III. Distributed National Accounts, a Tool for Measuring Expanded Redistribution

The previous section proposed a framework reconciling the micro and macroeconomic studies on the subject of redistribution. This comprehensive approach paves the way to the structuring of true "distributed national accounts", establishing, by standard of living band or according to other categories, the various components that make up national income, from primary income to transfers received and paid out. They make it possible to measure who benefits from and who contributes to public redistribution. In this sense, this framework complements the usual studies carried out into inequality and redistribution, which it is aiming to encompass rather than to replace.

Section III.1 builds upon the general principles for establishing accounts of this type, which may be synthesised, to act as a counterpart to the table of integrated economic accounts (TIEA) and in a table of integrated distributional accounts. It discusses the particularities associated with taking account of taxes on products and transfers linked to pension schemes. It then details the steps that make it possible to establish the distributions before transfers and after transfers, distributed by standard of living stratum, both overall and from a slightly narrower viewpoint by reducing the imputations (individualizable income).

Section III.2 applies these guidelines to France and the United States via an approach that is intended to be experimental at this stage. The aim is to shed light on the potential offered by distributed national accounts, both nationally and in international comparisons, as an appropriate framework for studying expanded redistribution, by comparing all transfers received, regardless of whether they are in monetary form or in kind, and the transfers paid that are used to finance them.

III.1. From the Table of Integrated Economic Accounts to the Table of Integrated Distributional Accounts

III.1.a. General Principles

Once the incomes and transfers have been allocated to households and distributed by standard of living band (part II), the table of integrated distributional accounts (TIDA) can then be defined, which is the counterpart to the table of integrated economic accounts (TIEA) in conventional national accounting.

The development of this table of integrated distributional accounts follows a two-step logic, which is shown in Figure 24. The first step is to establish conventions that assign the amounts from the various institutional sector accounts of the TIDA to households. In the second step, these incomes and transfers are distributed by micro founded bands, i.e. by standard of living tenth in the context of this report. The challenge posed by this step is its reliance on household or individual databases and the establishment of robust and consistent distribution methods. This has previously been described in Section II.2 et seqq.

Figure 24: Moving From the Table of Integrated Economic Accounts to the Table of Integrated Distributional Accounts

III.1.b. Allocation of the Income and Transfers Making up the TIEA to Households

The first stage consists, on the one hand, of allocating the income and transfers that belong to the other institutional sectors (S11, S12 and S15) in the tables of integrated economic accounts to households (S14 in the SNA) and, on the other hand, of merging the uses and resources components by subtracting the former from the latter. Therefore in the TIDA, the headings include a plus symbol for net resources (income and transfers received) and a minus symbol for transfers paid out (deductions).

The following two tables collate the accounting rules that allow this initial contraction of the TIEA to be performed.

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A "DNA" (distributed national accounts) nomenclature has been established to facilitate comparisons. The capital letters indicate the different income concepts: DNA.A is income before transfers (NNIBT), DNA.A.fact is the labour and capital factor income, DNA.B is disposable income, DNA.C is adjusted disposable income and DNA.D is income after transfers (NNIAT), which has also been referred to as expanded income above.

The figures represent the rows in the table of integrated economic accounts in the order in which the economic accounts appear. However, while the production account, which, by its nature is not distributable by category, is at the top of the TIEA, the TIDA starts with the operating and allocation of primary income account. Income before transfers is calculated by adding the primary income of the public authorities (DNA.4), which is primarily comprised of taxes on products and production, to factor income – remuneration for labour (DNA.1), property (DNA.2) and retained corporate income (DNA.3).

Figure 25: Structure of the primary distribution account

DNA.1	**Gross labour income**	**S14**	**D1**
1.1	*of which net wages*	S14	D1 - D61
DNA.2	**Net mixed income and income from wealth**	**S14**	
2.1	*of which net mixed income*	S14	B3n
2.2	*of which net property income*	S14 net	D4
2.3	*of which actual and fictitious rents, net of charges*	S14	B2n
DNA.3	**Corporate income and NPISHs gross before taxes**	**S11+S12+S15**	**B5n**
3.1	*of which retained earnings net of corporate income tax*	S11+S12+S15	B5n-D5-D6-S7
3.2	*of which corporate income tax*	S11+S12	D5
3.3	*of which other corporate transfers (fraud)*	S11+S12 net	D6+D7
DNA.A.fact	**Factor income (= 1+2+3)**	**S1**	
DNA.4	**Primary income of the public authorities**	**S13**	
4.1	*Levies on production and consumption*	S13	D2+D3, res.
4.2	*Property income and net EBITDA (of which interest paid)*	S13 net	D4+EBEn
DNA.A **A.def.**	**Net national income before transfers NNIBT (= 1+2+3+4)** NNI before transfers including deferred income	**S1**	**B5n**

Since the key objective of this distributional accounting is to document the transfers performed by means of redistribution, the rows of the TIDA that relate to transfers are broken down into sub-headings, each identified by a second number (e.g. DNA.2.1 refers to the mixed income of the self-employed within the DNA.2 group). The working group recommends that a threshold be set of 2-5% of NNI, above which the subheadings are automatically displayed.

As with the TIEA, the sequence of accounts in the TIDA continues, from the top to the bottom of the table (Figure 26) with the secondary distribution of national income account. The deductions taken from primary incomes, i.e. taxes on income and wealth (DNA.6) and social security contributions (DNA.7) are subtracted. As has already been pointed out, since a single column is used to represent both resources and uses, where

the amounts appearing here relate to transfers paid out, they include a minus symbol.

Figure 26: Structure of the secondary distribution account

			D2+D3, res.
5	**Levies on production and consumption**	**S13**	
5.1	*of which VAT*	S13	D211
5.2	*of which TICPE and excise duties*	S13	D214
5.3	*of which TFPB and registration fees*	S13	D21, D292
5.4	*of which payroll taxes and other employer taxes*	S13	D291
5.5	*of which other taxes*	S13	D21
6	**Taxes on income and wealth**	**S14+S11+S12**	**D5**
6.1	*of which Generalised Social Contribution*	S14	
6.2	*of which income tax*	S14	
6.3	*of which corporate income tax*	S11+S12	
6.4	*of which housing tax*	S14	
6.5	*of which Social Debt Repayment Contribution, Solidarity and Autonomy Contribution, Solidarity Tax on Wealth, fees*	S14	
7	**Social security contributions**	**S14**	**D61**
7.1	*of which pensions*		
7.2	*of which sickness*		
7.3	*of which family*		
7.4	*of which unemployment*		
7.5	*of which specific welfare schemes*		
8	**Monetary benefits and allowances**	**S14**	**D62**
8.1	*of which pensions*		
8.2	*of which unemployment*		
8.3	*of which family*		
8.4	*of which poverty*		
8.5	*of which disability*		
8.6	*of which mutual*		
8.7	*of which daily allowances and compensation for accidents at work*		
9	**Other transfers**	**S13**	**D4 + B2n**
9.1	*of which other current transfers*	S14	D7
9.2	*Property income and net EBITDA (of which interest received by the public authorities)*	S13 net	D4+EBEn
B	**Net disposable income incl. RE (= A+5+6+7+8+9)**		
B.sna	Net disposable income excl. RE (A+5+6+7+8+9-5.1)	S14	B6n
B.BT	Disposable income before social security transfers		
10	**Individualizable social security transfers in kind**		**D63**
10.1	*of which health*		
10.2	*of which education*		
10.3	*of which social welfare*		
10.4	*of which cultural and associative activities*		
10.5	*of which housing*		
C	**Net adjusted disposable income incl. RE (= C+10)**		**B7n**
C.sna	Net adjusted disposable income excl. RE (C.2+10)	S14	B7n
C.BT	Individualizable income before transfers	S14	B6n
11	**Collective expenditure and FCC**	**S13**	**P32 net**
11.1	*of which general administration*		
11.2	*of which defence, police, justice*		
11.3	*of which others (dissemination of research)*		
12	**Net adjusted disposable income of other accounts**		
12.1	*of which net adjusted disposable income of NPISHs*	S15	B7n-B5n
12.2	*of which RoW Use-Resources balance (of which EU)*	S2	B6n-B5n
13	**Savings of public authorities**	**S13**	
13.1	*of which savings of public authorities net of FCC*	S13	B8n
D	**Net national income after transfers NNIAT (= D+11+12+13)**	**S1**	**B5n**

The sequence continues with the recording of transfers received, grouped into the "monetary benefits and allowances" (DNA.8) and other transfers (DNA.9) categories to arrive at net disposable income (DNA.B). This concept of net disposable income differs slightly from that of household disposable income in the national accounts, in so far as it includes retained company earnings. Since the decision to consider retained earnings as household income has been the subject of debate, the working group has requested that figures be produced that correspond to the scope of the SNA, designated by DNA.B.sna in the nomenclature established by this report.

We arrive at income after transfers by applying a monetary value to non-monetary services rendered by the public authorities, which fall under the use of income account as collective consumption expenditure in the TIEA:

- individualizable public services, such as health, education and social welfare in particular, grouped together in the national accounts in the category of "individualizable social security transfers in kind" (DNA.10);

- other services provided by means of public policy, described in non-individualizable national accounts as security, justice, national defence and general administration expenditure in particular (DNA.11).

The first of these two steps results in the concept of net adjusted disposable income, which is well known to national accountants (in this case DNA.C or DNA.C.sna depending on whether or not retained earnings are included). The allocation of collective expenditure to households, together with the net adjusted disposable income of other sectors (DNA.12), gives the net national income after transfers (DNA.D).

Since all income is allocated to households, and as all of the transfers paid out balance out the transfers received, modulo the deficit, which is itself distributed (see above), there is indeed accounting equality at the aggregate level of all households, NNIBT = NNIAT = NNI.

III.1.c. Table of Integrated Distributional Accounts

As each of the rows in the TIEA can be distributed by standard of living, as described in the second part of this report, the accounting operations discussed in the previous section can be repeated for each household category. The equality of NNIBT = NNIAT = NNI is therefore no longer verified for each standard of living band, since these transfers take place between households, and it is by studying these very differences that the assessment of the redistribution of transfer systems emerges.

DNA	Categories	Sector	Account	Billion €	NNI (%)	Ines	P0-P100	P0-P10	P10-P20	P20-P30	P30-P40	P40-P50	P50-P60	P60-P70	P70-P80	P80-P90	P90-P100
come acount							Distribution of primary income acount										
1	Gross labour income	S14	D1	1 183	63%		1 183	13	39	59	77	97	113	133	158	190	302
1.1	of which net wages	S14	D1 - D61	712	38%	625	712	8	24	37	47	59	68	79	94	112	183
2	Net mixed income and income from wealth	S14		300	16%	319	300	8	9	13	15	16	19	22	28	42	126
2.1	of which net mixed income	S14	B3n	108	6%	71	108	2	2	4	4	3	4	5	8	15	61
2.2	of which net property income	S14 net	D4	78	4%	101	78	2	1	2	2	2	3	4	6	10	44
2.3	of which actual and fictitious rents, net of charges	S14	B2n	114	6%	147	114	5	5	8	9	11	12	13	14	17	21
3	Corporate income and NPISHs gross before taxes	S11+S12+S15	B5n	124	7%		124	1	1	1	1	1	2	3	6	11	98
3.1	of which retained earnings net of corporate income tax	S11+S12+S15	B5n-D5-D6-S7	44	2%		44	0	0	0	0	0	1	1	2	4	35
3.2	of which corporate income tax	S11+S12	D5	55	3%		55	1	0	0	1	1	1	1	3	5	44
3.3	of which other corporate transfers (fraud)	S11+S12 net	D6+D7	25	1%		25	0	0	0	0	0	0	1	1	2	19
A.fact	Factor income (= 1+2+3)	S1		1 607	85%		1 607	23	49	73	93	115	135	158	192	242	526
4	Primary income of the public authorities	S13		274	15%		274	16	18	20	22	25	27	29	32	38	50
4.1	Levies on production and consumption	S13	D2+D3, ress	300	16%	194	300	17	19	22	24	27	29	31	34	41	55
4.2	Property income and net EBITDA (of which interest paid)	S13 net	D4+EBEn	-26	-1%		-26	-1	-2	-2	-2	-2	-2	-2	-3	-3	-6
A	Net national income before transfers NNIBT (= 1+2+3+4)	S1	B5n	1 881	100%		1 881	39	66	94	115	140	161	187	224	280	576
A.diff	NNI before transfers including deferred income			1 881			1 881	46	72	100	123	141	160	182	217	274	576
							Compte de distribution secondaire										
5	Levies on production and consumption	S13	D2+D3, ress	-300	-16%	-194	-300	-17	-19	-22	-24	-27	-29	-31	-34	-41	-55
5.1	of which VAT	S13	D211	-154	-8%	-101	-154	-9	-10	-11	-12	-14	-15	-16	-18	-21	-29
5.2	of which TICPE and excise duties	S13	D214	-44	-2%	-34	-44	-3	-4	-4	-4	-5	-5	-4	-5	-5	-5
5.3	of which TFPB and registration fees	S13	D21, D292	-32	-2%	-19	-32	-1	-1	-2	-2	-2	-3	-3	-4	-5	-8
5.4	of which payroll taxes and other employer taxes	S13	D291	-25	-1%	-28	-25	0	-1	-1	-1	-2	-2	-3	-3	-4	-7
5.5	of which other taxes	S13	D21	-44	-2%	-14	-44	-4	-4	-4	-4	-4	-4	-5	-5	-5	-6
6	Taxes on income and wealth	S14+S11+S12	D5	-277	-15%	-191	-277	-2	-4	-7	-10	-12	-16	-20	-27	-40	-138
6.1	of which Generalised Social Contribution	S14		-97	-5%	-85	-97	-1	-2	-4	-6	-7	-9	-10	-12	-15	-29
6.2	of which income tax	S14		-79	-4%	-71	-79	0	0	0	0	-1	-2	-4	-8	-13	-50
6.3	of which corporate income tax	S11+S12		-55	-3%		-55	-1	0	0	-1	-1	-1	-1	-3	-5	-44
6.4	of which housing tax	S14		-19	-1%	-16	-19	0	-1	-1	-1	-2	-2	-2	-3	-3	-4
6.5	Solidarity and Autonomy Contribution, Solidarity Tax on Wealth, fees	S14		-26	-1%	-19	-26	0	-1	-1	-1	-1	-2	-2	-2	-4	-12
7	Social security contributions	S14	D61	-471	-25%	396	-471	-5	-15	-23	-30	-38	-45	-54	-64	-78	-119
7.1	of which pensions			-262	-14%	230	-262	-3	-8	-12	-16	-21	-25	-31	-37	-44	-65
7.2	of which sickness			-125	-7%	103	-125	-1	-3	-5	-7	-10	-12	-14	-17	-21	-35
7.3	of which family			-30	-2%	27	-30	0	-1	-1	-2	-2	-3	-3	-4	-5	-10
7.4	of which unemployment			-22	-1%	35	-22	0	-1	-1	-2	-2	-2	-3	-3	-4	-5
7.5	of which specific welfare schemes			-32	-2%		-32	-1	-3	-3	-3	-3	-3	-4	-4	-4	-4
8	Monetary benefits and allowances	S14	D62	486	26%	386	486	25	35	41	46	45	47	50	54	63	80
8.1	of which pensions			315	17%	277	315	5	13	21	28	28	31	35	40	49	64
8.2	of which unemployment			43	2%	33	43	5	6	5	4	5	4	4	4	3	4
8.3	of which family			38	2%	22	38	7	7	5	4	4	3	3	2	1	1
8.4	of which poverty			17	1%	24	17	6	4	3	2	1	1	0	0	0	0
8.5	of which disability			19	1%	7	19	1	2	2	2	2	2	2	2	2	2
8.6	of which mutual			32	2%		32	1	3	3	3	3	3	4	4	4	4
8.7	of which daily allowances and compensation for accidents at work			22	1%	22	22	0	1	1	1	2	2	2	3	4	6
9	Other transfers	S13	D4 + B2n	0	0%		0	1	1	1	0	0	0	0	0	-1	-2
9.1	of which other current transfers			-26	-1%		-26	-1	-1	-1	-2	-2	-2	-3	-3	-4	-8
9.2	ne and net EBITDA (of which interest received by the public authorities)	S13 net	D4+EBEn	26	1%		26	1	2	2	2	2	2	2	3	3	6
B	Net disposable income incl. DNP (= A+5+6+7+8+9)			1 320	70%		1 320	40	64	83	97	108	119	132	152	184	341
B.sna	Net disposable income excl. DNP (A+5+6+7+8+9-5.1)	S14	B6n	1 276	68%		1 276	40	64	83	97	107	118	131	150	180	306
B.BT	Disposable income before social security transfers			1 276	68%		1 276	40	49	64	73	84	94	106	128	170	467
10	Individualisable social security transfers in kind		D63	394	21%		394	54	52	45	41	37	36	32	33	32	31
10.1	of which health			176	9%	176	176	19	21	20	20	17	17	14	17	17	16
10.2	of which education			101	5%	124	101	14	12	11	9	10	9	9	9	9	10
10.3	of which social welfare			63	3%		63	10	11	9	8	6	6	5	4	2	2
10.4	of which cultural and associative activities			38	2%		38	4	4	4	4	4	4	4	4	4	4
10.5	of which housing			16	1%	17	16	7	5	2	1	0	0	0	0	0	0
C	Net adjusted disposable income incl. DNP (= C+10)		B7n	1 714	91%		1 714	94	116	129	139	145	155	164	185	216	372
C.sna	Net adjusted disposable income excl. DNP (C.2+10)	S14	B7n	1 670	89%		1 670	94	116	129	138	144	154	163	183	212	337
C.BT	Individualisable income before transfers	S14	B6n	1 670	89%		1 670	53	65	84	98	113	126	143	173	228	587
11	Collective expenditure and FCC	S13	P32 net	183	10%		183	23	21	19	18	17	16	17	17	17	17
11.1	of which general administration			115	6%		115	14	13	12	11	11	10	11	11	11	11
11.2	of which defence, police, justice			56	3%		56	7	6	6	6	5	5	5	5	5	5
11.3	of which others (dissemination of research)			12	1%		12	2	1	1	1	1	1	1	1	1	1
12	Net adjusted disposable income of other accounts			44	2%		44	4	4	4	4	4	4	4	4	4	4
12.1	of which net adjusted disposable income of NPISHs	S15	B7n-B5n	-3	0%		-3	0	0	0	0	0	0	0	0	0	0
12.2	of which RoW Use-Resources balance (of which EU)	S2	B6n-B5n	47	3%		47	5	5	5	5	5	5	5	5	5	5
13	Savings of public authorities	S13		-60	-3%		-60	-3	-4	-4	-5	-5	-5	-6	-6	-7	-13
13.1	of which savings of public authorities net of FCC	S13	B8n	-60	-3%		-60	-3	-4	-4	-5	-5	-5	-6	-6	-7	-13
D	Net national income after transfers NNIAT (= D+11+12+13)	S1	B5n	1 881	100%		1 881	118	137	148	157	161	170	180	200	230	380

Figure 27: Table of French DNA, in billion euros (prototype)

From a material point of view, the table of integrated distributional accounts

(Figure 27) takes the form of a spreadsheet that integrates the amounts from the TIEA and the annexed accounts on the one hand, and the results of the estimates of the microeconomic breakdowns on the other hand (for France these primarily come from the ERFS and the INES model). The final structure therefore provides a fine distribution for all incomes and transfers that complements the work of the OECD (EG DNA) and the literature (INSEE's household category accounts and the DINA project). The complete prototype of the DNA for France is detailed in the following section.

In the spreadsheet file attached to the report and included at the end of the appendix, a third part of the table comprises the transfer account and the redistribution account. These rows contain the distributed aggregates from the main table. This involves bringing together the three main categories of deductions (taxes, levies and contributions) and the three main categories of benefits (monetary allowances, individualizable transfers in kind, collective expenditure). The transfer account therefore reproduces the main steps of the transition from the NNIBT (DNA.A) to the NNIAT (DNA.D) by "descending" from one to the other in a balanced manner, before and after transfers. For each type of income, the comparison of the effects by standard of living band indicates the redistribution performed at this stage of the breakdown of national income.

III.1.d. On the Subject of Taking Account of Taxes on Products

In national accounting, and therefore in distributional accounting, there are two consistent ways of handling taxes on products. The first consists of excluding them from the definition of income, in the same way as by focusing on net income rather than gross income, we have deducted capital depreciation from the income being studied.

While it may appear more intuitive, this approach actually poses three difficulties. Firstly, it integrates a very significant part of the current tax systems differently by excluding them from the concept of income used to measure redistribution, and therefore does not allow for a comprehensive analysis of the redistribution performed by the tax system. Secondly, all else being equal, it changes the relative income levels between countries depending on whether they use direct rather than indirect taxation to finance public expenditure. Thirdly, it results in a significant share of mandatory deductions being ignored and therefore the assertion that the public authorities distribute far more (in the form of transfers in kind and in cash) than they collect in taxes.

The second approach, which is the standard approach in national accounting, consists of considering the amounts of these taxes as forming part of national value added. In distributional accounting, it therefore involves adding their distribution to the distribution of factor income in the same way as payroll taxes[35], taxes on production, taxes on income and wealth and social security contributions and deductions.

The difference between these two approaches is purely accounts-based. The national accountant reconciles the two by introducing a distinction between values at acquisition prices (commonly referred to as market prices or prices including tax) and basic prices (prices excluding tax). More specifically, the value added for the institutional sectors is calculated at factor prices, i.e. deducted from the taxes on products. It is that value added at factor prices that pays for income from labour and capital, the replacement of worn-out equipment (depreciation), taxes on production, etc. In order to calculate value added at market prices (without deducting taxes on products), national accounting considers value added to also pay for taxes on products within an

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35 Payroll tax is a substitute for sectors not subject to VAT, such as banking or insurance institutions and certain self-employed professions.

ad-hoc institutional sector.

In any case, whether reasoning takes place with or without taxes, this does not change the redistribution performed by means of public transfers. To illustrate this, let us return to the mechanics of constructing distributional accounts. It involves starting with the observed individual data – disposable income – in order to establish two unobserved quantities, income before transfers – which tends to be close to market income in the absence of transfers – and income after transfers, which takes account of indirect transfers, both deductions and benefits.

If reasoning takes place including taxes on products, i.e. including all taxes, the income before transfers is equal to disposable income plus monetary benefits, taxes on income and wealth and social security deductions and contributions, as well as taxes on production and consumption (therefore including taxes on products). The income after transfers is equal to disposable income plus benefits in kind and collective expenditure. The difference between income before transfers and income after transfers is equal to the total benefits and collective expenditure, minus taxes on production and contributions (taxes on products are simplified in the calculation). If reasoning takes place in a similar manner, but excluding taxes on products, i.e. excluding tax, the difference between the income before transfers excluding tax and the income after transfers excluding tax is equal to all of the benefits received and deductions paid, with the exception of taxes on products, i.e. the difference before and after all taxes are included.

The table in Figure 28 provides a summary of this inclusion of taxes on products in the accounting framework depending on whether national income is valued at basic prices (after the deduction of taxes on products) or at market prices (including all taxes). The appendix on page 141 details the entries in each of the systems using a stylised example.

Figure 28: Accounting conventions at basic prices or market prices

Distributional accounting at market prices	Distributional accounting at basic prices
National income before transfers at market prices	
- Taxes on products	
	National income before transfers at basic prices
- Taxes on production	- Taxes on production
- Taxes on income and wealth	- Taxes on income and wealth
+ Monetary benefits and allowances	+ Monetary benefits and allowances
= Disposable income	*Disposable income*
	- Taxes on products
	= Disposable income at basic prices
+ Individualizable transfers in kind	+ Individualizable transfers in kind
+ Collective expenditure	+ Collective expenditure
National income after transfers at market prices	
- Taxes on products	
=	**National income after transfers at basic prices**

Notes: For the sake of simplicity, not all of the rows of the TIDA are included in this simplified breakdown.

If the effects of redistribution are not changed, what happens with income before and after tax? Let us look specifically at its main component, VAT. It is widely accepted

that the amount of VAT is largely reflected in prices. It is possible to justify this in terms of fiscal impact, but it can be seen more simply as an automatic effect.

Let us first follow the convention of measuring the value added at market prices (i.e. including VAT). If we follow this convention, GDP is directly equal to the sum of the value added. The value added of a company is measured as the difference between its production and its intermediate consumption. However, the value of a company's production is measured at its sale price, which includes VAT: a reduction in VAT therefore automatically brings about a reduction in prices. This has the effect of lowering nominal GDP. By contrast, GDP in volume terms is always calculated on the basis of prices prior to the VAT reduction and therefore remains unchanged. The reduction of VAT therefore results in a decrease in the nominal GDP without bringing about any change in GDP in volume terms: in other words, it lowers the GDP deflator. The framework of calculations at basic prices involves defining and calculating a deflator for prices excluding tax, for example where the changes in disposable income at basic prices over time are being studied. By definition, this indicator would correspond to the ratio of nominal GDP to real GDP, but evaluated at basic prices.

We reach the same conclusion if we reason according to basic prices, i.e. at the factor prices deducted from the taxes on products. In this case, GDP is equal to the sum of value added and taxes on products. By design, VAT is excluded from value added, so its mechanical impact in this regard is zero. A reduction in VAT therefore reduces the value of taxes on products without changing the value added, which reduces nominal GDP. How does this affect GDP in terms of volume? National accountants calculate the VAT amount by applying the prices and VAT rate prior to the reduction to the volumes after the reduction. In other words, the VAT reduction has no impact on GDP in terms of volume. The mechanical impact of VAT is once again seen only on the deflator, i.e. the prices.

Furthermore, international comparisons make use of purchasing power parities, which are calculated on the basis of prices with all taxes included. In order to make international comparisons on the basis of income at basic prices, the way in which these purchasing power parity coefficients are calculated must be changed accordingly.

To ensure that the rows of the TIDA do not need to be multiplied, for the sake of simplicity, and because it coincides with the national income figures usually put forward and used in international comparisons, the first option has been adopted within the scope of the prototype presented in this report. The breakdown of taxes on products and production into taxes on production and taxes on consumption allows for the simple calculation of either concept, at market prices or at basic prices.

III.1.e. Focus on the Redistributive Nature of Pension Schemes

Deferred income, and pensions in particular, merit special treatment. Since this is a benefit paid by public bodies, the most natural reflex is to treat it like other public benefits. However, this would result in their redistributive effects being grossly overestimated.

For purely illustrative purposes, let us consider the case of a society made up of

50% working people with an income of 2r, who contribute r for half of their lives, and 50% retired people who receive a pension of r for the other half of their lives. *A priori*, the system is not redistributive since each person only receives what they paid in.

However, in this case, the distribution is perfectly egalitarian (Gini indicator equal to zero) after the pension system takes effect, but highly unequal before (Gini indicator equal to 0.5). In other words, in this stylised example, this fictitious pension scheme, which is completely neutral from a redistributive point of view, would have a massive impact on inequality.

The complete opposite option is to extend the concept of market income to include deferred income from labour in addition to income from capital and labour; to clarify, this would involve considering pensions as market income rather than public income. The first approach greatly overestimates the impact of pension schemes, while the second ignores them completely. Going beyond this requires the specification of a counterfactual situation.

It is therefore noted that distributional accounting is not the best analysis framework for studying the redistributive effects of pension systems or social insurance systems in general. Indeed, by definition, these systems carry out redistribution over the life cycle, whereas we are studying inequality "in a cross section" (see Section I.5). All studies that look at inequality at a given point in time suffer the same problem.

However, it is still possible to make recommendations as to the best way to integrate the pension system into our estimates and to avoid excessive bias in the estimates of redistribution and income before and after tax.

There are two possible approaches in the first instance. The one outlined above favours the use of income before transfers, but also includes transfers linked to deferred income (contributions and benefits) as a reference point for measuring redistribution. This is equivalent to considering, as a first approximation, the pension system as being fully contributory rather than fully redistributive.

Another approach, which is not incompatible with the first, involves assuming that the income classes into which individuals have been classified (tenths, hundredths, etc.) are sufficiently homogeneous to allow the income of working people within these groups as a *proxy* for the reference income of pensioners, taking account of the average replacement rate. This could be a case of defining an income before transfers based on the assumption of a uniform average replacement rate and measuring redistribution by comparing it with actual pensions. With this assumption, if we take all precautions for the interpretation and as long as we do not reclassify individuals in order to measure redistribution, the measurement of redistribution is valid.

> **Recommendation 22:** Distributional accounting is ill-suited to measuring the redistributive impact of social insurance schemes that guarantee replacement income, particularly pensions. The general study of redistribution needs to distinguish between the effects of social insurance systems (which may be highly redistributive when looked at in cross-section, but not over time) and other transfers.
>
> **Recommendation 23:** Pension-related transactions can be taken into account, only on the condition that the sequencing of individuals remains unchanged throughout the transfer imputation process and subject to the interpretation precautions set out in **Recommendation 22**.

The ideal approach, but which goes beyond the scope of this report, would be to reconstitute a reference income by actual or statistical matching on the basis of socio-professional criteria and positioning as a counterfactual for income before transfers, a pension that is proportional to that income. This would make it possible to distinguish between the contributive and redistributive parts of the pension system in inequality statistics.

Based on a breakdown of the decline in inequality measured by means of the Gini index, the studies by Guillaud, Olckers and Zemmour (2019) separate amounts imputable to pensions and other transfers. For the majority of countries studied, the impact of pensions is comparable to that of taxes, but greater than that of other benefits. However, the considerable redistributive impact of pensions is not mechanical. Many public pension schemes offer replacement income that is proportional to wages, such that the households that earn more have larger pensions. Given the negative correlation between wage levels and life expectancy, there is nothing to suggest that pensions do not increase rather than reduce inequality. In addition, in all of the countries analysed, pensions are more evenly distributed than labour and capital income and therefore contribute to reducing inequality.

Similarly, a question arises as to whether or not unemployment insurance should be included in income before transfers. The recommendations made with regard to pensions are also largely valid for unemployment insurance. Unemployment insurance generally follows a contributory logic – in the sense that the benefits received are more or less proportional to the contributions made. Including it allows some of the impacts that unemployment has on equality to be corrected in the same way that including pensions corrects some of the effects associated with age. Since the working poor also face an increased risk of unemployment, it also introduces a form of redistribution. The DINA methodology ((Alvaredo *et al.*, 2016) therefore introduces two concepts of income before transfers: a broad definition that includes unemployment and retirement, and a narrow definition that only includes pensions. One of the reasons in favour of using the broad definition is access to data: the distinction between unemployment and retirement in the national accounts requires a very high level of detail that is not available in all countries. In practice, pensions constitute the main part of the social insurance system (17% of NNI compared with 2% for unemployment), so the

differences in the outcomes of the two concepts are limited.

III.1.f. Simplified Table of Integrated Distributional Accounts

In order to facilitate comparative analyses, the working group endeavoured to propose a simplified structure and nomenclature for the table of integrated distributional accounts, which takes the form of Figure 29. With a view to contributing to the production of international standards, a simple three-letter nomenclature has been established.

- The first letter refers to the nature of the income or transfer component (Ixx for income, Txx for tax, Bxx for benefits, Mxx for miscellaneous and WEA for wealth);

- and the two following letters relate to the nature of the income (BT for before transfers, DB for before transfers including deferred incomes, AT for after transfers), of the transfer paid (CP for consumption and production, IW for income and wealth, SI for social insurance), or received (IC for in cash, IK for in kind, CO for collective).

Figure 29: Structure of the simplified table of integrated distributional accounts

	All	D1	D2	…	D10	P100	M1000
IBT: Income Before Transfers							
IBD: IBT + deferred incomes							
TCP: Tax on Cons&Prod							
TIW: Tax on Inc. and Wealth							
TSI: Social Insurance							
BCA: Social Security Benefits in Cash							
IDI: Disposable Income							
BKI: Social Security Benefits in Kind							
BCO: Collective consumption							
MBT: Balance of Transfers							
IAT: After Transfer Income							
WEA: Net wealth							
	All	D1	D2	…	D10	P100	M1000

Sources: 2016 DNA table (TIEA and INES model), authors' calculations.
Notes: the amounts are expressed as a percentage of NNI (table identical to Figure 1).

III.2. Illustration: Prototypes for France and the United States

In order to enlighten the readers of the report with regard to the potentials and limitations of distributional accounting, the working group has endeavoured to implement the methods and recommendations put forward. This study, which has been conducted by INSEE on behalf of France and WIL on behalf of the United States has

led to the development of tables of integrated distributional accounts for both countries, which currently have prototype status. This section presents the results of this exploratory exercise for France (III.2.a, III.2.b, III.2.c) and the United States, and briefly revisits the question regarding the comparative redistributability of the two transfer systems (III.2.d), thereby resolving the apparent paradox that was partly behind the establishment of the working group that produced this report.

III.2.a. French Table of Integrated Distributional Accounts

To enable comparison with the United States, the results are presented in the form of the simplified table of integrated distributional accounts, as defined in III.1.f above. It differs from the one presented in the preliminary considerations of the report (Figure 1 included in the introduction on page 16) in that the figures are expressed as a percentage of net national income and not in billions of euros.

Figure 30: Simplified table of distributed national accounts in 2016 (France, % of NNI)
Sources: prototype distributed national accounts for 2016, authors' calculations.

	All	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	P100	M1000
IBT: Income Before Transfers	**100.0**	**2.09**	**3.65**	**4.92**	**6.00**	**7.42**	**8.65**	**10.02**	**11.89**	**14.72**	**30.10**	**10.58**	**3.20**
IBD: IBT + deferred incomes	**100.0**	**2.48**	**3.97**	**5.25**	**6.39**	**7.50**	**8.56**	**9.79**	**11.51**	**14.40**	**30.08**	**10.10**	**3.11**
TCP: Tax on Cons&Prod	-16.0	-0.93	-1.07	-1.16	-1.26	-1.43	-1.54	-1.66	-1.82	-2.15	-2.89	-4.59	-7.52
TIW: Tax on Inc. and Wealth	-14.7	-0.12	-0.21	-0.35	-0.50	-0.66	-0.83	-1.07	-1.45	-2.12	-7.24	-3.52	-1.25
TSC: Social Security Contributions	-25.0	-0.29	-0.85	-1.19	-1.56	-2.02	-2.42	-2.89	-3.42	-4.08	-6.21	-1.29	-0.19
BCA: Social Security Benefits in Cash	25.9	1.36	1.95	2.14	2.38	2.40	2.51	2.70	2.89	3.30	4.17	0.49	0.05
IDI: Disposable Income	**70.2**	**2.15**	**3.51**	**4.39**	**5.07**	**5.71**	**6.36**	**7.10**	**8.07**	**9.64**	**17.83**	**5.59**	**1.65**
BKI: Social Security Benefits in Kind	21.0	2.93	2.86	2.39	2.16	1.96	1.93	1.71	1.76	1.70	1.60	0.18	0.02
BCO: Collective consumption	9.7	1.24	1.15	0.98	0.94	0.91	0.88	0.92	0.90	0.92	0.90	0.10	0.01
MBT: Balance of Transfers	-0.8	0.10	0.07	0.04	0.01	-0.01	-0.04	-0.07	-0.12	-0.19	-0.57	3.86	7.36
ATI: After Transfer Income	**100.0**	**6.37**	**7.54**	**7.77**	**8.17**	**8.57**	**9.13**	**9.68**	**10.62**	**12.09**	**19.87**	**5.82**	**1.67**
NWE: Net wealth	573.2	6.4	12.7	16.2	20.7	27.6	35.5	44.9	57.0	80.1	266.8	51.2	11.8
	All	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	P100	M1000

Reading note: the income before transfers (IBT) of the households in D10 amounts to 30.08% of national income (NNI) and the after transfer income (ATI) 19.87%. The deductions that they pay amount to -2.89% of NNI for taxes on consumption and production (TCP), 7.24% for taxes on income and wealth (TIW) and 6.21% for social security contributions (TSC). Those same households receive 4.17% of NNI in social security benefits in cash (BCA), 1.6% in benefits in kind and 0.90% in collective consumption expenditure (BCO).

The first row of this distributional table represents national income before transfers (IBT), which can also be referred to as expanded primary income. The wealthiest 10% receive 30.1% of national income, while the poorest 30% receive 10.7% of national income. The poorest 10% receive 2.1% of national income, which is a ratio of 1 to 14 when compared with the richest 10%.

At the other end of the table is income after transfers, both paid out and received,

and therefore including a monetary valuation of services rendered by the public authorities. In the broader sense, after redistribution, the wealthiest 10% receive 19.9% of national income compared with 6.4% for the 10% at the bottom end of the scale, which in this case equates to an inter-decile ratio of 3.

In the middle of the table, disposable income (IDI) is the point where the micro and macroeconomic analyses of household standards of living come together, for the reasons explained earlier, with retained earnings being considered as reinvested disposable income, which raises the top end of the scale somewhat. When calculated in this way, disposable income represents 70.2% of national income, with households in the first tenth benefiting from 3% (2.1/70.2) and those in D10 benefiting from 25% (17.8/70.2), which gives a ratio of 1 to 8.

III.2.b. Expanded Redistribution in France

If we now focus on redistribution within each household category, comparing the expanded incomes before and after transfers, it becomes clear that redistribution contributes 4.3 percentage points of NNI to the poorest 10% of households. For these households, net transfers contribute more to their standard of living than their primary income.

Figure 31: NNIBT and NNIAT on the basis of standard of living (France, 2016)
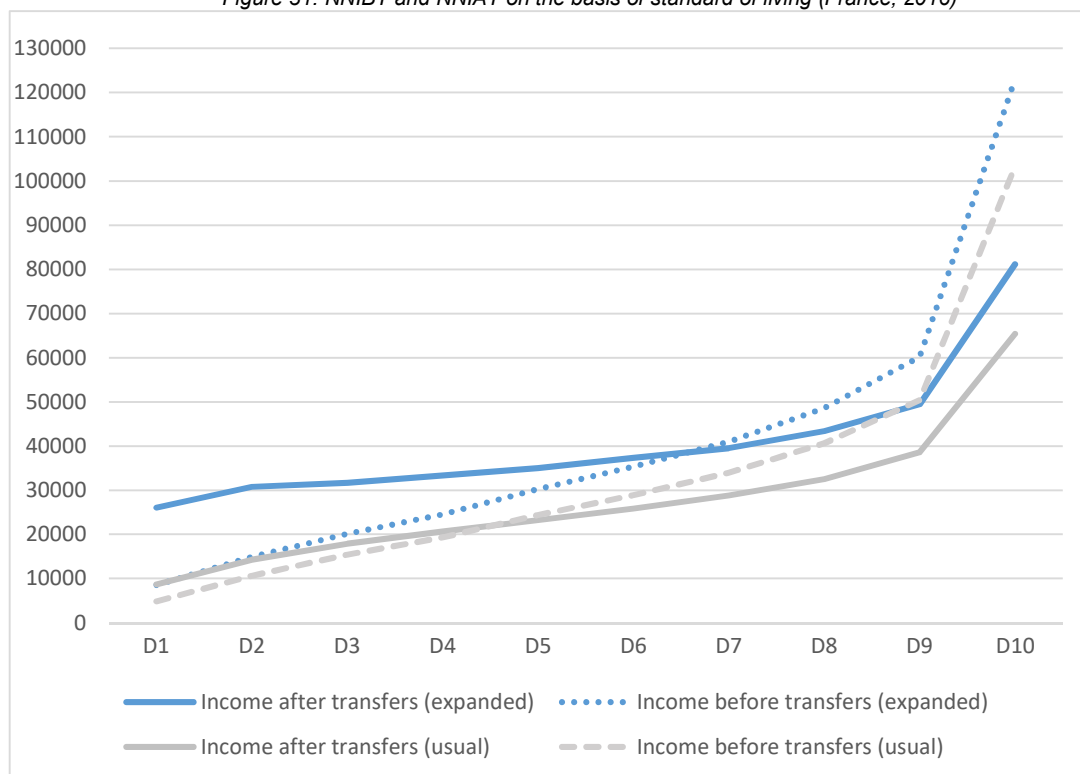
Sources: prototype distributed national accounts for 2016, authors' calculations.
Reading note: in 2016, the first standard of living tenth had an income of 8,500 euros per CU before transfers and 26,000 euros per CU after transfers.

The decisive role of benefits in kind for these households should be noted:

according to the calculations in this report, they represent 2.9 NNI percentage points, or two-thirds of the net redistribution. This figure once again illustrates the importance of integrating the monetary valuation of public services to properly account for redistribution.

Households in the second tenth benefit from net redistribution of 3.9 NNI percentage points. This amounts to 2.8% of NNI for households in D3, 2.2% for those in D4, 1.2% for those in D5 and 0.5% for those in D6. Income before and after transfers are almost the same for D7. Households in D8 and D9 are net contributors with 1.3% and 2.6% of NNI, respectively. Finally, households in the final tenth, which benefit from 30.1% of primary income, pay back, in net terms, a third of this income to national solidarity (10.2 NNI percentage points).

Therefore, if we reason on the basis of the averages per tenth[36], two-thirds of households are net beneficiaries of the expanded redistribution (see the blue lines in Figure 31) and one third are net contributors. This result contrasts with the usual approach (see the grey lines in the same Figure), for which the proportions are almost reversed, with 40% of net beneficiaries and 60% of net contributors.

Finally, the report has previously discussed alternative assumptions for the establishment of NNIBT with regard to taxes on products and deferred income. As can be seen from the graphs in Figure 32, considering deferred income (pensions and unemployment benefits, see Section III.1.e) as primary income does not have any significant impact with respect to the central assumption on the one hand, provided that the individuals are not reclassified and the contributions are deducted; on the other hand, when income is calculated at market prices (including tax) or at basic prices (excluding tax), as discussed in Section III.1.d and in the appendix on page 141, the redistribution is identical in level and the income profiles are similar, except that primary inequality is slightly higher where tax is not included (Gini before transfers of 0.409 excluding tax and 0.383 including tax).

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36 This result, estimated as an average per tenth, is *a priori* similar to if it is calculated at the individual level, though, within each of the deciles that are "gaining", there could, in theory, be losers, and vice versa. When interpreting the results by tenth rather than at the individual level, it is important to bear in mind that not all of the households within each tenth are involved in all transfers. For example, in the first tenth, there are both working people who receive wages and pay contributions and non-working people who receive retirement pensions or unemployment benefits. And *a priori*, these are generally not the same individuals.

Figure 32: Effect of the alternative assumptions on taxes on products and deferred income
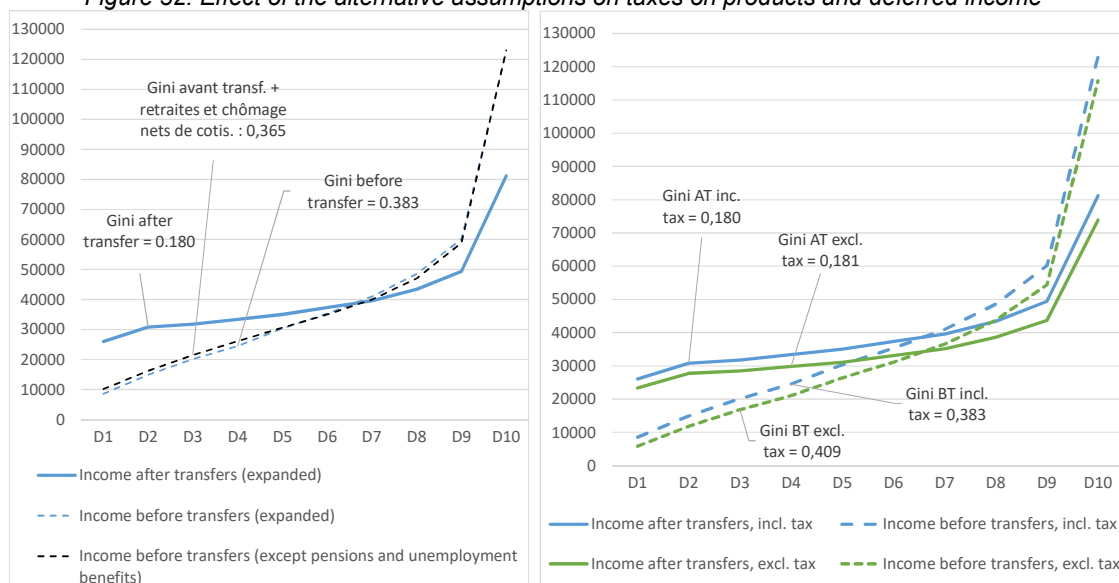
Sources: prototype distributed national accounts for 2016, authors' calculations.

III.2.c. Between Usual and Expanded Redistribution, Adjusted Redistribution

Between expanded redistribution and usual redistribution, the working group explored an intermediate concept referred to as adjusted redistribution or individualizable redistribution, but did not retain it as central.

Although this report insists on the necessity of an exhaustive approach to transfers, it has been stressed several times that following this exercise through to its conclusion requires imputation assumptions that become stronger the broader the concept of income used. The idea here is to reduce these imputation assumptions somewhat while keeping a broad focus.

In order to achieve this, we rely on a concept that is well-known to national accountants for income after transfers: adjusted disposable income. This is made up of disposable income plus transfers in kind, measured against the individualizable collective consumption expenditure. It represents 90% of national income (compared with 70% for disposable income), which places this concept at a level fairly close to the degree of exhaustiveness being sought.

In the same vein, adjusted income before transfers is obtained, not by adding all of the primary income of the public authorities (*i.e.* taxes on products and production) to the factor income, as is the case in the expanded approach, but by only adding taxes on products. The argument here is that the distribution of these can be microfounded on the basis of household consumption data. By applying the rule of balance between the transfers paid out and those received – an approach that is strongly recommended by this report for the study of redistribution – only a proportion of the adjusted deductions (*i.e.* the expanded deductions minus taxes on production) is taken into account to ensure that the average level of adjusted income before transfers corresponds to the average

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level of adjusted disposable income.

Figure 33: Before and after distribution of adjusted disposable income
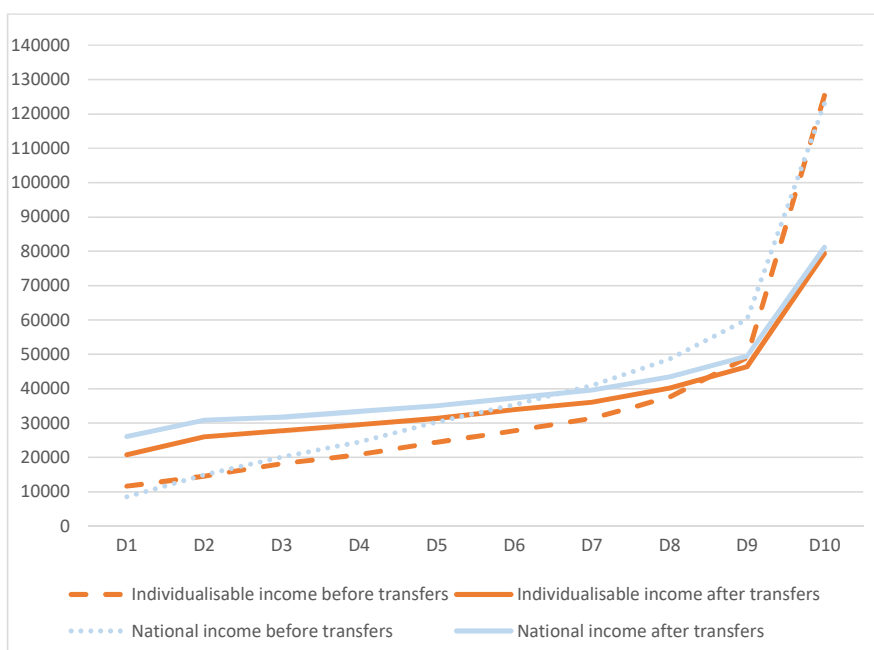
Sources: prototype distributed national accounts for 2016, authors' calculations.
Reading note: in 2016, the adjusted disposable income (individualizable income) of the poorest 10%
amounted to 20,700 euros per CU after transfers and 11,600 euros per CU before transfers.

In both cases, transfers that can be attributed to individuals are added to the usual approach. This is why we will alternatively describe income before and after transfers and redistribution as individualizable rather than adjusted. As can be seen in Figure 33, which applies these concepts to France, under our assumption of evenly distributed collective expenditure, this approach that is adjusted to individualizable transfers alone tends to significantly underestimate redistribution in the broadest sense of the term.

These three concepts ultimately define three "halos" of redistribution:

- the usual approach, centred around cash flows, taxes on income and wealth, contributions and cash benefits;

- The adjusted or individualizable approach, which, in addition to the above, also includes the transfers in kind received from individualizable public services (education, health and housing, etc.), minus taxes on products;

- the expanded approach, which adds collective public services and deducts taxes on production.

III.2.d. United States Table of Integrated Distributional Accounts

For the purposes of international comparisons and in application of the recommendations set out in this report, the working group made use of the American data from the *World Inequality Lab* to apply the distributed national accounts approach

to the DINA project data for the United States. The table in Figure 34 shows the table of integrated distributional accounts that is obtained in this manner for the United States and therefore a view of expanded redistribution established on the basis of terms comparable to those obtained for France.

The result is significantly greater primary inequality than is seen in France, where the richest people hold 30% of the income; the figure for the United States is half as high again (46%). The poorest 30% only receive 3.6% of primary income, compared with 10% in France.

As a result, due to monetary benefits that are not especially redistributive, redistribution primarily takes place *via* progressive income tax (12% of national income paid by the top three deciles, with 9.6% being paid by the top tenth) and through public services. Since these are less well developed than in France, income inequality after transfers remains very high: the richest 10% still hold 40% of the national wealth compared with 8.5% for the poorest 10%, which is a ratio of 1 to 15. In France, after transfers, the wealthiest 10% receive 20% of national income, compared with 6.4% for the poorest 10% (a ratio of 1 to 3).

Looking beyond this focus on the extremes, it is recommended to compare redistribution across the entire spectrum of living standards. For the purposes of harmonisation, an example of good practice is to present income distribution graphs in proportion to the average income. The following graphs, which have been calibrated in this manner, allow us to visualise the characteristics illustrated above by a few figures, of a US system in which inequality in disposable income, adjusted or expanded, is largely the result of massive primary inequality that is difficult to correct by means of redistribution, not because of its profile, but because of its inadequate level.

Figure 34: Simplified table of United States DNA, 2016 (US, DINA, provisory)

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
IBT: Income Before Transfer	0.4	1.5	2.3	3.2	4.5	6.0	8.1	10.8	15.4	47.8
TCP: Tax on Cons&Prod	-0.04	-0.08	-0.15	-0.22	-0.31	-0.43	-0.58	-0.80	-1.17	-3.95
TIW: Tax on Inc. and Wealth	-0.09	-0.03	-0.04	-0.09	-0.20	-0.41	-0.74	-1.25	-2.15	-9.61
TSC: Social Security Contributions	-0.07	-0.22	-0.44	-0.67	-1.07	-1.58	-2.27	-3.16	-4.44	-8.59
BCA: Social Security Benefits in Cash	0.34	0.93	0.97	0.94	1.00	1.34	1.80	2.47	3.83	9.82
IDI: Disposable Income	0.53	1.87	2.69	3.43	4.30	5.47	6.95	8.94	12.28	34.92
BKI: Social Security Benefits in Kind	0.94	1.29	1.28	1.15	1.02	1.07	1.15	1.21	1.40	2.79
BCO: Collective consumption	0.08	0.30	0.43	0.54	0.66	0.82	1.01	1.27	1.70	4.83
MIS: Balance of Transfers	-0.09	-0.27	0.20	0.43	0.43	0.29	0.25	0.17	-0.31	-4.65
IAT: After Transfer Income	1.48	3.40	4.53	5.29	5.99	7.14	8.71	10.74	14.27	38.46

Simplified Redistribution Accounts (USA, DINA, Provisory)

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Tax (T1+T2+T3)	0.20	0.33	0.63	0.98	1.58	2.42	3.59	5.21	7.77	22.15
Tax rate (% BTI)	49.0	22.2	27.5	30.6	35.4	40.1	44.4	48.1	50.4	46.3
Benefits (B1+B2+B3)	1.4	2.5	2.7	2.6	2.7	3.2	4.0	5.0	6.9	17.4
R: Net Redistribution	1.16	2.18	2.05	1.66	1.11	0.81	0.38	-0.26	-0.83	-4.70
R1: Social Insurance Redistribution	0.23	0.71	0.54	0.27	-0.06	-0.24	-0.47	-0.69	-0.61	1.23
R2&3: Public Services Redistribution	0.89	1.47	1.51	1.39	1.17	1.05	0.85	0.44	-0.22	-5.93

Sources: DINA US, authors' calculations.

Comparing the two distributions as a proportion of primary income within each tenth highlights the different redistribution profiles in the United States and France, the latter being focused on reducing very high incomes and the former aiming to increase the lowest incomes (Figure 35).

Figure 35: Pre-transfer and post-transfer distribution in France and the United States (2016)
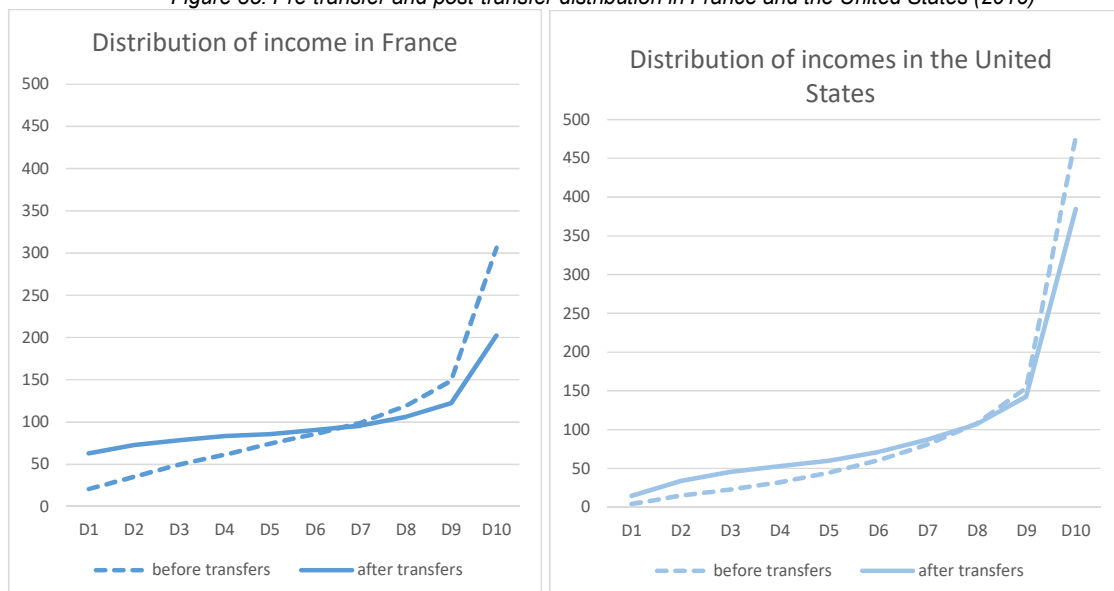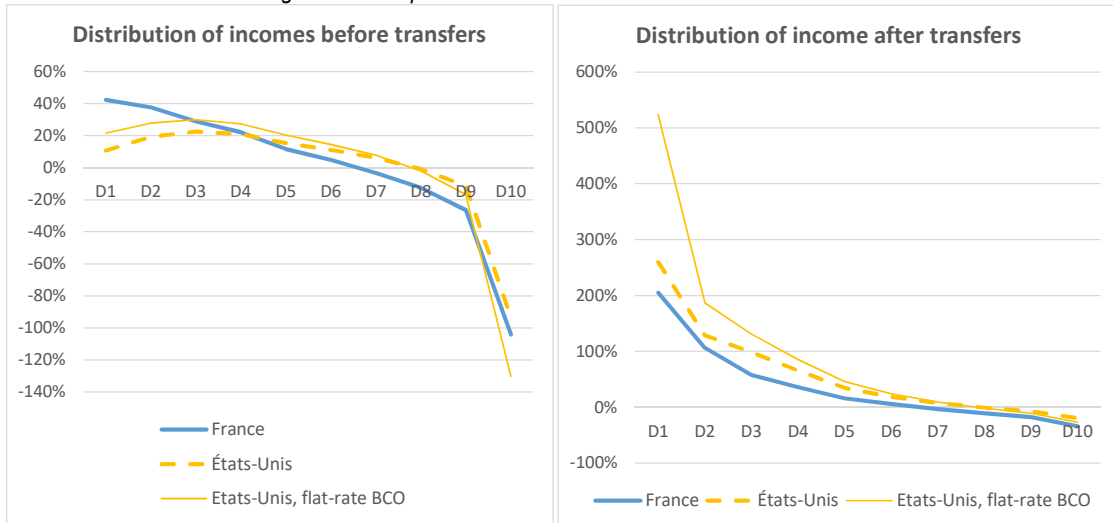

Sources: prototype distributed national accounts for 2016, DINA US 2016, authors' calculations.

The graph on the right-hand side of Figure 36 offers an apparently contradictory

observation. It displays redistribution as a share of income before transfers for both countries. The reason that these two profiles appear different is that the apparent transfer rates apply to very low primary incomes at the bottom end of the distribution for the United States (left-hand graph). The rates are therefore high, but do not correspond to high transfers.

Figure 36: Comparison of redistribution in France and the United States

Sources: prototype distributed national accounts for 2016, DINA US 2016, authors' calculations.

The comparison of inequality indicators before and after transfers on given primary incomes by varying the transfer system illustrates **Recommendation 15**, which aims to take account of the differences in the distribution of primary incomes.

The graph in Figure 36 also incorporates a variant associated with the distribution assumption for collective consumption expenditure by no longer considering it as having a neutral effect on redistribution, but by distributing it as a flat-rate amount for the reasons of universality mentioned above. The profile obtained is similar to what is seen in France, but with a higher net transfer paid out at the bottom end and a higher net deduction received at the top end. Taking account of this alternative profile for collective consumption expenditure increases the effect of transfers on reducing inequality in the United States by 5.8 Gini points (Figure 37).

The table in Figure 38 applies the uses recommended in this report in order to compare the redistributive nature of the two systems (see Section I.4.d). If we set the primary distribution of the United States as measured according to DNA conventions, according to all of the usual indicators, the reduction of inequality is greater when the French tax system is applied than that of the United States.

Figure 37: Impact of the collective expenditure profile on the breakdown of inequality

Distributional accounts	USA - Basic	USA - flat-rate BCO
IBT: Income Before Transfer	58.3%	58.3%
TCP: Tax on Cons&Prod	-0.2%	-0.2%
TIW: Tax on Inc. and Wealth	-2.3%	-2.3%
TSC: Social Security Contributions	0.6%	0.6%
BCA: Social Security Benefits in Cash	-2.1%	-2.1%
BKI: Social Security Benefits in Kind	-6.0%	-6.0%
BCO: Collective consumption	-1.0%	-6.8%
M: Balance of other transfers	-2.1%	-2.1%
IAT: Income After Transfer	45.1%	39.3%
Tax redistribution (TCP+TIW+TSC)	-2.0%	-2.0%
Benefits redistribution (BCA+BKI+BCO)	-9.1%	-14.9%
RDN: Net Redistribution	-13.2%	-19.0%

Sources: DINA US 2016, authors' calculations.

Likewise, by setting the French primary distribution, a greater reduction is seen in inequality after transfers when applying the French socio-fiscal system than when applying that of the United States for the Gini, Atkinson and QSR indicators; this is not the case for the Palma indicator.

Figure 38: Before and after comparison of inequality indicators for France and the United States

	French primary income		US primary income	
	French system	US system	French system	US system
Gini	0.206	0.190	0.206	0.190
Atkinson	0.310	0.269	0.468	0.413
QSR	0.296	0.218	0.167	0.111
Palma	0.232	0.252	0.098	0.091

Sources: DINA US 2016, authors' calculations.