

CHAPTER 4
ACCOUNTS BY BRANCH OF ACTIVITY AND THE ECONOMIC
SUMMARY TABLE

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4.1. Accounts by branch of activity

The national economy can be divided into economically homogenous units, that is, units which produce goods (or provide services) which fall within the same category of activity as defined in the French classification of activities (NAF). Grouping together these homogenous economic units allows to create branches of activity. These branches are not the same as sectors of activity, which cover autonomous economic units that may produce goods or provide services involving entirely different activities, but which are nonetheless classified with reference to their primary activity.

The activity levels of these branches are reflected in the output account and operating account.

4.1.1. The output account

The output account reflects the relationship between output and the intermediate consumption required for the production process. The difference between the two is value added, a measure of the wealth generated by this production process.

output – intermediate consumption = value added

The output, intermediate consumption and value added for each branch are estimated in the input-output table. The level of detail used in producing these quarterly accounts involves, as for the supply-use balance, 48 branches. However, the level retained for publication is A17 (cf. previous chapter). As the volume-price division is established for the output and intermediate consumption of each branch, the output statistics are compiled and published in value and chained volume series. They are given as raw, SA (seasonally adjusted) and WDA-SA (adjusted for seasonal and working-day variation) data.

4.1.2. The operating account

The operating account makes clear what proportion of value added goes to paying employees' wages and the applicable taxes on production. The remaining balance is known as the gross operating surplus, a measure of the operating profit of each branch.

value added – wages and salaries – employers' social contributions – other taxes on production + other subsidies on production = gross operating surplus

The most simplistic way to define gross operating surplus would be to say that it represents what remains of the value added once all remunerations (including employers' social contributions) have been paid.

Operating accounts give only value figures, calculated at current prices: aside from value added, there is no volume-price division for the other aggregates. They are given in raw, SA (seasonally adjusted) and WDA-SA (adjusted for seasonal and working-day variation) form. Nonetheless, for many operations including wages and employment figures, there is no working-day adjustment.

The operating account is often linked with accounts tracking levels of employment and number of hours worked. Joint analysis of value added and the corresponding workforce levels (or total number of hours worked) for each branch allows to calculate the apparent rate of productivity per worker (or per hour worked). The figures for total wages and total number of employees (or hours worked) allow to deduce the mean per capita wage (or the average hourly wage). These aggregates help evaluate the short-term dynamics of the various branches.

4.2. The economic summary table: institutional sectors

The economic summary table (EST) combines the accounts for the various economic agents, or institutional sectors. The EST tracks exchanges in cash or in kind between these agents, grouped together into six institutional sectors (*Table 10*): non-financial corporations (NFCs), financial corporations (FCs), general government (GG), 'pure' households and self-employed entrepreneurs, non-profit institutions serving households (NPISH) and the rest of the world (ROW). These six sectors are clearly defined in the ESA 95 classification (codes S11 to S15 for 'resident sectors', code S2 for the rest of the world).

Furthermore, separate accounts are drawn up and published using slightly different definitions of these sectors: self-employed entrepreneurs are either counted in with NFCs, with the resulting aggregate sector named 'non-financial enterprises' (NFEs), or combined with financial corporations to form the aggregate sector 'financial enterprises' (FEs).

Table 10: Summary of the different institutional sectors

S1		Total economy
S11		Non-financial corporations
S12		Financial corporations
S13		General government
S14		Households
S14A		Unincorporated enterprises
	included S14ANF	Non financial unincorporated enterprises
	included S14AF	Financial unincorporated enterprises
S14B		Households excluding unincorporated enterprises
S15		Non-profit institutions serving households (NPISHs)
<i>NFE</i>	= S11 +S14ANF	<i>Non financial enterprises</i>
<i>FE</i>	= S12 +S14AF	<i>Financial enterprises</i>
S2		Rest of the world

*Note: Operations' codes are international codes defined in the ESA except when in italics.
Source: European System of national and regional Accounts (ESA) 1995 and quarterly national accounts*

The economic summary table is composed of value data (there is no volume-price separation), and given in raw, SA (seasonally adjusted) and SA-WDA (adjusted for seasonal and working-day variation) data as well. As with the input-output table, only the SA-WDA data are published in the economic summary table.

The economic summary table can in fact be broken down into a series of tables, or accounts, which each serve to measure a corresponding balance (gross operating surplus, savings, etc.). Details of these operations are given in *Table 11* and *Appendices 12* and *13*. Each account is divided into uses (debit) and resources (credit). With the exception of the output account (where output is calculated as the sum of value added and intermediate consumption), the balances of the different accounts are calculated as the difference between their corresponding uses and resources.

As with the accounts for the various branches, the accounts for individual institutional sectors can be broken down into a series of accounting balances. While the first two may be identical to the branch-by-branch data, others provide more specific details of the performance of each sector.

4.2.1. Production accounts

The value added by each branch of activity is estimated in the input-output table using their respective output (or production) figures. To make this data useful in the context of the EST, it needs to be broken down by institutional sector.

$\begin{aligned} & \text{output} - \text{intermediate consumption} \\ & = \\ & \text{value added} \end{aligned}$
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4.2.1.1. Value added by institutional sector

In sectors where a certain proportion of value added is non-tradable (general government, NPISH, households), this non-tradable component is estimated as the sum of costs incurred by production. These costs are included in the operating account, and consist of the total wages and salaries, employers' social contributions (effective and imputed), other taxes less subsidies on production, and consumption of fixed capital (CFC). The underlying assumption is that non-tradable activities do not produce profit margins, with the exception of surpluses allocated to future capital renewal: gross operating surplus (GOS) is thus equivalent to consumption of fixed capital. CFC's quarterly values are obtained by smoothing the annual figures.

With the exception of non-financial corporations, the tradable portion of value added by an institutional sector is calculated by calibration and fitting. The indicators used are the weighted totals of value added per branch, with the respective weights corresponding to the share of the branch's total value added created by each sector. Thus for financial corporations (FCs) the value added by financial services (FISIM and exc. FISIM), as well as insurance services in general is used. For 'pure' households, we use the 'rent' branch. For self-employed entrepreneurs the value added indicator is a weighted composite of the value added by the agricultural, construction, commercial and healthcare branches, among others.

Ultimately, value added by non-financial corporations is calculated as the balance between the total value added by the various branches and that added by other resident institutional sectors.

4.2.1.2. Intermediate consumption by institutional sector

With the exception of non-financial corporations and general government, the intermediate consumption of institutional sectors is obtained by calibration and fitting. The indicators used for this purpose are the weighted totals of intermediate consumption for the various branches, with the weights corresponding to the proportion of intermediate consumption for each branch which can be attributed to the sector in question for the reference year.

The raw intermediate consumption of general government is calculated by a process of calibration and fitting using an indicator provided by the General Directorate for Public Finances (DGFIP). However this indicator is highly volatile, and the seasonally-adjusted series is obtained by smoothing the annual figures. Finally, the intermediate consumption of non-financial corporations is calculated as the balance between the total intermediate consumption of these branches and that of the other resident institutional sectors.

4.2.1.3. Output by institutional sector

Finally, the output of each institutional sector is calculated as the sum total of value added and intermediate consumption.

4.2.2. Operating accounts

The operating accounts compiled in the economic summary table are drawn up in the same way as those produced for individual branches. Thus the value added by those institutional sectors whose output includes a non-tradable component is estimated based on their total wages and salaries and employers' social contributions, using specific indicators (cf. *above*). As for the tradable output, calibration and fitting is performed for each institutional sector, respecting their specific characteristics. Thus for financial corporations, the total wages of the 'financial and insurance' branch (as defined in A17) is used as the indicator. The same goes for the other institutional sectors, with by far the most important sector being 'non-financial corporations'.

$\begin{aligned} & \text{value added - wages - employers' social contributions - other taxes on production} \\ & \quad + \text{other subsidies on production} \\ & \quad = \\ & \text{gross operating surplus} \end{aligned}$

In the accounts thus produced, there are no more parallel estimates of the figures by branch and by institutional sector.

4.2.3. Allocation of income account

Unlike the operating account, the 'allocation of income' account considers resident economic units and institutional sectors as the recipients of income, rather than producers whose activities generate income. This account combines the 'allocation of primary income' account, linked to production processes, and the 'allocation of secondary income' account, which demonstrates how the balance of primary income in a given institutional sector is affected by the mechanisms of redistribution: taxes on income and wealth, social security contributions and services (excluding social benefits in kind), other current transfers.

$\begin{aligned} & \text{gross operating surplus} + \text{wages received} + \text{employers' social contributions} \\ & \quad + \text{taxes (less subsidies) on products and output} \\ & + \text{income on property (received - paid)} + \text{taxes on income and wealth (received - paid)} + \text{social contributions} \\ & \quad (\text{received - paid}) + \text{social services other than social benefits in kind} + \text{other current transfers} \\ & \quad = \\ & \text{gross disposable income} \end{aligned}$
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This calculation allows to determine the value of gross disposable income (GDI), information which is of great interest to forecasters, particularly when seeking to predict the growth in household purchasing power.

4.2.4. Use of disposable income

Within the 'use of disposable income' account, savings account for that portion of gross disposable income which is not allocated to final consumption expenditure. By defining adjusted gross disposable income as the sum total of GDI and social benefits in kind (equal by definition to individual consumption), savings represent that portion of adjusted GDI which is not allocated to the total effective consumption of households.

$\begin{aligned} & \text{gross disposable income - consumption expenditure} \\ & \quad = \\ & \text{adjusted disposable income (gross + social benefits in kind) - effective consumption} \\ & \quad = \\ & \text{savings} \end{aligned}$

4.2.5. Capital

In the capital figures, net lending – or, if negative, net borrowing – refers to that portion of savings which is not used to finance the acquisition of non-financial assets: these are financial savings. The total value of net lending for all institutional sectors (including the rest of the world) is zero.

$\begin{aligned} & \text{savings} - \text{capital transfers} - \text{investment} - \text{changes in inventories} - \text{net acquisitions of valuables} \\ & \quad - \text{sales of non-produced assets} \\ & \quad = \\ & \text{net lending / net borrowing} \end{aligned}$
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Table 11: Classification of operations in the economic summary table

Production account		
P1		Output
	P2	Intermediate consumption
B1		Value added (gross)
Operating account		
B1		Value added (gross)
	D11	Gross wages and salaries
	D121	Employers actual social contributions
	D122	Employers imputed social contributions
	D291	Taxes on payroll and workforce
	D292	Miscellaneous taxes on production
	-D39	Other subsidies on production
B2		Gross operating surplus (included B3 = mixed income)
Allocation of primary income account		
B2 (included B3)		Gross operating surplus and mixed income
	Received (+)	
	D11	Gross wages and salaries
	D121	Employers actual social contributions
	D122	Employers imputed social contributions
	D211	Value added type taxes (VAT)
	D212	Taxes and duties on imports excluding VAT
	D214	Taxes on products, except VAT and import taxes
	D291	Taxes on payroll and workforce
	D292	Miscellaneous taxes on production
	-D319	Other subsidies on products
	-D39	Other subsidies on production
	D41	Interest
	D42	Distributed income of corporations
	D43	Reinvested earnings on direct foreign investment
	D44	Property income attributed to insurance policy holders
	D45	Rents
	Paid (-)	
	D41	Interest
	D42	Distributed income of corporations
	D43	Reinvested earnings on direct foreign investment
	D45	Rents
Allocation of secondary income account		
	Received (+)	
	D6111	Employers actual social contributions
	D6112	Employees social contributions
	D6113	Social contributions by self- and non-employed persons
	D612	Imputed social contributions
	D621	Social security benefits in cash
	D622	Social insurance benefits of private plans
	D623	Direct employers social insurance benefits
	D624	Social assistance benefits in cash
	D71	Net non-life insurance premiums
	D72	Non-life insurance claims
	D73	Current transfers within general government
	D74	Current international co-operation
	D75	Miscellaneous current transfers
	Paid (-)	
	D51	Taxes on income
	D59	Other current taxes
	D6111	Employers actual social contributions
	D6112	Employees social contributions
	D6113	Social contributions by self- and non-employed persons
	D612	Imputed social contributions
	D621	Social security benefits in cash
	D622	Social insurance benefits of private plans
	D623	Direct employers social insurance benefits
	D71	Net non-life insurance premiums
	D72	Non-life insurance claims
	D73	Current transfers within general government
	D74	Current international co-operation
	D75	Miscellaneous current transfers
B6		Gross disposable income

Use account to income		
B6		Gross disposable income
	P31	Final consumption expenditure individual
	P32	Final consumption expenditure collective
B8		Saving (gross)
Capital account		
B8		Saving (gross)
	Received (+)	
	D91	Capital taxes
	D92	Investment grants
	D99	Other capital transfers
	Paid (-)	
	D91	Capital taxes
	D92	Investment grants
	D99	Other capital transfers
	P51	Gross Fixed Capital Formation
	P52	Changes in inventories
	P53	Acquisition less disposals of valuables
	K2	Acquisitions less disposals of non-financial non-produced assets
B9A		Non financial net lending/net borrowing
Redistribution account to income in kind		
B6		Gross disposable income
	D631	Social benefits in kind
	D632	Transfers of individual non-market goods and services
B7		Gross adjusted disposable income

Source : European System of national and regional Accounts (ESA) 1995

4.3. Indicators used for individual accounts by branch of activity and by agent/institutional sector

As explained in the previous section, in the accounts produced for each branch of activity and economic agent/institutional sector, operations such as output, intermediate consumption and value added are taken primarily from the input-output table: the indicators were explained in Chapter 3. This third section of Chapter 4 presents the different indicators used to process the accounts which are derived from these general figures: following the logic which informs the quarterly accounts, it begins by drawing up the employment accounts, which are then used to determine the total wages and salaries paid by branch and by sector. Wages operations then serve as the primary source of information allowing to produce operating accounts for each branch and institutional sector, and to calculate the corresponding gross operating surplus: as a general rule this is the most important component of value added.

The indicators required to produce other types of accounts for individual institutional sectors will then be described.

4.3.1. Classification for the employment accounts and the operating accounts by branch of activity

The classification system used for publication of the different branches (output accounts, operating accounts, employment and total hours worked accounts) is the same as that used at product level: in the 2005 base (in use since May 2011), the quarterly accounts are aggregated to level ‘A17’, the aggregated classification published in 2008 and composed of 17 branches/products (cf. Chapter 3, part 3.1.1 and Table 1).

The level of detail at which the operating accounts for the branches are compiled is much more aggregated than that used for the output accounts derived from the input-output table (IOT): the level of work is the level A17, with the exception of the 6 branches for which a distinction is made between tradable and non-tradable activities (*Table 12*). It is important to treat these non-tradable branches separately on account of the wide range of sources available. Generally speaking though, as the information at disposal when assessing the aggregates contained in the operating account is less precise and less detailed than the data used to compile the IOT, the level of work is at a more aggregated level.

The branches used here are those which make up the A17 classification, where purely tradable services are concerned. For the following branches, there is a distinction for non-tradable sub-branches:

- Services to businesses (item MN in classification A17): the non-tradable branch corresponds to non-tradable research and development activity.
- Non-tradable services (item OQ): this branch is largely non-tradable; a distinction is made between tradable branches, considered as a whole, and the four non-tradable branches identified in the F48 classification:
 - Public administration and defence (OZ0)
 - Non-tradable education services (PZ0)
 - Non-tradable human healthcare services (QA0)
 - Residential care and social work (QB0)
- Household services: the non-tradable branch corresponds to ‘arts, entertainment and recreation’ (item RZ0 in F48).

Table 12: The employment classification scheme used in the employment accounts and the operating accounts for each branch

Level of publication (A17)		Working classification		
Item	Description	Item	Item F (p) = part of the grade	Description
AZ	Agriculture	AZ		
DE	Energy, water and waste	DE		
C1	Food products	C1		
C2	Coke and refined petroleum	C2		
C3	Machinery and equipment goods	C3		
C4	Transport equipment	C4		
C5	Other industrial goods	C5		
FZ	Construction	FZ		
GZ	Trade	GZ		
HZ	Transportation	HZ		
IZ	Accommodation and food services	IZ		
JZ	Information and communication	JZ		
KZ	Financial services	KZ		
LZ	Real estate services	LZ		
MN	Business services	MNM	Tradable services	
		MNNM	Non tradable services	MB0 (p) Research and development (p)
OQ	Non tradable services	OQM	Tradable services	
		OZO		OZO Public administration and defense
		PZ0NM		PZ0 (p) Education
		QA0NM	Non tradable services	QA0 (p) Human health
		QB0NM		QB0 (p) Residential care and social work activities without accommodation
RU	Household services	RUM	Tradable services	
		RUNM	Non tradable services	RZ0 (p) Arts, entertainment and recreation

Source: quarterly national accounts.

4.3.2. Employment and hours worked

4.3.2.1 Paid employment by branch of activity

The INSEE, in collaboration with DARES (the Directorate for the Coordination of Research, Studies and Statistics at the Ministry of Labour), publishes details of the total number of salaried employees in every field except agriculture, at the end of each quarter. This quarterly payroll headcount is based on two principal sources:

- the Survey of Economic Activity and Employment Conditions (ACEMO) compiled by DARES;
- the statistics published by URSSAF based on the responses of corporations paying social contributions (since Q4 1999).

The ACEMO report is published first, and is used to produce a 'flash' estimate of the total salaried workforce. This estimate is based on calibration models developed by the INSEE and DARES using observations from previous ACEMO publications. This modelling method allows to extrapolate the ACEMO results to cover all businesses and commercial sectors, the original figures only covering businesses with at least 10 employees.

The 'flash' estimate is published around 45 days after the end of the quarter. The total salaried workforce is then estimated, for the more detailed results, using data provided by URSSAF, the only source which covers all professional establishments, whereas the ACEMO report only considers corporations with at least 10 employees.

This second, more detailed workforce estimate is published around 70 days after the end of the quarter and is likely to be further modified when the detailed results for the next quarter are published. The INSEE also surveys some of the major state-owned companies directly in order to keep track of their workforce: La Poste, France Télécom, EDF, GDF, SNCF and RATP.

As for temporary employment contracts, the indicator used consists of an average – for the last five working days in the quarter – of the number of temporary contracts in place each day. This indicator is compiled by DARES on the basis of the monthly declarations made by temporary employment agencies to Pôle Emploi.

The quarterly accounts use these series as indicators to calculate the workforce in the 15 primarily tradable non-farm branches of activity. To obtain a quarterly average employment indicator, the mid-quarter workforce is calculated as the average of total employee numbers at the end of the current quarter and at the end of the previous quarter, then calibrated and fitted using as indicator the annual data series for employment of natural persons.

In the context of the national accounts, employment covers a broader scope than this indicator, particularly since it takes into account those employees based in the overseas departments, as well as the balance of cross-border workers and undeclared workers. Furthermore, the employment data series are published by sector of activity, but then used to calibrate the figures for employment by branch of activity.

The indicators for employment (full-time equivalent) for each branch are constructed on the basis of an indicator calculated specifically for that branch, derived from the quarterly employment figures with an adjustment to allow for part-time work. This adjustment is based on the proportion of part-time workers as identified by the quarterly ACEMO and DARES surveys. The indicator is calibrated and fitted using as indicator the annual employment statistics (full-time equivalent). As no sub-annual data is available regarding the evolution of total hours worked by part-time employees, only a process of calibration allows to integrate this information based on observations derived from previous annual accounts.

For those branches not covered by the INSEE/DARES survey, i.e. agriculture (item AZ in the A17 classification) and primarily non-tradable services (OQ), the data series are generated by smoothing the corresponding annual account figures.

4.3.2.2. Paid employment by institutional sector

For general government, ‘pure’ households and NPISH (non-profit institutions serving households), salaried workforce figures are obtained by smoothing the corresponding annual numbers. Employment by financial corporations is calibrated, using as indicator the figures for the financial services branch.

Salaried employment for self-employed entrepreneurs is calibrated using as indicator the salaried workforce of the relevant branch. Salaried employment by non-financial corporations is calculated as the remaining balance when the total workforce for the four other institutional sectors is subtracted from the total workforce for all branches.

4.3.2.3. Agricultural work and non-salaried employment

As no short-term information is available for other forms of employment (agricultural work or non-salaried labour), figures are obtained by smoothing the annual series for each branch.

4.3.2.4. Hours worked

The quarterly estimate of number of hours worked provides with two distinct data series:

- Total hourly volume, i.e. the number of hours worked in a given quarter, including overtime and extra hours.
- The effective working hours of employees, i.e. the average number of hours worked by a worker in a given quarter: this represents the relationship between the hourly volume of labour and the total number of natural persons in employment.

These measures are taken for each of the fifteen primarily tradable branches of activity, excluding agriculture. Only the seasonally and working-day adjusted figures (WDA-SA) are published. For the agricultural and non-tradable services branches, no sub-annual data is available: the quarterly working hour totals are thus calculated by smoothing the annual accounts.

Indicators used to calculate hours worked

- Weekly working hours

The principal indicator used to calculate the hourly volume of salaried employment is the theoretical number of weekly working hours. This figure is made available 45 days after the end of the quarter, in the ACEMO report. The annual data for theoretical number of weekly working hours are calibrated, using this indicator for each branch. This results in one of the fundamental components of the volume of labour. Other components are estimated to take into account the various individual (sick leave, strikes, overtime) and collective (partial unemployment, natural disasters etc.) factors which may reduce or increase the effective number of hours worked.

- Annual leave

No quarterly information is available concerning the number of days off taken by employees. By default, this information is obtained by smoothing the annual data, which implicitly assumes that the quarterly variations in number of days off are entirely seasonal. To assess the total seasonally-adjusted hourly volume, this number of days off is assumed to be constant. Similarly, the figures for number of working days corrected for working day variation are assumed to be constant. It should be noted that when the transition to the 35-hour working week was enacted via an increase in the number of 'supplementary leave days to reduce total working hours' (RTT), it was the theoretical number of weekly working hours which decreased in employers' declarations to ACEMO surveys, and there was thus no increase in the number of annual leave days.

- Public holidays

The number of public holidays varies from year to year (for example with the abolition of the Pentecost Monday bank holiday, or when certain holidays fall on a weekend), but after adjustment for seasonal variation, the annual figure is smoothed to give a quarterly average.

- Maternity leave, sick leave and occupational illnesses

The CNAMTS (National Health Insurance Fund) publishes monthly updates on the total number of days lost to maternity leave, sick leave and occupational illnesses. These days are not, however, assigned to specific branches of activity. The overall total is adjusted for seasonal and working-day variation, then used as an indicator for calibration and fitting of the individual branches. This is the only component of the employment accounts which is significantly affected by the number of working days.

- Partial unemployment, temporary unemployment due to bad weather

With no available indicator, the data are the result of smoothing performed on the annual components used to calculate the total number of hours worked in the annual accounts. The number of days lost to bad weather only applies to the construction sector.

- Strikes

The only sub-annual information available on strikes concerns the transport branch since 1990. These data are not calibrated, but nonetheless allow to break down the annual figures into quarterly data and make forecasts in the short term. For other branches the number of days lost to strikes is obtained by smoothing the annual series. Calibration residuals may be added for branches particularly affected by strikes, based on *ad hoc* calibrations.

- Overtime

Branch-specific indicators are provided by the Central Agency for Social Security Organisations (ACOSS); these indicators are relatively recent (since the end of 2007), as they have existed only since it became possible to claim tax exemption for overtime.

In the absence of more detailed information regarding the number of hours worked by non-salaried employees, the total hourly volume for all workers is based on calibration and fitting of the totally hourly volume of salaried labour (adjusted to reflect the ratio of total employment / salaried employment). The calibration ratio is then

estimated between these two annual accounts. This ratio is then applied to the quarterly hourly volume of salaried labour, adjusted for seasonal and working-day variation.

The hourly volumes and effective number of hours worked are estimated and published for each branch (A17) but not for individual institutional sectors, due to a lack of sufficient information.

4.3.3. Gross wages and salaries (D11)

In the national accounts, gross wages and salaries correspond to the gross national wage bill, i.e. including all social contributions payable by employees (code 'D11' in the operations classification set out in ESA 95).

4.3.3.1. Basic monthly wage

The ACEMO survey identifies a basic monthly wage at the end of each quarter for all market sectors of activity excluding agriculture. The mid-quarter wage is estimated as average of the basic monthly wage at the end of the current quarter and at the end of the previous quarter. This information is available around 45 days after the end of a quarter. The data is thus first put to use to compile wage information which corresponds to the criteria of the quarterly national accounts, in order to satisfy the European requirement that wage statistics for each branch of activity be published within 70 days of the end of each quarter.

However, the ACEMO survey only covers businesses with at least ten employees. For the current period, the calibration of the total wages and salaries partly compensates for this problem of scale, when the general dynamic observed for wages in small businesses is broadly similar to the situation observed in businesses with at least ten employees. Nonetheless, the reduction of working hours between 1999 and 2003 saw a certain divergence emerge: small businesses were not subject to the same working-hour reduction deadlines as large companies, and so their reduction occurred later (and on a smaller scale). Employees of small firms were less affected – and not at the same time – by the wage moderation negotiated by the largest companies when the 35-hour week was introduced. As a result, mechanically applying the basic monthly wage to all employees in a given branch would lead to underestimate the repercussions of this moderation. The effects are partly balanced out by an independent grading process, calculated to reflect the different rates of transition to the 35-hour week.

For tradable activity branches, a total wages and salaries indicator is obtained by multiplying the quarterly employment figures (full-time equivalent) by the basic monthly wage. This indicator is then calibrated and fitted using as indicator gross wages and remuneration (i.e. the total wage bill, D11).

However, in addition to businesses with fewer than ten employees, the basic monthly wage only covers basic wages, and thus fails to account for the other types of remuneration included in the total wages and salaries in the national accounts: bonuses, overtime, etc. This measurement also fails to assess the impact on average wages of the asymmetrical structure of employment at different levels of qualification.

4.3.3.2. Average wage per capita

A second indicator is also used: the Central Agency for Social Security Organisations (ACOSS) provides data series for employment, total wages and salaries and average wage per capita, obtained thanks to the URSSAF declarations made by businesses when paying their social contributions. This data source, dubbed 'Séquoia', has the clear advantage of covering practically all forms of remuneration, including bonuses and overtime, for a broad field which includes small businesses. Nonetheless, this data is published later than the basic monthly wage figures (approx. 70 days after the end of each quarter) and is only available for 1997 onwards. The Séquoia figures are therefore only used when publishing the detailed results.

As with the basic monthly wage of the ACEMO surveys, the average wage per capita data series provided by ACOSS are used for all competitive sectors excluding agriculture at a highly aggregated level (classification A17), and for each sector of activity the total wages and salaries figures are calibrated using as an indicator, the product of the total workforce (persons) and the average wage per capita indicator (*Table 13*).

As with the ACEMO surveys, a certain degree of inaccuracy arises from applying sectoral indicators to branches, but this is corrected by calibration and fitting. Furthermore, the scope of salaried employment as covered by

ACOSS-Séquoia is slightly smaller than that covered by the total wages and salaries as defined in the national accounts: remuneration which is subject to CSG (general social contribution) but not to specific social contributions (performance bonuses, shares in company capital etc.) are left out of the ACOSS-Séquoia results. Here again, an econometric calibration and fitting across past annual accounts allows to correct the resulting bias.

The average wage per capita is estimated by dividing the total wages and salaries by the total number of natural persons in salaried employment. Discrepancies arise between the level of the average wage per capita calculated by ACOSS and that given in the national accounts, partly due to the use of different seasonal adjustment methods and partly due to the effects of calibration and fitting, which redress differences of scope, definition (branch vs. sector of activity) and forms of remuneration not covered by the ACOSS/Séquoia calculations (employee incentives, etc.).

4.3.3.3. Special cases in certain branches

For the agriculture branch, the wage indicator used is based on the average basic monthly wage calculated in the ACEMO survey (which only partially covers the agricultural sector).

As for wages in the financial and insurance branch, the indicator is shifted by a quarter in order to take account of the difference between remunerations covered by fiscal declarations on the one hand, and those subject to social declarations on the other. In this branch, bonuses are often declared in the fiscal declaration for Year Y, but are actually paid to employees (and declared to URSSAF) at the beginning of Y+1. Shifting the indicator by a quarter thus allows to include these bonuses in the figures for Q4 of Year Y.

As for the tradable component of primarily non-tradable activities (education, healthcare, social services and administration, item OQ in classification A17), wages are assumed to follow the same trend as the minimum wage. The same goes for the non-tradable part of services provided to households.

Total wages paid by the non-tradable sections of the ‘business services’, and ‘non-tradable services’ branches, are calibrated separately from the total wages paid by general government. Figures for the latter are obtained by calibration using several indicators published by the General Directorate for Public Finances, making a clear distinction between central government organisations, local authorities and hospitals. These indicators are adjusted for seasonal variation, yet they remain highly volatile, probably more on account of the challenges of collecting the data than as a result of any actual short-term fluctuations. The indicator is then smoothed using a centred moving average of five. The indicator used will depend on the type of sub-institutional sector concerned; ‘non-tradable services’ are treated in greater detail than other non-tradable branches: in the F48 classification system a distinction is made between general government, education, healthcare (hospitals) and social services, in order to reflect the diversity of sources of information. The education branch balances out this operation.

4.3.3.4. Wages by institutional sector

The calculation of the total sum of wages paid by different institutional sectors follows the same logic used to calculate value added by branch of activity. For financial corporations, calibration is performed based on the total wages and salaries of the ‘financial and insurance’ branch. For unincorporated enterprises, calibration is performed branch-by-branch. The indicator is derived from the basic monthly wage indicator and the total salaried workforce for the sector. For general government, the total wages and salaries is calibrated directly using indicators published by the DGFIP and used for the sub-items of non-tradable branches. Furthermore, the minimum wage is used as a wage indicator in the NPISH institutional sector, and for households. The ‘rest of the world’ sector also pays gross wages. They are calibrated and fitted using an indicator derived from the balance of payments.

The total wages and salaries of non-financial corporations is calculated as the remaining balance when the salary totals for other institutional sectors are subtracted from the total figures for all branches.

For institutional sectors, the total wages and salaries also appears in the ‘uses’ column of the operating account; this represents the total wages paid by all institutional sectors. This wage data reappears in the income account, in the column denoting the resources of households and the rest of the world. Wages paid to the rest of the world are calculated by a process of calibration using an indicator derived from the balance of payments; as with similar

indicators used in the input-output table, in order to reduce the volatility of the data, the indicator is smoothed using moving averages. The wages received by households thus correspond to the difference between total wages and the wages paid to the 'rest of the world'.

Table 13: Principal indicators of employment, wages and contributions by branch of activity

A17		Item of calibrating	Indicators				
Code	Short title		Gross wages and salaries (D11)	Employers actual social contributions (D121)	Average wage per capita (AWPC)	paid employment (persons)	
AZ	Agricultural goods		AWPC*employment	D11*ratio	Acemo	Smoothing	
DE	Energy, water, waste		AWPC*employment	Central Agency for Social Security Organisations (Acoss) sums actually paid to the Urssaf	Acoss/Séquoia	Insee-Dares	
C1	Food products		AWPC*employment		Acoss/Séquoia	Insee-Dares	
C2	Coke and refined petroleum products		AWPC*employment		Acoss/Séquoia	Insee-Dares	
C3	Equipment goods		AWPC*employment		Acoss/Séquoia	Insee-Dares	
C4	Transport equipment		AWPC*employment		Acoss/Séquoia	Insee-Dares	
C5	Other industrial goods		AWPC*employment		Acoss/Séquoia	Insee-Dares	
FZ	Construction		AWPC*employment		Acoss/Séquoia	Insee-Dares	
GZ	Trade		AWPC*employment		Acoss/Séquoia	Insee-Dares	
HZ	Transportation		AWPC*employment		Acoss/Séquoia	Insee-Dares	
IZ	Accommodation - food service		AWPC*employment		Acoss/Séquoia	Insee-Dares	
JZ	Information-communication		AWPC*employment		Acoss/Séquoia	Insee-Dares	
KZ	Financial services		AWPC*employment		Acoss/Séquoia	Insee-Dares	
LZ	Real estate activities		AWPC*employment		Acoss/Séquoia	Insee-Dares	
MN	Business services	Tradable branches	AWPC*employment			Acoss/Séquoia	Insee-Dares
		Non tradable branches	DGFIP (central government) + DGFIP (local government)	DGFIP (central government) + DGFIP (local government)		Smoothing	
OQ	Non tradable services	Tradable branches	Smic*employment	D11*ratio		Smoothing	
		Non tradable branches	OZ0 Public administration	DGFIP (central government) + DGFIP (local government) + (Smic *employment)	DGFIP (central government) + DGFIP (local government)		Smoothing
			PZ0 Non tradable education	Balancing non tradable branches	Balancing non tradable branches		
			QA0 Human health	DGFIP (hospitals)	DGFIP (hospitals)		
			QB0 Residential care and social work activities	Smoothing	Smoothing		
RU	Household services	Tradable branches	AWPC*employment	Acoss-Urssaf	Acoss/Séquoia	Insee-Dares	
		Non tradable branches	AWPC*employment	D11*ratio		Smoothing	

Source: quarterly national accounts.

4.3.4. Contributions and social security benefits

4.3.4.1. Employers' social contributions (D12 and D61)

Employers' social contributions (operation coded D12 in the ESA classification) are processed with reference to their origin: they are entered into the accounts for the period in which the work was done, and not the period when the corresponding contributions are actually paid. This is why, in the quarterly accounts, social security indicators are systematically delayed by a month or a quarter (depending on the frequency of the data series) in relation to the data provided by the different funds (for example, sums collected in the month of February will subsequently be used as an indicator to calculate payments for the month of January).

Employers' social contributions (D121 and D6111)

Indicators

Employers' social contributions appear twice in the economic summary table (EST). Firstly, in the national accounts they are treated as if paid by businesses to their employees. This first flow (D121) appears in the 'uses' column of the operating account for all sectors, and then in the 'household resources' section of the income accounts. The second flow (D6111) represents payments from households to the social security funds or, in a minority of cases, to the financial corporations which manage healthcare insurance programmes. This flow is also included in the income accounts.

Table 14: General government involved in the collection and redistribution of contributions and social security benefits

ESA code	Institutional sectors
S1311	Central government
S1313	Local government
S1314	Social security funds
	S13141 General social security system
	S13142 Special funds
	S13143 Specific pension funds for employees
	S13144 Social security schemes to independent workers
	S13145 Unemployment compensation system
	S13146 Supplementary pension schemes

Source: *European System of national and regional Accounts (ESA) 1995*

- General employment conditions

The various social security funds publish details of the total sums received in the form of social contributions by employers. For workers subject to general employment conditions this information is centrally recorded by the Central Agency for Social Security Organisations (ACOSS) and published monthly by the agency's Directorate for Statistics, Studies and Forecasts (DISEP). The indicators used correspond to the cash received by ACOSS, i.e. the total value of sums actually paid to the URSSAF, which are then broken down between the different social security funds (CNAM, CNAD, CNAV, etc.). However, with regard to social security payments, the national accounts function on the basis of due dates: the sums measured in the national accounts thus have to represent the total amount of payments which should have been made, which does not correspond to the monies actually paid. Calibration allows to partly correct this bias. In theory, a preferable alternative would be to use the accounting data provided by ACOSS, and corresponding to the monthly 'output' payable to the different social security funds. But the sub-annual evolution of this data is much more volatile, a volatility which can largely be attributed to disruptions in the measurement process rather than actual short-term fluctuations. Moreover, this information is published long after the ACOSS 'cash' data.

Numerous other forms of data are gathered to keep track of social security payments subject to specific conditions (*Table 14*).

- Special employment conditions

For other employment conditions (MSA, etc.) quarterly accounts are obtained by smoothing the corresponding annual data.

- Unemployment benefits

Up until 2010, Pôle Emploi published an indicator detailing total contributions to unemployment insurance mechanisms. As this indicator made no distinction between employers' payments and employees' contributions, the employers' payment indicator is estimated based on the ratio of employers' contributions to the sum of employers' and employees' contributions. Since 2011, the URSSAF network has been responsible for recovering social contributions, and it is therefore ACOSS, the national coordinating body for the URSSAF network, which provides this information.

- Supplementary pension contributions

As for supplementary pension funds (excluding the public sector), the indicators tracking employers' contributions are calculated by aggregating the total contributions recorded by the organisations which manage these funds: AGIRC, ARRCO and IRCANTEC for all workers not employed by the state or local authorities. We distinguish between employers' and employees' contributions using theoretical payment rates. The quarterly figures for the civil service supplementary fund (RAFP) are estimated by smoothing the annual account.

All indicators of employers' contributions are calibrated and fitted by the respective funds and then aggregated to obtain the total amount of employers' actual social contributions (D6111). They are recorded as household uses and as resources controlled by the social security organisation. This total, which is equivalent to the total sums received by households from the initial flow (D121), is broken down both by institutional sector and by branch.

Seasonal adjustment for social security payments is often performed on data series constructed to reflect 'constant legislation'. When the rates of these contributions are known, an average rate of payment falling within the state boundaries (80% of the tax base is held to be below the upper limit) is calculated. The 'constant legislation' series is obtained by dividing the raw data by the contribution rate. The effects of changes in rate thus have no impact on seasonal adjustment. The contribution rate is then applied once again to the seasonally-adjusted 'constant legislation' data to obtain a final indicator which is corrected for seasonal variation.

Figures by branch

The breakdown of social contributions by branch of activity is obtained using theoretical contribution indicators. These indicators are created by multiplying the total quarterly wages and salaries by the average rate of social contributions (derived from the different rates applied by the funds). A theoretical rate of contribution is thus calculated for each branch, then calibrated and fitted. The overall total calculated by adding up the totals for each branch will differ from the total revenue received by the various social security funds. The distribution of the total across the different branches of activity is performed pro rata, based on the relative weight of each branch's share of total contributions in the base year.

Figures by institutional sector

Social contributions paid by households and NPISH (non-profit institutions serving households) are calculated by a process of calibration and fitting using the theoretical contribution rates. The sums paid by financial corporations are calibrated using as indicator the contributions derived from the 'financial services' branch. For contributions made by public sector employers, an indicator is published by the General Directorate for Public Finances (the same source which gives the total wages and salaries). As with the total wages and salaries, this indicator is smoothed using a centred moving average of 5, in order to limit its volatility.

The actual contributions paid by employers also appear in the 'rest of the world' account, in both the uses and resources columns. The indicators used are taken from the balance of payments. Finally, social contributions from non-financial corporations are calculated as the balance which remains when total figures for other institutional sectors are deducted from the total for all branches.

Employees social contributions and social contributions by self and non-employed persons (D6112 and D6113)

In the operating account, social contributions paid by employees are not distinguished from the total gross wages and salaries data, and are thus not broken down branch-by-branch. On the other hand, social contributions paid by salaried employees and self-employed workers appear in the income account, in parallel with the secondary flow of employers' contributions (D6111). These data are obtained using the same principles used to calculate employers' contributions, based on cash received. These contributions are paid directly by households; on the other hand, they constitute a resource for three institutional sectors: general government, financial corporations and non-financial corporations (in return for services provided directly by employers).

For employees' social contributions, exactly the same information sources are used to calculate employers' contributions.

For contributions by non-employees, the only annual information used comes from the statistics department at ACOSS and concerns those contributions owed to the CNAF. Other contributions by non-salaried persons are calculated by smoothing the annual accounts. For non-salaried persons working outside the agricultural sector (primarily tradespersons and independent professionals), other contributions owed to the Independent Workers' Social Scheme (RSI) may be used if the available data goes back far enough. Since 2008 this information has been gathered by the URSSAF network, and analysed by the statistics department at ACOSS.

Actual contributions by employees also appear in the resources and uses columns of the 'rest of the world' account; they are subjected to calibration using indicators taken from the balance of payments.

Imputed contributions (D122 and D612)

Imputed contributions represent an artificial item, included in the operating account (D122) in parallel with employers' actual social contributions (D121). They appear in the uses column for financial corporations, non-financial corporations or general government in the operating account, and as household resources in the income column. They are then transferred into the income column, moving from households to employers (D612).

Imputed contributions are the main counterpart to benefits provided directly by employers (D623), which include all services provided directly by employers managing their own social security systems without developing capital reserves; this primarily involves civil pensions paid by general government organisations or state-owned businesses. Other counterparts to these services provided directly by employers are cash transfers and actual employees' contributions.

Distribution by branch of activity

In the operating account, imputed contributions are broken down by branch. This breakdown is achieved by calibration and fitting of the total wages and salaries for each branch. The only exception is the transport branch, where the available information on large corporations paying employers' contributions directly is taken into account: the annual figures provided by the rail operator RATP are smoothed, and the corresponding services for the rest of the transport branch are calculated by a process of calibration and fitting on the total wages and salaries.

Distribution by institutional sector

Imputed contributions made by financial corporations are measured as the counterpart to transfers and services provided directly by employers, for which no short-term information is available and for which smoothing is therefore necessary. Imputed contributions paid by general government are measured as the counterpart to services provided directly by employers, corresponding to pensions paid to retired civil servants, transfers evaluated by smoothing and actual employees' contributions collected by the government, which are estimated via a process of calibration using an indicator published by the General Directorate for Public Finances. Finally, contributions by non-financial corporations correspond to the remaining balance when the sum of contributions from other sectors is subtracted from the total for all branches.

4.3.4.2. Social benefits other than social transfers in kind (D62)

Social benefits in cash or any other social benefits other than social transfers in kind are assigned the code D62 in the ESA 95 classification of operations. This covers social security payments in cash (reimbursement for sick days, pensions paid by the central fund, unemployment benefits, certain family allowances, etc.), social security services provided by private funds (primarily the reimbursement of medical expenses by health insurers), social security services provided directly by employers (particularly state pensions to retired civil servants) or other social security services in cash (various forms of income support: active solidarity income (RMI/RSA), special solidarity allowance (ASS)).

These services are measured primarily as uses, paid out by government agencies and financial corporations (particularly private health insurance firms). A marginal quantity of certain services is paid and received by the 'rest of the world', and this is calibrated using indicators from the balance of payments. The institutional sector 'households' is the only other sector receiving social benefits in cash.

Social insurance benefits in cash (D621)

Social benefits in cash are the counterpart to social security contributions paid to prepare for certain risks (unemployment, illness, old age, family circumstances etc.), paid out when people are actually affected by these circumstances.

General government (specifically the social security administrations) and the rest of the world are the only two sectors to make such payments. The majority of social security funds publish details of the total value of services they provide. This includes the various funds which together make up the general social security system, and which each publish quarterly details of their payments. This includes sick leave payments (CNAM), pensions paid out by the central fund (CNAV) and certain family benefits (CNAF). Other social security funds dealing with the unemployed (MSA, RSI) or workers subject to specific employment conditions (CNRACL, MSA) provide details of their specific fields.

Pôle Emploi also publishes details of unemployment benefits paid out, and supplementary pension payments are handled by AGIRC, ARRCO and IRCANTEC.

These indicators are calibrated and fitted at a detailed level (values for each individual fund) then aggregated. For special funds (Old Age Solidarity Fund etc.) no sub-annual information is available so the quarterly series are generated by smoothing the annual data.

Social insurance benefits from private plans (D622)

These are benefits provided exclusively by financial corporations, in cash or in kind, managed by private insurance providers (particularly health insurance firms). No direct sub-annual information is available. The indicator used is the total value of individualised expenditure by general government on medicines and tradable healthcare services. Calibration is based on the correlation between sums reimbursed by health insurance firms and those paid out by general government.

Social insurance benefits paid directly by employers (D623)

This item covers those benefits paid by employers managing their own social security systems without developing capital reserves. The three sectors involved are non-financial corporations, financial corporations and general government. This latter sector is the only one for which an indicator is available, provided by the Accounts Department of the Treasury and giving details of pensions paid to retired civil servants. The benefits paid directly by financial corporations are calibrated using as indicator the total wages and salaries of the corresponding sector. Benefits paid by non-financial corporations are deducted from the imputed contributions for this sector.

Social assistance benefits in cash (D624)

These benefits are paid directly by general government and NPISH to households, to support their income. As a result they do not directly correspond to any contributions. For NPISH, quarterly data are obtained by smoothing the annual figures. For general government, the indicators are provided by the CNAF and Pôle Emploi, the

government agencies responsible for managing these benefits and publishing quarterly details of the amounts paid out in the form of different types of benefit (RSA, ASS, disabled adults allowance - AAH, back to school allowance, Christmas bonus for RSA and ASS etc.). As regards the Christmas bonus and 'back to school' allowance, the annual totals are smoothed and, as with income tax, when the sums involved are substantially different from the previous year (higher or lower), the effects of this change are entirely attributed to the quarter or quarters in which payments were made.

Given the great diversity of benefits paid out and the number of organisations involved (Pôle Emploi, CNAF, local authorities, various general government bodies), the overall annual totals are only partly covered by indicators: around 50% in 2010. Calculating the econometric relationship allows to correct a systematic bias affecting the accuracy of the indicator. Furthermore, ad hoc adjustment (using residuals) is sometimes required to respond to extraordinary events such as short-term spikes in partial unemployment (for which no indicator is available) or special pay-outs as part of short-term response measures (e.g. the economic stimulus plan launched in Q2 2009).

4.3.4.3. Social benefits in kind (D63)

In accounting terms, social benefits in kind (D63) correspond to the sum total of individual consumption expenditure by general government (P31G) and NPISH (P3P).

Social benefits in kind (D631)

- Tradable services (D631A)

This covers all of item D6311 (social benefits in kind), for which payments are made only by social security organisations and consist mostly of reimbursements for medicines and tradable medical services.

This item also covers the tradable component of D6312 (other social benefits in kind) i.e. a certain portion of housing allowance (ALF) and certain forms of healthcare and social expenditure (particularly childcare).

It also includes the tradable component of D6313 (social services in kind), for which payments are made by the state, general government agencies and local authorities (this item includes the APL and ALS housing benefits).

D631A is calibrated using as indicator the total value of individual expenditure by general government on pharmaceutical products, tradable healthcare services, housing allowances, social services and social housing.

- Non-market services (D631B)

This covers the non-market component of D6312 (healthcare and social services provided by public hospitals) and D6313 (healthcare-related and social-work activities conducted by the state, general government agencies and local authorities).

It is calibrated using as indicator the total value of individual expenditure by general government on non-tradable healthcare and non-tradable social work and housing.

Transfers of property and individual non-market services (D632)

These transfers correspond to the operating expenditure of certain government bodies. For the most part this expenditure concerns education. This series represents the difference between total individual consumption expenditure by general government on the one hand, and social benefits in kind (D631) on the other. The transfers attributed to NPISH represent their consumption expenditure.

4.3.5. Taxes on production (D29)

Taxes on production (D29) can be divided into taxes on payroll and workforce (D291) and miscellaneous taxes on production (D292). This item covers 'all taxes paid out by businesses as a direct result of their production activities, irrespective of the quantity or value of the goods and services produced or sold' (ESA 95).

4.3.5.1. Taxes on payroll and workforce (D291)

Taxes on payroll and workforce (D291) include wage taxes, transport taxes, specific contributions to the National Fund for Housing Assistance (FNAL) and, since 2004, the solidarity for independent living contribution of 0.3% levied on wages and remunerations and paid to the National Solidarity Fund for Independent Living (CNSA). Contributions to the wage guarantee insurance (AGS) programme are also counted. The apprenticeship tax and the contributions made by employers to the funding of ongoing vocational training, as well as the social tax (since 2009), are included as well.

The statistics on revenue generated by taxes on wages are provided by the General Directorate for Public Finances (DGFIP). For the majority of the other taxes included here (transport taxes, FNAL contributions, the social tax, contingency taxes) information is provided by the statistics department at ACOSS. No indicator is available regarding employers' contributions to building work.

Distribution by institutional sector

Taxes paid by financial corporations and general government are calculated as the sum of several individual calibration models, with social contributions and taxes treated separately. Taxes paid by households (not including self-employed entrepreneurs), involving relatively insignificant sums, are calibrated purely using taxes on wages and the solidarity contribution. As for those taxes paid by NPISH (non-profit institutions serving households), they are also relatively insignificant and as such the quarterly figures are calculated by smoothing the annual totals. Finally, taxes paid by non-financial corporations are calculated as the difference between taxes received by the government and total taxes paid by other sectors.

Distribution by branch

Taxes on wages in non-market branches are calibrated using as indicator taxes paid by government employers. Taxes from the financial activities branch are calibrated using the tax revenue from financial businesses. The taxes from other market branches are then deduced based on taxes paid by non-financial businesses, weighted to reflect the contribution of the wages and salaries of each branch to the overall total. The indicator for wage taxes from a given market branch is thus equivalent to the quarterly wage tax paid by non-financial corporations, multiplied by the weighting coefficient of the branch's wages and salaries. After calibration, the total value of taxes for all branches may not necessarily correspond to the total taxes received by the government; the discrepancy is split proportionally between all branches.

4.3.5.2. Miscellaneous taxes on production (D292)

Miscellaneous taxes on production (D292) collected by general government are directly calibrated using an indicator which is largely composed of local taxes such as the professional tax (and, since 2010, the various taxes which have replaced this former system: taxes charged on value added, the business property tax and the flat charge on extended enterprises), the property tax on buildings and part of the property tax on undeveloped land. The social solidarity charge (C3S) is also included, part of the vehicle registration tax, the special road tax levied on certain vehicles, the tax on company passenger vehicles, taxes on financial institutions and contributions made by industrial firms to the national employment fund (FNE).

For the majority of taxes, quarterly information is provided by the DGFIP. Not all of this information takes the form of sub-annual indicators: for certain taxes, smoothed annual figures are used (this is the case for the company car tax, for example).

Tax indicators often fluctuate wildly, even after seasonal adjustment: this is particularly true of taxes paid at a specific date in the year (e.g. the property tax), taxes for which the collection methods have been revised (e.g. the

professional tax in 2002), monthly-distributed taxes (council tax, etc.) and taxes for which the available time series is small. These indicators are therefore often used only on raw data series, while SA series are generated by smoothing. Nonetheless, the information provided by these indicators allows to refine the values for the current year, which will be used in the smoothing operation. This is particularly pertinent for the C3S.

Distribution by institutional sector

Other taxes on production paid by financial corporations are calibrated using local taxes (property tax, tax on value added, business property tax and the extended enterprise tax). Taxes paid by government bodies, households excluding self-employed entrepreneurs and NPISH are simply calibrated using as indicator the property tax on buildings. Finally, taxes paid by non-financial corporations (including self-employed entrepreneurs) are calculated as the difference between taxes collected by the government and taxes paid by all sectors except non-financial corporations.

Distribution by branch of activity

Taxes for the financial services branch are calibrated using the taxes paid by financial corporations. Taxes paid by other market branches are calibrated using as indicator the property tax on buildings. After calibration, the sum total of taxes for all branches will not necessarily be equal to the total tax revenue collected by the government: the discrepancy is split proportionally between all branches.

4.3.6. Subsidies on production (D39)

Subsidies on production (D39) are current transfers with no counterpart, paid by general government or agencies of the European Union to resident producers with a view to influencing their output levels, prices (indirectly) or the rate of remuneration of their production factors. In order to achieve quarterly details of such subsidies for each branch and institutional sector, the annual data are smoothed.

4.3.7. Taxes on income and wealth (D5)

Current taxes on income and wealth (D5) include 'all compulsory payments without counterpart, in cash or in kind, periodically collected by general government and the 'rest of the world' on the income and wealth of institutional units, as well as certain periodic taxes which are not based on either income or wealth' (ESA 95). Current taxes on income and wealth can be separated into taxes on income (D51) and other current taxes (D59).

Taxes on income and wealth are recorded in the 'uses' section of the income accounts for institutional sectors, and as 'resources' for general government. They thus have an effect on gross disposable income, particularly household income.

For personal taxes (income tax and local taxes), the principle of recording taxes as and when they are due means that all taxes payable are recorded, subtracting all rebates and exemptions. Furthermore, income tax is not recorded at the same time that the income subject to this tax is generated, as income tax on Year Y is actually paid in Year Y+1. The income tax due on this income is thus recorded at the moment it falls due, i.e. when the tax bill is issued, and the sums due are expressed in a written document (the 'avis d'imposition') which formalises the obligation of the taxpayer to pay these sums. This method ensures that the annual figures are consistent with the national budget. The totals are not predicted before household data is available, as the aim is to accurately calculate the actual total taxable income. Data collected by the tax authorities may be used as direct sources of information when compiling such estimates (for further discussion of these choices, cf. Reynaud M. [19]).

4.3.7.1. Taxes on income

Taxes on income (D51) are those taxes for which the taxable base comprises income, profits and capital gains. They are paid by all institutional sectors except NPISH. This category includes direct income tax, the generalised social contribution (CSG) and corporation tax.

- Income tax paid by households

The total income tax paid by households is obtained by a process of calibration using a composite indicator. This indicator is the sum of different income sources:

- the generalised social contribution (CSG) and the social debt repayment contribution (CRDS) levied on different types of income (earned income on the one hand, and unearned income from investments, assets and gambling on the other);
- the social levy (PS, charged at 3.4% in 2012) on capital as well as the 'RSA' charge (1.1% since late 2008) which goes to fund the income support programme;
- an additional contribution to solidarity for independent living, levied at 0.3% on assets and investment products in favour of the CNSA since 2004, helping to fund independent living schemes;
- income tax minus rebates and exemptions (the tax cap, the employment bonus, etc.);
- a fixed proportion of taxes levied on the unearned income of households.

Tracking the major social contributions (CSG, CRDS, the social levy) is a complex affair due to the broad variety of information sources involved, and the heterogeneous scope of these indicators. There are, for example, several different CSG indicators covering different methods of collection. It is possible collate such indicators to create aggregated indicators for different tax bases, distinguishing between earned and unearned income. The data is adjusted for seasonal variation at this level, allowing to analyse separately the seasonal rhythms specific to each income source. Due to the progressive implementation of the CSG, and the changes in the tax base and rate which have occurred in recent years, seasonally-adjusting the CSG figures for capital taxes is particularly challenging.

For the CRDS, as the tax base is more or less the same as that of the CSG, the corresponding CSG indicators are used to calculate indicators for both earned and unearned income.

Furthermore, the 3.4% social levy and the RSA charge are tracked using indicators provided by the DGFIP. Given the difficulty of seasonally-adjusting the former, and the relatively recent creation of the latter, the SA values are obtained by smoothing the annual results (with the exception of periods where the rates were raised).

Raw income tax totals are obtained via a specially-constructed calibration method, using an indicator provided by the DGFIP.

Income tax also has its own specific seasonal adjustment model. These data series have their own, fairly unique statistical properties: the trends change every year, as a result of changes to the tax rate and the size of the tax base. The seasonal adjustment method has no way of anticipating these changes, particularly those caused by changes in the rate of taxation. In order to avoid the need for substantial retrospective revisions, seasonal adjustment is performed by predicting the total annual change and quarterly variations for each tax at the beginning of each tax year. These predicted quarterly values are then revised after each quarter, in order to reflect the actual values observed and adjust the annual forecast accordingly.

The principle of recording tax revenue when it becomes payable also means that a specific seasonal adjustment process is required for new regulations (for example, reductions in income tax). These new regulations are recorded in the quarter when they become applicable to households. When these reforms become permanent, or at least when they can be anticipated with a sufficient degree of certainty, the sums involved are integrated into the seasonal adjustment calculations for the data series.

For income tax rebates and exemptions (the employment bonus, the tax cap, etc.), quarterly values are calculated by smoothing the annual accounts.

- Income taxes paid by the ‘rest of the world’

Income taxes paid by the ‘rest of the world’ are calculated by calibration using a composite indicator, the sum of taxes on non-commercial profits and a fixed proportion of taxes levied on income from investments (PRCM). Both indicators are provided by the DGFIP.

- Taxes on the revenue of general government

Income tax paid by general government is predominantly composed of the corporation tax paid by central government agencies (ODAC) and PRCM paid by the social security administration. The annual totals involved are relatively small, and are smoothed to give the quarterly figures.

- Taxes on the income of financial corporations and non-financial corporations

Taxes on the income generated by companies is calibrated using an indicator composed primarily of corporation tax totals, along with other less substantial tax revenues such as the social contribution levied on profits (CSB) and the annual fixed rate charge (IFA).

Taxes paid by financial corporations (banks, financial service providers and insurance firms) are calculated by a process of calibration using an indicator which includes corporation and other taxes specific to this type of company: the contribution to the Caisse des Dépôts et Consignations (CDC) and the portion of PRCM not covered by the ‘rest of the world’ sector.

The total taxes paid on the income of non-financial corporations are calculated by subtracting taxes paid by financial businesses from the total sum of taxes paid by all businesses.

It should be noted that for corporation tax, given the considerable volatility involved, the same seasonal-adjustment principles used to correct taxes on income are applied.

4.3.7.2. Other current taxes

Other current taxes (D59) include taxes on capital, i.e. taxes on the ownership or use of land and buildings which must be paid periodically by their owners, residency taxes levied at fixed rates on every adult or household irrespective of income and wealth, and taxes paid by households on the ownership or use of certain vehicles and licences (gun ownership, hunting and fishing permits, etc.).

Such taxes are now only paid by households, directly to the government. The most prominent of these taxes are the wealth tax (ISF), the council tax, and to a certain extent property taxes on undeveloped land and taxes relating to vehicle registrations.

The quarterly cost of these taxes to households is calculated by calibrating the figures using an indicator which combines several related but separate sub-indicators. An indicator tracking council tax revenue is issued by the DGFIP. The wealth tax (ISF) nonetheless has its own unique conditions, since over 80% of the revenue raised is paid in the second quarter. Furthermore this tax is highly dependent on the economic cycle: revenue grows more quickly in periods of strong economic growth. For these reasons, the quarterly ISF data are obtained by smoothing the annual figures.

4.3.7.3. Capital taxes

Capital taxes (D91) are ‘those taxes based on the value of assets held by institutional units or exchanged between them’ (ESA 95).

Households are the only institutional sector to pay these taxes. In terms of taxable income, capital taxes principally apply to non-transactional transfers of ownership (inheritances, donations, gifts). Capital taxes are included in the capital assets account, and thus have an effect on the lending capacities and requirements of the institutional sectors paying and receiving these taxes.

An indicator is published by the DGFIP covering revenue generated by such transfers of ownership, used to calibrate the figures for capital taxes paid by households.

4.3.8. Property income, other current transfers and capital transactions

In the absence of quarterly financial statistics, property income (D4), other current transfers (D7) and capital transactions (D9) are calculated by smoothing the annual results, with the exception of interest (D41) paid by general government and a certain proportion of the distributed income of companies (D42) paid to the government, for which the DGFIP publishes a quarterly indicator. The remaining balance of all interest paid and received is made up of interest received by financial corporations, which accounts for the majority of such transactions (almost 80% of interest received).

Appendix 12: Classification of the economic summary table

Uses and fluctuations of assets are given in the left-hand column of the economic summary table; opposite them on the right-hand side are resources and variations in liabilities. The lines marked in bold correspond to the accounting balances of the economic summary table. The figures in bold italics relate to the input-output table. Unincorporated businesses (individual entrepreneurs - sector S14A) are grouped in with households, and no distinction is made beyond the operating accounts.

The operations covered by the economic summary table are only estimated using current data, i.e. values.

In each box, the information given refers both to the operation (the line) and the institutional sector involved (the column). For a given operation, the letter 'U' (for 'uses') signifies that the institutional sector 'pays', the letter 'R' (for 'resources') indicates that it 'receives'.

NFC s11	FC s12	GG s13	HouseholdS s14	NPISHS s15	RoW s2	Uses
B1_s11	B1_s12	B1_s13	B1_s14	B1_s15	P6_D	Exports
						Imports
					B11_s2	Gross value added
						- External balance of goods and services
d11_s11U	d11_s12U	d11_s13U	d11_s14U	d11_s15U	d11_s2U	Gross value added
d12_s11U	d12_s12U	d12_s13U	d12_s14U	d12_s15U	d12_s2U	Gross wages and salaries
d29_s11U	d29_s12U	d29_s13U	d29_s14U	d29_s15U		Employers social contributions
d39_s11U	d39_s12U	d39_s13U	d39_s14U			Other taxes on production
B2_s11	B2_s12	B2_s13	B2_s14	B2_s15		Other subsidies on production
						Gross operating surplus
						Gross operating surplus
						Gross wages and salaries
						Employers social contributions
						Taxes on products
						Subsidies on products
						Other taxes on production
						Other subsidies on production
d4_s11U	d4_s12U	d4_s13U	d4_s14U	d4_s15U	d4_s2U	Property income (included Fisim)
d5_s11U	d5_s12U	d5_s13U	d5_s14U		d5_s2U	Taxes on income and wealth
			d611_s14U		d611_s2U	Actual social contributions
			d612_s14U			Imputed social contributions
d62_s11U	d62_s12U	d62_s13U		d62_s15U	d62_s2U	Social benefits other than social benefits in kind
d7_s11U	d7_s12U	d7_s13U	d7_s14U	d7_s15U	d7_s2U	Other current transfers
B6_s11	B6_s12	B6_s13	B6_s14	B6_s15		Gross disposable income
					B12_s2	- Current external balance
		d63_s13U		d63_s15U		Social transfers in kind
B7_s11	B7_s12	B7_s13	B7_s14	B7_s15		Adjusted disposable income
						Adjusted disposable income
B8_s11	B8_s12	P4G_D B8_s13	P41_D B8_s14	B8_s15		Actual individual consumption
						Gross saving
						Gross saving
d9_s11U	d9_s12U	d9_s13U	d9_s14U	d9_s15U	d9_s2U	Capital transfers
P51T_s11U	P51T_s12U	P51T_s13U	P51T_s14U	P51T_s15U		GFCF
P54_s11U		P54_s13U	P54_s14U			Changes in inventories + acquisition less disposals of valuables
NP1_s11U	NP1_s12U	NP1_s13U	NP1_s14U			Acquisition less disposals of non-produced assets
B9A_s11	B9A_s12	B9A_s13	B9A_s14	B9A_s15	B9A_s2	Net lending / net borrowing

	NFC	FC	GG	HouseholdS	NPISHS	RoW
Resources	s11	s12	s13	S14	s15	s2
Exports						P7_D
Imports						
Gross value added						
- External balance of goods and services						
Gross value added	B1_s11	B1_s12	B1_s13	B1_s14	B1_s15	
Gross wages and salaries						
Employers social contributions						
Other taxes on production						
Other subsidies on production						
Gross operating surplus						
Gross operating surplus	B2_s11	B2_s12	B2_s13	B2_s14	B2_s15	
Gross wages and salaries				D11_s14R		D11_s2R
Employers social contributions				D12_s14R		D12_s2R
Taxes on products			D21_s13R			D21_s2R
Subsidies on products			D31_s13R			D31_s2R
Other taxes on production			D29_s13R			
Other subsidies on production			D39_s13R			D39_s2R
Property income (included Fisim)	D4_s11R	D4_s12R	D4_s13R	D4_s14R	D4_s15R	D4_s2R
Taxes on income and wealth			D5_s13R			
Actual social contributions	D611_s11R	D611_s12R	D611_s13R			D611_s2R
Imputed social contributions	D612_s11R	D612_s12R	D612_s13R			
Social benefits other than social benefits in kind				D62_s14R		D62_s2R
Other current transfers	D7_s11R	D7_s12R	D7_s13R	D7_s14R	D7_s15R	D7_s2R
Gross disposable income						
- Current external balance						
Social transfers in kind				D63_s14R		
Adjusted disposable income						
Adjusted disposable income	B7_s11	B7_s12	B7_s13	B7_s14	B7_s15	
Actual individual consumption						
Gross saving						
Gross saving	B8_s11	B8_s12	B8_s13	B8_s14	B8_s15	
Capital transfers	D9_s11R	D9_s12R	D9_s13R	D9_s14R	D9_s15R	D9_s2R
GFCF						
Changes in inventories + acquisition less disposals of valuables						
Acquisition less disposals of non-produced assets						
Net lending / net borrowing						

Source: European System of national and regional Accounts (ESA) 1995 and quarterly national accounts

Appendix 13 – Classification of general economic operations, production accounts and the operating accounts for different branches of activity

Operations

P1 Output

P2 Intermediate consumption

D1 Compensation of employees

D11 Gross wages and salaries

D12 Employers social contributions

D121 Employers actual social contributions

D122 Employers imputed social contributions

D2 Taxes on production and imports

D21 Taxes on products

D211 Value added type taxes (VAT)

D212 Taxes and duties on imports excluding VAT

D214 Taxes on products, except VAT and import taxes

D29 Other taxes on production

D291 Taxes on payroll and workforce

D292 Miscellaneous taxes on production

D3 Subsidies

D31 Subsidies on products

D311 Subsidies on imports

D319 Other subsidies on products

D39 Other subsidies on production

D391 Subsidies on remunerations

D399 Other subsidies on production

D4 Property income

D41 Interest

D42 Distributed income of corporations

D43 Reinvested earnings on direct foreign investment

D44 Property income attributed to insurance policy holders

D45 Rents

D5 Current taxes on income and wealth

D51 Taxes on income

D59 Other current taxes

D61 Social contributions

D611 Actual social contributions

D6111 Employers actual social contributions

D6112 Employees social contributions

D6113 Social contributions by self- and non-employed persons

D612 Imputed social contributions

D62 Social benefits other than social transfers in kind

D621 Social security benefits in cash

D622 Social insurance benefits of private plans

D623 Direct employers social insurance benefits

D624 Social assistance benefits in cash

- D63 Social transfers in kind
 - D631 Social benefits in kind
 - D6311 Social security benefits, reimbursements
 - D6312 Social security benefits in kind other than reimbursements
 - D6313 Social assistance benefits in kind
 - D632 Transfers of individual non-market goods and services

- D7 Other current transfers
 - D71 Net non-life insurance premiums
 - D72 Non-life insurance claims
 - D73 Current transfers within general government
 - D74 Current international co-operation
 - D75 Miscellaneous current transfers

- D8 Adjustment for the change in net equity of households in pension funds reserves

- D9 Capital transfers
 - D91 Capital taxes
 - D92 Investment grants
 - D99 Other capital transfers

- NP1 Net acquisitions disposals of tangible non-produced assets

- NP2 Net acquisitions of intangible non-produced assets

Accounting balances

- B1 Value added (gross)
- B2 Gross operating surplus
- B3 Mixed income (gross)
- B4 Entrepreneurial income
- B5 Balance of primary income (gross)
- B6 Gross disposable income
- B7 Gross adjusted disposable income
- B8 Saving (gross)
- B9A Non financial net lending/net borrowing

