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Agenda item 5
Expanded accounts for the Household sector including non-profit institutions, serving households (NPISH)

It's about households

Prepared by the Organisation for Economic Co-operation and Development

Summary

      The paper will provide an overview of the main work streams in relation to households at the OECD: 1) Household Dashboard, providing timely indicators on the main economic developments of households; 2) Drivers of differences between GDP growth and real Household (Adjusted) Disposable Income; 3) Distribution of income, consumption and saving across household groups, consistent with national accounts.

I. Introduction

1.   In February 2008, the President of the French Republic, Nicholas Sarkozy, asked Joseph Stiglitz (President of the Commission), Amartya Sen (Advisor) and Jean Paul Fitoussi (Coordinator) to create a Commission, subsequently called "The Commission on the Measurement of Economic Performance and Social Progress" (CMEPSP). The commission was asked to look at and to provide recommendations on the measurement of societal well-being. The commission published its "Report by the Commission on the Measurement of Economic Performance and Social Progress" in 2010. The first five (out of 12) recommendations of the report deal with household issues:

- Recommendation 1: When evaluating material well-being, look at income and consumption rather than production.

- Recommendation 2: Emphasize the household perspective.

- Recommendation 3: Consider income and consumption jointly with wealth.

- Recommendation 4: Give more prominence to the distribution of income, consumption and wealth.

- Recommendation 5: Broaden income measures to non-market activities.

2.   When national accounts data come to the attention of the public, the primary focus is on GDP growth. While GDP may indeed provide a good indicator of what is produced in a country, it falls short of providing a suitable measure of people's material well-being. On the other hand however, there is a wealth of information available within the System of National Accounts (SNA) to help determine households' economic well-being in a more appropriate way. Data on household (adjusted) disposable income and saving, for example, may provide a better reflection of developments in material well-being of the population at large.

3.   While there is a wealth of information available in the national accounts focusing on the household sector as a whole, there is little information on how income, consumption and wealth are distributed across socio-economic classes of households. Therefore, the work streams of the OECD have focused on two broad areas: (1) providing more information on the distribution of income, consumption and wealth of households so that more distributional analysis can be done and (2) highlighting what indicators can be developed for analysis of households from information currently available from the national accounts.

4.   The second section presents a short paper on measuring distribution of income and consumption within a national accounts framework. It is based on the work done by the joint OECD-Eurostat Expert Group on Disparities in National Accounts (EG DNA). The third section presents the issue of negative savings and the need for further research into the first experimental results of the EG DNA. The fourth section presents the terms of reference for the new OECD informal Expert Group on Distributional Information on Household Income, Consumption and Savings within the SNA Framework.

5.   In addition to the work mentioned above on the distribution across socio-economic classes, there are two projects focusing on households that present information from the national accounts using an indicator approach. The first project, discussed in section five, puts forward a proposal for the electronic publication of a dashboard on household economic resources that makes use of the improved availability of (timely) institutional sector accounts. The institutional sector accounts make it possible to give more prominence to macro-economic developments of households, not only to the changes in income and consumption, but also to the changes in the (financial) wealth of households.

6.   The second project underway is research on the differences between (drivers of) changes in GDP and changes in household (adjusted) disposable income, both in current prices and in real terms. A report containing a conceptual framework as well as an analysis of results will be given at the 2014 OECD Working Party on National Accounts meeting in Paris that will be held in early November.

7.   The OECD welcomes feedback on the various projects described in the following sections.

II.   Measuring distribution of income and consumption in a national accounts framework

A.   Background

8.   Currently, national accounts data hardly provide any information on how income, consumption and wealth are distributed across socio-economic classes of households. Such information is, however, clearly of interest for economic policy. Policy questions such as how to arrive at more inclusive growth, where the largest possible proportion of society shares its benefits, drives many political agendas. An uneven distribution of income and wealth clearly results in varying degrees of economic well-being across households. It also results in varying levels of exposure to financial risk, and an uneven ability to absorb income shocks. The associated policy needs are explicitly mentioned and reflected in the Stiglitz-Sen-Fitoussi report[1], which calls for more distributional information; distribution being considered as an important factor contributing to the well-being of people. The G-20 Data Gaps Initiative, which aims at closing information gaps highlighted by the economic and financial crisis, also made a number of recommendations encouraging the compilation of more detailed household measures in national accounts[2].

9.   Micro-surveys provide more detailed information on the distribution of income, consumption and wealth. However, the relevant micro data often focus only on one of the three dimensions, while information on the joint distribution is also relevant. Furthermore, in most countries, consistent time series are not available. Moreover, household micro statistics following international statistical standards are currently lacking, especially on household wealth, which make comparisons across countries difficult[3]. Related to the latter is the difficulty to link the concepts and definitions used in micro-surveys to macro-economic statistics such as national accounts hampering a direct analysis of, for example, government policy and its impact on distributional issues.

10.   The above limitations call for an enhanced integration of the results from micro-surveys to the system of national accounts. However, achieving such an integration requires confronting a number of challenges. For example, micro data needs to be adjusted before they can actually be used to inform about the distribution of income, consumption and wealth within a national accounts framework. One has, for example, to adjust for differences in concepts, to deal with under-representation of specific subpopulations in

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[1] http://www.stiglitz-sen-fitoussi.fr

[2] http://www.imf.org/external/np/g20/pdf/093012.pdf

[3] It should be noted that an OECD Expert Group was created in parallel to the Expert Group on measuring Disparities in National Accounts (EG DNA, see below) to develop an international framework for micro statistics on the distribution of household income, consumption and wealth, and to develop standard guidelines on wealth. The two reports are available at: http://www.oecd.org/statistics/icw-framework.htm and http://www.oecd.org/statistics/guidelines-for-micro-statistics-on-household-wealth.htm

surveys (e.g. immigrants, homeless, people living in institutions), and to adjust for the underreporting of particular income and wealth items in household surveys.

11.   To address the above issues, early 2011, Eurostat and the OECD set up a joint Expert Group on Disparities in National Accounts (EG DNA). 25 countries nominated experts to participate to this Expert Group[4]. The European Central Bank and the Luxembourg Income Study also joined the Group that was chaired by Wim van Nunspeet from Statistics Netherlands (CBS). The work of the Expert Group could be carried out thanks to the support from France, through a secondment at the OECD, and from Italy, through a secondment at Eurostat, in addition to all input provided by the national experts. In parallel to the Expert Group work, Eurostat launched a similar study, the so-called "a-minima exercise", carried out at the centralized level and covering more European countries.

12.   The main objective of the EG DNA was to arrive at distributional information on household income, consumption and saving, consistent with the system of national accounts, for three different breakdowns of households: (i) income quintiles; (ii) main sources of income; and (iii) household types. The work has been performed in two steps. First, country experts compared micro and macro data sources on households' economic resources (i.e. income, consumption and wealth) to better understand similarities and divergences between both data sources. The comparison was carried out at a very detailed level for each of the three household aggregates, for a given year, generally 2008, 2009 and 2010. 20 countries studied all (or part) of the components for (adjusted) disposable income, 21 all or part of the components for (actual) final consumption, and 7 all or part of the components for household wealth. In a second step, country experts allocated the national account totals of income and consumption to groups of households using distributive information from a range of micro sources. Breakdowns have been fully or partially completed by 16 countries for a given year, generally 2008, 2009 and 2010[5].

13.   Detailed results of the EG DNA have been published in two working papers, one showing the comparison between micro and macro sources on household income, consumption and wealth (step 1), the other one presenting the experimental results of the allocation of national account totals for household adjusted disposable income, actual final consumption and saving to household groups (step 2). Both working papers also include a comparison between the results of the EG DNA and the outcomes of the a-minima exercise for the relevant countries. The two working papers can be downloaded using the following link: http://www.oecd-ilibrary.org/economics/oecd-statistics-working-papers_18152031 (papers 2013/03 and 2013/04). This statistics brief contains a summary of the results. Section 2 will mainly dwell upon the results from the comparison of micro data and national accounts totals, whereas section 3 will shortly discuss the main results of the exercise. In section 4, a comparison between the results of the EG DNA and the results from micro sources will be presented, using one of the inequality indicators as an example. Section 5 will describe the main conclusions, including the way forward.

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[4] Australia, Austria, Canada, Chile, Denmark, Finland, France, Germany, Israel, Italy, India, Japan, Korea, Mexico, Netherlands, New-Zealand, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.

[5] The Eurostat a-minima exercise conducted in parallel to the EG DNA has followed as far as possible the methodology agreed by the EG DNA. The a-minima exercise covered data on household adjusted disposable income for 28 European countries and for the European aggregate EU27. The breakdowns have been performed for 2008, mainly using data from the harmonised European Survey on Income and Living Conditions (EU-SILC) available at Eurostat.

## B.   Results from the comparison of micro data and national accounts totals

14.   As noted before, the first step of the work of the EG DNA consisted of comparing the aggregated results from the micro-surveys with the relevant national accounts totals. The results of this micro-macro comparison on income, consumption and/or wealth components are illustrated using the following two indicators:

- • The coverage rate: the micro total as a percentage of the relevant national accounts total, for each of the detailed components of income, consumption and wealth. As a very first approximation, coverage rates between 80% and 120% were considered as a reasonably fair degree of alignment between micro and macro totals.

- • The average gap indicator: a weighted average of the absolute differences between micro and macro totals across several components. Here, average gap indicators below 20% were considered as a reasonably fair degree of alignment between micro and macro totals.

15.   Figure 1 shows the coverage rates for each country for which a detailed comparison between micro and macro estimates on income components has been performed. The results show that micro and macro estimates for the main components of received income are generally reasonably well aligned. For more than four fifths of countries, the match between micro and macro totals for "wages and salaries" and "actual employers' social contributions" is considered good. For almost three quarters of the countries, the match is also considered good for "current taxes" and "social benefits in cash". On the other hand, the alignment is much lower for some other income components: the match for "interest and distributed income received from corporations" is good in the case of only one fifth of the countries; here, one can also observe a wide spread of coverage rates across countries. Finally, only one quarter of countries has a good match for "income from self-employment".

Figure 1
**Coverage rates by country for the main income components**
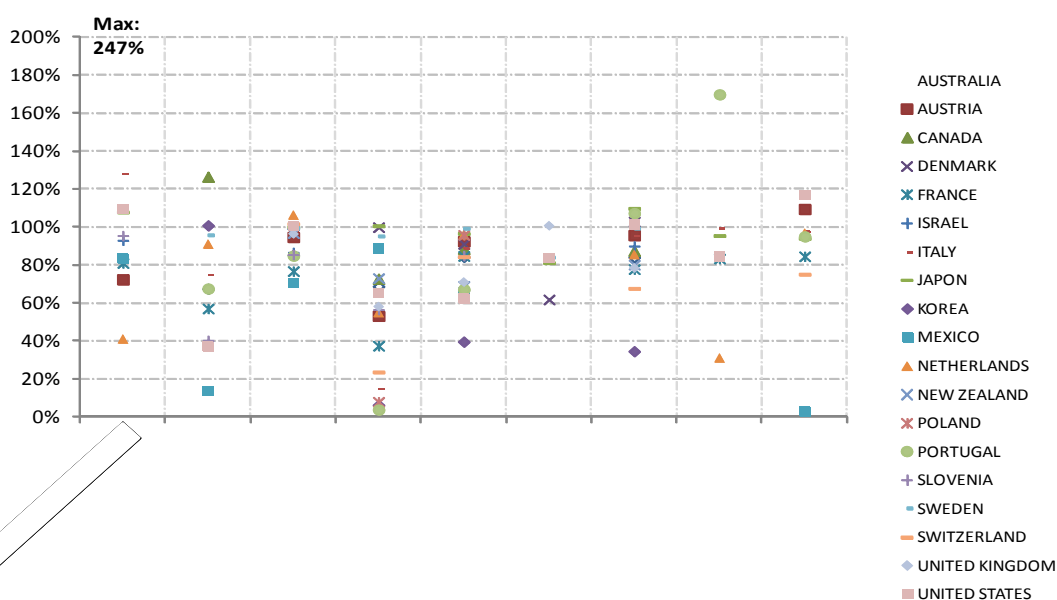
16.   Figure 2 shows the average gap indicator for two different aggregations of income components. The "ADI" measure covers all income components included in Adjusted Disposable Income (ADI) according to the definition of national accounts, whereas the "ADI excluding quantified gaps" excludes the items that are hardly ever covered and measured in micro-surveys (people living in institutions) and/or are "imputed", for various reasons, in the system of national accounts (Financial Intermediation Services Indirectly Measured (FISIM), social transfers in kind, etc.).

17.   When looking at the cross country average for ADI, the gap indicator shows to be 36% on average. Once the quantifiable gaps are excluded from the calculation, the average gap is reduced to 18%. In both cases, there are quite significant divergences across countries.

18.   These coverage rates and average gap indicators provide useful information for both data compilers and users. However, when micro and macro totals are very far from each other, the accuracy of both micro and macro estimates should be further verified. It should also be noted that coverage rates are not necessarily an indicator of the quality of micro estimates. The compilation methods followed by national accounts may have different degrees of reliability, as they are subject to statistical adjustments whose accuracy is difficult to assess (e.g., adjustment for under-reporting) or they sometimes relate to values estimated through a residual method. Moreover, macro estimates are often subject to revisions that may have a significant impact on the coverage rates. Finally, it should be noted that the comparisons shown below refer to a single year and to specific surveys. The use of other surveys and/or other years could result in quite different results.

Figure 2
**Average gap indicator for income components**
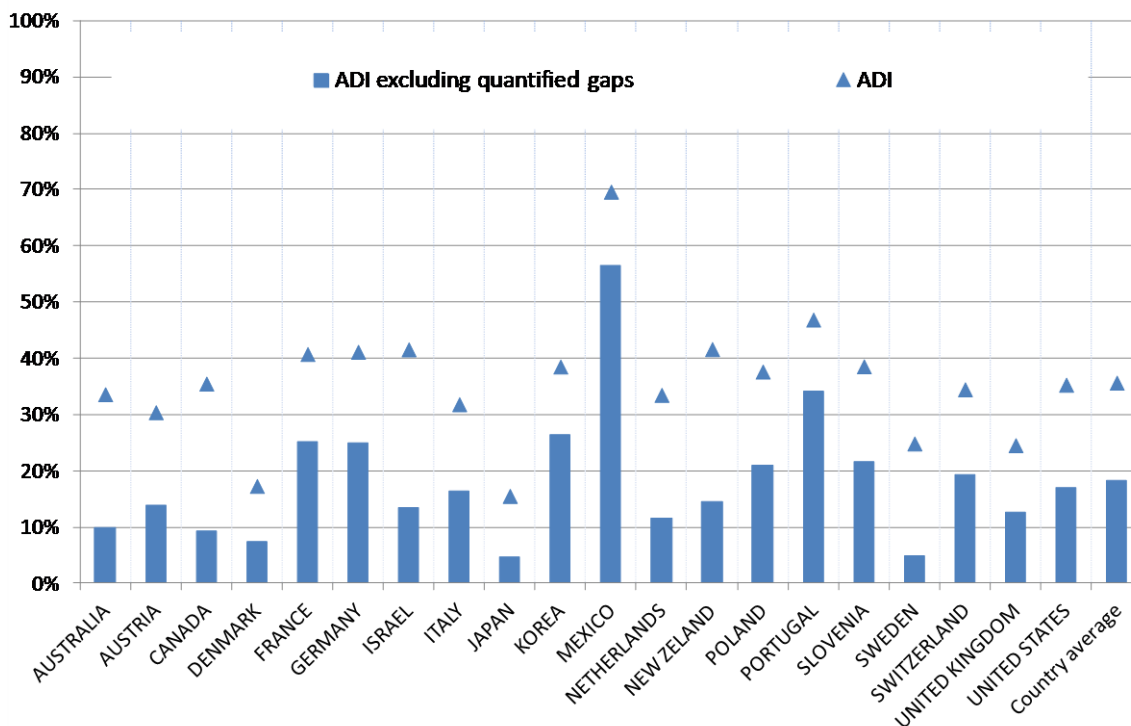
C.   Results for the distribution of income, consumption and saving

19.   Distributional information consistent with national accounts has been compiled for three different types of household groupings: income quintile, main source of income, and household type. Below, the focus is on the results for the income quintiles[6].

20.   Figure 3 shows that the households in the top quintile have significantly higher incomes than the average household, especially in Mexico and, to a lesser extent, in the United States. The average income of the richest household group is between 1.6 times the overall average in Slovenia, and 3.2 times the overall average in Mexico. The first quintile has an average income equal to 24% of the overall average in Mexico, in contrast to 65% in Slovenia. In all countries the median income, approximated by the average income of the median quintile Q3 is lower than the average income. The median income accounts for 54% of the average in Mexico, as compared to 95% of the average in the Netherlands. In the Netherlands, the middle of the distribution is particularly flat.

Figure 3
Relative position of each household group compared to the average (adjusted disposable income per consumption unit for each group to the average adjusted disposable income per consumption unit in the country)
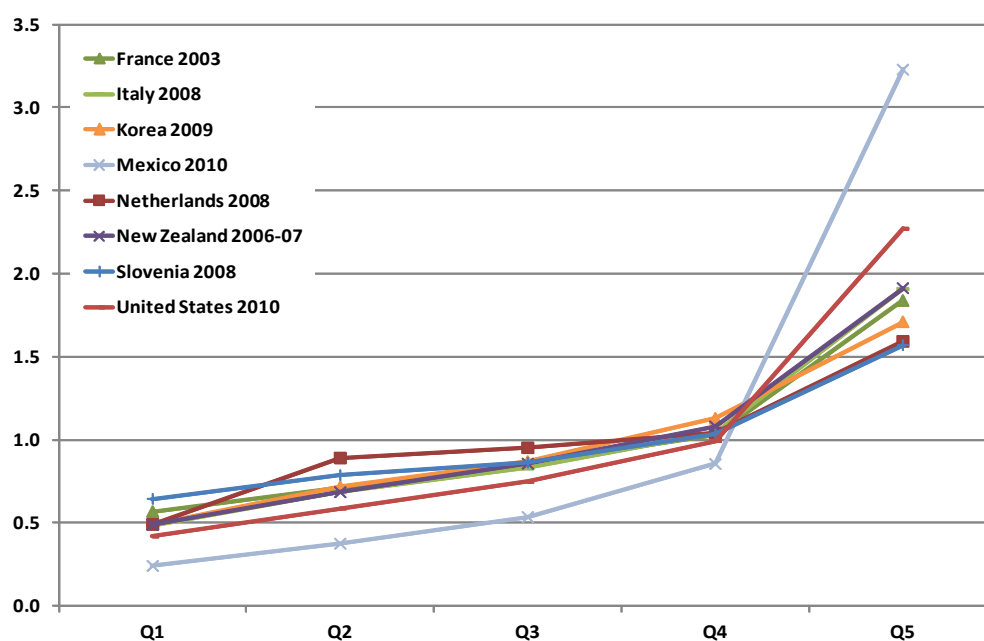

21.   Figure 4 presents the relative position of the 20% highest income households to the 20% lowest income households. In Mexico, on average, the richest households receive an

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[6] Following this grouping classification households were ranked according to the value of their equivalised disposable income and allocated to five equal groups (quintiles), each of them containing 20% of all households. The Oxford-modified equivalence scale (also called the OECD-modified scale) is used to calculate equivalised disposable income. This scale assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child.

adjusted disposable income which is 13.3 times higher than the one received by the poorest households. In other countries, this ratio ranks from 2.4 (Slovenia) to 5.4 (United States).

Figure 4
Relative position of the 20% richest households to the 20% poorest households
(adjusted disposable income per consumption unit for the fifth quintile to the adjusted disposable income for the first quintile
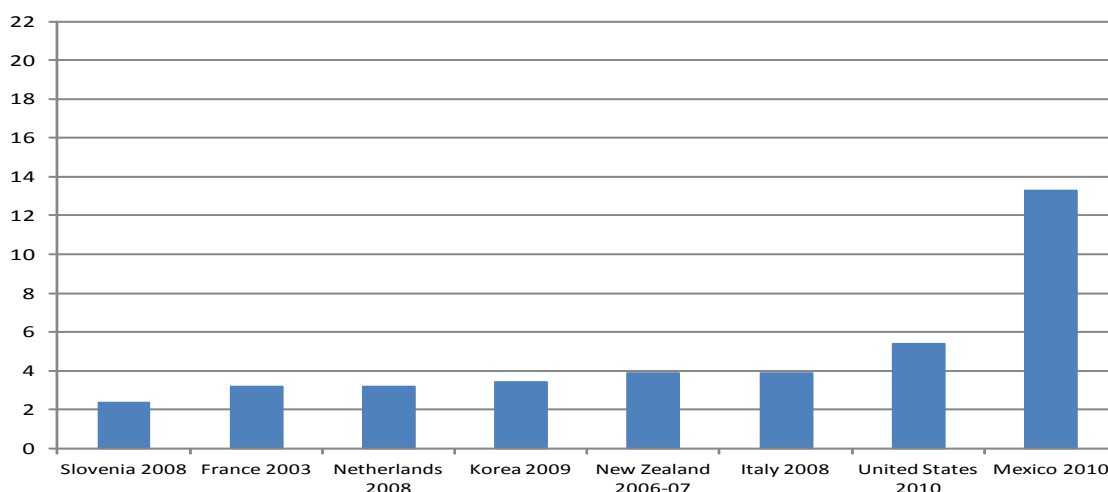
22.   The relative position of each household group compared to the overall average is different when measured on primary income, i.e. before deducting any income taxes and social contributions paid and before adding transfers in cash and in kind. Comparing the distributional indicators measured on adjusted disposable income and primary income illustrates how net current transfers, mainly related to the intervention of general government and pension schemes, brings some household groups closer to the average. Table 1 shows that, when measured for primary income, the income gap between the 20% highest income households and the 20% lowest income households is significantly higher in the United States and New Zealand. Net current transfers reduce the income disparity between the highest and the lowest income households by 9.0 points in the United States and by 8.8 points in New Zealand.

Table 1
Impact of net transfers on the relative position of richest to the poorest households
(primary income and adjusted disposable income per consumption unit: value for the fifth quintile to the first quintile; and difference in points)

	France 2003	Italy 2008	Korea 2009	Mexico 2010	Netherlands 2008	New Zealand 2006-07	Slovenia 2008	United States 2010
Primary income (1)	8.3	7.7	6.0	20.3	5.7	12.7	4.7	14.5
Adjusted disposable income (2)	3.2	3.9	3.5	13.3	3.2	3.9	2.4	5.4
Impact =(2)-(1)	-5.0	-3.8	-2.5	-7.0	-2.4	-8.8	-2.3	-9.0

23.   Regarding consumption, only the 20% highest income households in Mexico show consumption levels per consumption unit significantly higher than the average (see Figure 5). On the other hand, the level of consumption of the lowest income households is

significantly lower than the average in most countries except in Slovenia and, to a lesser extent, the United States. Disregarding the two latter countries, Figure 5 shows that on average, the consumption of the 20% lowest income households equals 48% of the average consumption in Mexico to 73% in New Zealand.

Figure 5
Relative position of each household group compared to the average (actual final consumption per consumption unit for each group to the average actual final consumption per consumption unit in the country)
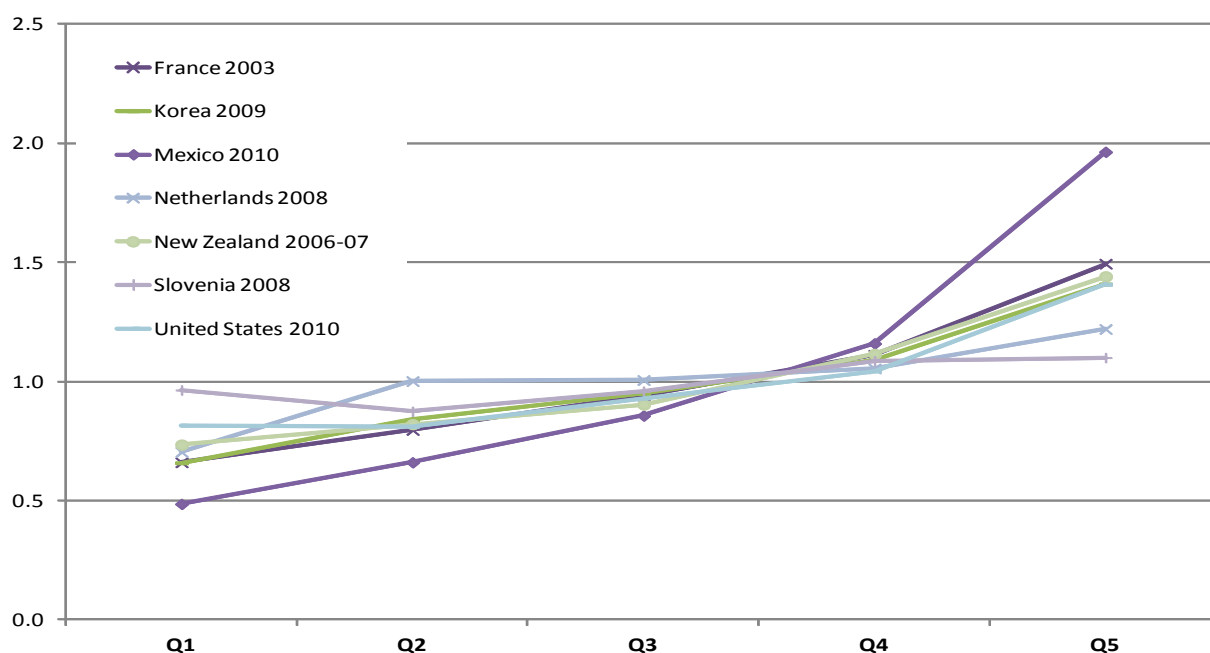

24.   When looking at saving, the average saving rate (saving as a percentage of adjusted disposable income[7]) for all households ranks from minus 3% in New Zealand in 2006-07 to plus 16% in Australia in 2009-10. New Zealand is the only country showing a negative saving rate for the household population as a whole. In all countries, saving is highly concentrated in the top of the distribution. Saving rates clearly increase with income (see Figure 6). In the United States and Mexico, the highest income households, on average, save more than 40% of their annual adjusted disposable income. At the bottom end of the income scale, the lowest income households have a negative saving in all countries except in France[8], i.e. on average a low income household consumes more than its annual adjusted disposable income during the year. The average saving rates are negative beyond the first quintile in Mexico, the United States, New Zealand, Korea and the Netherlands.

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[7] Saving is the difference between adjusted disposable income and actual consumption plus the change in net equity of households in pension funds. The adjustment for net equity in pension funds is necessary because of the way contributions paid to pension funds and pension benefits received from these funds, are treated in national accounts.

[8] Prior to the use of the household budget survey to distribute the national accounts totals, the French experts corrected the micro data. Thus, the income level of the households who declared to consume much more than they earn and declared having no financial difficulty were corrected to ensure that their income level covers their level of expenditure. Without this correction on the micro data the average saving rate of the first quintile would be negative.

Figure 6
Saving as a percentage of adjusted disposable income
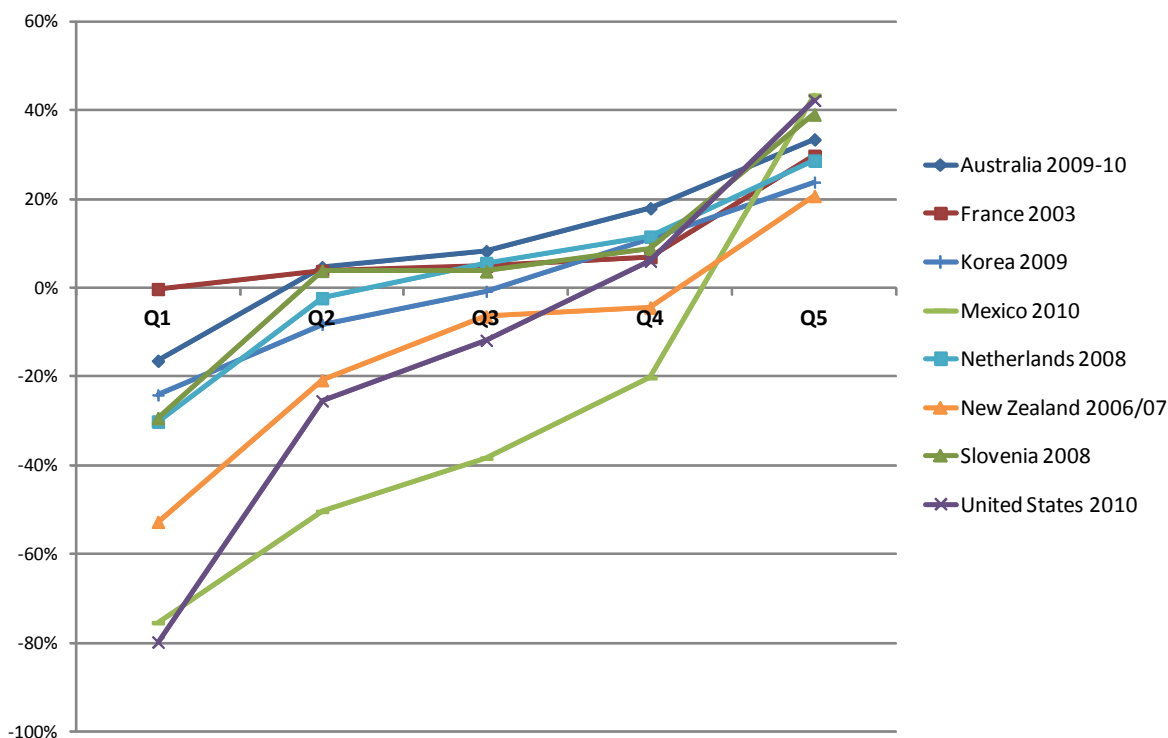
25.   Consuming more than the income received in a given year does not necessarily mean that households increase their debt. Some households in the lowest income quintiles may use financial assets accumulated in previous years to finance their annual consumption. This may, for example, be true for retired people living from savings and/or life insurance policies. Another explanation for the negative saving rates in the lowest income quintiles may be related to people in short/medium term unemployment which face a significant but temporary drop in their income, yet maintain their level of consumption until they find a new job. Furthermore, it should be mentioned that the experimental estimates presented in Figure 6 do not take into account transfers between households. Traditionally, because the primary focus of national accounts is to study households as a whole, these transfers are generally not (well) estimated. However, such transfers may have an impact on the observed saving rates per income quintile. For example, a household composed of a single student may receive transfers from the household of its parents, or elderly people living alone may receive goods and services, that are paid for by their children's households. Australia, France, Korea, the Netherlands and the United States have tried to estimate saving rates including transfers between households, using micro sources. However, the preliminary results show that accounting for transfers between quintiles does not have a significant impact on the saving rates. Nonetheless, further investigations and harmonization on how to estimate these transfers may be needed.

D.   Comparing the results on the distribution of income with the results from micro-surveys

26.   It goes without saying that one would like to know whether the alignment of micro-surveys to the totals of national accounts actually has an impact on the distributional

indicators. The OECD Income Distribution Database (IDD) provides comparable sets of data on income distribution across OECD countries. This database entirely relies on micro sources, mainly household surveys. The comparison is shown in Figure 7, based on a ratio of the average income of the 20% highest income households to the average income for the 20% lowest income households. Doing so, the results of the EG DNA are shown with and without some typical national accounts elements that are largely excluded in micro surveys: income from owner-occupied dwellings, Financial Intermediation Services Indirectly Measured (FISIM), social transfers in kind, and property income attributed to insurance policy holders.

27.   As it becomes clear from Figure 7 the comparison between the IDD and the results of the EG DNA shows in some cases quite substantial differences[9]. Most countries have household income disparities that are lower than those reported in the IDD, mainly due to the inclusion of social transfers in kind in the national accounts definition. Once the "national accounts concepts" are excluded, the inequality ratio comparing the highest to the lowest income quintiles is higher in the EG DNA results, with the exception of the Netherlands and Korea. Finding higher levels of inequality in the EG DNA is due to the fact that the income components, which are poorly covered by micro sources, such as property income received, tend to be more unequally distributed across households than other components, such as wages and salaries, which are well covered by micro sources. As a consequence, the benchmark procedure tends to increase inequalities. Figure 7 also shows, however, that the extent to which the inequality ratio is increased differs across countries: the increase is particularly significant in Mexico, and to a lesser extent in the United States.

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[9] Some caution regarding the interpretation of the results is warranted. For example, the national micro source used by the Expert Group may be different from the one used in IDD. The data may also relate to a different year. Moreover the IDD indicators have individuals as a starting point. Each individual is given the equivalised income of his/her household. Instead, the Expert Group analyses households. If the poorest are larger households than the other households, the first quintile in the Expert Group's study will include more than 20% individuals.

Figure 7
Richest to poorest ratio - comparison between the IDD and the Expert Group results[10]
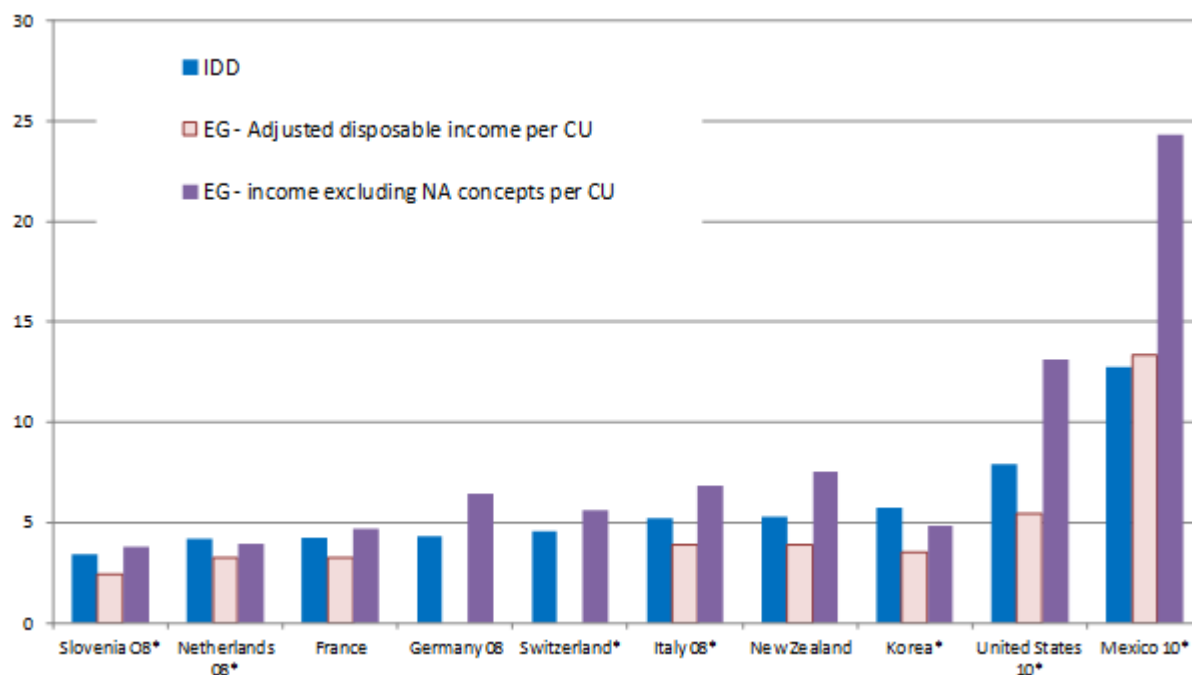
E. Conclusions and way forward

28. The research into the differences between micro and macro sources, and the attempt to align both estimates clearly provided some useful insights. However, it is also clear that this is work in progress. The main conclusion from this comparison exercise is that for most countries, micro sources provide distributive information for most of the national accounts components, although for some of them with quite significant gaps (e.g., income from self-employment, interest and dividends received, alcohol and tobacco expenditures, holdings of shares and other equity, non-housing loans). Overall, micro and macro totals are closer to each other for income components than for consumption and wealth components. The results also show a greater heterogeneity for consumption components, when comparing the results from the micro survey with the relevant national accounts aggregates. More generally, the exercise has provided a much better understanding of the areas where micro and macro estimates differ from each other. As such, they will certainly be helpful in improving the estimates of both the micro surveys and the national accounts.

29. Results show that inequality is higher for income than for consumption, leading to an even higher disparity across households for saving. The extent to which the lowest income and the highest income households diverge from the income and saving averages is quite different across countries. Countries also show differences in the extent to which government intervention, through taxation and social contributions and benefits, reduces inequalities. Having said that, more research is clearly needed into the alignment of income

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[10] The legend indicates the extent to which the IDD and the Expert Group results are comparable. A star indicates similar micro sources. In case a similar year is used for the IDD and the Expert Group, this year is added to the country label using two digits.

and consumption data, including its impact on saving rates, especially for the lower income quintiles.

30.   Analysis of the impact of the alignment of micro sources to national accounts shows that the exercise can have a quite significant impact on the distributional information. In most countries income inequality, as measured by the EG DNA, are lower than those shown in the micro sources. This is mainly due to the inclusion of social transfers in kind, which are typically not included in micro surveys. However, once these concepts are excluded, the EG DNA inequality ratio shows higher levels of income inequality in most countries, the main impact coming from more significant adjustments to income components which are particularly unevenly distributed across households.

31.   As illustrated in more detail in the working papers, a number of assumptions are required to produce estimates on distribution across households consistent with national accounts. In particular, one assumption that significantly impacts on the results is the way in which social transfers in kind are imputed at the individual level. The allocation of these transfers raises both conceptual and practical issues that may need further discussion. The way in which micro estimates have been made consistent with national accounts totals in cases of significant gaps in totals and/or definitions may also need further investigation and harmonisation across countries, certainly taking into account its impact on the saving rates.

32.   More generally, countries are encouraged to have much more interaction between micro and macro compilers, and to make and discuss comparisons of micro and macro estimates on a regular basis. Furthermore, it seems advisable to launch studies on improving the consistency between micro sources covering income and those covering household expenditures, and to test the possibility of statistical matching of micro sources.

33.   At the international level, it has been agreed to continue the work of the Expert Group for another two years, with the goals (i) to refine the methodology for compiling distributional information consistent with macro-economic indicators, with a special focus on the results for the saving rates; (ii) to repeat the exercise producing experimental estimates for another year, so as to assess developments over time in economic aggregates for household groups; and (iii) to test the feasibility of a methodology to compile distributional information in a more timely manner, combining very timely macro-data and the usually less timely distributional information from micro sources (surveys and administrative or tax registers). The latter is considered particularly important in view of the increasing user demands for timely data.

## III.   How negative can gross savings get?

34.   Based on the first experimental results of distributional information on household savings, gross household savings for lower income quintiles consistently showed (significant) negative values, and also showed large variations across countries. The main purpose of this note is to present these negative savings figures, and to suggest both real phenomena and statistical (problem) stories, that could possibly explain the observed data. We invite countries to investigate more closely the savings figures along the provided scenarios – assessing their plausibility and relevance.

35.   In this note we focus our attention to the saving rates as calculated and presented in the OECD-Eurostat working paper "Distributional Measures across household groups in a national accounts framework", pp. 41-43. Fesseau, M. and M. L. Mattonetti (2013). Saving rates presented here are gross savings (i.e. adjusted disposable income + adjustment for the change in net equity of households on pension funds – actual final consumption) as a percentage of adjusted disposable income. All measures reflect the results for households reached by the micro surveys (excluding people living in non-private dwellings, such as

prisons, boarding schools, retirement homes etc., and excluding NPISHs). The consumption items refer to consumption by resident households regardless of whether consumed on the domestic territory or abroad.

Figure 8
Saving as a percentage of adjusted disposable income (by equivalised disposable income quintiles)
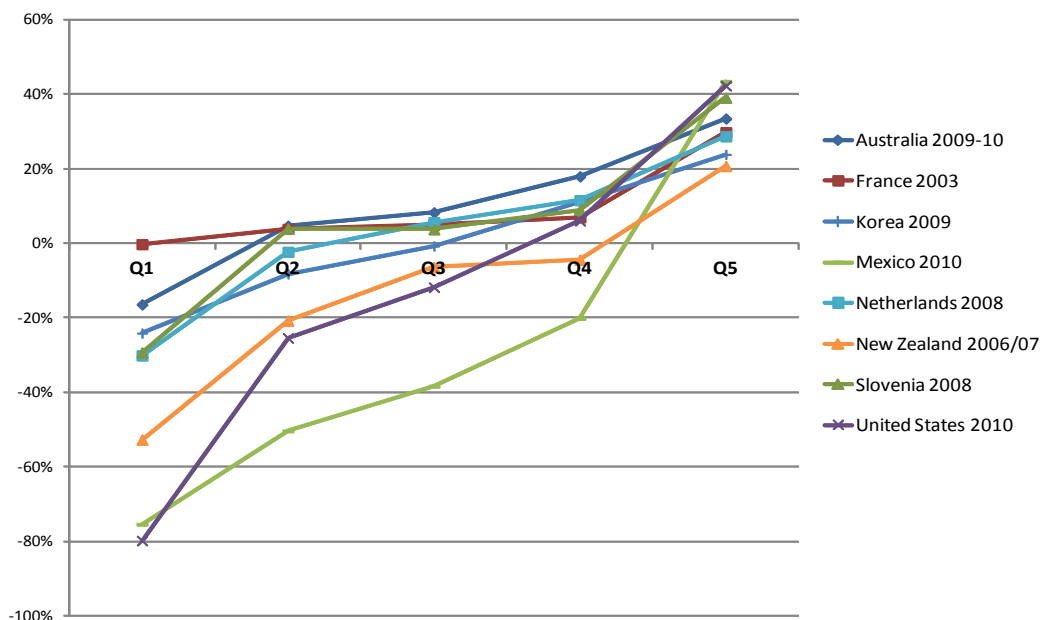
36.   Over the last twenty years aggregate household saving rates have declined in many OECD countries and became even negative in two of them (see Figures 9a and 9b). In New Zealand, negative household saving rates during the 2000s' have been at the core of strong debates about the measurement and interpretation of aggregate household saving (Savings Working Group Report, 2011)[11]. In Estonia, national accounts aggregates reveal that the household sector as a whole has been dis-saving over 2003-2007. Therefore negative savings rates for various household quintiles cannot be ruled out, and it should not necessarily suggest a problem in the compilation of experimental data. Nonetheless, the large variation across countries and, for some countries, very large negative savings compared to the adjusted disposable income of the relevant income quintiles does warrant a closer look.

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[11] The report titled "Saving New Zealand: Reducing Vulnerabilities and Barriers to Growth and Prosperity" from 2011, pp. 42-45 (http://purl.oclc.org/nzt/r-1348) enlists several factors - among others: asset price and real estate price inflation, decreasing interest rates, changing tax incentives - which contributed to the decreasing trend of the gross savings rate in New Zealand or induced a countercyclical pattern to savings (causing a sharper savings-rate drop during the booming years and a positive correction in the aftermath of the global financial crisis).

Figures 9a and 9b
Aggregate gross household saving rates 1993-2012
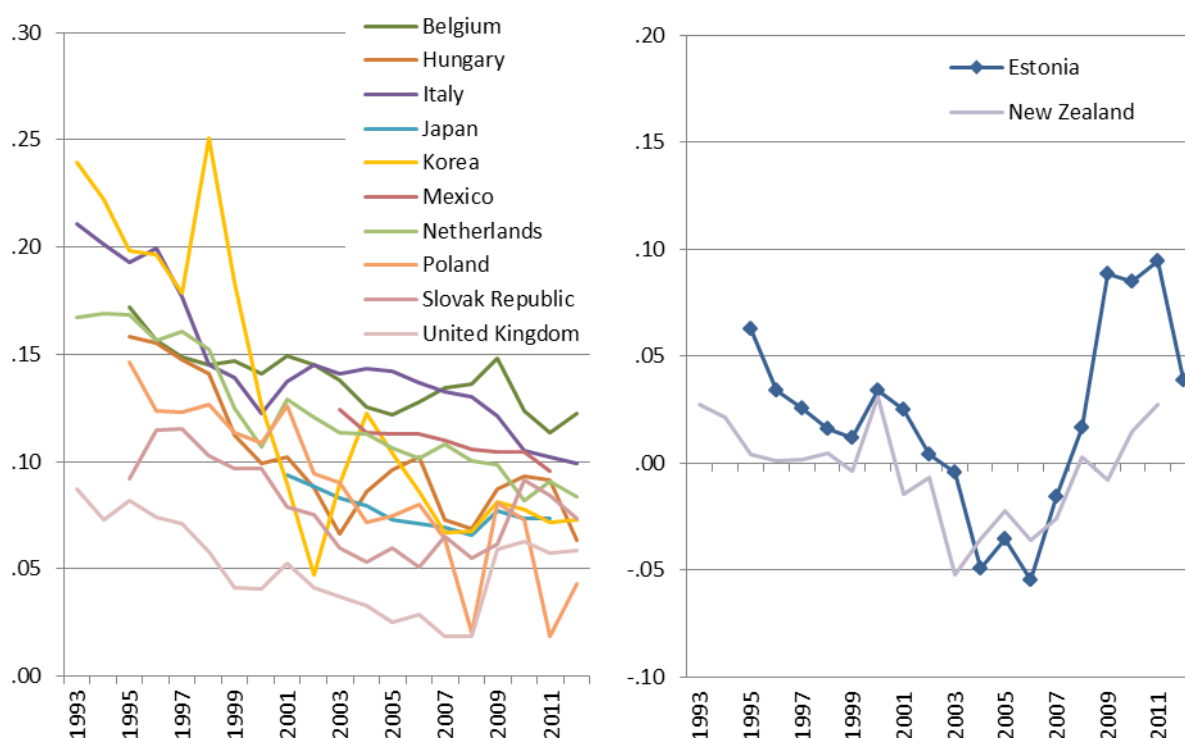
37. At the same time, in many countries (for example Korea, the Slovak Republic, United Kingdom) household saving rates have shown countercyclical behaviour; they increased in the aftermath of the crisis but without climbing up to the levels achieved in the mid-1990s. The time variation in households savings rates and the sensitivity to business cycles suggest that one should be careful both in comparing country cross-sections (especially from different stages of their respective business cycle) as well as analysing savings rates for one particular year, mostly because changes in savings rates of various household quintiles are likely to show even larger variations than the aggregates.

38. Based on the experimental distributional data, in all countries, savings are highly concentrated at the top of the distribution. Savings as a percentage of adjusted disposable income increase with income (see Figure 8). In the United States and Mexico, the richest households, on average, save more than 40% of their annual adjusted disposable income. At the bottom end of the income scale, the poorest households are dissaving, i.e. on average a poor household consumes more than its annual income during the year. Negative saving rates are shown for the poorest households in all countries except France. It should be underlined however, that prior to the use of the household budget survey to distribute the national accounts totals, the French experts adjusted the micro data.

39. Consuming more than the income received in a given year means either that households increase their debt, or they use financial assets accumulated in previous years to finance their consumption. Also, a negative saving rate for a given quintile does not necessarily mean that each household that belongs to the quintile has a negative saving rate, nonetheless a more negative saving rate for a given quintile implies that the percentage of

households within the quintile having a positive saving is smaller than in other quintiles, and some households have even larger dis-savings than the quintile average.

A.   Real phenomena contributing to low/negative savings

40.   In terms of the "real" phenomena affecting consumption and savings, our thinking is guided by two widely accepted macroeconomic theories of consumption behavior. The first one, Modigliani and Brumberg's (1954) Life Cycle Hypothesis (LCH) states that individuals plan their consumption behavior over their lifetime: in their early (student) years they may consume more than their income (for example on their education), then in their most productive (highest income earning years) they pay back the accumulated debt and save for their retirement, and finally they dis-save as pensioners (use up the accumulated assets). The second theory, Milton Friedman's (1957) Permanent Income Hypothesis (PIH), emphasizes the attempts of the individual to smooth its consumption over time, adjusting consumption and saving levels according to an expected long-term permanent income, and therefore evaluating income shocks by their persistence: smoothing out temporary fluctuations in income, and adjusting consumption levels to income shocks that are perceived to be long lasting.

41.   In line with the PIH every household that faces a transitory negative income shock will move towards a lower income quintile (if the income shock is sufficiently large). However, as the shock is transitory (or the household perceives it as transitory), such a household will maintain its previous consumption level, resulting in a lower, potentially negative saving rate. In the case of a positive transitory income shock, households move to upper quintiles, and show higher saving rates. For example people in short/medium term unemployment may face a significant but temporary drop in their income, yet they could maintain their level of consumption till they find a new job. To assess the relevance of transitory income shocks in producing the negative saving rates, one would need a panel of households (so that it would be possible to trace movements of households across quintile borders), however even in this case, assessing the transitory or permanent nature of income shocks would be difficult and require long time series. An alternative, less ambitious, exercise would be to have estimates of the magnitude of income shocks and consumption shocks through panels of households (even if each individual is surveyed only for two consecutive periods and if income and consumption come from two different panel sources). The PIH would receive a strong support if income shocks proved to be larger than consumption shocks for any given category of households. Another exercise could aim at estimating income shocks generated by short term unemployment (using data available on unemployment and length of unemployment and modeling the associated income shocks) to assess how much the phenomenon contributes to lower savings in the lower income quintiles, under the assumption that people facing short-term unemployment would only marginally adjust their consumption and not proportionally with the drop in their income.

42.   Based on the permanent income hypothesis one would expect that aggregate saving rates are pro-cyclical, i.e. households save more in booming periods and save less or dis-save in recessions. However, the behaviour of aggregate saving rates, for a number of countries show quite the opposite, suggesting that households cannot perfectly distinguish ex-ante between cyclical and long-term changes in their income stream, and correct their consumption and savings behaviour with some lag. Some of the observed cyclicality in saving rates can also be due to the recording of consumer durables in national accounts. The benefits of cars and other consumer durables in general are enjoyed for longer periods, not only in the period in which they are purchased, however they are recorded as

consumption only in the period they are purchased. This means that if the timing of the purchase of such goods is cyclical, the "true"[12] consumption of these goods is overestimated during the booming years and underestimated in recessions. It remains to establish the pro-cyclicality of durable goods purchases, in particular of lower income households. If pro-cyclicality can be established, it would justify lower savings (under the current accounting rules) when data refer to booming periods, and suggest higher savings during recessions.

43.   The Life Cycle Hypothesis (LCH) can also provide an explanation of the observed dis-saving in the lower quintiles. According to the hypothesis it is likely to observe a large number of single-student households, or households primarily receiving income from pensions in the lower income quintiles, and observe households with active income earners, saving for retirement in the upper income quintiles. Of course if this is the case and the LCH explains a large part of the observed dis-saving we should be able to find traces in the number of people by age group in the different quintiles, or the household types present in the group. As a loose proxy we can rely on the age of the head of the household provided on the reporting template, to see whether it is a likely phenomenon to explain the negative savings.

Figure 10
Average age of the head of the household by equivalised disposable income quintiles
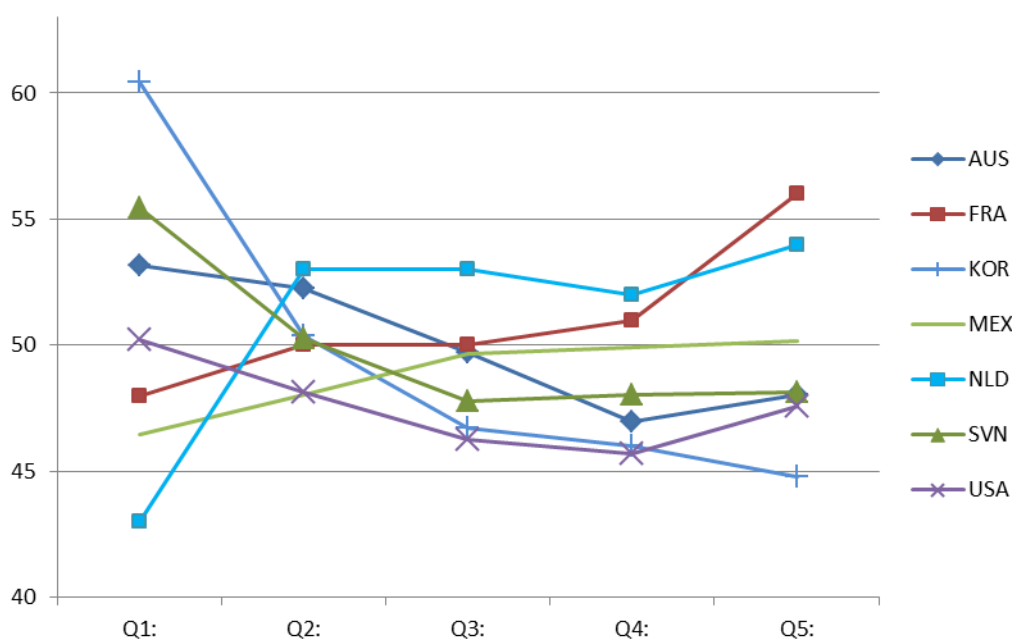
44.   Figure 10 suggests some age related patterns by income quintiles, however it is not conclusive – the countries where the largest dis-savings are observed in the lowest quintiles are not always associated with the highest age of the head of household (the underlying assumption being that households with more retirement age people are in greater numbers in the dis-saving group). As the LCH related savings patterns do not only concern retired people, but also people in the earliest years of career, for better accuracy we should rely on

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[12] Arguably, purchases of durable goods could be recorded as investment, and accordingly, what we refer to as "true" consumption would be a consumption of imputed services associated with this new type of capital good.

micro-surveys, where much better demographic data are available to help us establish the relevance of LCH-related phenomena (number of people by age group and by quintiles, or household type by quintiles).The expected LCH related features would show up differently depending on the typical pension scheme of the country. In countries where unfunded pension schemes are prevalent neither dissaving nor a significant drop in income will be noticeable for retired people. Negative savings is only an issue for countries with predominantly funded social security schemes. In this case, the drop in savings would be noticeable for the relevant people (due to the change in net equity in pension funds), but it will not fully show as a decrease in their incomes. Nonetheless, this hypothesis may indeed explain negative savings in the case of low incidence of social insurance, which triggers households to take out personal saving schemes or individual life insurances, in which case, negative savings will be coupled with large drops in income for retired people (to be verified if this is indeed the case for New Zealand, Mexico and the United States).

45.   It should be mentioned that the experimental estimates presented in Figure 8 do not take into account transfers between households. Traditionally, because the primary focus of national accounts is to study households as a whole, these transfers are generally not (well) estimated. However, such transfers may have an impact on the observed saving rates per income quintile. For example a household composed of a single student, may receive transfers from the household of its parents, or for example elderly people living alone may receive goods and services, that are paid for by their children's households. Indeed, Australia, France, Korea, the Netherlands and the United States made saving rate estimates including transfers between households. To produce estimates for these transfers, experts used micro sources to estimate both the totals of transfers between households received/paid and the distribution of these transfers among household groups. Table 1 shows that accounting for transfers between quintiles has no significant impact on the saving rates. Nonetheless, further investigations and harmonization on how to estimate these transfers may be needed.

Table 2
Impact of transfers between households on saving rates

	difference of saving rates before and after transfers between households				
	Q1	Q2	Q3	Q4	Q5
Australia	-0.1%	0.1%	0.5%	0.2%	-0.2%
France	2.6%	0.7%	0.4%	-0.4%	-1.1%
Korea	0.5%	0.7%	-0.6%	-0.7%	0.4%
Netherlands	-1.6%	0.8%	0.5%	0.2%	-0.3%
Unites States	-2.2%	0.0%	0.2%	0.1%	0.0%

Positive values refer to higher saving rates after transfers have been taken into account

46.   The above described theories suggest that even if the population is homogeneous, i.e. everyone has the same propensity to consume in relation to their long term income, it is natural to observe an increasing saving rate from lower income quintiles to higher income quintiles. The steepness of the savings-rate curve is determined by many factors – the size, the frequency and persistence of income shocks, the structure and trends in population growth, education, pensions and household-types.

B. Statistical issues

47. Beyond the "real" phenomena related to consumption behavior, a number of methodological issues can also play a role and perhaps exaggerate dis-savings in the lower quintiles.

48. The allocation of income related to the non-observed economy across quintiles may be underestimated for the lower income quintiles. Is it possible that the households in the lowest quintile are more prone to engage in informal, underground or illegal economy, barter goods and services that are not recorded as income, but show up in expenditure surveys? Countries are invited to describe their method used in the allocation of non-observed economy income among the quintiles and/or test alternative scenarios and provide sensitivity analysis related to non-observed economy income allocation.

49. As the micro-surveys in France show, respondents may be inconsistent in their answers to the survey – over-reporting consumption and/or under-reporting their income. In France consistency checks were applied at the micro level: the income level of the households who declared to consume much more than their earnings and who declared having no financial difficulty were corrected to ensure that their income level covers their level of expenditures. Without this correction on the micro data the average saving rate of the first quintile would be negative.

50. Possible inconsistencies between income and consumption micro sources used would easily lead to an overestimation of the size of dis-saving in the lowest quintile. If the household income rankings used in the calculation of consumption variables is less accurate than the household rankings for the disposable income, then the consumption of higher income households would erroneously show up in the lowest quintile and push up the estimates of the consumption variables. Three countries among the ones shown in Figure 1, however, used a single micro source for income and consumption components, namely Korea, New Zealand, and Mexico. The relatively large size of dis-saving for these countries suggests that, even though the separate quintile definition of income and consumption variables theoretically can be a source of a negative bias in the savings-rates, it is certainly not the main culprit.

51. The treatment of owner occupied dwellings seems to vary across countries. In Table 3, we have presented the implied intermediate consumption related to the production of housing services in owner occupied dwellings (imputed rentals – operating surplus) as a percentage of imputed rentals. We can see that for countries like Netherlands and Mexico the implied intermediate consumption is low and flat across quintiles, suggesting that these items include a limited set of costs associated with the provision of housing services, and most likely do not include FISIM on mortgages. On the other hand countries like Australia, New Zealand, the Unites States, and perhaps Korea as well, are likely to include FISIM related to mortgage loans as an intermediate consumption component in the production of housing services in owner occupied dwellings.

Table 3
Implied intermediate consumption related to the production of housing services in owner occupied dwellings as a percentage of imputed rentals

| | Equivalized Disposable Income Quintiles (after benchmarking to NA) | | | | | |
	Q1	Q2	Q3	Q4	Q5	Total covered
Australia	0.50	0.43	0.38	0.19	0.16	0.31
France	0.18	0.14	0.14	0.12	0.04	0.10
Mexico (2010)	0.07	0.07	0.07	0.07	0.07	0.07
Netherlands	0.05	0.05	0.05	0.05	0.05	0.05
New Zealand	0.22	0.21	0.25	0.28	0.43	0.29
Slovenia	-0.05	0.05	0.17	0.20	0.09	0.10
Korea	0.27	0.27	0.27	0.27	0.27	0.27
US	0.27	0.24	0.25	0.28	0.31	0.28

52.   There is a small immediate impact on the saving rate, when FISIM is treated as part of intermediate consumption (as compared to a situation where FISIM is entirely treated as final consumption), as the inclusion of parts of FISIM into the intermediate consumption decreases the income estimates, however it keeps savings unaffected, thus increasing in absolute value the savings-rate. The fact that France, Mexico, New Zealand and Slovenia did not allocate FISIM to households neither as income nor as final consumption has a similar impact on the savings rate as the case described above; it increases the savings-rate in absolute value compared to the other countries.

53.   The way repair and maintenance is accounted for may also have a small impact on savings. If these costs are predominantly treated as intermediate consumption, then they decrease savings. However if they are capitalized, savings remain at a higher level. Net borrowing (net lending) of households of course remains unaffected.

54.   There is also a risk of double counting. The questionnaire/template asked experts to report interest paid, interest received and FISIM on separate lines, which, assuming that FISIM on mortgages are recorded as part of intermediate consumption in the provision of housing services, would mean that the interest paid reported, should be interest paid less the FISIM paid on mortgages (in this case applying to both owner-occupied dwellings and rented dwellings owned by households). Otherwise FISIM paid on mortgages is double counted and decreases disposable income and savings. Nonetheless, based on rough upper bound estimates, the negative impact on the saving rates of all housing related issues are not likely to surpass 10 percentage points.

C.   Conclusion and way forward

55.   In conclusion we can say that there are various real economic phenomena and statistical issues that can contribute to the observed large negative savings, and perhaps also to some of the large variation across countries. However, without the detailed micro information, and without the careful modeling of the impact of each of the identified issues it is impossible to establish a single most important determinant for the negative saving rates, nor decide conclusively whether it is a measurement artifact or just a surprising feature caused by consumption smoothing and lifecycle related consumption patterns.

56.   As a way forward, we suggest the following:

- First of all, we would like to invite you to comment on the presented scenarios.

- Secondly, we would very much appreciate your input on how we could possibly substantiate the analysis provided in this short note, i.e. what possibilities we have to quantify the possible impact of the various real phenomena and statistical issues.

- Thirdly, we would like to invite you to present possible alternative scenarios, may it be real economic phenomena or statistical artefacts, which may account for the saving ratios presented in the above.

- Finally, we would like to invite you to propose contributions to the Expert Group meeting (Paris, 24-25 April 2014) on country specific experience or studies related to the possible drivers of the negative saving rate in lower income quintiles.

57.   It would be good if we could receive your feedback on the above by 13 March 2014 at the latest, so that we can adjust the paper to take into account your comments and suggestions, and that we can timely prepare the agenda of the upcoming meeting in more detail.

D.   References

Saving Working Group's final report to the Minister of Finance (2011)"Saving New Zealand: Reducing Vulnerabilities and Barriers to Growth and Prosperity", pp. 42-45 (http://purl.oclc.org/nzt/r-1348)

Fesseau, M. and M. L. Mattonetti (2013), "Distributional Measures Across Household Groups in a National Accounts Framework: Results from an Experimental Cross-country Exercise on Household Income, Consumption and Saving", OECD Statistics Working Papers, No. 2013/04, OECD Publishing.

Milton Friedman (1957) "The Permanent Income Hypothesis", Chapter in NBER book A Theory of the Consumption Function, pp. 20-37, by Princeton University Press

Modigliani, F. and R. Brumberg (1954) "Utility Analysis and the Consumption Function: an Interpretation of Cross-Section Data" in Post Keynesian Economics, ed. Kenneth K. Kurihara. by the Trustees of Rutgers College in New Jersey

IV. Proposal for the creation of an Informal Expert Group on Distributional Information on Household Income, Consumption and Savings within the SNA Framework[13]

58.   In recent years a number of initiatives have called upon the statistics community to provide a wider spectrum of data on the distribution of household economic resources (*i.e.* income, consumption and wealth). These include the OECD's project on inclusive growth, recommendation 4 of the report of the Commission on the measurement of Economic Performance and Social Progress (the so-called Stiglitz-Sen-Fitoussi Commission), and recommendation 16 of the G20 Data Gaps Initiative. All of these initiatives emphasise the need for statistics to go beyond average measures and to reflect the distribution of income, consumption and wealth, and thus allow for a better understanding of socio-economic developments and more targeted policy designs.

59.   Currently, national accounts data on household income, consumption and wealth provides little if any information on how income, consumption and wealth are distributed across subsectors of households.

60.   Nonetheless, distributional information can be derived from other sources, in particular household surveys and administrative data. However, these micro data are often collected and processed in isolation from the system of national accounts (SNA) and hence discrepancies and inconsistencies arise. Moreover, household micro statistics are less timely, less frequent, and in general less internationally harmonised than SNA data, which makes both timely policy evaluations/feedback and comparisons across countries difficult.

61.   In line with the above mentioned initiatives and recommendations, two informal Expert Groups were created in 2010 as part of the OECD Committee on Statistics' (CSTAT) programme of work for the period 2011-2012: (i) the OECD Expert Group on Micro Statistics on Income, Consumption and Wealth (EG ICW), whose primary objectives were to provide international guidelines for measuring the distribution of household wealth and to suggest a framework for the integrated analysis of micro data on household income, consumption and wealth; and (ii) the OECD/Eurostat Expert Group on Disparities in National Accounts (EG DNA), whose primary objective was that of using existing micro data to incorporate distributional information within the SNA household accounts.

62.   The main outputs of the EG ICW consisted of two reports, one on an integrated framework on the distribution of household income, consumption and wealth, and another one on guidelines for micro statistics on household wealth. The EG DNA carried out a feasibility study, and assessed whether it is possible to devise an internationally comparable methodology to break down national accounts aggregates for the household sector using distributional information available from micro sources, by making use of all the detailed information available at the national level. By conducting an in-depth study at national level of the main differences between micro and macro statistics, as well as trying to bridge the gaps between the various statistical sources, the EG DNA has shown that identifying and quantifying the differences in household economic resources is challenging. Nonetheless, the exercise has proved useful to improve our understanding of the quality and consistency of macro and micro data sets, and opened up possibilities for improving both micro and macro statistics by relying more strongly on the other source(s). In spite of the difficulties, a large majority of the countries in the EG DNA succeeded in producing experimental income and consumption statistics for various household subgroups that are

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[13] Note by the OECD secretariat

consistent with SNA definitions and aggregates. The final results of the EG DNA work will be published in October.

63.   The results of the two Expert Groups were presented to CSTAT, at its meeting of 12-13 June 2013 in Geneva, where the Secretariat put forward some first proposals on the possible continuation of the relevant activities. CSTAT delegates extensively discussed these proposals. They complimented the two Expert Groups and the Secretariat for the work done, which they considered of primary importance given the policy demands in this area. Although the continuation of these activities does require significant resources within National Statistical Offices (NSOs) at a time of serious cutbacks, CSTAT Delegates expressed a generally positive opinion on the pursuit of these activities.

64.   In the light of the discussion at CSTAT and further consideration by the Secretariat, the following steps are proposed:

- Regarding the work of the EG ICW, the two OECD reports (OECD Guidelines for Micro

- Statistics on Household Wealth and the OECD Framework for the Joint Distribution of Household Income, Consumption and Wealth) provide guidance that should now be tested by NSOs in their own data collection efforts. Once a sufficient number of NSOs have done so, a proposal for follow-up work in this field might be put forward in the context of the CSTAT Programme of Work for the next biennium (2015-16). Such a proposal might be to establish an electronic forum for resolving the implementation issues that may arise.

- Regarding the work of the EG DNA, the Secretariat proposes to extend it, as follows: (i) provide national-accounts compatible distributional estimates for a more recent benchmark year based on a streamlined methodology, with a focus on improving the consistency of the results on income and consumption; and (ii) consider the possible development of a methodology for compiling more timely distributional estimates of levels and changes in income, consumption and savings consistent with the SNA framework. The box 1 elaborates on this proposal.

65.   Delegates are invited to:

- Note that proposals for follow-up to the work of the EG ICW will be included in the CSTAT programme of Work for the 2015-2016 biennium, once a sufficient number of countries have taken steps to implement the EC ICW framework for micro statistics on different types of economic resources.

- Provide comments on the proposal to form an OECD Informal Expert Group on Distributional Information on Household Income, Consumption and Savings within a SNA framework.

- Express their interest in joining the Informal Expert Group and nominate their country representative.

66.   Written comments should be sent to the OECD Secretariat by **Friday 27 September 2013**.

Box 1
Proposal to form an OECD informal expert group on distributional information on household income, consumption and savings within the SNA framework

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Reporting to: CSTAT

Creation: October 2013

Duration: Around two years (October 2013 - December 2015)

Objectives:

Under the authority of the OECD Committee on Statistics and its Working Party on National Accounts, the Informal Expert Group on Distributional Information on Income, Consumption and Savings within the SNA framework will be asked to:

1. Extend the work carried out in 2011-12 by the OECD/Eurostat DG DNA towards producing household distributional information on income and consumption for a more recent year, via a streamlined questionnaire, in order to assess robustness of the assumptions made and the techniques developed to link the micro and macro data sources.

2. Develop and evaluate methods and sources for extrapolating distributional dynamics from benchmark years using more timely available aggregate statistics (*e.g.* national accounts, labour force surveys, etc.).

Composition:

The Informal Expert Group should consist of representatives from OECD member countries, accession countries and key partners. Membership is also open to representatives from ECB, Eurostat, IMF, the United Nations, the World Bank and other relevant international organisations. Members of the former OECD/Eurostat EG DNA are encouraged to participate in the Informal Expert Group, as its activities will lean greatly on the work and results of the EG DNA. The Informal Expert Group ideally should consist of a mix of experts in household surveys (micro experts) and national accountants (macro experts), who are expected to work in close co-operation at national level.

Reporting:

The Informal Expert Group will regularly report on progress to CSTAT. The expected timetable and deliverables are set out below.

Agreement on the formation of the Informal Expert Group and nomination of members/experts: Oct 2013.

Report on the consistency of income and consumption estimates through an analysis of savings by income quintiles: Apr 2014

Summary report of the new benchmark estimates, including a comparison with the EG DNA results.

Outline the methodology developed to extrapolate distributional information consistent with national accounts using available, more timely information at a more aggregate level: Jun 2015

Final report on the results and methodological advances, and the feasibility of regular production of national-accounts compatible distributional estimates of household income, consumption and savings: Dec 2015

V. A proposal for the electronic publication of a Household Dashboard: focusing on households using national accounts data

67. This note puts forward a proposal for the electronic publication of a dashboard on household economic resources, on the basis of the improved availability of (timely) institutional sector accounts. Doing so, the first three recommendations of the Stiglitz-Sen-Fitoussi report could be addressed.

68. After a more general discussion on the choice of the indicators for the dashboard, this note provides a more detailed description of each of the proposed indicators.

A. Which indicators to include in a household dashboard?

69. One of the more general criteria for the selection of indicators on household economic resources relates to the timeliness of estimates. Fortunately, as stated before, in recent years the timeliness of relevant household indicators has significantly improved with the development and publication of quarterly institutional sector accounts. The timeliness is not yet according to the first estimates for GDP growth (30 – 45 days after the end of the quarter), but developments regarding the compilation of sector accounts go in the direction of 90 days after the end of the quarter.

70. Another more general criterion concerns the international comparability of indicators. This relates, for example, to the preference of having adjusted disposable income over and above disposable income. The former also includes the so-called social transfers in kind, the provision of goods and services by government and non-profit institutions serving households (NPISHs) either free or at prices that are not economically significant. As such, adjusted disposable income is the preferred concept, as it takes into account the internationally quite different institutional settings for the provision of services in the area of e.g. health and education.

71. Both timeliness and international comparability also affect the choice of the population. In several countries, data for households cannot be separated from those for NPISHs. This may be the case for annual estimates; it most certainly is true for quarterly estimates of most countries. So, for reasons of timeliness and international comparability, in the dashboard, preference is given to the combined sector of households and NPISHs.

72. More generally, one would like to limit the number of indicators to a few important ones, to keep the dashboard focused and more digestible. In this proposal, six indicators have been selected. The indicators chosen for the OECD Household Dashboard represent a macro perspective on households using data produced within the framework of the System of National Accounts (SNA), with the exception of the unemployment rate. Three of the indicators relate to income, one to savings and one to debt. One could think of having an additional indicator on net wealth of households. Unfortunately, however, data on non-financial assets are not available or, if available, they lack the international comparability needed for the inclusion in the dashboard. Alternatively, one could include net financial wealth, i.e. excluding non-financial assets. However, this indicator may be affected by typical differences in investment behaviour of households across countries.

73. Furthermore, it goes without saying that one would like to include one or more indicators on the distribution of income, consumption and/or wealth across different groups of households; see also recommendation 4 of the Stiglitz-Sen-Fitoussi report. However, because of lack of (timely) data, this is simple not (yet) possible. It is proposed to the

Statistics Committee to establish an Expert Group to look into the possibilities to arrive at more timely annual estimates on the distribution of income, consumption and saving.

74.   Regarding income, the first of the three indicators shows the growth in real disposable income of households compared to the growth in real GDP. Although in the longer term, both indicators show quite similar patterns, short term developments may be quite different. The following two indicators chosen provide an indication on the possible reasons for differences between a countries' GDP growth and changes in households' income, through (1) changes in the share of the remuneration for the participation of households in the production process (compensation and self employment), and (2) changes in the process of redistribution of income, mainly through government interference (taxes and social benefits).

75.   The fourth indicator, household net savings rate, shows the proportion that households are saving out of current income. As such, it also provides an indication of how much of the income is added to the increase of net wealth. Furthermore, an indicator on the indebtedness of households is included, as this typically represents (changes in) possible financial vulnerabilities of the household sector. The same is true for the unemployment rate, which more generally has a major impact on the well-being of people.

76.   In short, the six proposed indicators are as follows:

- 1. Real household net adjusted disposable income, growth rate

- 2. Compensation of employees and mixed income of the household sector as a percentage of GDP

- 3. Household income redistribution

- 4. Household net savings rate

- 5. Household indebtedness ratio, the debt of households as a percentage of gross disposable income

- 6. Unemployment rate (harmonized unemployment rates from MEI database)

77.   In the rest of the note, the proposed indicators are described in some more detail. Before doing so, a couple of general comments regarding the dashboard:

- The indicators are to be presented in an online display together with texts describing the indicators.

- Data in the tables will cover both annual and quarterly data; however, the number of countries with quarterly data available is less. The attached Excel file presents the availability of the annual and quarterly data by country.

- The time span of data available varies by country and by indicator.

- The graphs presented in this memo are an indication of what type of graphs can be presented.

78.   A final remark relates to the presentation of quarterly data, which may be seriously affected by seasonal patterns. In some cases, seasonally adjusted data are available (GDP growth, unemployment rate). In other cases, however, adjusted data may only be partially available (household adjusted disposable income) or, as is true for most indicators, not available at all. One possibility is to compile seasonally adjusted series ourselves. However, in the case of non-availability of nationally adjusted series, this does not look as a very attractive option. The alternative is to present growth rates compared to the same quarter of the previous year, or to show moving averages of four quarters. The latter may be the preferable option in the case of presenting ratios.

## B. What do the indicators tell us?

1. Real household net adjusted disposable income

79.   This indicator shows the growth rate in real household net adjusted disposable income. Adjusted disposable income equals total income received, after deduction of taxes and social contributions, and includes social benefits in cash and in kind. The indicator is calculated as household net adjusted disposable income divided by the deflator for household actual individual consumption expenditure. It shows households how much their income has grown or shrunk after adjusting for how much purchasing power the money has. For example, if money income increases more than consumer prices, real income increases. If money income increases less than consumer prices, real income declines.

80.   As seen in the chart 1, 13 out of 24 countries had average annual growth rates in real adjusted disposable income above 2% between 2000 and 2010

Chart 1
Real household net adjusted disposable income and GDP (average annual growth rates between 2000 and 2010)
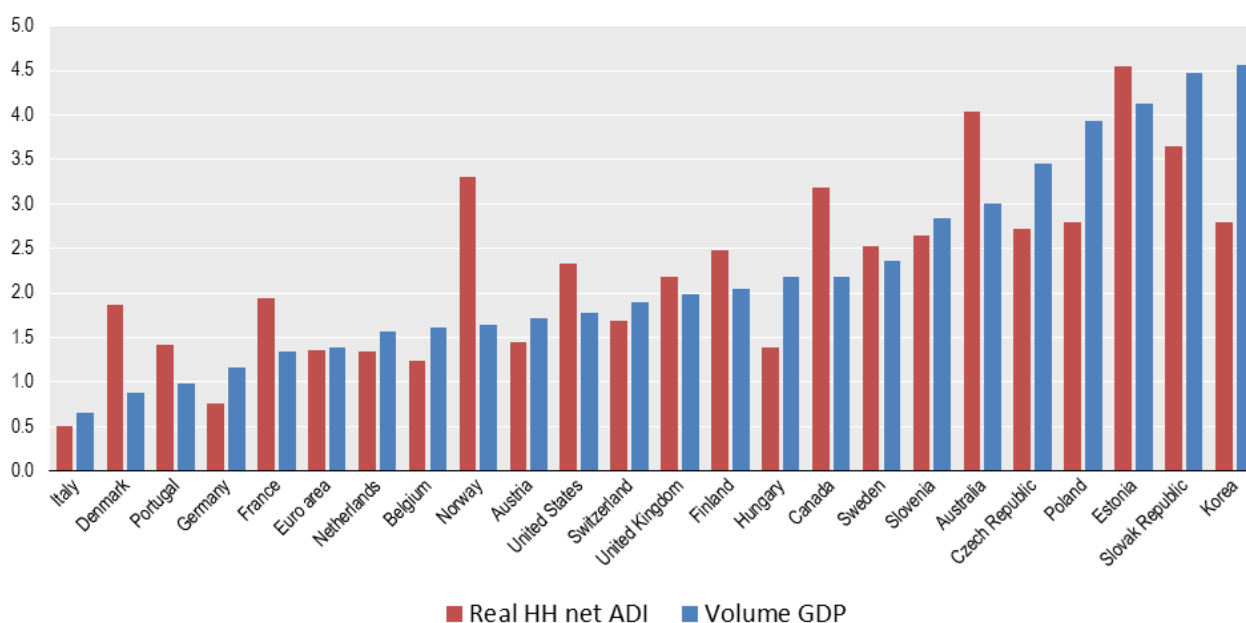
2. Compensation of employees and mixed income of household sector as a percentage of GDP

81.   Compensation of employees is the largest item of household income and is the total remuneration of employees' labour input into the production process. It consists of wages and salaries, both in cash and in kind, and social contributions payable by employers (e.g., social benefits payable by employers to social security schemes and pension schemes).

82.   Compensation of employees does not include the remuneration for the unpaid work of owners of unincorporated enterprises or their families. Because of this, it is recommended to also include mixed income which represents the income that is appropriated by households from their involvement in the production process by running their own business.

83.   All in all, the ratio of compensation of employees and mixed income of households as a percentage of GDP shows the share of GDP received by households for their participation in the production process. An increasing share may explain a positive difference between the growth of disposable income and GDP growth, and vice versa.

84.   As seen in chart 2, with the exception of Norway, at least half of GDP directly accrues to labour input and mixed income.

• In 2010, the average share of labour input and mixed income to GDP was 58%;

• Comparing 2010 to 2001, the relevant share fell in 15 out of 20 countries. The largest declines occurred in Poland falling 6.9 percentage points to 58.5%, and in Hungary and the United States falling 4.6 percentage points (to 54.1% in Hungary and 65% in the United States). The largest increase occurred in Finland increasing 3.8 percentage points to 57.6%.

Chart 2
Share of labour income received by households (compensation of employees and mixed income as a percentage of GDP)
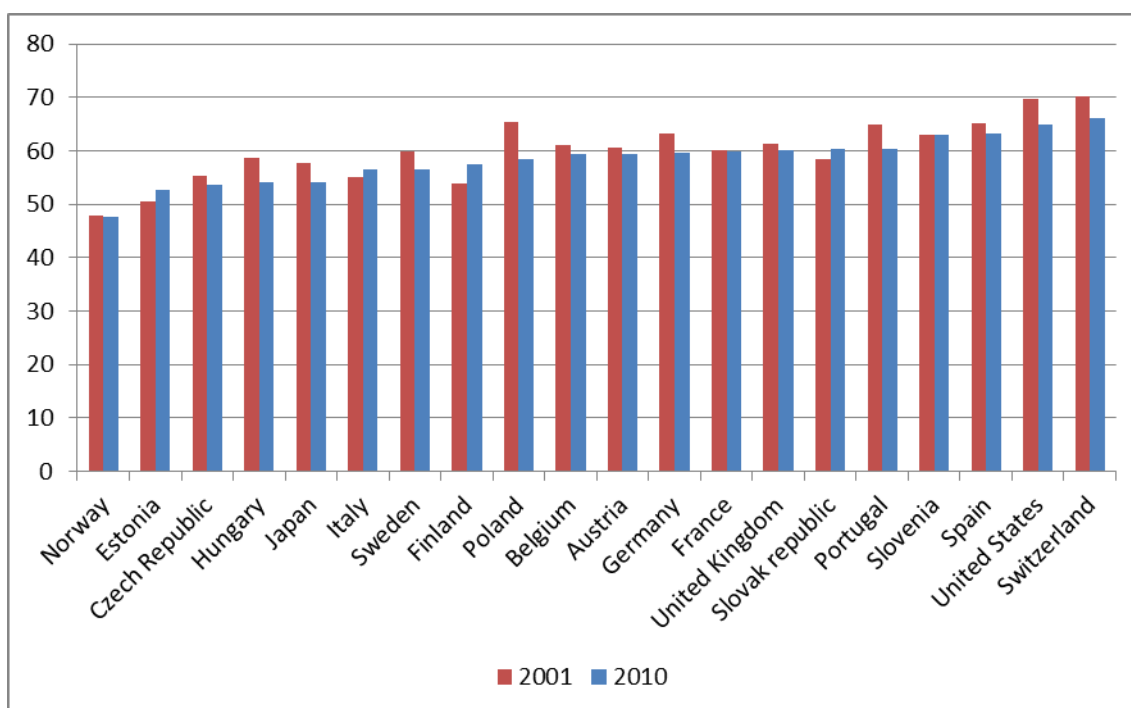
3.   Household income redistribution

85.   This ratio shows the impact of the redistribution of income, mainly through government intervention, on the income levels of households. The indicator is calculated as the ratio of net adjusted disposable income to primary income. Since adjusted disposable income takes into account the transfers between the main sectors of the economy, it only provides information for the sector of households (and NPISHs) as a whole. As such, it does not give an indication of how income is distributed among groups of households (e.g. between households at the lower end on the income distribution and households at the higher end).

86.   Household primary income is the income that accrues to households as a consequence of their involvement in the production process (such as compensation) or as a

consequence of ownership of assets that may be needed for purposes of production (net of any payments on liabilities).

87. Household adjusted disposable income is derived from primary income by taking into account net current transfers; for example, the payment of taxes and social contributions, and the receipts of transfers from government (both monetary—such as unemployment benefits— and in-kind—such as government provided health).
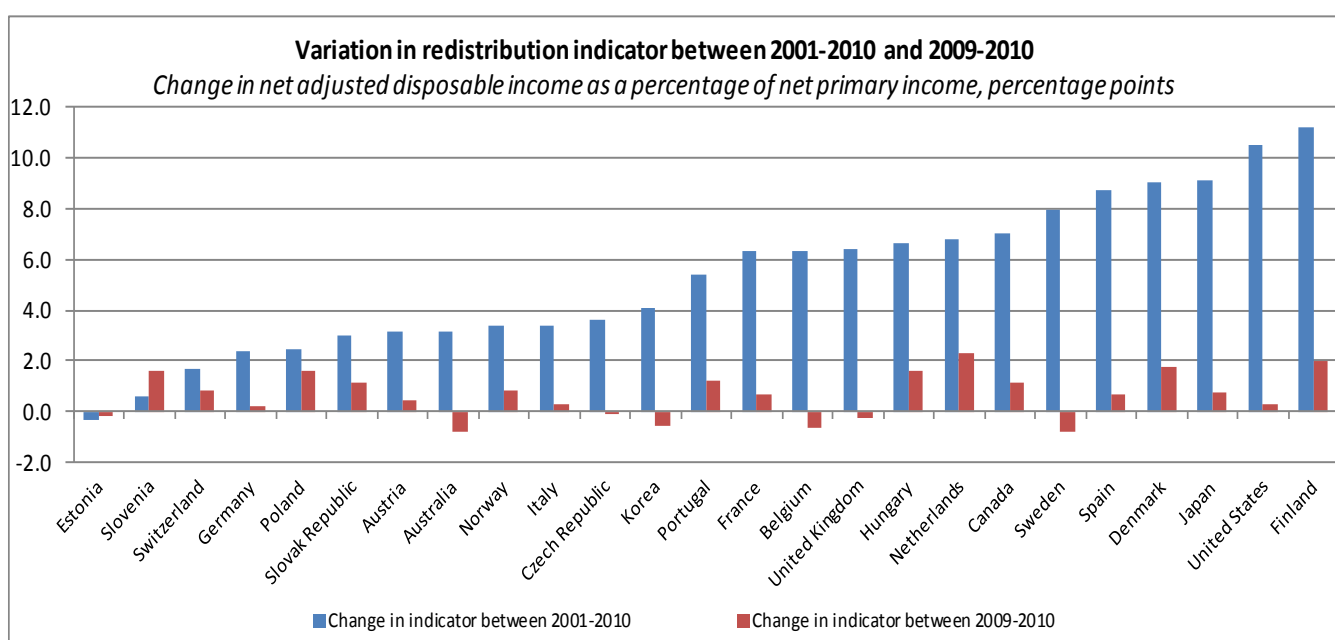
88. A ratio above 100% indicates that households' adjusted disposable income is higher than primary income. It means that primary income is increased by the redistribution of income, mainly by government policy. As for the previous indicator, an increase in the ratio may explain a positive difference between the growth of disposable income and GDP growth, and vice versa.

89. For a given country, an increase in the ratio over time reflects a higher rise (lower decrease) in the numerator as compared to the denominator. As such, an increase in the ratio does not necessarily reflect an increase in the level of adjusted disposable income or one its components. The same applies for the comparison across countries. A higher ratio in country A compared to country B indicates that the redistribution process has a higher impact in country A than in country B, given the level of primary income received by households. It does not provide any information on the income levels in country A as compared to country B.

90. As seen in chart 3, the change between 2001 and 2010 shows that, through the distribution process, households in all countries (except Estonia) received a higher amount of (adjusted disposable) income relative to primary income in 2010 than they received in 2001. In addition, in 2010, every country with the exception of Switzerland had a ratio above 100% showing that households received more transfers from other sectors (mainly government) than they paid to other sectors (such as taxes and social contributions). Indirectly, it also reflects increasing government deficits after the financial crisis, to compensate households for diminishing income generated through participation in the production process.

Chart 3
Variation in redistribution of income, households

Variation in redistribution indicator between 2001-2010 and 2009-2010
Change in net adjusted disposable income as a percentage of net primary income, percentage points

4. Household net savings rate

91.   The household savings rate compares the consumption and saving activities of households. From the perspective of households (at the microeconomic level), it shows how much households are saving out of current income, to provide families with financial security in the event of job loss and/or how much income they have added to their net wealth, e.g. to fund part of their future retirement pension.

92.   From a macroeconomic perspective, household savings is the main domestic source of funds to finance investment in fixed assets (including investment of households themselves in housing).

93.   The household savings rate is calculated as the ratio of household net savings (plus change in net equity of households in pension funds) to household net disposable income. The rates vary considerably across countries because of institutional, demographic, and socio-economic differences. For example, the government provision of old-age pensions or demographic age structure of the population will influence the rate at which populations save.

94.   As seen in the chart 4, savings rates above 10% were recorded in France, Switzerland, Germany, and Belgium in 2010. Greece recorded a negative savings rate of 8.9% whereas Denmark reported a slightly negative savings rate (0.2%) in 2010.

Chart 4
Household net savings rate (percentage of household net disposable income, 2010)
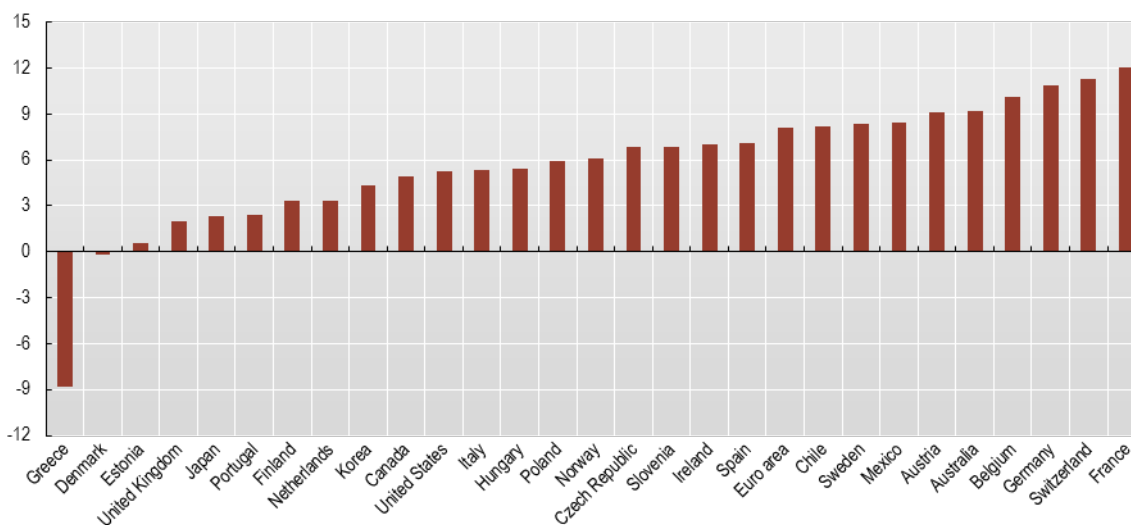
95.   As an alternative to the ratio suggested above, two other ratios are a possibility. First, the household savings rate could be calculated as the ratio of household net savings to net adjusted disposable income. This ratio may be better when comparing across countries because of the differences in government provision of services, such as education and health, used by specific households. Once transfers in kind are taken into account, the savings ratio will be lower than the ratio presented in chart 4 because there is no change in the level of savings but there is an increase in the level of the denominator, adjusted disposable income. The level of household saving is unaffected because both household disposable income and household final consumption expenditures are adjusted by the same amount of transfers in kind. The use of adjusted disposable income will reduce the gap

between savings ratios in countries that provide in kind education and health services (by reducing the savings rate) compared to countries where individuals pay for such services.

96.   Second, a savings ratio that excludes change in net equity of households in pension funds can be calculated. Such ratio would provide an indication of how much of savings is "freely" saved out of income versus how much is "forced" savings through pension funds.

5.   Household indebtedness ratio

97.   This ratio presents the total outstanding debt of households as a percentage of gross disposable income of households. The debt of households largely consists of loans, primarily home mortgage loans but also other types of liabilities such as consumer debt (credit card, automobile loans, etc).

98.   An indebtedness ratio above 100 percent indicates that the household debt outstanding is larger than the annual flow of disposable income (a ratio of less than 100 percent means the opposite). It is clear that high household indebtedness ratios, as is true for high government debt ratios, may create a certain risk or vulnerability for households, especially when it is unevenly distributed across different groups of households. On the other hand however, one should also take into account the availability of assets, e.g. dwellings, for which the borrowing has been made.

99.   Furthermore, the indebtedness ratio may be affected by different levels of owner-occupied housing, house prices relative to disposable income, differences in taxation regimes for mortgage loans, and differences in pension schemes. The favourable tax regime for mortgage loans and the high level of pension wealth may be an important reason for the relatively high levels of indebtedness in the Netherlands and Denmark.

Chart 5
Household indebtedness (debt as a percentage of gross disposable income)
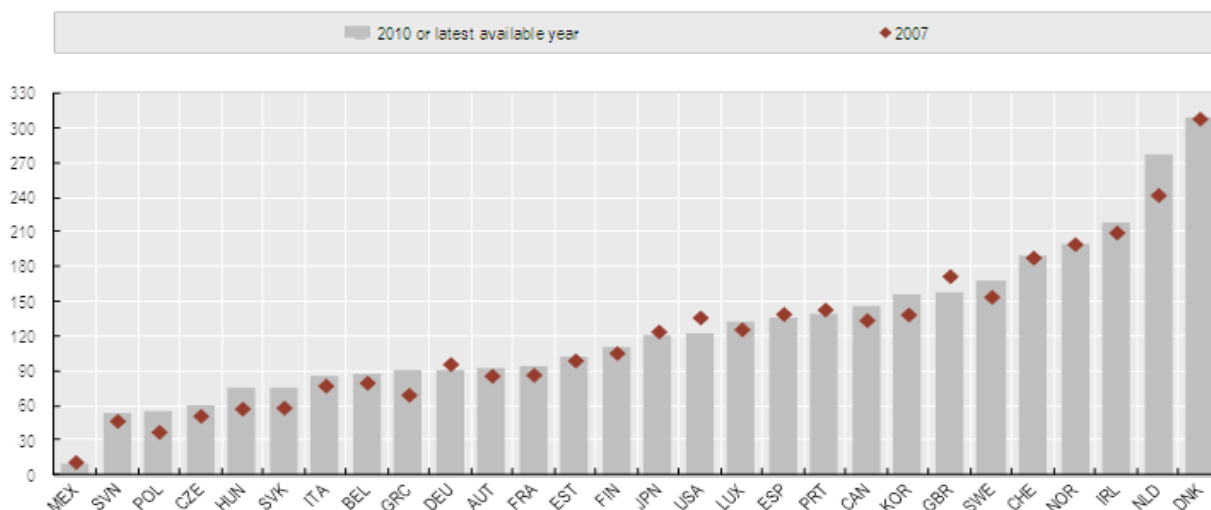
6.   Unemployment rate

100.   Finally, it is proposed to include the harmonized unemployment rates data from the MEI database. The relevant definition of unemployment is as follows:

101.   The OECD harmonised unemployment rates, compiled for all 34 OECD member countries, are based on definitions of the 13th Conference of Labour Statisticians (generally referred to as the ILO guidelines). Under these definitions, the unemployed are persons of working age who, in the reference period:

- are without work;

- are available for work; and,

- have taken specific steps to find work.

102. The uniform application of the definitions results in estimates that are more internationally comparable than those based on national definitions. For example, national unemployment data in some countries only include persons registered at government labour offices. Under the ILO definition, persons without work who are seeking employment through other means can also be classified as unemployed and registrants can be excluded if they worked or were not available for work. The unemployment rates shown here are calculated as the number of unemployed persons as a percentage of the labour force (i.e., the unemployed plus those in employment) and are seasonally adjusted.

Chart 6
Unemployment rate (second quarter 2013*)

Q2-2013; * Q1-2013