490	3 111
Construction	1 736	1 830	1 867
Market services	12 354	12 053	13 236
Non-market services	8 011	8 195	7 916
Total	26 206	26 325	26 896

The adjustments made to output and value added in relation to the unobserved activity of a unit without a legal existence or which under-reports its activity will lead to corresponding adjustments to employment only in full-time equivalents. The number of workers measured through employment sources is indeed supposed to be exhaustive and not affected by exhaustiveness adjustments.

These adjustments are made globally on the assumption that the productivity of undeclared jobs is the same as for declared jobs in the same business sector, however the mechanism is different according to the institutional sector.

Concerning undeclared employment by pure households (S.14B), it is assumed each year that the ratio of undeclared full-time equivalents divided by declared full-time equivalents is equal to the ratio of undeclared D.11 divided by declared D.11. Wages data are transmitted by ACOSS (social data). Fraud rates, estimated by experts, are applied to wages to deduce the undeclared wages. These rates were first estimated for 1996, and were modified from time to time to reflect main legislative changes.

Concerning undeclared employment by firms (S.11 and S.14AA), the fraud rates (illegal-work rates) are applied sector by sector to the S.11 and S.14AA full-time equivalents employees. This method of calculation therefore assumes that the productivity is the same in each institutional sector for declared and undeclared workers for each activity:

$$\frac{\text{undeclared turnover}}{\text{undeclared fulltime equivalents}} = \frac{\text{declared turnover}}{\text{declared fulltime equivalents}}$$

7.1.2.2 *The unobserved activity of entities without an existence in law (N1)*

This adjustment impacts only households accounts (S.14AA and S.14B). It is divided between the non-registered producers and the production of households as employers.

A. *Non registered producers*

Concerning the fraud of entities without a legal existence (“clandestine” entities), the fraud rates were estimated on the judgment of experts for the first time for the base 80. These fraud rates were estimated for output and for value added (the impact on intermediate consumption is obtained by balancing).

These rates, called “Type I illegal-work rates”, were revised downwards for the base 2000, when the notion of illegal-work of the declared companies was introduced (also called “Type II illegal-work”). The rates were finally marginally revised in the base 2005 to correct some inconsistencies. The adjustments are focused on activities known for being sources of concealed work. The main activities targeted are the building sector, motor vehicle repair, IT activities, personal services and commercial education.

In order to calculate the value added and the turnover of these clandestine entities, the “Type I illegal-work rates” are applied to the turnover directly available in Esane. This turnover includes the production sold and the sales of goods. Therefore, this turnover differs from the production mentioned in the “combined data” column in the Process Table: indeed this “production” corresponds to the production sold to which is added the trade margins (sales of goods – purchases of goods).

Table 7-4 Fraud (turnover or operational expenses) by units without an existence in law, in EUR (million)

Fraud on turnover or operational expenses by units without a legal existence	Impacts (EUR bn)	Method of estimate	Basis of calculation in Esane	Basis of calculation (EUR bn)	Average fraud rates
Type I illegal work (impact on output)	14.759	Fraud rates	Turnover (sold production + sales of goods)	3560	0.4 %
Type I illegal work (impact on value added)	13.363	Fraud rates	Turnover (sold production + sales of goods)	3560	0.4 %

B. Production of households as employers

This adjustment corresponds to household producers of domestic services that should have registered to URSSAF (to declare wages paid) but do not. It is estimated on applying a coefficient to the prima facie wage bill (using data from agencies which collect social contributions in NACE 97 and 88). This coefficient is obtained from employment, household budget and specific surveys. It was first estimated in 1996, and then was modified from time to time to reflect main legislative changes.

For instance, between 2007 and 2012, the coefficient was fixed at 26.8%. It was raised in 2013 and 2014 (to reach 27.8%) in order to take into account the obligation beginning in 2013, forcing households to declare the real wage (instead of a flat fee) for calculating the social contributions. It has been assumed by National accountants that this obligation led households to less declare their employees.

7.1.2.3 Illegal activities (N2)

In the production approach, this adjustment impacts the non-financial unincorporated enterprises accounts (S.14AA). It is divided between production and trafficking of narcotics and smuggling of tobacco. There is no adjustment for prostitution in French national accounts; an explanation is given at the end of this section.

A. Narcotics

In base 2010, a specific correction was implemented in the calculation of the GNI to take into account the impact on the value added of the drugs trafficking.

This estimate was based on a demand-side type of approach. The consumed values were estimated on the basis of analyses by experts from the French Drugs and Drug Addiction Monitoring Centre (Observatoire français des drogues et toxicomanies — OFDT). The analysis is per broad category of narcotic drugs. The total consumption is estimated at approximately EUR 3 billion in 2010, of which EUR 0.8 billion of cannabis, EUR 0.9 billion of cocaine and EUR 1.3 billion of other illegal drugs.

The OFDT also provided a variety of indications about the proportion of resident production (estimated at 10% for cannabis and 0% for the other narcotic drugs) and with regard to retail prices compared to wholesale prices (the ratio “retail price/wholesale price for cannabis” was estimated at 2 for cannabis and 3 for cocaine and other illegal drugs). From this information, the resident production of cannabis is estimated at EUR 42 million in 2010. The margins made by smugglers is EUR 1.958 billion, all of whom are assumed to be residents. Intermediate consumption was ignored. Under these assumptions, the impact on the value added to be accounted for was equal to EUR 2.0 billion in 2010. The impact on GNI was identical.

i. Cannabis

Cannabis is generally produced in a low-cost third country, for about EUR 450 per kg. After it is transported to the French border, French wholesalers purchase the cannabis for a price of about EUR 1 500 per kg, before transporting it on French soil and selling it to French consumers at a price of a EUR 6 500 per kg. Thus, transport and trade margins account for about 80% of the total cost of consumption. The report further states that transport costs represent approximately 6% of the purchase cost at the border for "go fast" transport and 3% for "go slow" transport, which enables the transport margins to be estimated (EUR 0.01 billion) and to deduce from them the trade margins (EUR 0.9 billion) and then the imports (EUR 0.1 billion at the basic price). Home-growing (by resident households for their own use) is estimated at about EUR 0.1 billion.

ii. Cocaine

Cocaine is produced in distant countries (Latin America mainly) for a cost of about EUR 2 500 per kg. A portion of the drug produced is purchased directly by French resident importers (assumed to be 60% of importers), who sell it on to traffickers with a first trade margin, at a resale price of EUR 31 500 per kg. The French dealers then sell the product to consumers at a very high price, of the order of EUR 180 000 per kg for pure cocaine. This information, assuming that the cost structure for the transport of cocaine in France is similar to that of cannabis, leads to an estimate of consumption of EUR 0.9 billion of cocaine, which breaks down in 2010 into EUR 0.8 billion of trade margins, EUR 0.1 billion of transport margins and EUR 0.1 billion of imports.

iii. Other drugs

The consumption of other drugs (EUR 0.3 billion) is assumed to break down into two-thirds of trade margins (EUR 0.2 billion), very little in the way of transport margins and imports (EUR 0.1 billion).

B. Smuggling of tobacco

The estimate is based on a demand-side type of approach. The quantities are estimated by comparing survey data for tobacco-consumption habits, corrected for under-reporting behaviours (on the basis of analyses by experts from the French Drugs and Drug Addiction Monitoring Unit— OFDT), with the quantities sold legally in France. This provides an estimate of the total consumption of tobacco acquired outside the legal distribution networks in France, which therefore combines smuggling and legal purchases of tobacco abroad. An OFDT study of the quantities purchased legally abroad can be used to determine the consumption of smuggled tobacco.

This quantity of smuggled tobacco is valued on the assumption that the smuggled tobacco is sold at a discount of approximately 50% on legally sold tobacco (price inclusive of all taxes). Imports of smuggled tobacco are valued on the basis of being 10% lower than the average price of legally imported tobacco. The difference relates to the margins made by the smugglers: an estimated EUR 626 million in 2010.

It is also assumed that intermediate consumptions and other operating charges imputable to the transportation and warehousing of smuggled tobacco are implicitly included in the operating charges declared by owners of individual enterprises in the retail trade who engage in tobacco smuggling under the cover of other activities, both legal and declared (especially the transportation and distribution of declared merchandise). It is also assumed that all smugglers are residents. Under these assumptions, the impact on the value added to be accounted for is equal to the smugglers' margins, i.e. EUR 626 million in 2010. The impact on GNI is identical.

C. Prostitution

No adjustment is made for prostitution. Our analysis, which was initially based on a parliamentary report, has been reinforced by several publications since the time of the implementation of the base 2010.

An interesting report (<https://prostcost.wordpress.com/>) has been published in May 2015, producing a figure of approximately EUR 3.2 billion of value added. This value added would be shared between pimps (EUR 1.4 billion) and prostitutes (EUR 1.8 billion). In this sense, this report is consistent with another recently published report, but at a European level (<https://www.nswp.org/sites/nswp.org/files/TAMPEP%202009%20European%20Mapping%20Report.pdf>), which indicates that, in the West Region (including France, Belgium, Luxemburg and Netherlands), around half of the sex workers share their earnings with « organisers ».

The benefits of the pimps (about EUR 1.4 billion) is already captured:

- through N6 adjustments, based on fiscal audits of legally registered units (the fraud rates in 96Z- « Other personal service activities » is about 33% for S.14B and 2.5% for S.11) ;
- through N1 adjustments, regarding pimps working on their own and not related to a declared entity (the « Type I illegal-work rate » in 96Z- « Other personal service activities » is about 5.5%).

The benefits of the prostitutes (about EUR 1.8 billion) is not already captured, except for prostitutes who exert in places officially dedicated to other activities such as bars or massage parlours: their official activity cannot be prostitution since pimping can be prosecuted. According to the report, these prostitutes represent 8% of the total of prostitutes and we assume that the activities of these units is captured through N6 adjustments.

The report also indicates that 62% of the prostitutes were contacted by internet, and that about 30% work outdoor. This last figure is consistent with the European report, which indicates the same percentage of outdoor workers.

To estimate the part of the forced prostitution, whereas the European report supposes that the constraint is linked to the share of earnings with pimps, we prefer referring to French publications, which provide details on the organisation of prostitution in France.

A synthesis of the available publications on the prostitution topic has been indeed published in 2015 (https://stop-violences-femmes.gouv.fr/IMG/pdf/Lettre_ONVF_no7_-_prostitution_-_oct_2015.pdf) and, it explains that almost all prostitutes are under the constraint of a pimp or a trafficking network. This affirmation is reinforced by the analysis published in 2016 by the « Office Central pour la répression de la traite des êtres humains » https://inhesj.fr/sites/default/files/ondrp_files/publications/rapports-annuels/2016/2016_RA_offices_PJ.pdf.

Regarding outdoor prostitution, this report indicates that about 93% of the outdoor workers are not French, which stimulates the developing of criminal groups in which victims are recruited in their country of origin before being sent to France and exploited. The same report also describes the rapidly emergence of foreign criminal groups acting in France thanks to internet, as well as the developing of the prostitution in poor suburbs, in which offenders force young girls to prostitute, by posting ads on the internet.

We thus suppose that the totality of the prostitutes contacted by internet or working outdoors works under constraints. Hence, the value added of their activity must not be included in the GDP.

D. Smuggling of alcohol

The total amounts of seizures of smuggled alcohol are extremely low in France, compared to quantities consumed.

In 2005, only 25 733 litres (of diluted alcohol) were sized (e.g. <https://www.ofdt.fr/statistiques-et-infographie/sources-statistiques/saisies-de-la-douane-alcool/>), whereas the total consumption in France amounted nearly to 160 million litres (consumption of undiluted alcohol: https://www.suchtschweiz.ch/fileadmin/user_upload/Grafiken/Alkohol/F_A_conso_5.pdf, number of inhabitants under 15 years old: <https://www.insee.fr/fr/statistiques/1892117?sommaire=1912926>).

As a result, in 2005, seizures of alcohol would have represented less than 0.02% of the total consumption, which suggests that smuggling of alcohol was very low.

Thus, various papers indicate that consumption of alcohol in France steadily decreases, mainly because of a decrease of the daily consumption and of an increase of the number of people who never drink alcohol (see for instance <https://www.avecmoderation.org/wp-content/uploads/2018/11/Barom%C3%A8tre-2018-de-la-consommation-des-boissons-alcoolis%C3%A9es.pdf>).

All these figures suggest that smuggling of alcohol is a marginal phenomenon, probably because alcohol prices are relatively low in France in relation to neighbouring countries (in contrast to what can be observed for tobacco).

We have already seen the fragility and scarcity of available data, but we can also estimate that the possible estimate of consumption in France exceeds the margin of inaccuracy of this estimate.

Under these conditions, no adjustments are made for alcohol smuggling.

7.1.2.4 *Own-account production by households (N3)*

This adjustment impacts the households accounts (S.14B). It is divided between three types of own account production by households:

- Agricultural products
- Manufactured products
- Construction services

A. Own account production of agricultural products by households

Agricultural products are produced by family allotments and animal husbandry. This output is estimated on the basis of a survey of households (“l’enquête permanente sur la consommation alimentaire des ménages”) and updated using the production indices for the products concerned. The base for this estimate is very old, since the survey in question was discontinued in 1991. However, this survey has been mainly used to break down the total production between own-account production of households and other production: the levels of the total production for each agricultural products have been reviewed for the benchmark revision using available data.

Agricultural households also produce fuelwood, the figures for which are provided by the forestry statistics. Those statistics also provide a measurement of output for sale by forest-owning households. In French national accounts, it is the only own account production of manufactured products by pure households (excluding unincorporated enterprises).

Further explanations of own-account production and auto-consumption are provided in the methodological note “La consommation des ménages en produits agricoles et agroalimentaires, note N°2, septembre 2014”, <https://www.insee.fr/fr/statistiques/2384132#documentation-sommaire>.

B. Own-account production of manufactured products by households

Agricultural households also process agricultural products into food products and beverages intended for their own final consumption. These are estimated from the data on farms.

C. Own-account production of construction services by households

Construction for own fixed capital formation in the form of dwellings is also attributed to households. This is estimated on the basis of the value of construction materials purchased by households. This expenditure is known from the household surveys: household expenditure survey, housing survey. A fraction of total expenditure is determined, which is deemed to be used for major works in the dwelling.

The estimate adopted in base 2010 uses the results of the 2005 survey. The materials chosen to appear as intermediate consumption of households in their construction activity are ‘structural’ materials. They account for almost 50% of households’ total purchases of construction materials. Once the value of the materials used has been determined, the value added is calculated by applying the ratio of the value added on intermediate consumption of construction materials of sole proprietorships engaged in the same activity. This ratio is corrected to allow for the fact that, unlike enterprises, households are unable to deduct VAT on their purchases.

7.1.2.5 Unit not present in business statistics (N4)

This adjustment impacts the non-financial enterprises accounts (S.11+S.14AA). It refers to registered units engaged in market production but absent from SBS data (ESANE) for various reasons. In most cases, no fiscal statements are available for these units given their specific legal status. SBS data are thus completed with N4 adjustments based on accounting data obtained through other channels than ESANE. These adjustments are detailed in chapter 3 (see 3.3.2.4 Exhaustiveness).

Table 7-5 Decomposition of N4 in production approach

	Output	Intermediate consumption	Value added
Work councils	1 509	750	759
Horse races	791	726	65
Other association serving business	3 061	1 531	1 530
Total N4	5 361	3 007	2 354

7.1.2.6 Registered entrepreneurs not included in the statistics (N5)

Tax statements (that constitute the main source to estimate value added) are in principle exhaustive (which is not the case of surveys, that are exhaustive only for large firms) but, of course, they can be missing – usually for small unincorporated enterprises, more seldom for incorporated ones. However in that case missing tax statements are imputed in the SBS production process (ESANE).

These adjustments are detailed and included in chapter 3 (see 3.3.2.2 Data validation).

7.1.2.7 Fraud (N6)

This adjustment impacts the non-financial enterprises accounts (S.11+S.14AA).

A. Fraud on turnover or operational expenses by legally registered units

i. General approach

Traditionally, the analysis of the underground economy, which underlies the introduction of the adjustments to the valuations derived from statistical sources into the French national accounts, leads to a clear distinction between the adjustments made on grounds of fiscal fraud and those made on grounds of undeclared work.

The adjustments for fiscal fraud aim to correct the declarations made about their activity, either to the tax and social security authorities or to statistical surveys, by enterprises that are properly declared.

The units concerned by the corrections made for fiscal fraud are non-financial, non-agricultural enterprises. General Government and financial corporations are deemed to be relatively unlikely to engage in fraud or at least in the under-reporting of their activity, which would have an impact on the measurement of their output or income, as measured by the national accounts. And the methods used to estimate the value added of agricultural enterprises are considered not to be sensitive to any fraud that might be perpetrated by their owners.

On the other hand, the evaluation of the contribution of non-agricultural non-financial corporations and unincorporated enterprises to GDP is indeed based on their returns, as indicated in the accounting documents they submit. The method used to correct the concealment of activity which affects these returns is based on the results of auditing campaigns carried out by the tax administration.

ii. Tax audits

For the purposes of base 2010, the information transmitted to INSEE by the tax administration for the auditing campaigns conducted from 2004 to 2006 was used, concerning the financial years from 2000 to 2006. This information relates to the individual results of the tax audit involving the checking of income and expenditure accounting – or of the equivalent for unincorporated enterprises – of approximately 117 000 enterprises. The checks usually extend to all of the information contained in the tax returns; they also concern the turnover declarations when the companies are liable for VAT.

Firms are liable to VAT for year N if their annual N-1 turnover exceeds a legal threshold, that depends on its sector of activity. This threshold is:

- EUR 82 800 for accommodation and food services;
- EUR 32 300 for most other activities.

For each audit, the following data in particular are provided:

- the legal form of the enterprise and its tax system;
- rectifications for omission of earnings;
- rectifications concerning accumulated depreciation;
- income before and after the rectifications made by the tax authorities;
- duties retroactively liable for tax;
- updated VAT payments.

These different data are available even when the checks have not led to any adjustment. This information is used to increase the value added obtained from the statistical sources. Using the results of tax audits should therefore be limited to cases in which the fraud and tax evasion detected have the effect of

reducing the value added. Consequently, and especially for the biggest enterprises, there are many ways of reducing the taxable result that juggle with the specific tax regulations, e.g. through the transition from the accounting result to the result for tax purposes (especially the accumulated depreciation) without casting doubt on the sincerity of the declarations relating to the accounting items used to determine the value added.

Finally, the exploitation of the results of the tax audit reflects:

- cases of omission and concealment of taxable earnings (turnover fraud): this is the most common of all reasons for the adjustment of VAT charges. It is also the main reason for the adjustment of the result for income tax purposes for unincorporated enterprises. Although there may be other reasons for companies, it is clearly associated with a risk of reducing the value added;
- cases of overestimating purchases which, by unduly increasing intermediate consumptions, reduce the estimation of value added in the national accounts.

iii. Exploitation of the results of tax audits

The principle of the method used to exploit the results of tax audits is simple. It consists of applying the average rates for the under-reporting of turnover and the taxable result, which have been observed for enterprises with similar characteristics that have been audited by the tax authorities, to all enterprises.

However, simply extrapolating the fraud rates of audited enterprises to all enterprises involves a risk of overestimation, because the audits are not random (the tax authorities are more likely to audit enterprises from which they expect to obtain significant adjustments). This risk is certainly mitigated by the stratification of control files according to the legal form, business sector and size category of enterprises insofar as these three criteria are involved in the selection process for enterprises targeted by tax audits.

However, these criteria are not sufficient to eliminate the risk of overestimation relating to this selection method. This is why, in the analysis of the results of tax audits, efforts have been made to model the probability of being audited more accurately, by using other criteria of an accounting nature, such as the VAT rate (value added / turnover) or the margin rate (pre-tax gross current profit / turnover). Enterprises of a given legal form, business sector and size for which these accounting rates are comparatively low – and especially those for which these accounting rates are not available – are audited more frequently than the others. In this way, the audit probability for each company is estimated on the basis of the following criteria: legal form, business sector, size, value added rate and margin rate.

Enterprises are therefore grouped into the most homogeneous strata possible in terms of audit probability, and the average fraud rate calculated for the audited companies belonging to a particular stratum is applied to all of the companies in the stratum in question.

This approach, based on post-stratification according to the estimated audit probability, reduces the risk of overestimating fraud associated with the fact that the tax authorities target their audits at certain types of enterprises. It does not eliminate this risk altogether, however, because within the strata defined in this way, the audit probabilities may be affected by variables that cannot be observed in the file created (e.g. the fact that the company has already been detected as fraudulent in the past; or the existence of a denunciation). Therefore, a risk of overestimation related to the means of selection remains, although the chosen method does reduce it. On the other hand, this is not to say that the tax authorities manage to detect every case of fraud during their audit, which could in this situation lead to the overestimation of the impact of fraud on the measurement of activity.

Adjustments always lead to an increase in output that is higher, often significantly so, than the rise in gross operating surplus (mixed income). It is consistent with expectations because it may be considered that enterprises that conceal a proportion of their income from output also fail to declare a proportion of their expenses, which clearly relate to undeclared sales. That is why the total amount of the rise in output is not fully transferred to the gross operating surplus. There are then two possible cases:

- These expenditures concern intermediate consumption. In this case, the rise in value added is equal to the rise in gross operating surplus/mixed income. The amount of intermediate consumptions is then systematically corrected.
- These expenditures concern the payroll. In this case, rather than treating the difference as a supplement to the payroll which would then be the subject of tax fraud, it has been deemed preferable to refrain from modifying the compensation of employees estimated by the business statistics. The contribution of paid employment to the adjustment for tax fraud is interpreted as being a form of undeclared employment, which is called “Type II illegal-work”. It is supposed that this undeclared employment is an output of unincorporated enterprises which are consumed by the fraudulent enterprises (*see below* for more details).

iv. Concrete implementation of these rates in National Accounts

To estimate the whole fraud, several fraud rates by economic activities have been fixed by the method described above.

- Fraud rates for the impact on the output (EUR 18 051 million):
 - Fraud rates on the production sold for each sector (level G), on the one hand for the S.11 and on the other hand for the S.14AA. These fraud rates are applied to the sold production directly available in Esane and lead to estimate EUR 16 765 million of fraud on sold production (10.4 for S.14AA). These fraud rates are small for companies (S.11) unless in some economic activities (NACE 55, 56 and 96). They are clearly bigger for unincorporated enterprises (S.14AA): 9.3% on average.
 - Fraud rates on sales of goods and on purchases of goods, at a very detailed level. These fraud rates are applied at this detailed level on sales of goods and purchases of goods and lead to estimate respectively EUR 3 662 million on sales of goods and EUR -2 376 million on purchases of goods.
 - Fraud rates for wage bill defrauded (called Type II illegal-work rates) for each sector (level G) on the production sold on the one hand for the S.11 and on the other hand for the S.14AA. These fraud rates are applied to the sold production directly available in Esane and lead to estimate EUR 10 321 million of fraud on wage (the average fraud rate is 2.9%). The undeclared work linked with fraud on turnover is assumed to correspond to the activity of not registered self-employed. Therefore, the adjustment (EUR 10.3 billion) on wages is transformed into an adjustment on production of (undeclared) unincorporated enterprises.

Table 7-6 Fraud on turnover or operational expenses by legally registered units

	P.1 (EUR bn)	Method of estimate	Basis of calculation in Esane	Basis of calculation (EUR bn)	Average fraud rates on S.11	Average fraud rates on S.14AA
Total	28.372					
Concealment of taxable earnings	18.051					
of which fraud on production sold	16.765	Fraud rates	Sold production	2 175	0.3 %	9.3 %
of which fraud on sales of goods	3.662	Fraud rates	Sales of goods	1 385	0.1 %	5.0 %
of which fraud on purchases of goods	-2.376	Fraud rates	Purchases of good	1 042	-0.1 %	-4.3 %
Type II illegal-work	10.321	Fraud rates	Turnover (sold production + sales of goods)	3 560	0.0 %	0.3 %

- Fraud rates for the impact on the value added (EUR 40 741 million):
 - Fraud rates for the impact on the value added due to fraud on the whole output, for each sector (level G) and for the S.11 and the S.14AA. These rates are applied to the turnover (production sold + sales of goods) directly available in Esane and lead to estimate a global impact on the value added equal to EUR 30 793 million. These fraud rates are small for companies (S.11) unless in some economic activities (NACE 55, 56 and 96). They are clearly bigger for unincorporated enterprises (S.14AA): 10.4% on average.
 - Fraud rates for wage bill defrauded (called Type II illegal-work rates) for each sector (level G) on the production sold on the one hand for the S.11 and on the other hand for the S.14AA. These fraud rates are applied to the sold production directly available in Esane and lead to estimate EUR 9 948 million of fraud on wage (the average fraud rate is 2.8%). The undeclared work linked with fraud on turnover is assumed to correspond to the activity of not registered self-employed. Therefore, the adjustment on wages is transformed into an adjustment on value added of (undeclared) unincorporated enterprises.

Table 7-7 Fraud on turnover or operational expenses by legally registered units

Fraud on turnover or operational expenses by legally registered units	B.1G (EUR bn)	Method of estimate	Basis of calculation in Esane	Basis of calculation (EUR bn)	Average fraud rates on S.11	Average fraud rates on S.14AA
Total	40.741					
Concealment of taxable earnings	30.793	Fraud rates	Turnover (sold production + sales of goods)	3 560	0.4 %	10.4 %
Type II illegal-work	9.948	Fraud rates	Turnover (sold production + sales of goods)	3 560	0.0 %	0.3 %

There is no fraud rates for the impact on the intermediary consumption; the impact on P.2 is deduced from the impact of fraud on output and value added. The undeclared work linked with fraud on turnover is assumed to correspond to the activity of not registered self-employed. Therefore, the adjustment on wages is neutral on value added: the output due to fraud on wages is added to the intermediate consumption.

The table below yields the links between the adjustments made on these different operations for year 2010.

Table 7-8 Links between the adjustments made for fraud, EUR (million)

		Deducted from fixed rates	Deducted from balancing	Total
On output	Fraud on goods purchases	-2 376		28 372
	Fraud on goods sales	3 662		
	Fraud on sold production	16 765		
	Fraud on wages (« Type II illegal-work »)	10 321		
On value added	Fraud in tax returns	30 793		40 741
	Fraud on wages (« Type II illegal-work »)	9 948		
On intermediate consumption	Consumption of output of type II illegal-work	10 321		-12 369
	Fraud on charges		-22 690	

B. Calculation of theoretical VAT receipts

i. General description

The combined production-income approach, broadly based on institutional data, provides an estimate of production and value added. Its calculation is inclusive of adjustments for the non-observed economy (including concealed activity for tax or social security fraud purposes), but exclusive of VAT.

The VAT-exclusive production obtained in this way is broken down into branches and therefore into products (with one branch producing a homogeneous class of products). Then, it is inserted in the supply and use balances, excluding VAT, of the different products. These VAT-exclusive supply and use balances

are estimated and balanced in such a way as to conform to the overall value added derived from the institutional data (after adjustments for concealed activity). These supply and use balances ultimately produce detailed estimates of the different domestic uses (final consumption, intermediate consumption and gross capital formation) calculated on a VAT-exclusive basis per product.

These supply and use balances are then converted into VAT-inclusive supply and use balances by applying theoretical rates of VAT to the uses, which are broken down per category of use and per product: these precise VAT rates are provided by the indirect taxation specialists of the General Directorate of the French Treasury. For a given product, the different uses are valued by applying the corresponding theoretical VAT rate to each use, excluding evasion with complicity (*see below*) and the aggregate value of the theoretical VAT obtained in this manner is recorded in supply and use balance resources under code D.211.

ii. [Description of the estimate of VAT rates by the General Directorate of the French Treasury](#)

The General Directorate of the French Treasury has developed a very detailed model to estimate VAT rates from tax data and National Accounts data. The model is presented in detail in [the work document 2016/02](#) of the French Treasury.

C. [Calculation of the discrepancies between theoretical VAT receipts and VAT receipts actually collected during the reference period.](#)

i. [Receipts of VAT: from working balance to National Accounts](#)

Receipts of VAT in National Accounts are estimated on a time-adjusted cash basis. The adjustment is provided by the DGFIP, using information on late recoveries or on late VAT credits reimbursement. More precisely, adjustments made are composed of:

- Regarding VAT receipts: receipts recovered in January N+1 are considered as related to the economic activity of year N and attached to the National Accounts VAT of year N. By the same token, receipts recovered in January N are considered as related to the economic activity of year N-1 and are withdrawn of VAT working balance receipts to estimate the NA VAT of year N.
- Regarding VAT credits:
 - On the one hand, reimbursements in January N+1 are attached to NA VAT of year N whereas reimbursements in January N are attached to NA VAT of year N-1;
 - On the other hand, requests for reimbursement filled (declarations transmitted) but not already scheduled by the public accountants at the end of January N+1 are attached to NA VAT of year N, whereas those at the end of January N are attached to NA VAT of year N-1.

Two other adjustments are made to obtain the final amount of VAT:

- Some farmers have the option of not charging VAT on their sales. They cannot then deduct the VAT they paid on their purchases of intermediate consumption or on their investment. The State then reimburses them on a lump sum basis for this "overpayment" in the form of the "agricultural lump sum reimbursement". In the state accounts, this "agricultural flat rate reimbursement" is deducted from the VAT collected. However, the deductible VAT being higher than their reimbursement, this "VAT under-compensation" represents a burden for farmers. This charge is classified in other taxes on products (D.29) and subtracted from VAT.
- STIF (Syndicat des transports d'Île-de-France, classified as other local government bodies, S.1313) pays subsidies on products (D.31) to RATP and SNCF (S.11), on which VAT (D.211) is levied by the State (S.13111). DGFIP considers that the subsidy corresponds to a purchase of services, subject

to VAT (D.211) and indicates the amount of the total subsidy including VAT. We consider that these subsidies cannot be considered as purchases of services and that the VAT on subsidies is a tax on production (D.292) borne by STIF. Therefore, an amount of EUR 0.2 billion is subtracted from VAT.

The table below details the adjustments made for the year 2010:

Table 7-9 VAT adjustments, EUR (million)

	Administrative record
VAT received by State	127 291
VAT received by social securities funds	8 720
VAT key (adjustments for time-adjusted cash basis)	118
VAT adjustments	-551
of which subsidies on intermediate consumption	-221
of which subsidies on investment	-200
of which STIF	-130
Total	135 578

ii. *Ad hoc cancellations by the tax authorities of certain VAT claims in cases of insolvency*

Until 2012, the cancellation by the tax authorities of certain VAT claims in cases of insolvency was not recorded by the public accountant in an accounting entry. VAT receipts in the working balance and in National Accounts thus did not take into account these possible cancellations, and there was only an implicit impact of these annulations on the VAT gap.

In 2012, the DGFIP IT-system was modified, and from this date, the cancellation by the tax authorities of certain VAT claims in cases of insolvency is recorded by the public accountant in an accounting entry:

- A fictitious receipts equal to the VAT which will never be collected is recorded as VAT receipts in the working balance => this fictitious receipts is cancelled in National Accounts
- A fictitious expenses equal to the VAT which will never be collected is recorded as expense in the working balance, but is merged with expenses concerning also other taxes => all these fictitious expenses are cancelled in National Accounts.

Finally, the gap between the theoretical VAT and the VAT recorded in National Accounts includes correctly the impact of ad hoc cancellations by the tax authorities of certain VAT claims in case of insolvency. In case of bankruptcy/insolvency there is no VAT receipt but we compute a theoretical VAT amount since we apply a theoretical VAT rate to the amount of the observed transactions.

iii. *Evasion involving the buyers' connivance (with complicity)*

In case of VAT fraud with complicity (of the customer), the seller and the customer agree not to charge any VAT on a transaction: the customer benefits from lower prices, while the seller benefits from not paying any taxes (also other than VAT) as the transaction will not be included in his reported turnover. In France, this kind of evasion is excluded from the calculation of the VAT gap and of the theoretical VAT: non-declared entities do not declare VAT to the fiscal administration and calculating an unpaid VAT for these entities would question for instance the fact that their unpaid social contribution or their unpaid corporate income tax are not either estimated. More precisely, the VAT base on which is calculated the

theoretical VAT is reduced in certain supply-use equilibrium, for households' consumption and gross fixed capital formation.

The reduction rate applied results directly from « Type I » illegal-work rates : indeed, the dissimulated value added due to « Type I » illegal-work is shared, in the expenditure approach, between the households consumption and the GFCF, according to the relative weights of these uses in each supply-use equilibrium. An impact on households' consumption and GFCF, product by product is then calculated, and compared to the total of households' consumption or GFCF in each supply-use balance to deduce the reduction rate to apply.

Thus, the value of evasion « with complicity » amounts to EUR 13.4 billion and, by multiplying, product by product, these amounts by the appropriate rates of VAT, it is possible to estimate the value of « missing » VAT receipts which the tax authorities have been denied because of VAT evasion « with complicity ».

iv. *Evasion not involving the buyers' connivance (without complicity)*

The theoretical aggregate VAT is obtained by adding together the theoretical VAT calculated for all products. The non-collected VAT (due to evasion "without complicity") is arrived by estimating the discrepancy between theoretical VAT receipts (which exclude theoretical VAT receipts in case of evasion with complicity) and actual VAT receipts. This "VAT gap" is broken down between products on the basis of the breakdown of the fraud on turnover between products.

The "VAT gap" is also broken down between S.11 and S.14AA according to the respective weights of S.11 and S.14B in the undeclared output (fraud on turnover). The P.1 is raised by the same amount than this VAT gap, as well as the value added.

Regarding S.11, the value added and the operating surplus are impacted. The amount of the VAT gap is then transferred to households, in the form of other current transfers. Regarding S.14B, the value added is also impacted, as well as the mixed income and the balance of primary incomes. Finally, the VAT gap of both S.11 and S.14B has an impact on the households' disposable income and their net lending, for an amount of EUR 11.16 billion in 2010.

7.1.2.8 Benefits in kind and own-account production (market activities, N7)

These adjustments are mainly adjustments on the non-financial enterprises accounts (S.11+S.14AA). They are described in details in the chapter 3 (*see 3.3.2.4 Exhaustiveness*). They regroup adjustments for income in kind, tips, free rent, production for own final use of R&D, software, databases and capital services of production for own final use.

An adjustment for production for own final use of software and databases is also made in the financial enterprises accounts (S.12+S.14AF). Their R&D production is transferred to non-financial companies (*see 3.22.3.2 More details about R&D*). Their income in kind are negligible: total wages of financial enterprises are almost 7% of the total wages of non-financial enterprises, with the hypothesis of the same ratio of income in kind on wages for financial and non-financial enterprises, the income in kind of non-financial enterprises would be EUR 0.2 billion.

7.3 Allowances for exhaustiveness for the expenditure approach

Exhaustiveness corrections are implemented in the production approach. Some of these corrections are implicit in the expenditure approach. In this case, they cannot be shown: they result from supply-use equilibrium. On the other hand, some adjustments have an explicit counterpart in the expenditure

approach. This is the case, for example, for adjustments to production for own-final use by households (N3) or for adjustments to production for own-final use of R&D (N7), which has its counterpart in investment. In total, the explicit adjustments in the expenditure approach amount to EUR 57 552 million (see table 7-10).

Table 7-10 Process table of exhaustiveness of the expenditure approach, EUR (million)

Operation	N1	N2	N3	N4	N6	N7	Total
HFCF	4 177	3 726	3 134		2 998		14 035
GFCF			4 941	1 459		35 332	41 732
Exports				685			685
Imports		1 100					1 100
GNI (expenditure approach)	4 177	2 626	8 075	2 144	2 998	35 332	55 353

7.3.1 Hidden activities by units without existence in law (N1)

This adjustment impacts the household final consumption (P.3) expenditure to take into account of undeclared work. This concerns:

- Production of households as employers: home helps (COICOP 12 - product Q88), domestic services (COICOP 05 – product T97);
- Non-registered producers.

Table 7-11 N1 adjustment on consumption, EUR (million)

	Consumption
Non registered producers (S.14AA, COICOP 07)	1 718
Production of households as employers (S.14B, COICOP 05 and 12)	2 459
Total	4 177

7.3.2 Illegal production, drugs, prostitution (N2)

This adjustment impacts the S.14AA accounts. All the narcotics and tobacco are consumed by households. The values consumed of narcotics are estimated on the basis of analyses by experts from the French Drugs and Drug Addiction Monitoring Centre (EUR 3.0 billion). The consumption of smuggling tobacco (EUR 726 million) is estimated by the balance between the quantity from a survey data for tobacco-consumption habits and the quantities sold in France, see above. Imports have been estimated to EUR 1.0 billion concerning narcotics and to EUR 0.1 billion concerning tobacco.

Table 7-12 N2 adjustment on consumption and imports, EUR (million)

	Consumption	Exports-Imports
Illegal production and trafficking of narcotics	3 000	-1 000
Illegal smuggling of tobacco	726	-100
Total	3 726	-1 100

7.3.3 Households own-account production (N3)

Agricultural households process agricultural products into food products and beverages intended for their own final consumption, as well as fuelwood. Construction for own fixed capital formation in the form of dwellings is also attributed to GFCF of households.

Table 7-13 N3 adjustment on consumption and GFCF, EUR (million)

	Consumption	GFCF
Own-account production of agricultural products by households	2 640	
Own-account production of manufactured products by households	494	
Own-account production of construction services by households		4 941
Total	3 134	

7.3.4 Units not present in business statistics (N4)

Esane is not considered as a good source for some economic activities with GFCF in tangible assets: social work activities (NACE 87-88) and activities of memberships organisations (NACE 94), *see 3.3.2.4 Exhaustiveness*. Therefore, the GFCF in tangible assets in these economic activities is added from other sources. It represents EUR 1.4 billion of GFCF in tangible assets (in dwellings, AN111). This amount is estimated in with a fix share of the production of these economic activities.

Work councils are not in Esane (*see 3.3.2.4 Exhaustiveness*). Their GFCF in tangible assets is added (EUR 0.1 billion), and it is estimated as 25% of wages of work councils from DADS, the key 25% comes from the account of the work council IEG which is published. Their whole GFCF is supposed to be in tangible assets (in dwellings, AN111).

Table 7-14 N4 adjustment on GFCF, EUR (million)

	GFCF
Work councils	109
Other association serving business and social action	1 351
Total	1 459

As described in chapter 5, international merchanting is corrected and added to exports for large firms not included in the Balance of Payment data (EUR 0.7 billion on exports).

7.3.5 Registered entrepreneurs not included in statistics (N5)

No adjustment records in N5 exhaustiveness.

7.3.6 Hidden activities by legal units (N6)

Consumption expenditure on market health services (COICOP 05 – GQ86M) has been increased to take account of fraud because in the source for health consumption (DREES), fraud is not included.

Table 7-15 N6 adjustment on consumption, EUR (million)

	Consumption
Fraud on turnover or operational expenses by legally registered units	2 998
Total	2 998

7.3.7 Benefits in kind and own-account production (N7)

The own-final use production has a direct impact on GFCF. This concerns R&D and software databases activities.

Table 7-16 N7 adjustment on GFCF, EUR (million)

N7 (EUR million)	GFCF
Own final use production of R&D	21 424
Own final use production of software databases	13 908
Total	35 332

7.4 Allowances for exhaustiveness for the income approach

The income approach is deducted from the production approach. Adjustments for each type of exhaustiveness are described below.

Table 7-17 Process table of exhaustiveness of income approach, in EUR (million)

Operation	Sector	N1	N2	N3	N4	N6	N7	Total
Wage	S.11+S.14AA				2 277		5 375	7 652
	S.14B	2 459						2 459
GOS	S.11+S.14AA				179	20 032	33 361	53 572
	S.12+S.14AF						1 968	1 968
Mixed income	S.11+S.14AA	13 363	2 626			31 869	3	47 861
	S.14B			4 734				4 898
Taxes	S.11+S.14AA				130			130
Subsidies	S.11+S.14AA				233			233
GNI	S.0	15 822	2 626	4 734	2 353	51 901	40 707	118 143

7.4.1 Hidden activities by units without an existence in law (N1)

The value added related to fraud of entities without a legal existence has a direct impact on the mixed income. The production of household producers of domestic services that should have registered to Aclass has a direct impact on the compensation of employees. These adjustments impact the households accounts (S.14AA and S.14B).

Table 7-18 N1 adjustment on wages and mixed income, EUR (million)

	Wages	Mixed Income
Non registered producers (S.14AA)		13 363
Production of households as employers (S.14B)	2 459	
Total	2 459	13 363

7.4.2 Illegal production, drugs, prostitution (N2)

This adjustment impacts the non-financial unincorporated enterprises (S.14AA). The value added related to illegal production and trafficking of narcotics as well as illegal smuggling of tobacco has a direct impact on mixed income.

Table 7-19 N2 adjustment on mixed income, EUR (million)

	Mixed Income
Illegal production of narcotics	42
Illegal trafficking of narcotics	1 958
Illegal smuggling of tobacco	626
Total	2 626

7.4.3 Household's own-account production (N3)

The value added of household producers for own final use has a direct impact on the mixed income. These adjustments impact the households accounts (S.14B).

Table 7-20 N3 adjustment on mixed income, EUR (million)

	Mixed Income
Own-account production of agricultural products by households	2 207
Own-account production of manufactured products by households	205
Own-account production of construction services by households	2 322
Total	4 734

7.4.4 Units not present in business statistics (N4)

The correction of compensation of employees corresponds to the one detailed in the production approach, in particular for work councils, horse races and other association serving business. This adjustment is on the non-financial enterprises accounts (S.11+S.14AA). The sources for these amounts are detailed in chapter 3 (*see 3.3.2.4 Exhaustiveness*).

Table 7-21 N4 adjustment on wages, GOS, taxes and subsidies, EUR (million)

	Wages	GOS	Taxes	Subsidies
Work councils	626	112	21	
Horse races	64			
Other association serving business	1 587	67	109	233
Total	2 277	179	130	233

7.4.5 Registered entrepreneurs not included in statistics (N5)

No direct impact in the French national accounts.

7.4.6 Hidden activities by legal units (N6)

These adjustments are composed of:

- Adjustments for fraud on turnover or operational expenses by legally registered units: the fraud rates are available on the one hand for the S.11 institutional sector and on the other hand for the S.14AA institutional sector. The value added related to the fraud on turnover or operational expenses by legally registered units can then be separated between S.11 and S.14AA. The value added of the S.11 institutional sector has a direct impact on gross operating surplus, whereas the value added of the S.14AA institutional sector has a direct impact on mixed income.

- VAT fraud without complicity: the VAT gap is broken down between the S.11 and the S.14AA institutional sector on the basis of the breakdown between S.11 and S.14AA concealed turnover.

Finally, the tables below sum up the corrections for S.11 and S.14AA:

Table 7-22 N6 adjustment on GOS and mixed income, EUR (million)

	GOS	Mixed Income
Fraud on turnover or operational expenses by legally registered units	14 974	25 767
VAT fraud without complicity	5 058	6 102
Total	20 032	31 869

Table 7-23 Links between N6 adjustment in income and production approach for S.11 and S.14AA, EUR (million)

S.11+S.14AA	Output	Intermediate consumption	Value added	Gross operating surplus	Mixed income
Fraud on turnover or operational expenses by legally registered units	28 372	-12 369	40 741	14 974	25 767
VAT gap	11 160		11 160	5 058	6 102
Total N6	39 532	-12 369	51 901	20 032	31 869
S.11					
Fraud on turnover or operational expenses by legally registered units	6 855	-8 119	14 974	14 974	
VAT gap	5 058		5 058	5 058	
Total N6	11 913	-8 119	20 032	20 032	
S.14AA					
Fraud on turnover or operational expenses by legally registered units	21 516	-4 250	25 767		25 767
VAT gap	6 102		6 102		6 102
Total N6	27 619	-4 250	31 869		31 869

7.4.7 Benefits in kind and own-account production (market activities, N7)

The value added related to income in kind, tips and free rent has a direct impact on compensation of employees of non-financial enterprises (S.11+S.14AA).

The value added related to own final use production has a direct impact on gross operating surplus and mixed income. The breakdown between gross operating surplus and mixed income depend on the producer: if it is a company (S.11), it is GOS and if it is an unincorporated enterprise (S.14AA), it is mixed income.

Table 7-24 N7 adjustment on wages, GOS and mixed income, EUR (million)

	Wages	GOS	Mixed income
Income in kind, tips, free rent	5 375		
Own final use production of R&D		21 421	3
Own final use production of software databases		13 908	
Total	5 375	35 329	3

8 THE TRANSITION FROM GDP TO GNI

8.1 Introduction

The transition from gross national product to gross national income includes compensations of employees received from the Rest of the world and paid to the Rest of the world, taxes on production paid to the Rest of the world, subsidies granted by the institutions of the EU and the property incomes received from the Rest of the world and paid to the Rest of the world. In 2010, the difference between GDP and GNI was EUR 40.8 billion (2.0% of GNI).

Table 8-1 Transition from GDP to GNI, in 2010, in EUR (million)

Gross domestic product (GDP)		2 000 480
Compensation of employees received from the rest of the world	+	13 439
Compensation of employees paid to the rest of the world	-	1 032
Taxes on production and imports paid to the Institutions of the EU	-	1 972
Subsidies granted by the institutions of the EU	+	8 930
Property income received from the rest of the world	+	135 863
<i>interest</i>	+	68 161
<i>distributed income of corporations</i>	+	45 558
<i>reinvested earnings on FDI</i>	+	19 656
<i>other investment income</i>	+	2 488
Property income paid to the rest of the world	-	114 434
<i>interest</i>	-	75 388
<i>distributed income of corporations</i>	-	29 126
<i>reinvested earnings on FDI</i>	-	7 248
<i>other investment income</i>		2 672
Gross national income (GNI)	=	2 041 274

The Rest of the world accounts are based on the balance of payments published by the Banque de France (except for taxes and subsidiaries for which the fiscal and public accounting data are used), which is consistent with the concepts of BPM6 since the publication of June 2014 (BoP 2013 annual report). In practice, however, the balance of payments had not finalised its new estimates in BPM6 when INSEE's national accountants needed to finalise the estimates relating to 2010. The national accountants therefore used a balance of payments that still conformed to BPM5 (BoP 2012 annual report available in June 2013) in order to establish the 2010 levels and corrections are applied by Insee to ensure consistency with ESA 2010 concepts.

8.2 Compensation of employees

The source used by Insee for evaluating the compensation of employees is the "Compensation of employees" item in the balance of payments. These figures are calculated by the Balance of Payments, the methodology is described below.

Table 8-2 Compensation of employees, in 2010, in EUR (million)

	Combined Data	Other conceptual	Final estimate
Compensation of employees received from the RoW	13 909	-470	13 439
Compensation of employees paid to the RoW	1 032	0	1 032

To estimate the wages and salaries paid in France to non-residents, the balance of payments uses data on the number of cross-border workers (for instance German/Luxembourg/Belgian residents working in France): it is assumed that these workers receive the average wage published by French National Accounts including contributions owed by employees, but excluding employer's contributions. The compensation of employees (including contributions owed by the employers) is then obtained using employer's contribution rates.

The BoP's methodology to estimate the wages and salaries paid to French residents working outside France mainly relies on data published by other countries. Their use is relevant to the case of French cross-border workers (primarily working in Switzerland, Germany, Luxembourg and Belgium), whose wages and salaries are declared by their non-resident employers to their tax or social security administration. Germany and Luxembourg provide "mirror" data, i.e. estimates of compensations paid to French residents. Belgium and Switzerland provide the number of French cross-border workers. For Belgium, it is assumed these workers receive the average wage of the country, while for Switzerland, the assumption is that French cross-border workers earn 93 % of the average Swiss wage. These average wages include contributions owed by employees (but not those owed by employers). In a second step, the employers' contribution rates are applied to estimate the amount of the contributions owed by employers and these are added to estimate the total amount of D.1.

In national accounts, a retreatment was applied in order to deduct the compensations received by French development workers (amounting to EUR 470 million in 2010), who are not considered as non-residents, from the estimate of compensations received by the rest of the world provided by the balance of payments. INSEE obtains the estimated compensations received by development workers from the balance of payments.

The compensation of employees of extraterritorial organisations located in France are not integrated in French national accounts, but will be in the benchmark revision in 2024. The only international organisations in France are UNESCO and OCDE. According to their activity report, the compensation of employees are respectively EUR 300 million and EUR 340 million. However, these amounts include compensations of employees working in establishments located abroad, so the amount of EUR 640 million is a maximum of the compensations received by international organisations. There is also European organisations: according to the balance of payments of European Unions, the compensation of employees for France is EUR 260 million. It is possible that a part of this amount is already in the BoP's figures of cross-border income (for Luxembourg and Belgium).

8.3 Taxes on production and imports paid to the Institutions of the EU

For taxes on production and imports paid to the Institutions of the EU, fiscal data are preferred to balance of payments data. It totalled EUR 1 972 million in 2010. This amount includes tax flows paid by France to European institutions, but excludes own resources based on VAT and GNI, which, as requested by ESA 2010, are accounted for in D.76.

Tax flows paid by France to European institutions mainly correspond to customs duties, which include the amount retained to cover collection costs (25% of collected amounts in 2009-2013 and 20% of collected amounts from 2014 onward). These collection costs, estimated to EUR 0.5 billion in year 2010, are reimbursed to France by the UE Institutions and the reimbursement is recorded as a secondary income (D.759) which has then no impact in the transition from GDP to GNI, which is a primary income.

Table 8-3 Taxes on production and imports paid to the Institutions of the EU, in 2010, in EUR (million)

	Administrative records	Final estimate
Total	1 972	1 972
VAT kind taxes (D.211)	0	0
Customs duties ("droits de douane et octroi de mer", D.212)	1 917	1 917
<i>Of which collection costs</i>	494	494
Other taxes (D.214)	55	55

Customs duties, as well as VAT are recorded in French National Accounts on a time-adjusted cash basis: late recoveries in year N+1, but related to year N are thus correctly attached to year N.

8.4 Subsidies granted by the Institutions of the EU

Subsidies granted by the institutions of the EU are evaluated on the basis of public accounting data. It totalled EUR 8 930 million in 2010, among which:

- EUR 1 399 million in other subsidies on products (D.319): these subsidies are entirely EU-funded aids (no co-financing) which all are recorded as expenditure of the Rest of the World in National Accounts. The data are transmitted by the "Agriculture statistical service" (SSP) which gather information at a very detailed level. In particular, around 60% is "beef-cattle" aid. The rest is mainly composed of aid on fruits and of aid on sheep and goats.
- EUR 7 531 million in other subsidies on production (D.39). The SSP transmits detailed data by type of aids. These aids are various (livestock support, wine storage aid, bird flu crisis). They can be distributed by the State or since 2014 by the public local administrations (European Regional Development Fund, European Social Fund) as well as by the Agence de Services de Paiements, classified as other central government body (European Agricultural Guarantee Fund, European Agricultural Fund for Rural Development, European Fisheries Fund).

Table 8-4 Subsidies granted by the Institutions of the EUs, in 2010, in EUR (million)

	Administrative records	Final estimate
Total	8 930	8 930
D.319	1 399	1 399
D.392	30	30
D.399	7 501	7 501

The subsidies recorded are the subsidies due and not the subsidies paid, so that the amount are recorded on an accrual basis. All flows are excluded of the General Government non-financial accounts because they are purely managed on behalf on the EU: they do not increase either expenditure or revenues of

General Government. Thus, these agricultural subsidies are recorded directly from the EU to farmers as other subsidies on production, with no impact in General Government accounts.

8.5 Cross-border property income

8.5.1 Interest

Particular assets and transactions generate interest:

- Deposits, credits and receivable or payable accounts,
- Securities other than shares (bonds),
- Financial leasing.

Interests are measured in accrued terms, in each accounting period they should be recorded whether they are actually paid or added to the amount of the debt. The valuation of interests leads to take from the balance of payments all other investment income, as well as the majority of portfolio income. In 2010, the interests received from the Rest of the world amounted to EUR 68.2 billion and interests paid to the Rest of the world to EUR 75.4 billion.

Table 8-5 Interest, in 2010, in EUR (million)

	Sources Surveys & Censuses	Adjustments		Total	Final estimate
		Conceptual			
		Allocation of FISIM	Other conceptual		
Interest received from the RoW	71 269	-3 157	49	-3 108	68 161
Interest paid to the RoW	73 166	-1 044	3 266	2 222	75 388

8.5.1.1 Data provided by the Balance of Payments

The amounts of interests recorded in National Accounts come from data provided by the Balance of Payments, on a debtor approach basis.

Regarding **portfolio investments**, revenues are obtained by applying to France's external debt position in assets and liabilities at market value, a rate of return, on a security-by-security basis. This rate of return is defined as the ratio between the accrued interests and the market value of the security at the time of payment. "Accrued interests" include the impact of indexation on General Government debts and amortisation of the difference between the nominal and the face value of long-term debts. Positions are obtained via direct reporting concerning resident financial entities and custodian reporting concerning other resident holders and liabilities. Rates of returns are obtained from the CSDB regarding foreign securities and BDF's securities issuing statistics regarding French securities.

Other **investments incomes** (which correspond mainly to deposits or loans) are estimated through different sources:

- The measure of other investments incomes of banks is mainly based on a quarterly collection, the SURFI collection. The SURFI collection has been jointly set up by the Balance of Payments and by the Prudential Supervisory Authority (ACPR).
- The measure of other investments incomes of other institutional sectors is provided by the EFI survey. Interests paid/received on financial loans vis-à-vis affiliated counterparts are collected;

those vis-à-vis non-affiliated counterparts are estimated from outstanding financial debts (use of an interest rate derived from the accounting documents collected in FIBEN Banque de France database). The EFI survey allows evaluating on a quarterly and annual basis, amounts of claims and liabilities of these other institutional sectors (non-financial corporations, insurance corporations).

In these data transmitted by the Balance of Payments, interests from swaps and forward rate agreements are excluded from cross border property incomes, as it is recommended by ESA 2010.

Otherwise, the treatment of the interest flows associated with the Intra-Eurosystem ("technical") financial claims and liabilities related to the issuance of Euro bank notes is modelled directly on the basis of Banque de France's accounting system.

8.5.1.2 Corrections applied by Insee

First of all, estimates from the balance of payments do not include leasing transactions involving non-residents: a correction, based on a specific survey set up by Insee (see 3.3.2.3 *Conceptual adjustments*), is therefore made on these grounds. The amount is low: EUR 49 million on interest received from the rest of the world, and EUR 31 million on interest paid to the rest of the world.

A second correction was applied to the balance of payments data in order to record interests paid to the rest of the world before deduction of taxes.

A last correction is made for FISIM and is therefore based on a complete description of the relations between agents, which assumes that a distinction is always made between financial intermediaries and non-financial agents, for residents and non-residents. This is carried out in the framework of the overall evaluation of FISIM (see 3.4.4 *Detailed presentation of FISIM*). In 2010, the correction, which is recorded in the column "Allocation of FISIM" in the process table, reduces the interest received from the rest of the world by EUR 3.157 billion, and the interest paid to the rest of the world by EUR 1.044 billion.

8.5.2 Distributed income of corporations

This is the income distributed by companies to holders of shares, corporate units and equity securities.

The valuation of dividends leads to take form the balance of payments:

- total direct investment income, excluding the category of reinvested earnings;
- the part of portfolio income not taken into account in the calculation of interest.

Table 8-6 Distributed income of corporations, in 2010, in EUR (million)

	Surveys & Censuses	Conceptual Adjustments	Final estimate
Distributed income of corporations received from the RoW	43 389	2 169	45 558
of which dividends	43 389	0	43 389
of which withdrawals from the income of quasi-corporations		2 169	2 169
Distributed income of corporations paid to the RoW	28 295	831	29 126
of which dividends	28 295	446	28 741
of which withdrawals from the income of quasi-corporations		385	385

8.5.2.1 *Dividends*

The dividends are obtained by taking on the one hand all of the direct investment income from the balance of payments, excluding the category of reinvested earnings, on the other hand the portfolio investment. In particular, dividends recorded in National Accounts correspond to dividends and profits distributed by group subsidiaries as well as portfolio investment income corresponding to equity securities. In consistency with ESA 2010 (§4.54), shares issued to shareholders in payment of the dividend are included whereas issues of bonus shares are excluded from the cross-border flows of property income.

In portfolio investments, revenues are obtained by applying to France's external position in assets and liabilities at market value, a rate of return estimated from the CSDB database, on a security-by-security basis. This rate of return is defined as the ratio between the dividends received or paid over the period and the market value of the security. Sources are the same than for debt securities (*see above*).

In direct investments, dividends received are directly collected in the database on French direct investments abroad maintained by the Banque de France, that also provides information on capital ownership rates and current and exceptional results. For foreign direct investments in France, dividends paid are derived from the total dividends distributed by the French company, in proportion to the share of the company that is owned by foreign direct investors. These pieces of information are available in the databases on resident enterprises kept by the Banque de France, Insee, and the ACPR, allowing the identification of companies directly invested from abroad and the amount of their participating interests, and providing information notably on distributed dividends and current and exceptional results.

Dividends are recorded as of the date they are due, and, in general, no specific treatment is applied to withdraw super-dividends, supposing that, as the process is the same for dividends received and paid, there is no systematic bias. However, in case of the amounts at stake are important, specific corrections are applied. A correction was applied by Insee to the Balance of Payments data in order to record dividends paid to the rest of the world before deduction of taxes.

8.5.2.2 *Withdrawals from the income of quasi-corporations*

Companies (quasi-corporations in construction)

National accountants classify construction works undertaken abroad by resident enterprises in this category: in this case, it is considered that the resident enterprise creates a quasi-corporation abroad which transfers its profits back to the resident enterprise. Symmetrically, when a non-resident enterprise carries out a construction project in France, it is considered to have created a French quasi-corporation for this purpose, which transfers its profits back to the parent company.

For example, the activity of a French company constructing a structure in China is being carried out by a fictitious Chinese unit. The activity of this Chinese quasi-corporation is the construction of the building. To do this, it uses local resources (labour in particular), but also resources financed from France (goods, engineering services provided by the parent company, etc.). All in all, the Chinese quasi-corporation makes a profit, a part of which is repatriated. Finally, everything unfolds as if this quasi-corporation were a subsidiary of the French construction company responsible for the construction site; the profits from this subsidiary would then be repatriated to the parent company and recorded as property income.

However, the corresponding amounts are not included in the primary incomes account of the Balance of Payments but rather in the trade in services estimated by the Balance of Payments (there is no trade in construction services in the French National Accounts). They are estimated according to the same

methodology than the other services sold or purchased by firms, i.e. on the base of the DDG declarations (Full Direct Reporting) and the ECEIS survey (Complementary Survey on international services exchanges). In practical terms, the positive balance for major construction works in the balance of payments (EUR +2 169 million) is recorded as levies on quasi-corporations received from the rest of the world. The negative balance (EUR -385 million) for foreign merchandise is recorded as levies on quasi-corporations paid to the rest of the world.

This treatment is in strict compliance with ESA 2010 for all works lasting more than one year and for those constituting gross fixed capital formation (irrespective of duration). Construction activities for less than one year and not constituting GFCF however should be recorded as trade in services. In practice, the National accounts department assumes that all of the works meet one of the two conditions. The choice of recording construction sites abroad as revenue or as trade in services has no impact on current external balance (B.12) and GNI.

As these amounts are estimated in the framework of the expenditure approach, they correspond to an estimate of construction produced by resident or non-resident enterprise at the time the production is made, and before deduction of income or wealth taxes.

Households (holiday home abroad)

Some houses are owned as second homes abroad. In this case, the house is treated as belonging a notional resident unit and the legal owner (non-resident) has a financial claim on the notional unit. The notional unit produces an imputed rental service that is exported to the owner's country and the whole operating surplus is treated as being withdrawn from the notional unit to the owner, offsetting the flows of rental services. Thus, the impact on GNI is zero.

In the French national accounts, this specific treatment of secondary residences when the owner and the residence are not in the same country is not carried out. Second homes belonging to non-resident households are treated in the same way as second homes belonging to resident households. Second homes abroad belonging to resident households are not treated at all. This has no impact on GDP, but GNI may potentially be impacted. However, the imputed rentals of the second homes of residents abroad and the imputed rentals of the second homes in France of non-residents happen to be very close, so that the impact on GNI is negligible.

Indeed, concerning property incomes from holiday homes in the ROW owned by French residents, the 2015 survey on wealth household carried out by Insee on resident households yields an estimate of real estate assets owned by resident households. Since households are asked where their real estate assets are located, it is possible to have an estimate of the value of holiday homes in the ROW owned by residents: EUR 31 billion. When applying to this figure the (imputed + actual) rents / value of housings ratio derived from French national accounts, and obtained an estimate of EUR 1.0 billion of imputed rents for holiday homes in the ROW owned by residents. The mentioned ratio may differ between France and other countries but have no real data for other countries. To get an estimate of D.422 received from S.2 for holidays homes in the RoW owned by residents, the B.2N/rent ratio estimated for France is applied to this EUR 1.0 billion. The D.422 is thus estimated to EUR 0.5 billion (0.02% of GDP).

Regarding property income from holiday homes in France owned by non-residents, data from FILOCOM can be used: FILOCOM's coverage is housings for which a local tax (Taxe d'habitation) must be paid when they are inhabited, which includes holiday homes. The file gathers data on housings (in particular the tax

basis, which is more or less representative of their value on the rental market) as well as on their inhabitants (in particular their residency). These data allow us to compute an estimate of imputed rents for holiday homes in the economic territory owned by non-residents (an estimate that can be split by country). The average B.2N/rent ratio estimated for all housings is then applied to this estimate, which yields an estimate of D.422 paid to S.2 for holiday homes in the economic territory owned by non-residents: about EUR 1.0 billion in 2014 (0.04 % of GDP).

Consequently, as property income from holidays homes in France owned by non-residents are greater than property income from holidays home abroad owned by residents, not accounting for these flows probably leads to a slight overestimation of French GNI and has a very small impact as a percentage of total GNI.

8.5.3 Reinvested earnings (RIE) of foreign direct investment (FDI)

The operation relating to reinvested earnings from foreign direct investment is a transaction specific to the rest of the world accounts. It consists of allocating to non-resident investors receivable property income for the undistributed part of the profits of resident enterprises that are under their control. This imputed income is considered to be reinvested in the controlled enterprise (direct investment).

A direct investment enterprise is a non-resident (or resident) corporation in which a resident (or non-resident) corporation holds at least 10% of the ordinary shares or voting rights (directly or indirectly). This is a broader concept than that of a foreign enterprise under French control at 50 % (or a French enterprise under foreign control). The profit reinvested by a company in year T is the income for year T minus the dividends paid in year T in respect of year T-1.

Table 8-7 Reinvested earnings on FDI, in 2010, in EUR (million)

	Surveys & Censuses	Final estimate
Reinvested earnings on FDI received from the RoW	19 656	19 656
Reinvested earnings on FDI paid to the RoW	7 248	7 248

8.5.3.1 Methodology

The flows of reinvested earnings are estimated in the balance of payments. Reinvested earnings are estimated by exploiting the accounts of French and foreign direct investment enterprises. The balance of payments data collection on the foreign subsidiaries of French enterprises is limited to the direct foreign subsidiaries. Consequently, it does not report on cases of indirect holdings.

The balance of payments estimates are based on the accounts of direct investment enterprises and their owners. Reinvested earnings for year T are derived from net saving in T, minus dividends payed in T (on the results of T-1). In order to correctly measure reinvested earnings, holding gains and losses, whether they are realised – notably in the form of super dividends –, or unrealised, must be excluded from the direct investment company’s net saving that is considered for the determination of reinvested earnings. In practice, holding gains and losses are removed whenever it is possible to identify them.

In more detail, **for inward FDI** (direct investment in France held by non-resident), it is almost often possible to identify and remove holding gains and losses, because FDI compilers have access to the detailed accounts of resident companies, and because the French accounting plan compels enterprises and financial corporations to record their holding gains and losses separately in their accounts.

For outward FDI (direct investment abroad held by French residents), French investors must report the net income of each of their affiliates abroad, as well as the extraordinary result; those elements allow for identifying and excluding holding gains from reinvested earnings. Because reporters can neglect to fill the extraordinary result element of the form, an additional control is performed on outward FDI: if net income and/or dividends payed are significantly different from the usual values, further investigations are undertaken, including if necessary a direct contact with the French reporter, to make sure that the net income or the dividends do not include extraordinary results (corresponding to holding gains and losses).

8.5.3.2 Sources

To calculate the statistics for reinvested earnings, the balance of payments uses the following sources in particular: the database on resident enterprises kept by the Banque de France's Corporate Directorate for foreign direct investments in France, the Unified Financial Reporting System (SURFI) for direct foreign investments in the resident banking sector, and INSEE data allowing for the identification of holdings in the context of direct investments via business registers (Lifi).

The extensive statistical infrastructure of the French National Statistical System is used to update the Banque de France FDI register: FIBEN, the information system on non-financial companies belonging to the Banque de France (www.fiben.fr), ESANE, the INSEE database, INSEE's SIRENE and SIRUS files, as well as the private database Bureau Van Dijk. The data sharing agreement with INSEE and the unique National Identifier (SIREN) enables when necessary the linkages between FIBEN and the INSEE registers. These databases allow having trustworthy and exhaustive information on all French subsidiaries and affiliates to foreign companies, including holding companies. The coverage includes the French branches of foreign companies when these branches set up separate financial accounts from those of their foreign parent companies.

As the INSEE's SIRENE and SIRUS file record all events that concern parent companies (creation, cessation of activity, legal redress, merger...) and as the Banque de France's database on financial links is also updated on an ongoing basis, the French FDI register is continually updated. This automatic update is completed by a manual one, consisting of identifying new direct resident investor, on the base of all available balance sheets.

Each year, data from the FDI data are cross-checked and verified with several other sources: balance sheets and profit and loss accounts published by French companies, consolidated financial statements published in accordance with IFRS standards or other internationally recognised standards, and reference documents released by corporate groups, direct contacts with employees working in the concerned companies. Moreover, data are subject to numerous statistical checks. When appropriate and depending on the legal frameworks, data quality management can include contact with bilateral partner economies, and, among other means, via the FDI Network.

There is no threshold regarding foreign direct investment in France. As regards French Direct Investment abroad, there is a threshold of EUR 5 million: when the value of a foreign subsidiary written in the balance sheet of the resident direct investor is less than 5 million, and when the equity value of this subsidiary is less than 5 million, the respondent is not constrained to provide data on the subsidiary concerned. But for all foreign subsidiaries in this case, statistical methods are used to estimate income and stock data.

8.5.4 Other investment income

Other investment income includes investment income attributable to insurance policy holders, investment income payable on pension entitlements, investment income coming from investment fund shareholders and rent on land and sub-oil assets. In 2010, they amounted to EUR 2.5 billion received from the Rest of the world and EUR 2.6 billion paid to the Rest of the world.

Table 8-8 Other investment income, in 2010, in EUR (million)

	Other Conceptual Adjustments	Final estimate
Other investment income received from the RoW	2 488	2 488
Other investment income paid to the RoW	2 672	2 672

8.5.4.1 Investment income attributable to insurance policy holders

No flows are accounted for with the rest of the world and all earnings apportioned to policyholders are considered to be paid to resident households. The assumption made is that the consumers of insurance services inevitably use French insurance corporations or the French subsidiaries of foreign insurance corporations, in view of the regulatory constraints. This assumption has certainly not been comprehensively verified but it is probably quite realistic.

8.5.4.2 Investment income payable on pension entitlements

In French national accounts, there is no investment income payable on pension entitlements (D.442=0). Retirement in France consists of a pension system based essentially on the principle of distribution, the social contributions of the assets used to pay the pensions paid to retirees.

Supplementary pension plans, which are optional funded pension plan, are non-legally mandatory funded pension plans. They are offered by certain companies to their employees, as well as individual retirement savings products. These devices, which complement the mandatory retirement plans, are classified as life insurance in French national accounts, a priori, because the activity linked to these devices is not clearly distinct from the rest of the activities of insurance companies.

8.5.4.3 Investment income coming from collective investment fund shareholders

The Balance of Payments does not account for flows of investment earnings paid by collective investment funds (CIF).

However, the Banque de France's Directorate of Monetary and Financial Statistics collects highly detailed data on resident CIFs – in particular official income statement published by French funds- which means that it is possible to isolate the flows of investment earnings paid by resident CIFs to non-resident holders (EUR 2 672 million in 2010).

On the other hand, the symmetrical data (investment earnings paid out by non-resident CIFs to resident holders) is not provided by any source. However, the Balance of Payments provides estimates relating to both the assets under management of resident CIFs held by non-residents and the assets under management of non-resident CIFs held by residents. These estimates can therefore be used to infer the rates of return on resident CIFs for non-resident investors: 1.0% in 2010 for monetary CIFs and 2.8% on non-monetary OPCs. These rates of return are then applied to the stocks of non-resident CIF assets under

management (monetary and non-monetary) held by residents, which can be used to estimate the investment earnings paid by non-resident CIFs to resident holders (EUR 2 488 million in 2010).

8.5.4.4 Rent on land and sub-soil assets

No flows are accounted for with the rest of the world because of a lack of data on these items but also because these rents are supposed to be negligible. Indeed, flows with rest of the world associated to holiday homes are of small magnitude (*see above*). Since the value of land is below that of homes, it is doubtful that D.45 flows associated to rent of land could be significant.

9 MAIN CLASSIFICATIONS USED

9.1 Classifications used for the production approach

9.1.1 Classification of institutional sectors

The classification used for institutional sectors is very close to that of the ESA 2010. The only deviation is for the subsectors of households. S.14 is divided between:

- S.14A: unincorporated enterprises separated between non-financial and financial;
- S.14B: pure households i.e. the activity of households as employers or as producers of real estate services or for own final use.

Because of our sources, it is more convenient (and make sense economically) to gather the non-financial corporations (S.11) with the non-financial unincorporated enterprises (S.14AA): the institutional sector with these two groups is the non-financial enterprises sector (S.11+S.14AA). In the same way, financial corporation (S.12) and financial unincorporated enterprises (S.14AF) are gathered to form the financial enterprises sector (S.12+S.14AF). Finally, the households sector is in general the “pure households” sector (S.14B) i.e. households except unincorporated enterprises.

Table 9-1 Classification of Institutional sectors

S.1		Total economy
	S.11	Non-financial corporations
	S.12	Financial corporations
	S.121	Central bank
	S.122	Deposit-taking corporations except the central bank
	S.123	Money market funds
	S.124	Non-MMF investment funds
	S.125	Other financial intermediaries, except insurance corporations and pension funds
	S.126	Financial auxiliaries
	S.127	Captive financial institutions and money lenders
	S.128	Insurance corporations
	S.13	General Government
	S.1311	Central government (excluding social security funds)
	S.13111	State
	S.13112	Various central administration bodies
	S.1312	State government (excluding social security funds)
	S.1313	Local government (excluding social security funds)
	S.1314	Social security funds
	S.14	Households
	S.14A	Unincorporated enterprises
	S.14AA	Non-financial unincorporated enterprises
	S.14AF	Financial unincorporated enterprises
	S.14B	Pure households (excluding unincorporated enterprises)
	S.15	Non-profit institutions serving households
S.2		Rest of the world
	S.21	Member States and institutions and bodies of the European
	S.22	Non-member countries and international organisations non-resident in the European
S.11+S.14AA		Non-financial enterprises
S.12+S.14AF		Financial enterprises
S.121	+	
S.122	+	
S.123		Monetary financial institutions

9.1.2 Classification of transactions and other flows

The classification used for transaction and other flows is the same as that of the ESA 2010. Some transactions are not detailed as in ESA 2010 (for example, P.51 is not divided between new or existing

fixed assets), others are more detailed (for example, D.29 is divided between taxes on wages and payroll and other taxes on production).

9.1.3 Regrouping and coding of industries and products

The classification used for coding products and industries in France is called CPF rev.2.1 and Naf rev.2.

The Naf rev.2 is very closed to the NACE rev.2. In practice, production accounts are elaborated for A*139 industries and branches which are defined in the table below. For remind, in French national account, activity can be classified by the main economic activities (industry) of the company or by homogeneous branches.

More precisely, the only deviation to standard aggregate levels of Nace rev.2 is that French national accountants choose to distinguish market and non-market branches within A*129 levels given different principles of valuation of output for market and non-market activities. This is relevant only for ten A*129 branches (the ones where there is a significant non-market activity). Hence, in practice, production accounts are elaborated for 139 branches (A*139 level in national classification).

Table 9-2 Link between NACE division level A*88 and level A*139

A*88	A*139	Description
A01	A01Z	Products of agriculture, hunting and related services
A02	A02Z	Products of forestry, logging and related services
A03	A03Z	Fish and other fishing products; aquaculture products; support services to fishing
B05	B05Z	Coal and lignite
B06	B06Z	Crude petroleum and natural gas
B07	B07Z	Metal ores
B08	B08Z	Other mining and quarrying products
B09	B09Z	Mining support services
C10	Food products	
	C10A	Meat processing and preservation and preparation of meat products
	C10B	Processing and preserving of fish, crustaceans and molluscs
	C10C	Processing and preserving of fruits and vegetables
	C10D	Manufacture of vegetable and animal oils and fats
	C10E	Dairy product manufacturing
	C10F	Grain processing; manufacture of starch products
	C10G	Manufacture of bakery products and pasta
	C10H	Manufacture of other food products
C10K	Animal feed manufacturing	
C11	C11Z	Beverages
C12	C12Z	Tobacco products
C13	C13Z	Textiles
C14	C14Z	Wearing apparel
C15	C15Z	Leather and related products
C16	C16Z	Wood and products of wood and cork, except furniture; articles of straw and plaiting materials
C17	Paper and paper products	
	C17A	Paper
	C17B	Paper products
C18	C18Z	Printing and recording services
C19	C19Z	Coke and refined petroleum products
C20	Chemicals and chemical products	
	C20A	Manufacture of basic chemicals, nitrogen products and fertilisers, basic plastics and synthetic
	C20B	Manufacture of soaps, cleaning products and perfumes
	C20C	Manufacture of other chemicals and artificial or synthetic fibres
C21	C21Z	Basic pharmaceutical products and pharmaceutical preparations
C22	Rubber and plastics products	
	C22A	Rubber products
	C22B	Plastics products
C23	Other non-metallic mineral products	
	C23A	Glass
	C23B	Other non-metallic products except glass

A*88	A*139	Description
C24	Basic metals	
	C24A	Steel and primary steel processing
	C24B	Production of precious and other non-ferrous metals
	C24C	Foundry
C25	Fabricated metal products, except machinery and equipment	
	C25A	Manufacture of metal elements for construction
	C25B	Manufacture of tanks, cisterns and containers of metal; manufacture of steam generators,,
	C25C	Manufacture of weapons and ammunition
	C25D	Forging, metal processing, machining
C25E	Manufacture of cutlery, tools, hardware and other metal products	
C26	Computer, electronic and optical products	
	C26A	Manufacture of electronic components and cards
	C26B	Manufacture of computers and peripheral equipment
	C26C	Communication equipment manufacturing
	C26D	Consumer electronics manufacturing
	C26E	Manufacture of measuring, testing and navigation instruments and apparatus; watchmaking
	C26F	Manufacture of medical irradiation equipment, electro medical and electrotherapeutic
C26G	Manufacture of optical and photographic equipment; manufacture of magnetic and optical media	
C27	Electrical equipment	
	C27A	Manufacture of household appliances
	C27B	Manufacture of other electrical equipment
C28	Machinery and equipment n.e.c.	
	C28A	Manufacture of general-purpose machinery and equipment
	C28B	Manufacture of agricultural and forestry machinery
	C28C	Manufacture of metal forming machines and machine tools
C28D	Manufacture of other special-purpose machinery	
C29	Motor vehicles, trailers and semi-trailers	
	C29A	Motor vehicle construction; manufacture of bodies and trailers
	C29B	Automotive equipment manufacturing
C30	Other transport equipment	
	C30A	Shipbuilding
	C30B	Construction of locomotives and other rolling stock
	C30C	Aeronautical and space construction
	C30D	Construction of military combat vehicles
C30E	Manufacture of transport equipment n.e.c.	
C31	C31Z	Furniture
C32	Other manufactured goods	
	C32A	Manufacture of jewellery, bijouterie and musical instruments
	C32B	Manufacture of medical and dental instruments and supplies
C32C	Manufacture of sporting goods, games and toys and other manufacturing activities	
C33	C33Z	Repair and installation services of machinery and equipment
D35	Electricity, gas, steam and air conditioning	
	D35A	Electricity production, transport and distribution
	D35B	Production and distribution of gaseous fuels, steam and air conditioning

A*88	A*139	Description
E36	E36Z	Natural water; water treatment and supply services
E37	E37Z	Sewerage services; sewage sludge
E38	E38Z	Waste collection, treatment and disposal services; materials recovery services
E39	E39Z	Remediation services and other waste management services
F41		Buildings and building construction works
	F41A	Real estate promotion
	F41B	Construction of residential and non-residential buildings
F42	F42Z	Constructions and construction works for civil engineering
F43	F43Z	Specialised construction works
G45	G45Z	Wholesale and retail trade and repair services of motor vehicles and motorcycles
G46	G46Z	Wholesale trade services, except of motor vehicles and motorcycles
G47	G47Z	Retail trade services, except of motor vehicles and motorcycles
H49		Land transport services and transport services via pipelines
	H49A	Rail transport
	H49B	Other passenger land transport
	H49C	Freight and pipeline road transport
H50	H50Z	Water transport services
H51	H51Z	Air transport services
H52	H52Z	Warehousing and support services for transportation
H53	H53Z	Postal and courier services
I55	I55Z	Accommodation services
I56	I56Z	Food and beverage serving services
J58	J58Z	Publishing services
J59	J59Z	Motion picture, video and television programme production services, sound recording and music
J60	J60Z	Programming and broadcasting services
J61	J61Z	Telecommunications services
J62	J62Z	Computer programming, consultancy and related services
J63	J63Z	Information services
K64		Financial services, except insurance and pension funding
	K64H	Financial service activities, except insurance and pension funds (excluding FISIM)
	K64S	Financial service activities, except insurance and pension funding (FISIM)
K65	K65Z	Insurance, reinsurance and pension funding services, except compulsory social security
K66	K66Z	Services auxiliary to financial services and insurance services
L68		Real estate services
	L68A	Activities of real estate dealers and real estate activities for third parties - sale for own account
	L68B	Rental and operation of own or leased real estate rental and agencies
		of which real rents L68R of which imputed rents L68I
M69	M69Z	Legal and accounting services
M70	M70Z	Services of head offices; management consulting services
M71	M71Z	Architectural and engineering services; technical testing and analysis services
M72		Scientific research and development services
	M72M	Scientific research and development services (market)
	M72N	Scientific research and development services (non-market)

A*88	A*139	Description
M73	M73Z	Advertising and market research services
M74	M74Z	Other professional, scientific and technical services
M75	M75Z	Veterinary services
N77	N77Z	Rental and leasing services
N78	N78Z	Employment services
N79	N79Z	Travel agency, tour operator and other reservation services and related services
N80	N80Z	Security and investigation services
N82	N82Z	Services to buildings and landscape
N82	N82Z	Office administrative, office support and other business support services
O84	O84Z	Public administration and defence services; compulsory social security services
P85		Education services
	P85M	Education services (market)
	P85N	Education services (non-market)
Q86		Human health services
	Q86M	Human health services (market)
	Q86N	Human health services (non-market)
	A*139	Description
Q87		Residential care services
	Q87M	Residential care services (market)
	Q87N	Residential care services (non-market)
Q88		Social work services without accommodation
	Q88M	Social work services without accommodation (market)
	Q88N	Social work services without accommodation(non-market)
R90		Creative, arts and entertainment services
	R90M	Creative, arts and entertainment services (market)
	R90N	Creative, arts and entertainment services (non-market)
R91		Library, archive, museum and other cultural services
	R91M	Library, archive, museum and other cultural services (market)
	R91N	Library, archive, museum and other cultural services (non-market)
R92	R92Z	Gambling and betting services
R93		Sporting services and amusement and recreation services
	R93M	Sporting services and amusement and recreation services (market)
	R93N	Sporting services and amusement and recreation services (non-market)
S94		Services furnished by membership organisations
	S94M	Services furnished by membership organisations (market)
	S94N	Services furnished by membership organisations (non-market)
S95	S95Z	Repair services of computers and personal and household goods
S96	S96Z	Other personal services
T97	T97Z	Services of households as employers of domestic personnel
T98	T98Z	Undifferentiated goods and services produced by private households for own use
T99	T99Z	Services provided by extraterritorial organisations and bodies

In the specific case of households' consumption, the compilation level is far more detailed (between groups and classes of Nace rev.2).

Annual production accounts are typically published at the A*88 and A*38 levels that are defined at the international level. Quarterly accounts are published at a less disaggregated level since they rely on less detailed data sources: however, they do not use the internationally defined A*21 level, but a national aggregate level in 17 branches (A*17) that seem more appropriate for economic analysis given the structure of the French economy. The table below gives the bridge table between A*38 and A*17.

*Table 9-3 Link between Nace divisions level A*38 and level A*17*

A*17	A*38
AZ	01-03
C1	10-12
C2	19
C3	26-28
C4	29-30
C5	13-18, 20-25, 31-33
DE	05-09, 35-39
FZ	41-43
GZ	45-47
HZ	49-53
IZ	55-56
JZ	58-63
KZ	64-66
LZ	68
MN	69-82
OQ	84-88
RU	90-99

9.2 Classifications used for the income approach

No specific classifications are used for the income approach: there are the same as for the production approach.

9.3 Classifications used for the expenditure approach

9.3.1 Classification of assets

The classification of assets in French national accounts is very closed to that of ESA 2010. There is one main difference: the stocks are divided between only two sub categories. Work-in-progress and finished goods are gathered because they are grouped in Esane (and tax returns). Materials and supplies and goods for resale are gathered too. In French national accounts, a distinction is made in the calculation of CFC between dwellings (respectively other buildings and structures) and cost of ownership transfer of dwellings (AN.111, respectively other buildings and structures – AN.112).

Moreover, the fixed assets are defined by a product aggregation. So a passage table is used to transform GFCF into products (NACE classification) to GFCF into assets.

Table 9-4 Classification of assets

AN.1	Produced non-financial assets
AN.11	Fixed assets by type of asset
AN.111	Dwellings
AN.111a	Dwellings except costs of ownership transfer
AN.111b	Costs of ownership transfer of dwellings
AN.112	Other buildings and structures
AN.1121	Buildings other than dwellings
AN.1121a	Buildings other than dwellings except costs of ownership transfer
AN.1121b	Costs of ownership transfer of other buildings and structures
AN.1122	Other structures
AN.113	Machinery and equipment
AN.1131	Transport equipment
AN.1132	ICT equipment
AN.11321	Computer hardware
AN.11322	Telecommunication equipment
AN.1139	Other machinery and equipment
AN.114	Weapons systems
AN.115	Cultivated biological resources
AN.117	Intellectual property products
AN.1171	Research and development
AN.1173	Computer software and databases
AN.11731	Computer software
AN.11732	Databases
AN.1174	Entertainment, literary or artistic originals
AN.12	Inventories by type of inventory
AN.12a	Materials and supplies and goods for resale
AN.12b	Work-in-progress and finished goods
AN.13	Valuables
AN.2	Non-produced non-financial assets
AN.21	Natural resources
AN.211	Land
AN.2111	Land underlying buildings and structures
AN.2111a	Land underlying dwellings
AN.2111b	Other land underlying buildings and structures
AN.2112	Land under cultivation
AN.2113	Recreational land and associated surface water
AN.2119	Other land and associated surface water
AN.212	Mineral and energy reserves
AN.213	Non-cultivated biological resources
AN.214	Water resources
AN.22	Contracts, leases and licences
AN.23	Purchases less sales of goodwill and marketing assets

9.4 Classifications used in the transition from GDP to GNI

No specific classifications are used in the transition from GDP to GNI.

10 MAIN DATA SOURCES USED

10.1 Production approach

10.1.1 Esane

The ESANE source compiles all of the supposedly exhaustive data covering all enterprises (legal units), in particular by providing a balance sheet and an income statement.

10.1.1.1 Scope

Esane is almost exhaustive. It is built from the National Company and Establishment Register Database (SIRENE), which records all companies and their establishment (without threshold, status or activity condition).

SIRENE

The National Company and Establishment Register Database (SIRENE) is the reference source for information about companies. In accordance with the Commercial Code, the SIRENE register records the identity of all companies and their establishments (with their economic activities and their legal status):

- whatever their legal status;
- whatever their sector of activity (industry, trades, crafts, the professions, farming, local authorities, banks, insurance companies, associations, etc.);
- located in Metropolitan France, also Guadeloupe, Martinique, French Guiana, Reunion Island, Mayotte, St. Bartholomew, Saint-Martin and Saint-Pierre and Miquelon.

Public and private entities and overseas companies which are represented or that have an activity in France are also registered. In addition, the State or municipal administrative sector in New Caledonia, French Polynesia and Wallis and Futuna, are also registered.

There is no size threshold for companies registering in SIRENE. Even very small companies which are exempt from the requirement to file a full set of accounts every year with the tax authorities (“micro-entreprises”) must register in SIRENE.

SIRENE contains two units:

- legal unit: determined by its SIREN (a 9-digit number). It identifies the legal existence. This is the legal unit which fulfil tax returns;
- establishment: determined by its SIRET (a 14-digit number). It identifies an address which is linked to the legal unit to which it belongs. The first nine digit of SIRET are the legal unit’s SIREN.

The geographic field

The geographic field of Esane is the Metropolitan France, also Guadeloupe, Martinique, French Guiana, Reunion Island, St. Bartholomew, Saint-Martin. Nevertheless, Mayotte is covered by SIRENE.

The units

The unit is the legal unit. All legal units which are considered as commercial and productive (to produce goods and services on a market) are in Esane.

- Legal units are considered as commercial according to their institutional sector (S.11, S.12 and S.14A): a matrix which gives the institutional sector according to the intersection of the sector activity and the legal status was set by experts. The companies which are classified in public administration by the 50%test are forced in S.13.
- Legal units are considered as productive according to more information which depend on SIRENE and tax reports (sector activity, legal category, workforce, revenue).

These two characteristics provide a large scope of companies even if their do not file tax return, and exclude some companies which do not produce goods and services on a market or make double counting with others companies.

Economic activities

Some sectors of activity are excluded from Esane:

- Agriculture sector (sector A of NACE)
- Financial sector (sectors 64 and 65 of NACE), the sector 64.20Z (activities of financial holding companies) is included in Esane because there is a lot of mistakes in the classification between activities of financial holding companies and head office operations (70.10Z). An algorithm is used to classify legal units between these two sectors.

The exhaustiveness

A unit that meets the following criteria has to be in Esane:

- it has submitted tax report for the year N or N-1 or N-2;
- it has been created in the year N in SIRENE;
- it has submitted VAT declarations in the year N.

In 2010, there are more than three million of legal units in Esane.

Legal units and profiled units

The main Esane's unit is the legal units in 2010.

[10.1.1.2 Data](#)

ESANE adds the results of structural surveys administered to enterprises: the Annual Production Surveys (EAP) for industry and the Annual Sectoral Surveys (ESA) for the other business sectors, to the accounting data gathered by matching the SIRENE register database with the accounts transmitted by enterprises to the tax authority.

[10.1.1.2.1 Tax return](#)

Private accounting (PCG)

Companies are required to keep accounts, for their own purposes and for their partners, in accordance with a certain number of rules that make up an accounting plan. This plan is a set of rules and methods providing a standardised framework within which:

- the concepts and technical notions of accounting are defined,
- accounting information is recorded and processed,
- a company's summary accounting statement is compiled, providing an overall representation of assets (balance sheet) or transactions (results, financial flows).

In France, companies are required by law to meet a certain number of accounting obligations. For this reason accounting has undergone a continuous harmonisation process, resulting in the production of the general accounting plan. The plan currently in force was drawn up in 1982, amended in 1986, and rewritten in 1999. It complies with the fourth Council Directive of the European Communities of 25/07/1978.

The general accounting plan sets out the principles of accounting: a true and fair view, comparability, continuity - regularity, sincerity - prudence - permanence of methods. It provides a definition of assets and liabilities, revenues and expenditure, and also sets out the rules of accounting and evaluation. It sets out provisions concerning the presentation, the structure and the operating of the accounts.

The classification of accounts according to the general accounting plan is given in the chapter on statistical sources.

Concerning accounting statement summaries, the general accounting plan proposes three systems so that the list and the presentation, as well as the complexity, can be adapted to the enterprise's size and activity. All three systems require at least the presentation of a profit and loss account – showing the expenditure and revenues for the financial year, and the resulting profit or loss – and a balance sheet.

It is interesting to note that what is called the developed system contains a table of intermediate management balances, which group expenditure and revenues together into seven stages so that activity or performance indicators can be seen: gross trade margin, production, value added, gross operating surplus, current result before tax, exceptional result, result for the financial year.

The general accounting plan is general in scope. The 1999 version states that it now applies to entities, and no longer only to enterprises. In fact its scope has been widened generally, and it now covers territorial authorities – municipalities, departments, regions and their establishments and groups. These common accounting standards were applied to the State, from financial year 2006 (when State general accounting – CGE - was put in place).

The general accounting plan has undergone some specific adaptations for units whose activity has any markedly unusual features. This may be simply specifying the content of an accounting operation in relation to a specific profession or activity. However, plans that apply to some sectors of the economy may also include operations especially devised to reflect a particular feature of their activity, and may suggest adaptations to the summary documents.

This is the case, for example, for the plans applicable respectively to credit establishments and insurance companies. Specific adaptations were also required for territorial authorities and for the State.

Using accounting information as defined by the general accounting plan to produce the national accounts means assessing what the two accounting systems have in common in terms of concepts, and in what way

they differ. Concerning what they have in common, it is important to stress that the clearly stated preference in the new international standards for national accounts introduced in the 1990s (SNA93, ESA95) is to record transactions on an accrual basis and this brings them much more in line with the rules of corporate accounting.

However, if we consider only the main principles, the evaluation of stocks of assets, and hence of all transactions relating to input and output of stocks of assets, remains a point of divergence between the two accounting systems.

Remember too that national accounting is quadruple entry, i.e. it requires coherence in the recording of a transaction by the two parties: if there is divergence, this rule requires a choice to be made, which results in the introduction of a deviation into the initial accounting of at least one of the parties. It is also for this reason that national accounting does not generally retain the provisions – or reversals of provisions – which appear in business accounting, often for reasons of prudence, notions that are foreign to national accounting.

There are also clearly identified transactions that require specific treatment in the national accounts, and therefore a retreatment of the original accounting information: consider financial leasing, for example, which is treated as simple rental in the French PCG, and imputed social contributions.

As suggested above, the PCG is broadly the basis for accounting standards applicable to general government entities other than the State: the comments made above are also valid for these units.

The content of tax returns

Tax accounts, conforming to the PCG, include a profit and loss account – showing the expenditure and revenues for the financial year, and the resulting profit or loss – and a balance sheet (*see figure 10-1*). Only micro-enterprises do not fulfil a profit and loss account and a balance sheet, they only give their turnover, a specific retreatment is done to obtain a profit and loss account.

It is important to underline this French specificity: the main source of data on non-financial corporations directly provides a balanced account, and therefore an equivalent, in business accounts, of a gross operating surplus. The figure 10-1 summarises the balance sheet in tax returns. In particular, in tax returns, companies declare the amount of taxes, subsidies and social contribution. These amounts are compared to the amounts given by DGFIP for the general government account. These gaps are mainly due to differences in the classification between corporate accounts and national accounts. Two assumptions are made:

- amounts available in public administration data are deemed to be more reliable for taxes subsidies and social contribution than in tax returns;
- the gross operating surplus reported by the companies is fair despite differences in the classification of some taxes.

Hence, these gaps must be passed on to another variable of business accounts (on intermediate consumption for taxes, on output for subsidies and on wage for social contribution).

Figure 10-1 The operating account in business account (and in tax returns)

Business accounts		National accounts			
Operating income	Turnover		Output	P.1	
	Production taken into inventories				
	Capitalised production				
	Miscellaneous income				
	Balancing subsidies				D.31
	Reversal of amortisation and provisions				
Operating expenses	Purchases consumed		Intermediate consumption	P.2	
	External charges				
	Taxes				D.2
	Personnel expenses				D.1
	Depreciation, amortisation				
	Operating profit		Gross Operating Surplus	B.2g	
Financial income	Financial income	Operating and financial profit			
	Reversal of amortisation and provisions				
Financial costs	Financial costs				
	Depreciation, amortisation, provision				
	Financial profit				
Exceptional income					
Exceptional expenses					
	Exceptional profit				
Equity financing					
Taxes on earnings					
	Excess of income over expenses, net income, net profit, net earnings				

10.1.1.2.2 Surveys (ESA and EAP)

The EAP and ESA surveys are administered to all of the biggest enterprises (legal units) and only to a sample of smaller enterprises. These surveys provide the following information in particular:

- about the business sector of the enterprises interviewed. Information about the business sector is already available in SIRENE but it is only generally added to the register database when the enterprise is created and is usually never updated thereafter. The inclusion of the survey data allows for the correction of any errors that may arise as a consequence;
- about the breakdown of the enterprise's turnover into homogeneous activity branches. Indeed, the accounting data only show the total turnover, while enterprises may have secondary activities alongside their principal activity. The EAP and ESA allow for the output to be broken down into the enterprise's different activity branches, offering a more accurate estimate of the output of different goods and services (to be added to the supply and use balances, which allow for a comparison of the different approaches to GDP).

The EAP and ESA questionnaires are appended to this document. The surveys are immediately used in the field of the biggest enterprises, in which the surveys are exhaustive and for which both the tax forms and the survey results are available.

The use of the surveys is more complex in the field of smaller enterprises, for which sampling is carried out. The results obtained in the field of the actually surveyed enterprises are extrapolated to all of the enterprises within a single stratum correlating the business sector and the size of the enterprise.

EAP

Name of survey	Enquête annuelle de production (EAP) (Annual production survey) ¹⁴
Link to surveys undertaken at the European level	SBS PRODCOM
Reporting units	Legal unit
Periodicity	Annual
Time of availability of results	6 months after the end of the survey period
Sampling frame:	National statistical business register
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	Stratum survey (stratum are defined in function of the economic activity, the region and the number of employees) with an exhaustive survey above a threshold (20 employees or a turnover of EUR 5 million or more).
Population size	150 000
Sample size	36 500
Survey response rate	80.3%
Method used for impute of missing data	The output of the non-responding units is imputed on the basis of the individual data of the previous year, revalued by the evolution of the known VAT turnover in N.
Variable used for grossing-up to the population	No grossing-up, only imputation.
Sample coverage, as % in terms of variable used for grossing-up	At least, 85% of the turnover of a given activity is covered, depending on the activity.
Main variables collected	The annual production survey (EAP) has two main aims: - identify the different activities carried out by enterprises via the breakdown of their turnover into different branches, and from this, determine their principal activity (APE); - provide information allowing for the production of precise data on industrial output, both in response to the requirements of the European Prodcom Regulation, and to satisfy the needs of national users - especially the needs of professional organisations. PRODCOM is the abbreviation of industrial production (PROD) surveys defined at the Community (COM) level and governed by regulation (EEC) no. 3924/91 of the Council (19 December 1991).

More information available at <https://www.insee.fr/en/metadonnees/source/serie/s1193>.

Name of survey	Enquête sectorielle annuelle (ESA) (Annual sectoral survey)
Link to surveys undertaken at the European level	SBS
Reporting units	Legal unit
Periodicity	Annual
Time of availability of results	6 months after the end of the survey period
Sampling frame:	SIRENE – SIRUS (statistical register)
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	Stratum survey (stratum are defined in function of the economic activity, the number of employees and the turnover) with an exhaustive survey above a threshold (turnover and the number of employees) which depend on the economic activity.
Population size	3 000 000 legal units
Sample size	113 800 for the year 2017 (116 700 for 2016)
Survey response rate	70%
Method used for impute of missing data	Estimation by applying the rate of another variable or by applying the stratum average for item non-response.
Variable used for grossing-up to the population	For the treatment of the total non-response and for grossing-up, we do not use a variable. The method applied consists of reweighting of respondents.
Sample coverage, as % in terms of variable used for grossing-up	Irrelevant.
Main variables collected	The Annual Sectoral Survey (ESA) aims to identify the different activities carried out by enterprises, via the breakdown of their turnover into branches (sectoral classification), allowing for a better evaluation of their principal activity (APE). The ESA also allows for the observation of legal restructuring operations that affect the running of the enterprises. It supplements the information provided by the tax forms with regard to investments - especially its intangible component - and describes the main characteristics of each economic sector.

More information available at <https://www.insee.fr/en/metadonnees/source/serie/s1269>.

10.1.1.3 Retirements

Units omitted

All of the accounting documents included in the tax return constitute a sort of inventory of industrial, commercial and handicraft enterprises, but in practice, certain enterprises are omitted from it. Late declarations submitted by enterprises are omitted from the file transmitted by the tax authority, for

¹⁴ https://ec.europa.eu/eurostat/cache/metadata/EN/prom_esms_fr.htm

example. Certain enterprises may also be omitted because all amounts are reset to zero in the tax return because:

- the enterprises are taxed by a default amount for failing to submit a declaration, an accounting irregularity, etc.;
- they have not had a financial period for which the accounts have been closed during the year;
- they do not appear to have any activity; but the tax authority considers them to have had some activity because they appear in the file initiating the transmission of tax questionnaires.

Units wrongly omitted

ESANE is therefore responsible for estimating the data of enterprises wrongly omitted from the tax statistics. A unit that meets the following criteria is considered to be wrongly omitted from the tax source:

- it is included in the File of Permanent Taxable Persons (FRP);
- it is omitted from the file of enterprises for which the DGFIP possesses the tax forms;
- it has been declared to be active for the year in question in the last available SIRENE file; more is known about its status: it has declared a suspension of business activity during the year in question in which it is normally active, or otherwise it concerns a creation of activity;
- it has filed an account (included in ESANE) or submitted VAT declarations in at least one of the 2 previous years.

For enterprises considered to have been wrongly omitted from the tax source in this way, the accounts are estimated by taking account of the available data via the VAT declaration, or by applying the average change in the category (correlating the business sector and the size of the legal unit) to which it belongs to the last known account (last available tax forms).

Merge-absorption cases

If there is a merge-absorption, the absorbed unit is forced not to be imputed: this treatment is realised manually by the numerous managers of Esane. There are several means for the managers to know there is a merge-absorption:

- at the beginning of the chain, the information comes from the survey supervised by Esane (ESA and EAP),
- the information can also come from the Citrus data (a general system for the retreatment of restructuring which has several sources as surveys and administrative records),
- at the end of the chain, Esane checks strong evolutions of investments, which can be not-treated merge-absorption cases. In these cases, it can be corrected by Esane or by the managers.

Micro-enterprises

Particular categories of enterprises are rightfully omitted from the files constituting the tax forms because they are legally exempted from submitting tax returns. The tax forms transmitted to INSEE contain no accounting data for these units: only the turnover is known. These are entities affiliated to the "micro-enterprise" scheme. This category includes people who have chosen "auto-entrepreneur" status (automatically affiliated to the micro-enterprise tax category), created in 2009.

The micro-enterprise tax category can only apply to enterprises whose annual turnover does not exceed:

- the tax-exclusive sum of EUR 82 000 for operators whose main business is the selling of merchandise, items, provisions and commodities to be taken away or consumed on the premises, or the provision of housing;
- the tax-exclusive sum of EUR 32 900 for service providers.

In addition, the enterprises concerned are exempted from VAT. In 2010, this population corresponded to approximately 700 000 enterprises, making turnover of approximately EUR 7.2 billion (corresponding to an average annual turnover of approximately EUR 10 000).

For these enterprises, therefore, only the turnover data is available. In order to extrapolate the missing accounting items, the average accounting structure (i.e. the ratio between each accounting item and the turnover) is calculated for the smallest enterprises subject to the normal category (and therefore obliged to an accounting package), and this average structure is applied to the data relating to the turnover of micro-enterprises.

Estimation of retreatments

All of the adjustments thus applied in ESANE to the accounting packages transmitted by the general government - either in relation to enterprises considered to have been wrongly omitted, or to enterprises subject to the micro-enterprise tax category - raises the gross value added estimated by ESANE by approximately EUR 40 billion per year.

In addition, several retreatments to the structural business statistic are carried out in ESANE. The most important retreatment concerns the employee profit sharing, which is recognised in the distribution of income account in the general accounting plan. The retreatment leads to the recognition of employee profit-sharing in the profit and loss account, under compensations (in accordance with national accounting concepts). The employee profit-sharing reclassified in this way has an approximate value of EUR 8 billion.

10.1.2 DGFIP

The Public Finances Directorate General (DGFIP) was created in April 2008, following the merger of the General Tax Directorate and the Public Accounting General Directorate. The DGFIP reports now to the Minister for Finance and Public Accounts. Its civil service staff is primarily responsible for tax administration and public finance management, with nearly 60% assigned to tax matters. Its core activities include taxation, tax legislation and public accountancy.

The DGFIP has a mission of public accountancy, in particular:

- Accounting and financial management on behalf of the government
- Monitoring and processing of expenditure for the government and its agencies
- Account management for local authorities and government agencies.

For more detail about the DGFIP data used in the General Government account, *see chapter 3* or the Inventory of the methods, procedures and sources used for the compilation of deficit and debt data and the underlying government sector accounts according to ESA2010 (<https://ec.europa.eu/eurostat/fr/web/government-finance-statistics/excessive-deficit-procedure/edp-inventories>).

The DGFIP centralises the accounting data of almost all the administrations at the finest level of their nomenclature, which allows a transition from these accounts to the national accounts at a very precise level. As an example, we give here an extract of this nomenclature for the current expenditures ("class 6") of municipalities (M14 standard).

CLASS 6: EXPENSE ACCOUNTS

60 - PURCHASES AND CHANGES IN INVENTORIES

- 601 - Purchases held in stock - Raw materials (and supplies)
 - 6011 - Raw materials and supplies other than land
 - 6015 - Land to be developed
- 602 - Inventory purchases - Other supplies
 - 6021 - Consumables
 - 6022 - Consumable supplies other than food
 - 60221 - Fuels and Fuels
 - 60222 - Maintenance products
 - 60223 - Municipal Workshop Supplies
 - 60224 - Administrative Supplies
 - 60225 - Books, records, cassettes (libraries, media libraries)
 - 60226 - Work wear
 - 60227 - School supplies
 - 60228 - Other consumable supplies
 - 6023 - Power supply
- 603 - Change in inventories (supplies and merchandise)
 - 6031 - Change in raw materials (and supplies) inventories
 - 60311 - Change in inventories of raw materials and supplies other than machinery and equipment land
 - 60315 - Change in inventories of development land
 - 6032 - Change in other supplies inventory
 - 6037 - Change in inventories of goods and bare land
- 604 - Purchases of studies and services
 - 6041 - Purchases of studies (other than development land)
 - 6042 - Purchases of services (other than development land)
 - 6045 - Purchase of studies, services (land for development)
- 605 - Purchases of materials, equipment and works
- 606 - Non-inventory purchases of materials and supplies
 - 6061 - Non-storable supplies
 - 60611 - Water and sanitation
 - 60612 - Energy - Electricity
 - 60613 - District heating
 - 60618 - Other non-storable supplies (12)
 - 6062 - Supplies not in stock
 - 60621 - Fuels
 - 60622 - Fuels
 - 60623 - Power supply
 - 60624 - Treatment products
 - 60628 - Other supplies not in stock
 - 6063 - Maintenance and Small Equipment Supplies
 - 60631 - Maintenance supplies

- 60632 - Small Equipment Supplies
- 60633 - Road supplies
- 60636 - Work clothing
- 6064 - Administrative supplies
- 6065 - Books, records, cassettes...(libraries and media libraries)
- 6067 - School supplies
- 6068 - Other materials and supplies
- 607 - Purchases of goods
 - 6071 - Meters
 - 6078 - Other goods
- 608 - Incidental expenses on land under development
- 609 - Discounts, rebates and discounts obtained on purchases
 - 6091 - of raw materials (and supplies)
 - 6092 - other stocked supplies
 - 6094 - studies and services
 - 6095 - of materials, equipment and works
 - 6096 - of non-stock supplies
 - 6097 - of goods
- 61 - 62 - OTHER EXTERNAL CHARGES
- 61 - EXTERNAL SERVICES
 - 611 - Service contracts
 - 612 - Lease payments
 - 6122 - Equipment leasing
 - 6125 - Real estate leasing
 - 613 - Rentals
 - 6132 - Real estate rentals
 - 6135 - Movable leases
 - 614 - Rental and co-ownership expenses
 - 615 - Maintenance and repairs
 - 6152 - Maintenance and repairs to real property assets
 - 61521 - Land
 - 61522 - Buildings
 - 615221 - Public buildings
 - 615228 - Other buildings
 - 61523 - Channels and networks
 - 615231 - Roads
 - 615232 - Networks
 - 61524 - Wood and Forestry
 - 6155 - Maintenance and repairs to movable assets
 - 61551 - Rolling stock
 - 61558 - Other movable assets
 - 6156 - Maintenance
 - 616 - Insurance premiums
 - 6161 - Multi-risk
 - 6162 - Compulsory construction damage insurance
 - 6168 - Other
 - 617 - Studies and research
 - 618 - Miscellaneous

- 6182 - General and technical documentation
- 6184 - Payments to training organizations
- 6185 - Symposia and seminars expenses
- 6188 - Other miscellaneous expenses
- 619 - Discounts, rebates and discounts obtained on outside services
- 62 - OTHER EXTERNAL SERVICES
 - 621 - Non-service personnel
 - 6215 - Staff assigned by home community
 - 6216 - Staff assigned by the parent PFG
 - 6217 - Staff assigned by the GFP member commune
 - 6218 - Other external personnel
 - 622 - Remuneration of intermediaries and fees
 - 6225 - Allowances to the accounting officer and administrators
 - 6226 - Fees
 - 6227 - Acting and litigation expenses
 - 6228 - Miscellaneous
 - 623 - Advertising, publications, public relations
 - 6231 - Advertisements and insertions
 - 6232 - Celebrations and Ceremonies
 - 6233 - Fairs and exhibitions
 - 6236 - Catalogues and printed matter
 - 6237 - Publications
 - 6238 - Miscellaneous
 - 624 - Transport of goods and public transport
 - 6241 - Transportation of Goods
 - 6244 - Administrative transport
 - 6247 - Public transport
 - 6248 - Miscellaneous
 - 625 - Travel, missions and receptions
 - 6251 - Travel
 - 6255 - Moving expenses
 - 6256 - Missions
 - 6257 - Receptions
 - 626 - Postal and telecommunications charges
 - 6261 - Postal charges
 - 6262 - Telecommunications costs
 - 627 - Banking and related services
 - 628 - Miscellaneous
 - 6281 - Miscellaneous competitions (membership fees...)
 - 6282 - Security costs (churches, forests and communal woods...)
 - 6283 - Premises cleaning costs
 - 6284 - Fees for services rendered
 - 6287 - Reimbursement of expenses
 - 62871 - To the home community (13)
 - 62872 - To supplementary budgets and municipal boards
 - 62873 - To the C.C.A.S.
 - 62874 - To the school fund
 - 62875 - To the municipalities members of the GFP

- 62876 - To the reporting PFM
- 62878 - To other organizations
- 6288 - Other external services
- 629 - Discounts, rebates and discounts obtained on other outside services
- 63 - TAXES AND SIMILAR PAYMENTS
 - 631 - Taxes and similar payments on remuneration (tax administration)
 - 633 - Taxes and similar payments on remuneration (other bodies)
 - 6331 - Transportation Payment
 - 6332 - Contributions to the F.N.A.L.
 - 6333 - Employers' participation in continuing vocational training
 - 6336 - National and Public Service Management Centre contributions territorial
 - 6338 - Other taxes and similar payments on remuneration
 - 635 - Other taxes and similar payments (tax administration)
 - 6351 - Direct taxes
 - 63512 - Property taxes
 - 63513 - Other local taxes
 - 6353 - Indirect taxes
 - 6354 - Registration and stamp duties
 - 6355 - Vehicle taxes and duties
 - 6358 - Other rights
 - 637 - Other taxes and similar payments (other bodies)
- 64 - PERSONNEL EXPENSES
 - 641 - Employee compensation
 - 6411 - Regular staff
 - 64111 - Principal Remuneration
 - 64112 - Family Salary Supplement and Residence Allowance
 - 64116 - Severance pay in lieu of notice and termination pay
 - 64118 - Other allowances
 - 6413 - Non-incumbent staff
 - 64131 - Remuneration
 - 64136 - Severance pay in lieu of notice and termination pay
 - 64138 - Other allowances
 - 6416 - Integration jobs
 - 64161 - Youth Employment
 - 64162 - Jobs of the future
 - 64168 - Other integration jobs
 - 6417 - Apprenticeship remuneration
 - 6419 - Reimbursements of staff remuneration
 - 645 - Social security and welfare expenses
 - 6450 - Social security and welfare expenses
 - 6451 - U.R.S.S.A.F. contributions
 - 6453 - Contributions to pension funds
 - 6454 - C.S.S.A.S. contributions
 - 6455 - Personnel insurance contributions
 - 6456 - Payment to the F.N.C. of the family supplement
 - 6457 - Apprenticeship social contributions
 - 6458 - Contributions to other social organizations
 - 6459 - Reimbursements of social security and welfare charges

- 647 - Other social security charges
 - 6470 - Other social security charges
 - 6471 - Benefits paid on behalf of the F.N.A.L.
 - 6472 - Direct Family Benefits
 - 6473 - Unemployment benefits
 - 64731 - Paid directly
 - 64732 - Paid to A.S.S.E.D.I.C.
 - 6474 - Payments to other social works
 - 6475 - Occupational medicine, pharmacy
 - 6478 - Other miscellaneous social security charges
 - 6479 - Refunds on other social security charges
- 648 - Other personnel expenses
 - 6480 - Other personnel expenses
 - 6483 - Gradual cessation of activity
 - 64831 - Staff allowances
 - 6488 - Other expenses
- 65 - OTHER OPERATING EXPENSES
 - 651 - Royalties for concessions, patents, licences, processes, software, rights and values similar
 - 652 - Shortfall or surplus in ancillary budgets of an administrative nature
 - 6521 - Deficit of ancillary budgets of an administrative nature
 - 6522 - Return of surplus from administrative side budgets to the budget main
 - 653 - Allowances, mission and training expenses for mayors, deputies and advisers
 - 6531 - Allowances
 - 6532 - Mission expenses
 - 6533 - Pension contributions
 - 6534 - Social security contributions - employer's share
 - 6535 - Training
 - 6536 - Mayor's representation expenses
 - 6537 - Compensation for loss of income
 - 65371 - Training compensation
 - 65372 - Contributions to the End-of-Term Allowance Fund
 - 654 - Losses on credit losses
 - 6541 - Receivables accepted at no value
 - 6542 - Receivables extinguished
 - 655 - Quotas and compulsory contributions
 - 6551 - State Police
 - 6552 - Departmental social assistance
 - 6553 - Fire Department
 - 6554 - Contributions to umbrella organizations
 - 65541 - Contributions to the Territorial Expense Compensation Fund
 - 65548 - Other contributions
 - 6555 - Contributions to C.N.F.P.T. (private employment personnel)
 - 6556 - Housing allowances for teachers
 - 6557 - Housing Policy Contributions
 - 6558 - Other mandatory contributions
 - 656 - Operating costs of groups of elected representatives (16)
 - 6561 - Staff costs
 - 6562 - Materials, equipment and supplies

- 657 - Operating grants paid
 - 6573 - Operating grants to public bodies
 - 65731 - Status
 - 65732 - Regions
 - 65733 - Departments
 - 65734 - Communes
 - 657341 - Common members of the PFG
 - 657348 - Other municipalities
 - 65735 - Groups of communities and communities with special status
 - 657351 - Reporting PFM
 - 657358 - Other groupings
 - 65736 - Establishments and related services
 - 657361 - School fund
 - 657362 - CCSB
 - 657363 - Administrative
 - 657364 - Of an industrial and commercial nature
 - 65737 - Other local public establishments
 - 65738 - Other public bodies
 - 6574 - Operating grants to associations and other private law persons
 - 658 - Miscellaneous operating expenses
 - 6588 - Other miscellaneous operating expenses
 - 65882 - Rescue
 - 658821 - Emergency Relief
 - 658822 - Aids
 - 658828 - Other relief
 - 65888 - Other
- 66 - FINANCIAL EXPENSES
 - 661 - Interest expenses
 - 6611 - Interest on loans and debts
 - 66111 - Interest paid at maturity
 - 66112 - Interest - NCBI Attachment
 - 66113 - Repayment of interest on transferred loans
 - 661131 - to the communes that are members of the PFG
 - 661132 - to the parent PFM
 - 661133 - to the community or home institution
 - 661138 - to other third parties
 - 6615 - Interest on current and deposit accounts
 - 6616 - Bank and financing interests (discounting...)
 - 6618 - Interest on other debts
 - 665 - Discounts granted
 - 666 - Foreign exchange losses
 - 667 - Net expenses on disposals of marketable securities
 - 668 - Other financial expenses
 - 6681 - Allowance for early repayment of loans at risk
 - 6682 - Borrowing adjustment allowance (for order)
 - 6688 - Other
- 67 - EXCEPTIONAL EXPENSES
 - 671 - Exceptional expenses on management operations

- 6711 - Interest on arrears and market penalties
- 6712 - Tax and criminal fines
- 6713 - Relief and Endowments
- 6714 - Scholarships and Prizes
- 6718 - Other exceptional expenses on management operations
- 673 - Securities cancelled (from previous years)
- 674 - Exceptional Operating Grants
 - 6743 - Operating grants (paid by groups)
 - 6744 - Subsidies to S.P.I.C. (other than transportation, water and sewerage services)
 - 67441 - to the supplementary budgets and to the autonomous financial management bodies
 - 67442 - to incorporated companies
 - 67443 - to farmers and dealers
 - 67444 - to unions operating a CISC
 - 6745 - Subsidies to persons governed by private law
 - 6746 - Interest subsidy
 - 6748 - Other exceptional subsidies
- 675 - Carrying amounts of fixed assets disposed of
 - 6751 - Book value of fixed assets sold (excluding ASA)
 - 6752 - Book value of fixed assets disposed of (ASA)
- 676 - Differences on (positive) realizations transferred to investments
 - 6761 - Differences on (positive) realizations transferred to investments
- 678 - Other exceptional expenses
- 68 - DEPRECIATION, AMORTIZATION AND PROVISIONS
 - 681 - Depreciation, amortization and provisions - Current operating expenses
 - 6811 - Amortization of intangible and tangible fixed assets
 - 6812 - Amortisation of deferred operating expenses
 - 6815 - Allocations to provisions for current operating risks and charges
 - 6816 - Charges to provisions for impairment of intangible assets and intangible assets held for sale
 - 6817 - Provisions for impairment of current assets
 - 686 - Depreciation, amortization and provisions - Financial expenses
 - 6861 - Amortisation of bond redemption premiums
 - 6862 - Amortization of deferred financial expenses
 - 6865 - Allocations to provisions for financial liabilities and charges
 - 6866 - Provisions for impairment of financial items
 - 687 - Depreciation, amortization and provisions - Exceptional expenses
 - 6871 - Exceptional depreciation of fixed assets
 - 6875 - Allocations to provisions for exceptional liabilities and charges
 - 6876 - Allocations to provisions for exceptional depreciation

10.1.3 Surveys in the social services field

These surveys, conducted every four years by DREES (Directorate for Research, Analysis, Evaluation and Statistics, Ministries for Health and Social Affairs), cover all active establishments in the field of social services, identified in the FINESS register listing establishments that have been granted an authorisation.

The register reveals the number of places in each establishment. The surveys can be used to determine the actual occupancy rate and therefore to estimate the population actually cared for, a major input for the estimation of output.

The questionnaire for one of these surveys - the survey on old people's homes administered in 2011 – is available on the DREES website (https://drees.solidarites-sante.gouv.fr/IMG/pdf/ehpa_2011_questionnaire.pdf). DREES also carries out a survey of establishments caring for disabled persons (children or adults) and a survey of establishments specialising in the provision of support for persons with social difficulties (children or adults).

Name of survey	Enquête sur les établissements d’hébergement de personnes âgées (EHPA) (Survey of nursing homes for the elderly)
Link to surveys undertaken at the European level	None
Reporting units	Nursing homes for elderly people
Periodicity	Every 4 years
Time of availability of results	12 months after the end of the survey period
Sampling frame:	Administrative file containing all active nursing homes
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	
Population size	10 500
Sample size	10 500
Survey response rate	80%
Method used for impute of missing data	
Variable used for grossing-up to the population	
Sample coverage, as % in terms of variable used for grossing-up	Exhaustive
Main variables collected	<ul style="list-style-type: none"> • The EHPA survey specifies the general characteristics of the establishments and their activity: number of places, number of people present on 31 December of the financial year, number of arrivals and departures during the year, distribution of residents per level of dependency, temporary accommodation, day care, night care. It also covers more regulatory aspects: signature of a tripartite agreement, social welfare authorisation and the prices of accommodation, treatments and dependency. • The survey provides information about the main post held, gender, age and full-time equivalent of each person. • The survey reveals the age, gender, date of entry, previous housing and dependency level, broken down according to the discriminating variables of the AGGIR (Autonomy, gerontology and iso-resource groups). For residents that have left during the year, the survey also provides information about the departure date, entry date, age and destination after departure.

	<ul style="list-style-type: none"> • The survey describes all of the facilities in the bedrooms and communal areas. • The survey provides a description of all pathologies of a sample of residents, itself derived from a sample of establishments.
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10.1.4 Surveys on R&D

The statistical office of the French Ministry for Higher Education and Research produces annual surveys of the resources committed to R&D. These surveys cover both private enterprises and public bodies. They aim to identify internal and external expenditure, the numbers of researchers and research support staff, and the financing received (see the survey on the website <https://www.enseignementsup-recherche.gouv.fr/reperes/public/formul/default.htm>).

Name of survey	Enquête annuelle sur les moyens consacrés à la recherche et au développement dans les entreprises (Annual survey of resources committed to research and development in enterprises)
Link to surveys undertaken at the European level	European regulation
Reporting units	Enterprises
Periodicity	Annual
Time of availability of results	6 months after the end of the survey period
Sampling frame:	SIRENE
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	
Population size	
Sample size	11 000
Survey response rate	
Method used for impute of missing data	
Variable used for grossing-up to the population	
Sample coverage, as % in terms of variable used for grossing-up	
Main variables collected	The aim of the survey of resources committed to research and development is to ascertain the resources devoted to research by enterprises in terms of domestic and foreign expenditure, numbers of researchers and research support staff, and funding received. Every two years, a mandatory section on researchers/engineers is associated with it in order to answer the optional question on the number of researchers. The survey is associated with Regulation no. 995/2012 of the Commission of 26 October 2012 implementing decision no. 1608/2003/EC of the European Parliament and Council relating

	to the production and development of Community statistics on science and technology.
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Name of survey	Enquête annuelle sur les moyens consacrés à la recherche et au développement dans les associations et les groupements d'intérêt public (Annual survey of resources committed to research and development in associations and public interest groups)
Link to surveys undertaken at the European level	European regulation
Reporting units	Enterprises
Periodicity	Annual
Time of availability of results	6 months after the end of the survey period
Sampling frame:	Administrative files
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	
Population size	
Sample size	320
Survey response rate	
Method used for impute of missing data	
Variable used for grossing-up to the population	
Sample coverage, as % in terms of variable used for grossing-up	
Main variables collected	Ascertain the resources committed to research by associations and public interest groups in terms of domestic and foreign spending, numbers of researchers, research support staff and funding received for this research expenditure.

10.2 Income approach

10.2.1 DADS

The annual declaration of social data (DADS) is a declarative formality that must be accomplished by any company employing employees. In this document common to the tax and social administrations, the employers provide annually and for each establishment, a certain number of information relating to the establishment and to the employees. For each employee the following information is declared: the nature of the job and the qualification, the dates of the start and end of the pay period, the number of hours worked, the condition of employment (full time, part time), the amount of remuneration paid, etc.

All employers and their employees are affected by DADS, with the exception of individual employers and extraterritorial activities. Public industrial and commercial establishments are included.

In dissemination, data from other sources are added to data from DADS to cover, since 2009, the entire field of paid employment. The file thus created is called "DADS-large format". Data for year N is provisionally released in July N+2 for salary changes and in the first half of year N+3 for detailed data.

More information is available on <https://www.insee.fr/fr/information/2407785>.

10.2.2 AcoSS and Urssaf

The central agency of Social security associations (AcoSS) and the union of the collection of social security contribution (Urssaf) are the national offices of the Collection branch of the Social security's general regime. Cash flow management is the historic core business of the ACOSS. It manages the cash pool of the Social security general regime and that of other partners.

The Collection branch (ACOSS and URSSAF) performs a public service mission:

- the collection and distribution to recipients of the contributions essentially intended to pay for Social security benefits;
- the management of Social security cash flow.

The statistical information produced by AcoSS and the Urssaf comes from corporate reporting formalities and from the management of contributor accounts. This information is recorded in various statistical databases.

In particular, the Summary of Contributions (BRC) and the summary table (TR) are the source of the statistical series of employment and payroll produced by AcoSS and Urssaf.

The BRC was filled out by all the employers' establishments exercising their activity in France (Métropole and Dom). This declaration was monthly if the workforce of the company was greater than or equal to 10 employees and quarterly below this threshold. It allowed them to declare to the Urssaf:

- the amount of contributions and contributions due by applying the contribution rates in force,
- the amount of contribution exemptions,
- the total amount and the capped amount of remuneration subject to contributions, contributions or exemptions,
- the number of employees who received wages during the period,
- the number of employees at the end of the period,
- the number of employees affected by an exemption from contributions.

10.3 Expenditure approach

10.3.1 The family budget survey (BDF)

The family budget survey is not directly used to estimate the household consumption. However, a comparison was realised in 2010 between the level of consumption in national accounts and in this survey.

The geographical scope of the family budget survey (BDF) and that of the national accounts (NA) are identical (all of France including Mayotte).

The NA level used for the comparison corresponds to a weighted average of the consumptions of 2010 and 2011, for the whole of France. Indeed, given that the family budget survey is carried out in 6 waves (including one in 2010, one straddling 2010 and 2011, and four in 2011), the BDF expenditure is compared

to a weighted average of the national accounting consumptions for 2010 and 2011 (respectively for 3/12 and 9/12).

The comparison between the NA and the family budget survey is carried out using the COICOP classification, at a 4-digit level, the most detailed level common to both sources. NA does in fact work with the product classification. It has a bridge table that enables the consumption amounts to be obtained in 4-digit COICOP. This bridge table is based partly on allocation keys fixed over time. It was updated to bring it into line with the COICOP 2015 classification. The BDF publishes its consumption amounts directly in 5-digit COICOP. Switching to a less detailed level therefore poses no problem. The comparison is shown below at functions levels.

A first raw comparison on the scope as described above shows a -31% level gap between NA expenditure and family budget survey expenditure. The structure of the expenditure according to the two sources however is rather close, with the exception of dwelling expenditure (connected to the imputed rents included in the NA).

Table 10-1 Comparison between national accounts and household budget survey, in EUR (million)

		National Accounts (NA)	Household budget survey (HBS)	difference	Structure NA	Structure HBS
Fonc1	Food	143 524	124 176	-13%	13%	16%
Fonc2	Alcohol and tobacco	37 802	22 437	-41%	3%	3%
Fonc3	Clothing	44 857	38 041	-15%	4%	5%
Fonc4	Housing	280 118	118 167	-58%	25%	16%
Fonc5	Housing equipment	56 897	44 546	-22%	5%	6%
Fonc6	Health	45 949	13 653	-70%	4%	2%
Fonc7	Transportation	152 251	131 099	-14%	14%	17%
Fonc8	Communications	33 682	25 099	-25%	3%	3%
Fonc9	Leisure and culture	97 873	72 197	-26%	9%	10%
Fonc10	Education	9 502	5 000	-47%	1%	1%
Fonc11	Hotels, cafés and restaurants	71 372	53 976	-24%	6%	7%
Fonc12	Other goods and services	133 800	110 511	-17%	12%	15%
Total		1 107 627	758 901	-31%	100%	100%

Part of the gap is explained by conceptual differences between HBS and NA that can be excluded from the comparison (*see explanations below*). Once those reasons for gaps cancelled, the gap is reduced to -16%.

Name	Impacted function	Impact on NA	Impact on HBS survey	Explanations
Own consumption	1 et 2	-2,6		The NA quantifies household self-consumption and adds it to household consumption. The HBS survey also quantifies it, but does not add it to consumption. The definition of self-consumption being different, and the quantification difficult, for both sources, it was decided to remove it from the scope of comparison.
Tobacco smuggling	2	-0,8		The NA adjusts the amount of tobacco expenditures reported by households to account for contraband. Considering that households do not report this smuggling in the HBS survey, it is decided to remove it from the scope of comparison.
Imputed rents	4	-155,8		The NA charges rent expenses to households that own their dwellings. This concept is specific to the NA, with the HBS survey calculating imputed rents for owners of primary residences, but not adding them to the consumption of the households concerned.
Waste collection	4	-3,6		The NA considers that some taxes, such as household waste and sweeping, are consumption, unlike the HBS survey.

Rent of second homes	4		-0,7	In NA, rents and charges for second homes are treated as imputed rents.
Health fraud	6	-3,1		The NA adjusts the amount of health expenditure reported by households to take into account fraud. Considering that households do not report this fraud in the HBS survey, it is decided to remove it from the scope of comparison.
Health insurance benefits	6	-24,2		For the HBS survey, the benefits paid by health insurance companies are deducted from household consumption. The NA does not deduct these payments.
Transportation insurance benefits	7	-7,4		For the HBS survey, the allowances paid by transport insurance companies are deducted from household consumption. The NA does not deduct these payments.
Sales of household vehicles to households	7	+16,2		In the case of the sale of a vehicle between two households, the NA only counts the margin generated by a possible timeframe, whereas the HBS survey records the expenditure of the purchasing household as consumption.
Registration certificates	7	-1,6		The HBS survey considers that registration certificates correspond to taxes, just like fines, and not to consumption. This expense is therefore removed from the NA.
Education	10	-3,8		The NA's expenditure on market education is not of good quality in base 2010, due to the lack of sources that can be mobilized during rebasing. The correction made takes into account a study conducted in the section after the baseline change.
Accommodation for stays of less than 4 nights	11		+1,6	For the HBS survey, only nights spent during a stay of 4 nights or more are counted. The NA counts all nights, regardless of the length of the stay.
FISIM	12	-9,1		The NA calculates an amount of FISIM and integrates it into household consumption. This concept is specific to the NA.
Definition of life insurance	12	-17,7	-1,0	The definitions of life insurance are very different for NA and HBS.
Definition of property and casualty insurance	12	+18,8		For the NA, household expenditure corresponds to premiums and premium supplements, less allowances. For the HBS survey, the expenditure corresponds only to the premiums. The NA field is therefore corrected.
Real estate guarantees	12		-2,2	The HBS survey considers that the security deposits paid for the rental of a dwelling are consumption. These expenses are neutral for the NA.
Territorial balance	Undistributed expenses	-6,8		The NA quantifies consumption on French territory, while the HBS survey focuses on households residing in France. This expenditure corresponds to the territorial balance, which cannot be distributed among the functions.
Housing insurance benefits	Undistributed expenses	-5,5		For the HBS survey, the allowances paid by housing insurance companies are deducted from household consumption. The NA does not deduct these payments. No correction can be made because the sharing of these expenses between functions 4 and 5 is not known.
Total impact of the changes		-207	-2,3	

A few possible ways have been identified of explaining the -16% residual gap.

Table 10-2 Comparison between national accounts and household budget survey changed to be more consistent with national accounts, in EUR (million)

		National Accounts (NA)	Household budget survey (HBS)	difference	Structure NA	Structure HBS
Fonc1	Food	141 211	124 176	-12%	15%	16%
Fonc2	Alcohol and tobacco	36 734	22 436	-39%	4%	3%
Fonc3	Clothing	44 857	38 041	-15%	5%	5%
Fonc4	Housing	120 670	117 418	-3%	13%	16%
Fonc5	Housing equipment	56 897	44 546	-22%	6%	6%
Fonc6	Health	18 676	13 653	-27%	2%	2%
Fonc7	Transportation	159 406	133 416	-16%	17%	18%
Fonc8	Communications	33 682	25 099	-25%	4%	3%
Fonc9	Leisure and culture	97 873	63 643	-35%	11%	8%
Fonc10	Education	5 674	5 000	-12%	1%	1%
Fonc11	Hotels, cafés and restaurants	71 372	61 301	-14%	8%	8%
Fonc12	Other goods and services	125 724	106 479	-15%	14%	14%
	Other unallocated expenses	-12 364	1 299			
Total		900 412	756 507	-16%	100%	100%

- Private purchases between households, apart from vehicles

Expenditure between households is treated differently in national accounting (NA) and the family budget (BDF) survey. In NA, as the balance of purchases between households without an intermediary is nil, no expenditure is allocated. In the family budget survey, households declare all their expenditure, including purchases of second-hand goods from another household. The consumption should be corrected to take account of this phenomenon. Due to a lack of information, the adjustment can only be made for cars and motorcycles, for an amount of EUR 16.2 billion. For other consumer durables (furniture, electrical appliances, etc.) or semi-durable goods (clothing, footwear, books, toys, etc.), adjustment has not been possible.

- Under-declaration of certain expenditure with negative connotations in the family budget survey

Certain expenditure with negative connotations (for example tobacco or alcoholic beverages) is probably underestimated by the family budget survey as households are reluctant to declare it.

- Expenditure away from home for stays of more than 4 nights (excluding accommodation)

The expenditure incurred during stays of more than 4 nights away from home, in France or abroad, are not entered in the booklet, but in a specific part of the questionnaire. As far as possible, households are asked to defer the completion of the questionnaires to a period of one week without a stay away from home of more than 4 nights. When this is impossible, the expenditure is counted as expenditure linked to "stays away from home" and is not broken down into as many items as usual.

- Small and large repairs and maintenance jobs on the dwelling

The method of recording small jobs is not the same in the sources. For the family budget survey, repairs and regular maintenance of the dwelling correspond to expenses of less than EUR 200. For NA, whether or not they are recorded in consumption depends on the type of expenditure (breakdown between final consumption, intermediate consumption and investment) and the expenditure corresponds to certain pre-defined items, such as paint, wallpaper, wooden panels, etc. This difference in concept can lead to substantial differences in the expenditure figures. In addition, the recoverable charges for co-ownership

dwellings sometimes correspond to maintenance work or small jobs. In NA, the expenditure relating to maintenance is included in household consumption and broken down by product.

10.3.2 National housing survey

Every six or seven years, INSEE conducts a survey of several tens of thousands of dwellings. This survey reveals the characteristics of housing and its occupants, and the rental fees when the housing is rented. The data are used to evaluate both the actual and imputed rents, on the basis of a stratification allowing for the separation of different types of housing into specific strata, such as social housing.

Name of survey	Enquête Logement (Housing Survey) 2013
Link to surveys undertaken at the European level	None
Reporting units	Households or dwellings
Periodicity	Every 7 years
Time of availability of results	24 months after the end of the survey period
Sampling frame:	Census
Survey is compulsory or voluntary?	Compulsory
Main features of survey methodology	
Population size	
Sample size	64 000
Survey response rate	Between 70% (in metropolitan France) and 90% (in Mayotte)
Method used for impute of missing data	
Variable used for grossing-up to the population	
Sample coverage, as % in terms of variable used for grossing-up	
Main variables collected	The Housing survey sets out to describe the housing conditions of households and their expenditure on housing. The survey supplements the information given by censuses, which do not contain financial data: rents, charges, financing plans and incomes. It also includes a more detailed description of the quality of housing for households. It has multiple uses: structural framework data, study of precise sub-populations and modelling of behaviours, semi-economic analyses or pseudo panel analyses based on chronological comparisons of successive surveys.

More information is available on <https://www.insee.fr/en/metadonnees/source/serie/s1004>.

10.3.3 Housing satellite account (CSL)

The Housing Satellite Account (CSL) synthesises a large number of data sources in order to draw up a complete and structured accounting balance sheet for housing expenditure for all economic actors.

An econometric model is used to estimate actual and imputed rentals within the framework of the housing satellite account. The econometric model links the rentals with the characteristics of the dwelling (size, location, etc.). Two models are estimated, one for houses and a second one for apartments.

Housing surveys are conducted every 4 or 5 years by INSEE. Each housing survey provides information about the rentals paid by tenants at the time of the survey and allows the imputed rentals to be calculated for the year during which the survey is conducted. The housing satellite account also provides rentals by institutional sector and by type of dwelling (individual/collective) for the years when housing surveys are conducted. At the time of the 2010 benchmark year the 2006 Housing survey was the last available housing survey.

10.3.3.1 Extrapolations

Between two housing surveys, interpolations are therefore necessary to evaluate annually the actual rentals and make extrapolations after the last survey year available. More precisely, the amount of rents changes under the

- transformations in the housing stock (change in the number of dwellings estimated each year based on information from population censuses, local residence tax, the Identified Buildings Register (RIL) and the building permits database:),
- the average surface area of dwellings (linear interpolation between two surveys ; projection based on the last known trend from the last survey),
- the rents growth rate at constant-quality (valued based on the rents per square meters on the basis of the “rents and charges” surveys),
- the dwellings quality: the change in the quality of dwellings is assumed to be equal to the annual change in quality observed between two housing surveys. The quality effect is calculated by the CSL as the residual effect between the change in rents given by the housing survey and the changes in price between two surveys.

10.3.3.2 Charges and furniture

The furnished dwellings are excluded from the econometric model for the estimation of imputed rents. Doing so, the rental used in the calculations is that for the use of an unfurnished dwelling. In the case of the actually rented dwellings the cost element of furniture is included.

The rents used are rents excluding charges. Heating, water and electricity charges are excluded from the intermediate consumption of households as producers of dwelling services.

10.3.3.3 Second homes

Rents of second homes are estimated by allocating an annual rent estimated according to the method used to calculate the imputed rents of owners of main residences. In this way, the actual rental of similar dwellings as well as the average occupation time are not taken into account, on the basis of the assumption that the result would be approximately the same if these were considered. This assumption was confirmed by a methodological work conducted in 2013 in the context of the 2010 benchmark year program of work.

Second homes are covered by the Housing survey. A few information are collected about second homes. There is however no information collected on actual rents for rented second homes. As a consequence the methodological work consisted in estimating second homes imputed rentals by taking into account the actual occupancy rate of second homes (number of nights spent in second homes) and the actual rents received by owners temporarily renting out their second home by using data from the General Directorate for Competitiveness, Industry and Services (DGCIS), in particular the Tourist Demand Survey (SDT), the survey carried out with overseas visitors). It was found that the rents of second homes calculated with this

more precise method are of the same order of magnitude (EUR 19.2 million in 2010) as with the simplifying hypothesis actually used in the national accounts (EUR 18.9 million in 2010).

10.3.3.4 Free housing

In the case of people accommodated rent-free or for a symbolic rent, a “normal” level rent is estimated by the CSL based on an econometric model measured on real rents and a dwelling services output of an equivalent amount imputed to the owners.

10.3.3.5 Empty dwellings

The empty dwellings are not included in the number of dwellings for which imputed rentals are estimated. As a consequence the output of empty dwellings is taken to be zero. Estimate of intermediate consumption of empty are however estimated.

In 2010, France counts 33.5 millions of dwellings, among which 2.4 million are empty (*see table D1.1 page 39* <https://www.statistiques.developpement-durable.gouv.fr/sites/default/files/2018-10/Compte-logement2011-pr2012-ed2012b.pdf>). The number of total dwellings and its breakdown by category of dwellings (main residence, second homes, and empty dwellings) is estimated by Insee. First, Insee estimates the total number of dwellings for year N by adding to the total stock of dwellings in year N-1 the changes in housing stock (*see above* for more details). The total number of dwellings is then broken down by category of dwellings by using census data.

10.3.3.6 Garages

Rents of collective housing parking spaces are estimated separately and added onto dwelling rents by the CSL. However, parking space rents for individual houses are by convention included in the rent for the dwelling itself. The family budget survey allows average rents for collective housing parking spaces to be evaluated. Housing surveys provide information on the rate of parking space ownership.

10.3.4 Balance of Payments (BoP)

The balance of payments is a statistical statement that compiles and organises all of the economic and financial transactions of the economy of a territory, country or monetary area with the rest of the world over a given period. The economic and financial flows representing these transactions are broken down into the current account, the capital account and the financial account.

Despite its name, the balance of payments does not deal with payments, but with transactions between residents and non-residents. It is presented according to double-entry accounting rules. This means it is always in balance; each financial or non-financial transaction with a non-resident necessarily has a counterpart expressed as a change in assets and liabilities vis-à-vis non-residents. In the simplest case, an export or the sale of securities by residents has its counterpart in an increase in their liquid assets (such as residents’ deposits with non-resident banks) or a decrease in their liabilities (such as the repayment of advances previously received from non-resident banks).

Several components of the balance of payments and the international investment position contribute to the compilation of national macroeconomic aggregates. For instance, exports and imports of goods and services are part of the gross domestic product (GDP), while primary income is included in the gross national income (GNI), and changes in France’s international assets and liabilities are used to compile the financial account and balance sheets.

All the methodology is precisely described at <https://www.banque-france.fr/en/statistics/balance-payments/balance-payments-and-international-investment-position/methodology-balance-payments-and-international-investment-position>.