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Working Party on National Accounts

COMPARING MACRO- AND MICRO ESTIMATES OF HOUSEHOLD DISPOSABLE INCOME

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Beginning at 9:00 a.m. on the first day

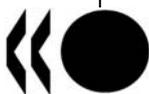
This work has been carried out by the OECD in support of the activities of the Commission on the measurement of economic performance and social progress. Delegates are invited to comment, in particular on the comparison of national accounts and household survey income measures.

This document will be presented under item 5 of the draft agenda

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COMPARING MACRO- AND MICRO ESTIMATES OF HOUSEHOLD DISPOSABLE INCOME¹

Introduction

1. One of the issues discussed by the Stiglitz Commission (*Commission on the Measurement of Economic Performance and Social Progress*) is the importance of broadening the standard framework of economic accounts to incorporate distributional concerns. Such a step would allow considering jointly both “growth” and “inequality” as factors shaping the well-being of society; it will also help to fill the gap between macro-economic estimates for a country as a whole and people’ experience of their own conditions. While much information is available on the distribution of household income, the methodological assumptions underlying these studies differ from those used under the standard national account framework. These approaches have a rationale in the different perspectives and uses of these data, but they are sub-optimal in other respects. For example, growth in total household income may differ between the two sources and this even after accounting for differences in concepts between the two.

2. This note first present evidence on the evolution of macro and micro estimates of household disposable income, and identifies some of the elements affecting their evolution. The note then discusses one such element, i.e. the conceptual differences between the scope and definition of household disposable income in the System of National Accounts (SNA) and in household surveys. To this end, it presents some preliminary estimates of the size of different income aggregate between these two sources.

Evolution of macro and micro estimates of household income

3. This section compares the growth rates of various measures of *household disposable income* based on the SNA and household surveys for Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. Data are drawn from the OECD SNA database and on standard tabulations on the distribution of household income that are provided to the Secretariat by a network of national consultants.² Comparisons are based on the standard income measure from each source, i.e. without attempting to reconcile them (which is the goal of the next section). Results, for each of these six countries, are shown in Tables and Figures 1 to 7. For each country, the table (on the top of each page) presents information on the annual growth rate of various income aggregates and of elements that affect their evolution, while the figure (at the bottom of each page) presents trends in various aggregates. Series in the figures are indexed to the value prevailing in either 1984 or 1985, and refer to a period covering around 20 years (to 2005 for Canada, France, the United Kingdom and the United States; to 2004 for Germany and Italy; and to 2003 for Japan). Solid lines describe SNA series, and dotted lines those based on household surveys. While annual data are available from the SNA, micro-estimates are available for discrete data-points (denoted by markers in the figure) and are interpolated linearly across these observations.

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² These tabulations are based on a number of common assumptions to facilitate cross-country comparisons. For more information on the nature of these data, see OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries*, forthcoming, OECD, Paris.

4. Macro- and micro-estimates of household disposable income differ in a number of respects. Beyond the difference in what is actually counted as income in the two sources (the subject of the next session) the most important are as follows:

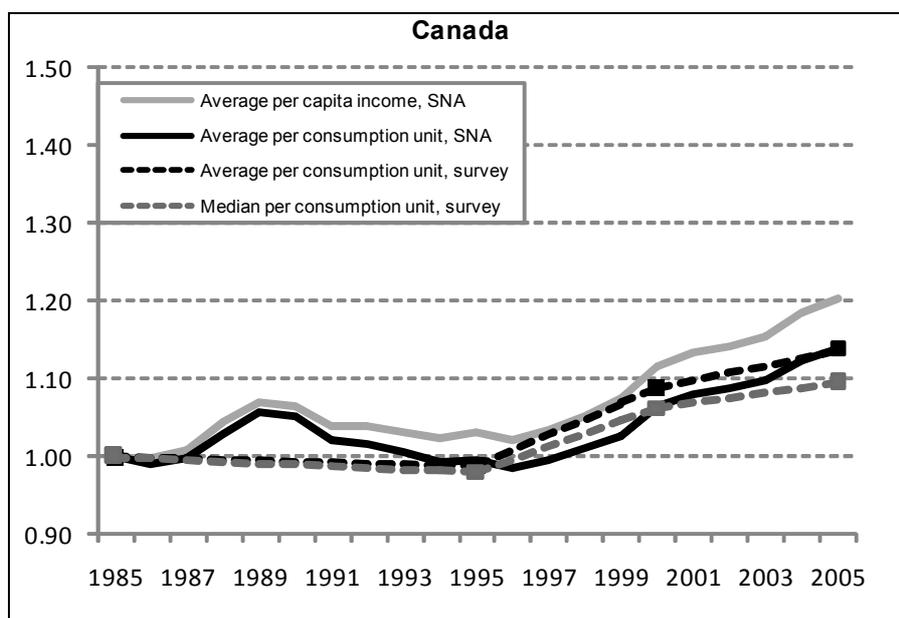
- Macro measures of household income from the SNA refer to totals that lend themselves to be expressed on a per capita basis. These measures refer to all the resident population, with income flows summed across individuals irrespectively of how they pool and share their resources with other members of their household. The monetary values of these income flows are expressed in volume terms by dividing current price values by the deflator for private consumption expenditure. SNA measures of household income are generally based on information from a broad range of sources (often including household surveys and administrative records) but they may be affected by measurement discrepancies between accounts for various institutional sectors and by the procedures followed to assure the consistency of these accounts.
- Micro-estimates of household income refer to people living in private households (i.e. excluding those living in institutions such as military barracks and institutes for long-term care). When these micro-estimates are based on household surveys (which is the case for most OECD countries except the Nordic), they also exclude people without a permanent address, as well as those living in remote and sparsely populated areas or in overseas territories, and are affected by various types of measurement errors. One of the main advantage of micro-data is that these income flows take into account how people pool their income within families or households, i.e. individuals are attributed the same income as all other members of the same household, after adjustment for differences in needs. In other terms, income is “equivalised”, i.e. it refers to consumption units rather than per capita.³ To get information on real (i.e volume) flows, these monetary values are generally adjusted for changes in the (fixed weights) CPI index, rather than on the deflator for final private consumption. Last, and most importantly, these micro-estimates of household income allow computing measures for people at different points of the distribution, i.e. not just country-averages but also measures for the median person or for all those below (or above) a given threshold.

³ The micro-data presented in this section are all based on the “square root elasticity”, which implies that the needs of a household composed of four people are twice as large as those of a single (1.4 and 1.7 times those of a single in the case of a childless couple and of a couple with one child).

Table 1. Growth in macro- and micro estimates of household disposable income, Canada

Canada (1985-2005)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	2.65%
Deflator, Private Consumption (PCP)	2.41%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	4.45%
Real Household Disposable Income (PCP deflator)	2.04%
Population	1.12%
Number of Households	1.65%
Number of Consumption Units	1.91%
Real Household Disposable Income per capita (PCP deflator)	0.92%
Real Household Disposable Income per consumption unit (PCP deflator)	0.13%
Household Survey	
Average Real Household Disposable Income per consumption unit	0.89%
Median Real Household Disposable Income per consumption unit	0.70%
Average Real Household Disposable Income of first 8 deciles per consumption unit	0.69%

Figure 1. Trends in different measures of household disposable income, Canada

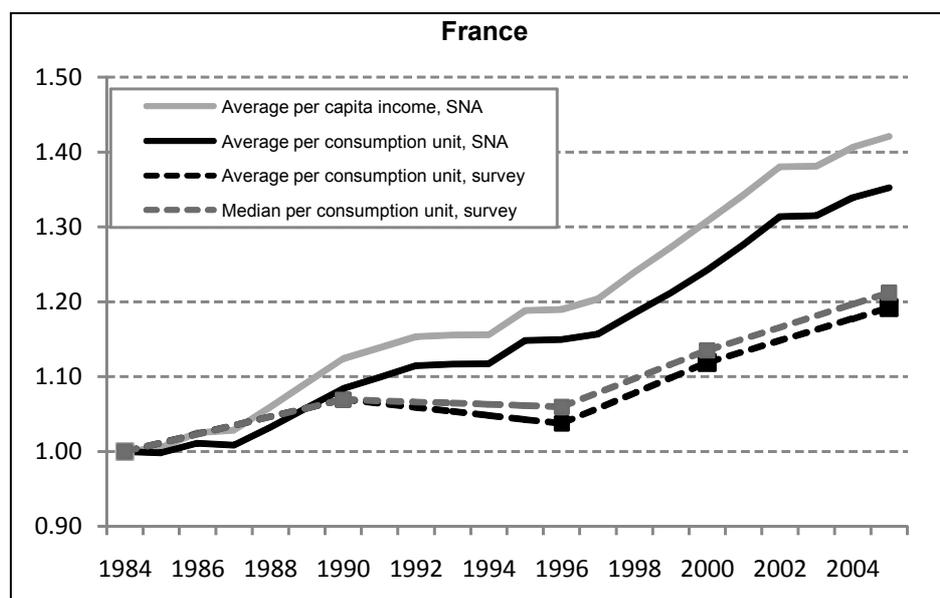


Source: Computations based on OECD SNA and income distribution data.

Table 2. Growth in macro- and micro estimates of household disposable income, France

France (1984-2005)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	2.24%
Deflator, Private Consumption (PCP)	2.04%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	4.23%
Real Household Disposable Income (PCP deflator)	2.19%
Population	0.52%
Number of Households	1.05%
Number of Consumption Units	0.75%
Real Household Disposable Income per capita (PCP deflator)	1.67%
Real Household Disposable Income per consumption unit (PCP deflator)	1.44%
Household Survey	
Average Real Household Disposable Income per consumption unit	1.04%
Median Real Household Disposable Income per consumption unit	1.12%
Average Real Household Disposable Income of first 8 deciles per consumption unit	1.14%

Figure 2. Trends in different measures of household disposable income, France

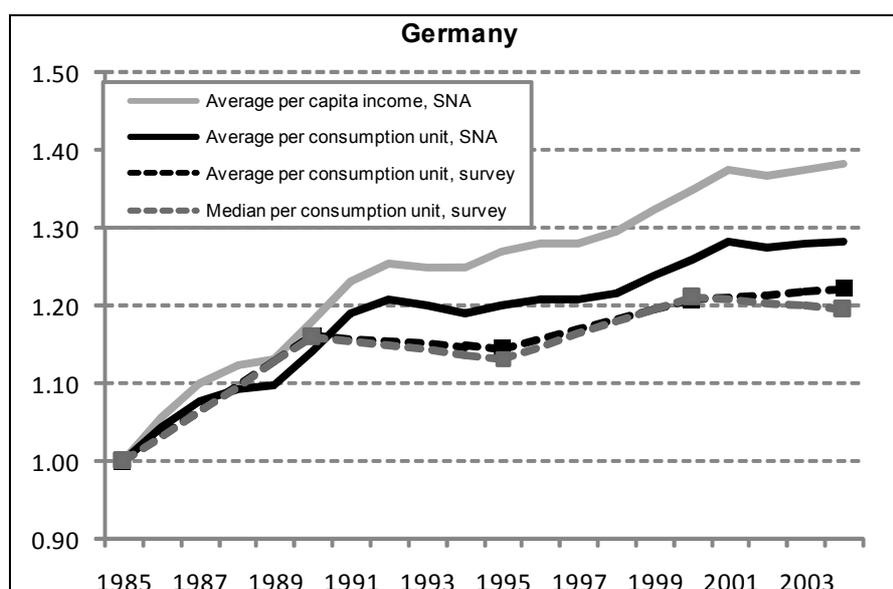


Source: Computations based on OECD SNA and income distribution data.

Table 3. Growth in macro- and micro estimates of household disposable income, Germany

Germany (1985-2004)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	1.93%
Deflator, Private Consumption (PCP)	1.63%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	3.65%
Real Household Disposable Income (PCP deflator)	2.02%
Population	0.32%
Number of Households	0.94%
Number of Consumption Units	0.72%
Real Household Disposable Income per capita (PCP deflator)	1.71%
Real Household Disposable Income per consumption unit (PCP deflator)	1.31%
Household Survey	
Average Real Household Disposable Income per consumption unit	1.36%
Median Real Household Disposable Income per consumption unit	1.24%
Average Real Household Disposable Income of first 8 deciles per consumption unit	1.14%

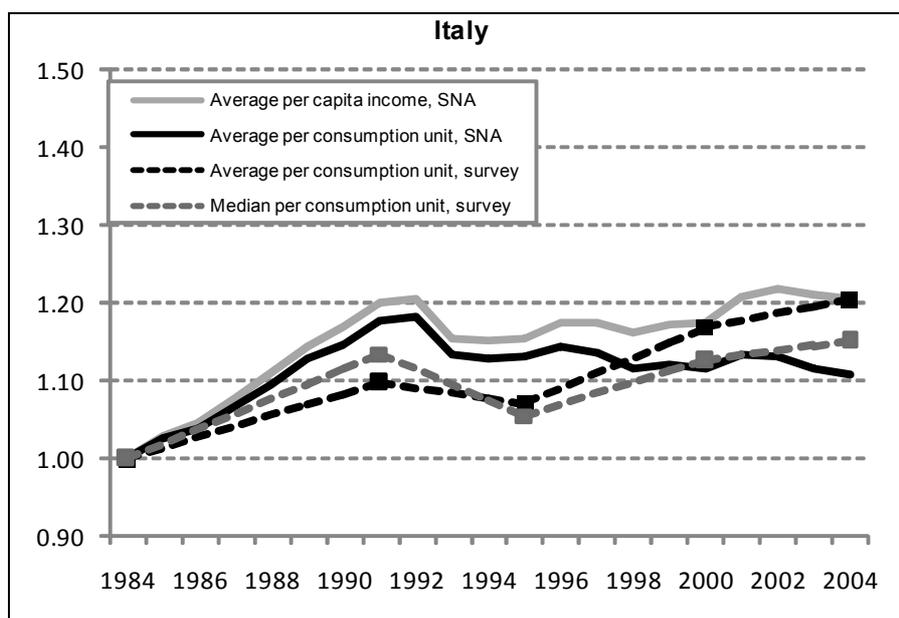
Figure 3. Trends in different measures of household disposable income, Germany



Source: Computations based on OECD SNA and income distribution data.

Table 4. Growth in macro- and micro estimates of household disposable income, Italy

Italy (1984-2004)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	4.16%
Deflator, Private Consumption (PCP)	4.49%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	5.56%
Real Household Disposable Income (PCP deflator)	1.07%
Population	0.14%
Number of Households	0.94%
Number of Consumption Units	0.56%
Real Household Disposable Income per capita (PCP deflator)	0.94%
Real Household Disposable Income per consumption unit (PCP deflator)	0.52%
Household Survey	
Average Real Household Disposable Income per consumption unit	0.60%
Median Real Household Disposable Income per consumption unit	0.38%
Average Real Household Disposable Income of first 8 deciles per consumption unit	0.31%

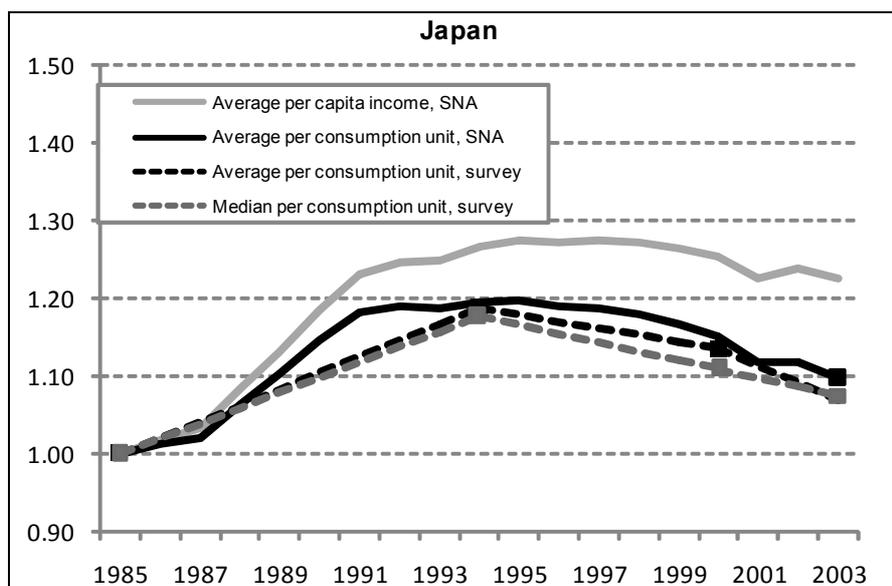
Figure 4. Trends in different measures of household disposable income, Italy

Source: Computations based on OECD SNA and income distribution data.

Table 5. Growth in macro- and micro estimates of household disposable income, Japan

Japan (1985-2003)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	0.72%
Deflator, Private Consumption (PCP)	0.50%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	1.94%
Real Household Disposable Income (PCP deflator)	1.44%
Population	0.31%
Number of Households	1.55%
Number of Consumption Units	0.93%
Real Household Disposable Income per capita (PCP deflator)	1.13%
Real Household Disposable Income per consumption unit (PCP deflator)	0.51%
Household Survey	
Average Real Household Disposable Income per consumption unit	0.59%
Median Real Household Disposable Income per consumption unit	0.62%
Average Real Household Disposable Income of first 8 deciles per consumption unit	0.54%

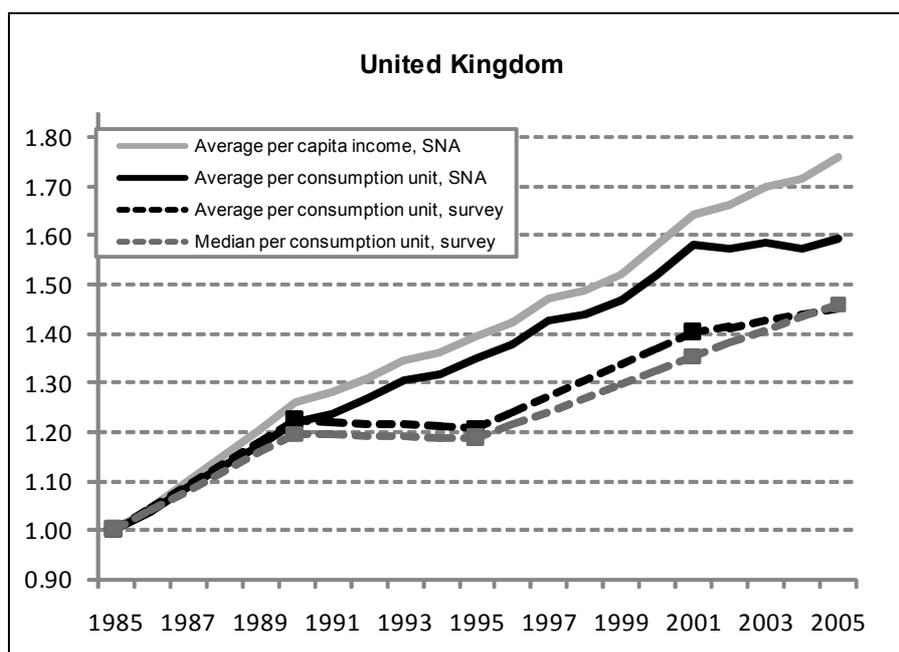
Figure 5. Trends in different measures of household disposable income, Japan



Source: Computations based on OECD SNA and income distribution data.

Table 6. Growth in macro- and micro estimates of household disposable income, the United Kingdom

United Kingdom (1985-2005)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	2.84%
Deflator, Private Consumption (PCP)	3.37%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	6.50%
Real Household Disposable Income (PCP deflator)	3.13%
Population	0.31%
Number of Households	1.31%
Number of Consumption Units	0.81%
Real Household Disposable Income per capita (PCP deflator)	2.82%
Real Household Disposable Income per consumption unit (PCP deflator)	2.32%
Household Survey	
Average Real Household Disposable Income per consumption unit	1.34%
Median Real Household Disposable Income per consumption unit	1.36%
Average Real Household Disposable Income of first 8 deciles per consumption unit	1.32%

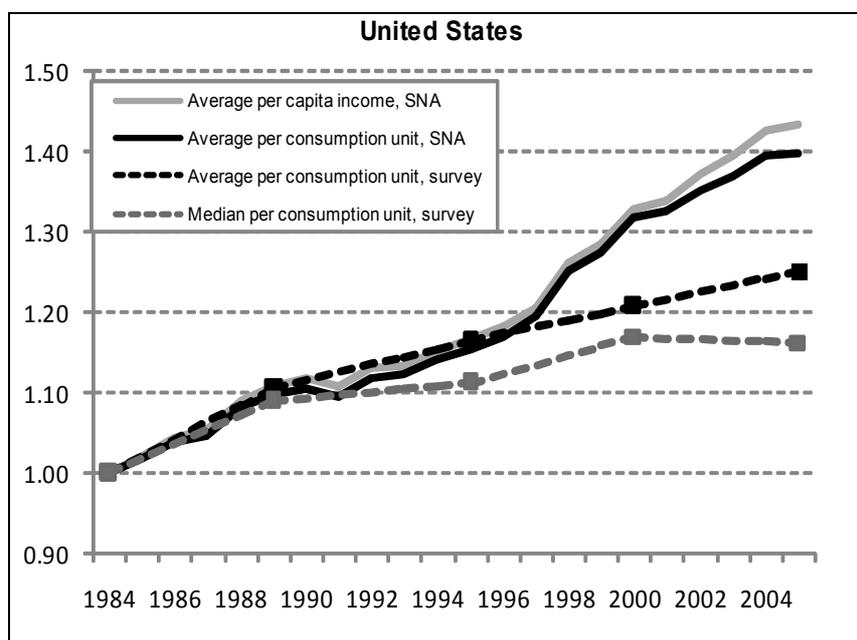
Figure 6. Trends in different measures of household disposable income, the United Kingdom

Source: Computations based on OECD SNA and income distribution data.

Table 7. Growth in macro- and micro estimates of household disposable income, the United States

United States (1984-2005)	Average Annual Rates of Change
Consumer Prices	
Consumer Price Index (CPI)	3.01%
Deflator, Private Consumption (PCP)	2.59%
Household Disposable Income	
SNA	
Household Disposable Income (Current Prices)	5.38%
Real Household Disposable Income (PCP deflator)	2.80%
Population	1.08%
Number of Households	1.31%
Number of Consumption Units	1.20%
Real Household Disposable Income per capita (PCP deflator)	1.72%
Real Household Disposable Income per consumption unit (PCP deflator)	1.59%
Household Survey	
Average Real Household Disposable Income per consumption unit	1.49%
Median Real Household Disposable Income per consumption unit	1.14%
Average Real Household Disposable Income of first 8 deciles per consumption unit	1.16%

Figure 7. Trends in different measures of household disposable income, the United States



Source: Computations based on OECD SNA and income distribution data.

5. The tables and figures below highlight a number of differences in how various measures of household disposable income have evolved since the mid-1980s.

- SNA measures of real household disposable income per capita show annual growth rates between 0.92% in Canada and 2.82% in the United Kingdom. However, over this period, all OECD countries have experienced a decline in household size, hence an increase in the number of consumption units that exceeds that of the total population. As a result, all countries shown have recorded an increase in SNA measures of household disposable income per consumption unit below that recorded by the per capita measures, with the gap between the two exceeding 0.4 points per year in Canada, Germany, Italy, Japan and the United Kingdom.⁴
- SNA measures of the growth in real household disposable income per consumption unit are quite close to the micro-bases estimates for the same aggregate in the case of Germany, Italy and Japan, but significantly different for other countries. Beyond differences in the pace of nominal growth of total household disposable income between macro- and micro-sources, these differences may reflect a number of factors. A first relates to the way in which the “equivalisation” is operated in the two cases: SNA data are first summed across individuals and then equivalised based on a common measure of average household size, while survey data are first equivalised at the individual level and then summed up at the country-level: the two approaches will generally lead to different numerical results. A second factor bearing on the comparisons of the real growth of household income per consumption unit between SNA and surveys relate to the use of different prices indexes to deflate nominal values: the annual growth rate of the CPI exceeds that of the deflator for private consumption in all countries except Italy and the United Kingdom, with differences between the two exceeding 0.3 points per year in Germany, Italy, the United Kingdom and the United States.
- Micro-estimates of household income allow looking at income gains for people at different points in the distribution. Figures 1 to 7 plot, alongside trends in average income per consumption unit, the real growth for median income, while Table 1 to 7 also show the real growth of people in the first eight deciles of the distribution. In all countries except France, Japan and the United Kingdom median income increased in real terms at a lower rate than that recorded by average income, with the difference between the two exceeding 0.3 points per year in the United States. Real income growth for people in the first eight deciles also lagged that of average income in all countries except France. Differences in the pace of income growth for people at various points in the distribution are sometimes more significant when considering other time-periods or other groups of the population.⁵

⁴ Household disposable income per consumption unit (SNA-based) is measured by first computing average disposable income per household and then dividing this amount by the square root of average household size; estimates of both the number of private households and average household size are drawn from the OECD income distribution tabulations.

⁵ In the United Kingdom, for example, median income in real terms increased by $\frac{1}{4}$ less than the average from the mid-1970s to the mid 1990s, while this was reversed in the following decade. In Japan, where average and median income increased at similar paces over the period since 1985, the real income growth for people in the first quintile of the distribution is only $\frac{1}{3}$ of that recorded by people in the top quintile.

Differences in scope between macro and micro-estimates of household income

Conceptual and methodological differences

6. The previous section has highlighted some significant differences in the evolution of macro- and micro-estimates of household disposable income. These differences underscore the importance of better understanding (and quantifying) the importance of the several conceptual and methodological differences in how household income is definition in the two sources. Reconciling macro and micro estimates of household income has the potential to deliver benefits for both sources. From the perspective of the national accounts, such reconciliation opens the way to the construction of a household appropriation account for detailed categories, which would allow moving beyond statistics on total income to reflect the conditions of more homogenous groups (e.g. by individual and household characteristics) in society. From the perspective of the micro data, national accounts estimates provide a natural “benchmark” to assess both the scope and quality of the information provided. Several studies have recently looked at the relation between micro and macro estimates of household disposable income, sometimes in the context of analyses aimed at constructing household appropriation accounts for different categories of households. These analyses, however, typically follow different approaches and develop accounts for different typologies of households (Box 1). Greater consistency could be achieved through a comparative exercise.

7. Micro estimates of household disposable income and of its components (in most cases based on surveys, sometimes integrated with administrative records and microsimulation models) and macro measures of the same aggregates differ in a number of respects, some of which have been mentioned in the previous section. A preliminary step to reconcile information from these two sources is to identify the most salient conceptual differences. These include the following:

- Micro estimates of household income exclude people living in institutions as well as non-profit institutions serving households. Conversely, both of these are covered in the SNA.⁶ Correcting for this difference in population coverage requires identifying, within the SNA, the income flows that can be attributed to non-private households, and then deducting them from SNA aggregates to obtain magnitudes that are conceptually similar to those used in surveys.
- Micro estimates of household income are generally limited to those income flows that are received by households on a regular basis, i.e. excluding those irregular flows that are instead covered in the SNA. Correcting for this difference requires identifying, within the national accounts, those components of household income that are received irregularly (such as bonuses), so as to exclude them from SNA aggregate prior to any comparisons with survey aggregates.
- Household surveys generally refer to income received in cash or quasi-cash. As in the previous two cases, comparing estimates of household income from the two sources requires identifying those imputed flows that are part of the SNA statistics for the household sector. These imputed income flows include the agricultural goods produced for own consumption (which are important in countries with a large subsistence-agriculture, e.g. Mexico) and several types of capital income such as imputed rents from own-occupied housing and imputed income from different types of insurance policies, which are often (but not always) excluded from surveys.

⁶ Only few OECD countries seem to identify the income flows pertaining to non-profit institutions serving households.

Box 1. Evidence from national studies comparing micro and macro statistics on household disposable income

Several studies have analysed differences between National accounts and survey measures of household disposable income and its components for individual countries.

Australia. Siminski et al. (2003) estimate differences between household income and its components from the SNA and those derived from the Survey of Income and Housing Costs (SIHC), the Income Distribution Surveys (IDS) and the Household Expenditure Surveys (HES)⁷ from 1975-1976 to 1997-1998. To allow a consistent comparison between survey and SNA data adjustments are made to population size and structure and to various components of household income and composition. Unadjusted data from SIHC and the SNA in 1997-98 show large discrepancies between disposable income and its components, with a ratio gross income between the two sources of 64%; after adjusting for differences in scope and definition this ratio increases to 89%. The study also highlights some more significant differences for other surveys and years. As the extent of under-reporting in surveys changes over time, this has the potential to affect temporal comparisons drawn from survey data.

France. Preliminary estimates of an accounting system for households-subcategories are described by Fesseau et al (2008).⁸ These estimates refer to the year 2003 and are based on SNA and survey information. Data on income and consumption is presented for subcategories of households classified by income-level, social status, age of the family's head and type of the family. Various imputations and assumptions are used to allocate across household income items that are not covered in the surveys. Survey data are adjusted for imputed rents of owner-occupied dwellings, consumption loans, property income received, VAT fraud, tax evasion and output of the hidden economy. To correct for persistent discrepancies, all surveys components are adjusted to improve harmonization between surveys and national accounts items. After all the adjustments the coverage of the wages and salaries component is 90%, the self-employment income component in the survey is around 80% the SNA value and the ratio of surveys to National accounts for the operating surplus and mixed income is more that 80%.

Finland. Kavonius et al (2008) analyse the discrepancies between the Income Distribution Survey for the year 2000 with those on primary income from the National Accounts. The two sources differ because of different definitions, population coverage and measurement errors.⁹ Without any adjustment wages and salaries in the survey seem to cover about 99.5% of the SNA component. This small difference is explained by measurement errors in sub-components and sampling error and after other adjustments concerning these elements the consistency of the two sources is almost perfect. The entrepreneurial income results to be the most challenging component in the reconciling process, the ratio for the unadjusted self-employment income is around 52% and after some corrections for classifications and definitions, the difference appears to be smaller. Mostly discrepancies in property income are due to differences in sub-components (a great part can be explained by capital gains that are not computed as income in National accounts) and after some adjustments the ratio of the IDS to the SNA is 91.5%.

Germany. Braakmann et al. (2008) show that the *Household Budget Survey* is a useful source of information on household income and consumption for the national accounts.¹⁰ The reliability of survey results, despite the exclusion of persons living in institutions and households with high income, is explained by the large sample size the large number of checks carried out in the processing stage. The ratio of survey to national accounts data for wages and salaries was around 94% in 2003 but only 30% for self-employment income and 49% for property income. These larger discrepancies are attributed to methodological difficulties in the coverage of entrepreneurial and property

⁷ Siminski P., Saunders P., Waseem S., Bradbury B. (2003), "Assessing the quality and inter-temporal comparability of ABS Household Income Distribution Survey Data", Social Policy Research (SPRC), Discussion Paper No. 123.

⁸ Fesseau M, E. Reynauld, S. Le Laidier and J. Bournay (2008), "Building a 'household sub-categories accounting system' using French Micro and Macro Statistics", paper prepared for the 30th general conference of the International Association for Research in Income and Wealth, Portoroz, Slovenia, August 24-30.

⁹ Kavonius I. K. and V-M. Törmälehto (2008), "Contrasting factor income of the Income Distribution Surveys to National Accounts primary income in Finland", paper prepared for the 27th general conference of the International Association for Research in Income and Wealth, Djurhamn, Sweden, August 18-24.

¹⁰ Braakmann A., J. Schmidt and N. Schwarz (2008), "The relevance of the German Household Budget Survey for National Accounts", paper prepared for the 30th general conference of the International Association for Research in Income and Wealth, Portoroz, Slovenia, August 24-30.

income, misinterpretations of certain questionnaire items, and the difficulties to cover self-employment income in surveys.

Italy. Coli and Tartamella (2008) describe how to reconcile SNA data on income and consumption with data from various household surveys.¹¹ Differences between SNA and micro data from the Bank of Italy “Survey on Household Income and Wealth (SHIW)” and EU-SILC reflect differences in household definitions, income components and surveys underestimate due to selection bias and underreporting of certain types of income. For disposable income the ratio of the surveys to the National accounts is 64% using SHIW and around 86% using EU-SILC. Both surveys underestimate wages and salaries component, the ratio between survey and National accounts is 84% for SHIW and 97% for EU-SILC. With respect to self-employment income a part of discrepancy is explained mostly by different classification of actual and imputed rents; this component in EU-SILC is around 58% the National account value and around 83% in SHIW. Underestimation of property income is similar in both surveys and is due to selection bias and difficulties in sampling wealthy households. An older study by Brandolini (1999)¹² compared SNA and survey estimates of household income based on both ISTAT “Survey of Household Budgets” (SHB) from 1980 to 1996 and SHIW from 1970 to 1995. The ratio of SHB and SNA measures of household disposable income 67% in 1996, and 75% when excluding from the SNA irregular sources of income (net interest received and dividends). The ratio of SHIW and SNA measures is between 50% and 60% for self-employment income and capita income, but smaller for wages and salaries as well as for rents.

8. Beyond these differences in definitions, other factors affect the measurement of individual income components in the two sources. For example, the SNA includes social security contributions paid by firms in both the “compensation of employees” received by households and in the taxes they pay, while survey measures of “gross earnings” are reported net of these contributions. Similarly, survey measures of “net” capital income received by households include flows that are classified in the SNA as payments for intermediation services (FISIM). A further difference is the unit of measurement. As noted above, the SNA gives totals for the country as a whole, while micro data retain the household (or the family) as unit within which resources are pooled and shared, and adjust income for differences in needs. Incorporating distributional concerns within the framework of economic accounts requires bridging the gap between these different units of measurement and between “equivalised” and “non-equivalised” income values.

9. Other elements affecting comparisons between the two sources may stem not from different in concepts but rather from more specific conventions used in the treatment of survey data.

- Several analysis of survey data rely on a breakdown of disposable income by sources that differs from the one conventionally used in the SNA. In the latter, household income is expressed as the sum of compensation of employees, self-employment income, capital income and net current transfers received by households, less the taxes paid by them (income and wealth taxes, as well as social security contributions paid by workers and firms). Analyses based on survey data sometimes rely on a different breakdown. For example, the OECD tabulations on income distribution used above distinguish, within the category of “current transfers” received by households, those paid by general government in order to derive a more direct measure of government redistribution, with net transfers received from other sources included with other types of capital income. This requires special reclassifications before comparing the two sources.
- A final element may be due to the treatment of non-responses and other records that are excluded from micro-data analysis. While survey data are generally “grossed-up” to match totals for the entire population, the weights used for this may be adjusted in different ways in the event of non-responses. Similarly, the exclusion of some survey-records from the analysis (e.g. because of

¹¹ Coli A. and Tartamella F. (2008), “Income and Consumption Expenditure by Households Groups in National Accounts”, paper prepared for the 30th general conference of the International Association for Research in Income and Wealth, Portoroz, Slovenia, August 24-30.

¹² Brandolini A. (1999), “The distribution of personal income in post-war Italy: source description, data quality and the pattern of income inequality”, *Giornale degli economist e Annali di economia*, 58, pp.182-239.

incomplete information on some demographic characteristics) will also affect how survey totals for household income compare with their SNA analogues. Finally, different conventions used for treating negative values of total income or of some of its components in household surveys will also affect comparisons between aggregates from the two sources.

Some preliminary estimates

10. This section presents some macro and micro estimates of household disposable income and of its components. Survey data are those provided to the OECD by a network of national consultants for describing trend in income inequality used above. SNA aggregates are drawn from OECD databases, integrated with additional SNA data obtained from member countries. Comparisons are limited to the most recent year available in the surveys (i.e. 2004 or 2005) but extend to a broader range of countries than those considered so far. For some European countries, household survey data are based on two sources: EU-SILC and national surveys conventionally used to analyse trends in income distribution.

11. Table 8 presents the results of this comparison. More detailed comparisons, for each income component, are provided in Annex 1. At first sight, the message from Table 8 is reassuring. On average, across all countries included, household disposable income and most of its components match quite closely the corresponding amounts in the SNA, after having adjusting the latter for some of the most obvious conceptual differences between the two sources. On closer inspection, however, there are several inconsistencies.

- Micro estimates of household disposable income (in the last column) are very close to SNA values for Australia, Canada, Finland, Greece, Norway and the United States. Survey measures exceed the SNA values in a few countries (especially in France and the Netherlands) while they are much lower for Japan and, to a lesser extent, for Italy and Spain. These differences for total household income mainly reflect those recorded for gross earnings (second column). For those European countries where data from EU-SILC are also available, these are quite close to SNA data in Germany and the United Kingdom, but between 20 and 25% higher in France, Italy and Spain, and around 50% higher in Finland and Norway. EU-SILC values for household disposable income typically exceed those from national surveys.
- There are much larger differences for self-employment and capital income. Survey measures of self-employment income are generally well below the corresponding SNA aggregates (third column), but much higher in the case of Korea. Large differences also occur for capital income (fourth column), with Australia, Germany and United States recording negative SNA values for capital income after excluding imputed flows and including net private transfers (to conform to the survey classification used here).
- Differences are also significant when looking at income flows between households and the general government. Survey measures of public transfers to households exceed SNA aggregates by a large margin in Japan and Canada (possibly reflecting inclusion of public transfers to non-profit institutions serving households), while the opposite occurs in the United States. The large difference recorded in Finland probably reflects the inclusion of mandatory occupational pensions managed by public social security in the survey measure of capital income. Discrepancies are smaller for household taxes (with the exception of Greece).

Table 8 Comparison between of micro and macro estimate of household disposable income based on the survey records used by the OECD for its comparative analyses on income distribution

		Ratio (Survey/SNA)						
		Mixed income				Public transfers	Household taxes	Household disposable income
		Earnings	Self-employment income	Capital income	Total			
Australia	2003/04 SIH	0.92	0.40	-0.62	5.62	0.65	0.74	1.08
Belgium	2004 EU-SILC	1.01	0.60	0.33	0.48	0.91	0.89	0.86
Canada	2005 SLID	0.93	0.73	1.05	0.91	1.48	0.91	0.99
Finland	2004 IDS	0.98	0.60	1.32	1.07	0.92	0.89	1.04
	2004 EU-SILC	1.59	1.03	0.68	0.81	3.00	1.68	1.50
France	2004 IDS	1.33	0.67	0.60	0.64	1.15	1.09	1.18
	2004 EU-SILC	1.38	0.80	0.64	1.28	1.24	1.23	1.23
Germany	2004 GESP	1.06	0.33	-6.14	0.59	0.79	1.16	0.82
	2004 EU-SILC	1.30	0.48	-4.74	0.69	1.22	1.47	1.06
Greece	2004 EU-SILC	1.23	0.54	1.07	0.59	1.04	0.21	0.99
Italy	2004, SHIW/ISTAT	0.93	0.64	0.13	0.50	0.84	0.98	0.69
	2004 EU-SILC	1.33	0.71	0.35	0.62	1.30	..	1.25
Japan	2003 CSLC	0.60	0.55	1.34	0.69	0.54	0.59	0.60
Korea	2006 HIES	0.88	5.27	4.24	4.95	0.22	0.60	1.11
Netherlands	2004 IPS	1.04	0.44	3.29	0.99	0.84	0.62	1.17
Norway	2004 IDS	1.04	0.92	3.10	1.70	0.72	0.97	1.05
	2004 EU-SILC	1.71	1.21	3.81	2.15	1.24	1.87	1.55
Spain	2004 EU-SILC	0.71	0.19	1.02	0.23	0.80	..	0.69
United Kingdom	2004 EU-SILC	1.01	0.91	0.64	0.82	0.94	1.18	0.89
United States	2005, CPS	0.98	0.17	-0.87	0.71	0.41	0.66	0.89
Average		0.98	0.86	0.70	1.37	0.82	0.82	0.94

Note. Survey measure of household income and its components are communicated by national consultants. For some European countries, survey data are based on both EU-SILC and on national surveys. These survey values are computed by national consultants, as part of the tabulations on income distributions provided to the OECD. SNA measures are based on OECD sources integrated with national data. The following adjustments to the original SNA data have been used: i) earnings are defined as the difference between compensation of employees and social security contributions paid by firms; ii) self-employment income is defined as the sum of gross mixed income and the withdrawals from the income of quasi-corporations; iii) capital income is here defined as the sum of capital income (i.e. property income received by households less property income paid by them, less withdrawals from quasi-corporations) net of imputed items (i.e. less non life-insurance claims received and property income attributed to insurance policy holders) plus net private current transfers received by households (i.e. other current transfers received by households less other transfers paid by them, plus social benefits other than social transfers in kind paid by non-government agencies); iv) public transfers are defined as the social contribution and benefits other than in kind paid by government to households; v) household taxes are defined as the sum of the taxes on income and wealth paid by households and the social security contributions paid by workers. In the case of France and Italy, where survey measures exclude social security contributions paid by workers, these have been deducted from earnings. Capital income is defined net of FISIM paid by households. In the case of countries where two set of survey data are available, the "average value" shown in the last row is based on the first series.

Source: Computation based on SNA and survey data, as provided by national consultants.

12. The determinants of these differences between macro and micro estimates of household income are not well understood. They may reflect limits in the re-classification of SNA items used here; the use of special filters by national consultants when preparing tabulations for the OECD based on micro-data (e.g. exclusion of some survey records where the information provided is incomplete, treatment of negative income); or under-reporting in the household surveys used here. Differences between survey and SNA measures of household income are even larger for other OECD countries not included in Table 8.

Conclusion

13. Better understanding the nature of the differences between micro and macro estimates of household disposable income is a necessary step to incorporate distributive concerns into standard economic statistics. Such reconciliation could pave the way towards producing a household appropriation accounts for more homogenous groups of the population. These more detailed accounts would allow comparing levels and trends in disposable income for people with different characteristics (by age, socio-economic status of the household head, family types or income groupings) and they could be then extended (incrementally) to other types of economic resources (such as public services and assets) and economic activities (such as consumption). The Secretariat intends to pursue its efforts to better understand the nature of these differences as a necessary first step in the construction of a more detailed household account.

14. Delegates are invited to:

- Identify the most salient differences in definitions and methodologies that should be taken into account in order to reconcile these SNA and survey estimates of household income.
- Provide views on possible directions for this work.

ANNEX 1. HOUSEHOLD DISPOSABLE INCOME IN THE SNA AND IN HOUSEHOLD SURVEYS

15. This Annex compares in greater detail the values of household disposable income from SNA and household surveys using data from France, Italy, Germany, Japan, United Kingdom, and United States. The tables below show the breakdown of the components of household disposable income and the corresponding amounts (in current prices) from the two sources. For each country, values in the first column are those available in OECD SNA database, while those in the second column are survey records for the same year, as drawn from EU-SILC for European countries, from the March Supplement to the Current Population Survey for the United States, and from the Comprehensive Survey on Living Conditions for Japan. All the tables describe the different adjustments that are made to the SNA aggregates to derive amounts that could be compared to those available from household surveys, after having “corrected” for the most salient conceptual differences between the two sources. For each income components, the third column shows the simple ratio between the survey data and the corresponding amount computed from the SNA.

Table A.1. Comparison between SNA and EU-SILC survey for each component of household disposable income, Germany and the United Kingdom

National Currency

Aggregate	Variable name	OECD SNA Code	Germany (2004)			United Kingdom (2004)		
			SNA	EU_SILC Survey	Ratio Survey/SNA	SNA	EU-SILC Survey	Ratio Survey/SNA
Earnings								
+	Compensation of employees, received	D1R, S14_S15	914,280	1,191,819	1.30	550,654	821,528	1.49
-	Employers' social contributions, received	D12R, S14_S15	1,136,790			648,788		
			222,510			98,134		
Self-employment income								
+	Mixed income, gross	B3G, S14_S15	422,130	201,826	0.48	91,507	122,202	1.34
+	Withdrawals from income of quasi corporations	D422R, S14_S15	207,340			71,958		
			214,790			19,549		
Capital income								
+	Property income, received	D4R, S14_S15	129,190	77,355	0.60	46,935	44,078	0.94
-	Property income, paid	D4P, S14_S15	354,150			127,180		
-	Withdrawals from income of quasi corporations	D422R, S14_S15	59,900			62,901		
			214,790			19,549		
+	Other current transfers, received	D7R, S14_S15	70,500			51,778		
-	Other current transfers, paid	D7P, S14_S15	73,590			27,843		
+	Social contributions and social benefits, other than social transfers in kind, received	D61R_D62R,S14_S15	457,750			202,569		
-	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	429,070			154,216		
-	Non-life insurance claims, received	D72R, S14_S15	54,340			15,494		
-	Property income attributed to insurance policy holders, received	D44R, S14_S15	41,320			54,589		
Public transfers								
+	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	429,070	523,574	1.22	154,216	213,250	1.38
						154,216		
Taxes								
+	taxes on income, w health,...., paid	D5P, S14_S15	349,270	513,306	1.47	216,710	376,189	1.74
+	Employees' social contributions	D6112P, S14	198,580			147,134		
			150,690			69,576		
Household disposable income (Earnings + Self-employment income + Capital income + Current transfers - Taxes)			1,545,400	1,481,267	0.96	626,602	824,869	1.32

Table A.2. Comparison between SNA and EU-SILC survey for each component of household disposable income, France and Italy

Aggregate	Variable name	OECD		France (2004)			Italy (2004)		
		SNA Code	SNA	EU-SILC Survey	Ratio Survey/SNA	SNA	EU-SILC Survey	Ratio Survey/SNA	
Earnings			660,619	914,763	1.38	402,908	535,146	1.33	
+	Compensation of employees, received	D1R, S14_S15	899,121			555,268			
-	Employers' social contributions, received	D12R, S14_S15	238,502			152,360			
Self-employment income			137,266	109,332	0.80	313,150	223,501	0.71	
+	Mixed income, gross	B3G, S14_S15	112,174			254,779			
+	Withdrawals from income of quasi corporations	D422R, S14_S15	25,092			58,371			
Capital income			74,020	47,633	0.64	124,748	41,120	0.33	
+	Property income, received	D4R, S14_S15	137,402			209,821			
-	Property income, paid	D4P, S14-S15	23,218			11,897			
-	Withdrawals from income of quasi corporations	D422R, S14_S15	25,092			58,371			
+	Other current transfers, received	D7R, S14_S15	71,167			27,193			
-	Other current transfers, paid	D7P, S14_S15	54,113			34,988			
+	Social contributions and social benefits, other than social transfers in kind, received	D61R_D62R, S14_S15	336,609			260,690			
-	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	305,540			234,701			
-	Non-life insurance claims, received	D72R, S14_S15	25,043			19,975			
-	Property income attributed to insurance policy holders, received	D44R, S14_S15	38,152			13,024			
Public transfers			305,540	379,411	1.24	234,701	304,749	1.30	
+	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	305,540			234,701			
Taxes			153,216	299,023	1.95	150,441	4,459	0.03	
+	taxes on income, wealth,...., paid	D5P, S14_S15	153,216			150,441			
Household disposable income (Earnings + Self-employment income + Capital income + Current transfers - Taxes)			1,024,229	1,152,116	1.12	925,066	1,100,057	1.19	

Table A.3. Comparison between SNA and Surveys for each component of household disposable income, the United States and Japan

Aggregate	Variable name	OECD		USA (2005)			Japan (2003)		
		SNA Code	SNA	CPS Survey	Ratio Survey/SNA	SNA	CLSC Survey	Ratio Survey/SNA	
Earnings			5,664,777	5,536,404	0.98	218,529,600	130,288,596	0.60	
+	Compensation of employees, received	D1R, S14_S15	7,030,300			256,465,500			
-	Employers' social contributions, received	D12R, S14_S15	1,365,523			37,935,900			
Self-employment income			2,399,376	402,245	0.17	26,027,500	14,226,870	0.55	
+	Mixed income, gross	B3G, S14_S15	1,391,700			26,027,500			
+	Withdrawals from income of quasi corporations	D422R, S14_S15	1,007,676			0			
Capital income			-578,609	718,466	-1.24	5,924,300	7,916,247	1.34	
+	Property income, received	D4R, S14_S15	1,617,600			21,790,800			
-	Property income, paid	D4P, S14-S15	893,500			14,269,400			
-	Withdrawals from income of quasi corporations	D422R, S14_S15	1,007,676			0			
+	Other current transfers, received	D7R, S14_S15	45,700			18,988,000			
-	Other current transfers, paid	D7P, S14_S15	100,600			22,308,700			
+	Social contributions and social benefits, other than social transfers in kind, received	D61R_D62R, S14_S15	1,480,900			70,226,200			
-	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	1,484,000			55,892,100			
-	Non-life insurance claims, received	D72R, S14_S15	31,763			2,946,000			
-	Property income attributed to insurance policy holders, received	D44R, S14_S15	205,270			9,664,500			
Public transfers			1,484,000	1,495,630	1.01	55,892,100	29,938,509	0.54	
+	Social contributions and benefits other than social transfers in kind, paid	D62P, S13	1,484,000			55,892,100			
Taxes			2,003,023	1,495,630	0.75	51,232,800	30,007,011	0.59	
+	taxes on income, wealth,...., paid	D5P, S14_S15	1,203,100			23,215,900			
+	Employees' social contributions	D6112P, S14	799,923			28,016,900			
Household disposable income (Earnings + Self-employment income + Capital income + Current transfers - Taxes)			6,966,521	5,770,950	0.83	255,140,700	152,363,211	0.60	

16. In these tables:

- A SNA-based measure of **earnings** is computed as the difference between “compensation of employees received by households” (D1R, S14_S15) and “social contributions paid by firms” (D12R, S14_S15).¹³ Survey-measures of “earnings”, for most countries, are inclusive of workers social security contributions. For France and Italy, where survey measures of earnings are reported net of workers’ social security contributions, this amount is also deducted from the SNA value of compensation of employees. The value of earnings in the SNA is quite close to that of the survey in the United States and between 30 and 40% lower in France, Italy and Germany.
- A SNA-based measure of **self-employment income** is computed as the sum of “gross mixed income” (B3G, S14_S15, which excludes imputed rents from own-occupation) and of “withdrawals from income of those enterprises that are classified as quasi-corporations” (D422R, S14_S15). Survey measures of self-employment income (which generally refer to the income of people indicating “self-employed” as their main occupation) are only 17% of the corresponding SNA-amounts in the United States and between 30 and 60% lower in Japan, Italy, France and Germany.
- A SNA-value of **capital income** is the sum of two main components: *net capital income received by households*, and *net private transfers*. The first element is defined as “property income received by households” (D4R, S14_S15) less “property income paid by households” (D4P, S14_S15), less “withdrawals of quasi corporations” (D422R, S14_S15, which is already included in self-employment income), less “non-life insurance claims received by households” (D72R, S14_S15 which are not covered in household surveys), less “property income attributed to insurance policy holders received by households” (D44R, S14_S15 which also fall outside the remit of surveys). The second element is defined as “other current transfers received by households” (D7R, S14_S15), less “other transfers paid by households” (D7P, S14_S15), plus social contributions and social benefits other than social transfers in kind paid by non-government agencies (i.e. the difference between “social contributions and social benefits other than social transfers in kind received by households” ,D61R_D62R, S14_S15, and “social contributions and benefits other than social transfers in kind paid by general government” D62P, S13). This SNA measure of **capital income** falls below its survey equivalent in Japan and records negative values in the United States.
- The SNA value of **public transfers** corresponds to the “social contributions and benefits other than social transfers in kind paid by general government” (D62P, S13). Survey measures of public transfers are well below their SNA equivalent in the case of Italy, United States and Japan.

The SNA value of **taxes paid by workers** is computed as the sum of “taxes on income and wealth paid by households” (D5P, S14_S15) and “social security contributions paid by workers” (D6112P, S14_S15). In case of France and Italy, where survey-measures of taxes and earning exclude social security contributions paid by workers, these contributions are excluded from both **earnings** and **taxes**. Survey measures of household taxes fall below the SNA-equivalent for the United States, Japan and especially for Italy.

¹³ In the OECD SNA classification, the first identifier refers to a specific type of transaction, while the second identifier shows the sector of the economy where the transaction occurs. In the table, data come from the “household sector” (S14) when available; in other cases, they refer to the sector composed of both “households” and “non profit institutions serving households” (S14_S15).