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GUIDANCE NOTE FOR DISTRIBUTION OF
HOUSEHOLD INCOME, CONSUMPTION AND WEALTH

Guidance note for distribution of household income, consumption and wealth[1]

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1. Introduction

1.	Whereas there has always been much focus on aggregates such as Gross Domestic Product (GDP) and Net National Income (NNI), the Stiglitz report (Stiglitz, Sen and Fitoussi, 2009) and the G20 Data Gaps Initiative (DGI), amongst others, stressed the importance of indicators that are more directly related to households' material (or economic) well-being. This is a multidimensional concept, covering aspects as income, consumption and wealth, providing a measure of people's current and future living conditions. In addition to greater insight into material well-being for the overall household sector, they also stressed the need for more insight in how different household groups are faring. Aggregates and average growth rates only provide a partial story, which may conceal large discrepancies between different types of households. This asks for the compilation of distributional accounts that take into account the joint relationships between income, consumption and wealth, also allowing the computation of multivariate indicators (such as consumption-to-income, debt-to-income or wealth-to-income ratios) for the various breakdowns of the household sector.

2.	While distributional information is often available from micro statistics, these results may not always be consistent across the primary components of economic well-being (e.g. income, consumption and wealth). In this regard, surveys or register data covering all these aspects are rarely available. Furthermore, these results may not always be consistent over time and their aggregated trends may often diverge from national accounts data. Deriving household distributional information within the System of National Accounts enables the derivation of distributional results that are consistent across accounts (e.g. income, consumption and wealth), coherent with macroeconomic aggregates, and comparable over time and across countries. This information will be of considerable relevance for macroeconomic analyses and the monitoring of economic well-being, providing new insight in how specific household groups are faring and how macroeconomic trends and policies may affect specific household groups.

3.	The compilation of household distributional results entails breaking down results for the household sector as defined within the System of National Accounts, into more granular subsectors consisting of specific groups of households. This should be done along the whole sequence of interconnected accounts representing different types of economic activity occurring within a period of time, including balance sheets that record stocks of assets and liabilities held by the household sector at the start and end of that period. This will lead to a consistent and comprehensive description of different groups of households across the various accounts. It can be envisaged that this information is included in a separate set of accounts, but as it concerns more granular breakdowns of information that is already available in the central framework of the national accounts, it can also be envisaged that this information becomes part of the central framework (possibly as voluntary breakdowns).

4.	The aim of this note is to provide guidance needed for the compilation of household distributional results in line with national accounts' totals. Overall guidance on the compilation of results for the household sector that serve as starting point for the work on household distributional results is available from the System of National Accounts, but more specific guidance is required to break down these results into more granular subgroups. This includes issues that only become relevant when breaking down results for the household sector, for example acknowledging flows and positions between households (which are usually consolidated when presenting results for the household sector as a whole), or providing guidance on the allocation of amounts to underlying households for some items that are specific to the System of National Accounts. This guidance also addresses how to define and delineate the specific

subsectors to be distinguished within the household sector, helping to ensure coherent results across countries and over time.

5.   In the years since the Stiglitz report, various projects have looked into the development of methodology to compile distributional results in line with national accounts totals for specific parts of the sequence of accounts. For example, the OECD-Eurostat Expert Group on Disparities in a National Accounts framework (EG DNA) and the ECB Expert Group on Distributional Financial Accounts (EG DFA) have been developing methods to derive household distributional results focusing on the current accounts and the financial balance sheets for the household sector respectively. In addition, the team responsible for the World Inequality Database (WID.world) have developed a methodology to derive Distributional National Accounts (DINA), focusing on income and wealth. They deviate from the other two projects by focusing on adult individuals (i.e. 20 years and older) instead of households, and by applying slightly different income and wealth concepts. Instead of only focusing on the results for the household sector, they also allocate income and wealth of other sectors in the domestic economy to adult individuals, aligning to measures of income and wealth for the economy as a whole. The outputs of all these various projects have contributed to the development of the guidance note for this specific topic.

6.   This guidance note builds on this previous work by providing the overarching framework for distributional measures of household income, consumption and wealth within the national accounts, as well as breakdowns, measures and indicators that compilers should seek to produce. This note does not seek to address individual practical measurement issues in detail, although it is acknowledged that this will be of crucial importance given the fact that this type of work may be new to a lot of countries. In that regard, more practical guidance will be needed to assist countries in compiling these results. For that purpose, work is ongoing to develop practical guidance in the form of manuals and handbooks, such as the forthcoming EG DNA Handbook (2020, forthcoming). These will have to accompany the more conceptual guidance as will be included in the updated SNA.

2. Existing material

7.   The starting point for the work are the results for the household sector as described in the System of National Accounts (EC, IMF, OECD, UN and World Bank, 2009). The aim of this line of work is to arrive at more granular breakdowns of these results into more detailed household groups, providing more insights in how specific household groups are faring.

8.   A lot of work on developing methodology to compile distributional results in line with the results for the household sector has already been done and has fed into this guidance note.

9.   The OECD-Eurostat expert group on disparities in a national accounts framework (EG DNA) has been developing methodology for the compilation of results on income, consumption and savings. This group has developed a generic collection template and accompanying guidelines (OECD, 2019) that member states have already applied in three exercises to compile experimental results[2]. Several countries have already started to compile and publish results in accordance with this methodology on a regular basis. A handbook describing the methodology in more detail is expected to become available in the course of 2020.

10.   The ECB expert group on distributional financial accounts (EG DFA) (preceded by an ECB expert group on linking micro and macro statistics) has been working on methodology for distributional results on wealth. The final report of the expert group on linking macro and micro statistics (ECB, 2019) already provides a lot of information on specific issues, both practical and conceptual, in the compilation of distributional financial accounts, and additional experiences are available from the ongoing work of the EG DFA.

11.   It is also important to mention the work by the WID.world team that develops Distributional National Accounts (DINA). The main aim of this project is to compile annual estimates of the distribution of income and wealth, using concepts that are consistent with national accounts. They deviate from the other two projects by focusing on adult individuals (i.e. 20 years and older) instead of households, and by applying slightly different income and wealth concepts. Instead of only focusing on the results for the household sector, they also allocate income and wealth of other sectors in the domestic economy to adult individuals, aligning to measures of income and wealth for the economy as a whole[3]. In seeking full consistency with SNA aggregate concepts, they encounter a lot of similar conceptual and practical issues in the compilation of their results, so their methodology as described in Alvaredo et al. (2016) has also been considered in this guidance note.

12.   Relevant information is also available from the micro side. In that regard, the OECD Expert Group on Micro Statistics on Income, Consumption and Wealth (EG ICW) developed international guidelines for measuring the distribution of household wealth in micro statistics (OECD, 2013), and a framework for the integrated analysis of micro data on household income, consumption and wealth (OECD, 2013). The framework and these guidelines are at the basis of the OECD collection for the Income Distribution Database (IDD), which provides a comparable set of data on income distribution of households across OECD countries relying on micro sources, mainly

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[2] See for more information Fesseau and Mattonetti (2013), Fesseau, Wolff and Mattonetti (2013), Zwijnenburg, Bournot and Giovannelli (2017) and Zwijnenburg, Bournot, Guidetti and Grahn (2020, forthcoming).
[3] See for more information Zwijnenburg (2017).

household surveys. For EU and EFTA countries, the EU-SILC[4] and HBS[5] surveys provide detailed information on household income and consumption. Likewise, the HFCS[6] survey collects detailed information of household wealth from countries of the Euro area. Furthermore, Eurostat has been working on the combination of income and consumption survey data since a number of years (see Eurostat, 2013; Leulescu and Agafitei, 2013; and Serafino and Tonkin, 2017), also including wealth (Lamarche et al., 2020 forthcoming). The statistical matching of survey data from different sources is the best option currently available to obtain joint distributions of income, consumption and wealth for multiple countries, although the method is based on statistical assumptions. In 2017, Eurostat, the OECD and some Member States joined their efforts in an expert group on measuring the joint distribution of household Income, Consumption & Wealth (EG ICW). This expert group developed methodological guidelines and a quality framework for the combination of income, consumption and wealth data at the micro level.

13.   Finally, further information on possible breakdowns is also widely available. The forthcoming UNECE Guide to data disaggregation for poverty measurement (UNECE, 2020) in particular recommends data disaggregation by specific socio-demographic variables, which would allow a more complete analysis on the distributional side. This builds its guidance on target groups and variables primarily upon international recommendations for disaggregation of income and poverty-related indicators from sources such as: the UNECE Guide on Poverty Measurement (UNECE, 2017); the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (UN, 2019); the World Bank's Monitoring Global Poverty report (World Bank, 2017) and the Canberra Group Handbook on Household Income Statistics (UNECE, 2011).

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[4] EU-Statistics on Income and Living Conditions (EU-SILC): https://ec.europa.eu/eurostat/web/income-and-living-conditions/overview.

[5] Household Budget Surveys (HBS): https://ec.europa.eu/eurostat/web/household-budget-surveys/overview.

[6] Household Finance and Consumption Survey (HFCS): https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html.

3. Proposals

14.   This chapter discusses various issues in relation to the compilation of distributional results in line with national accounts totals. Section 3.1 discusses the scope of the work, followed by an elaboration on the targeted breakdowns in Section 3.2. The methodology for compiling the results is presented in Section 3.3, followed by a more detailed overview of specific conceptual and methodological issues that may be encountered in the compilation process. Section 3.5 discusses the additional socio-demographic information that may accompany the distributional breakdowns.

3.1   Scope

15.   The main goal of the work is to break down the results of the household sector as included in the national accounts in more granular household groups, consistently across the various accounts, deriving distributional results for important indicators such as household income, consumption, savings and net worth. This section discusses specific issues in delineating the scope of the work in terms of population, unit of observation, and main balancing items.

Population

16.   As the focus is on deriving household distributional results, the household sector as defined in the System of National Accounts constitutes the starting point of the work. A household is a group of persons who share the same living accommodation, pool some, or all, of their income and wealth, and consume certain types of goods (mainly housing and food) and services collectively (see 2008 SNA, §4.149). In general, each member of a household has some claim upon the collective resources of the household and some influence on the decisions affecting consumption or other economic activities. For these reasons, the household is regarded as institutional unit in the System of National Accounts, even though income is usually received by the individual, and the household is used as the unit of observation in compiling distributional results.

17.   The household sector in the SNA includes both private and institutional households. The latter concern persons living permanently in an institution, or who may be expected to reside in an institution for a very long, or indefinite, period of time, with little or no autonomy of action or decision in economic matters. Examples are people living in prisons, boarding schools, retirement homes, hospitals, nursing homes, and religious institutions (see 2008 SNA, §4.152). These types of households may comprise large groups of individuals with very different socio-demographic backgrounds, who are not related, and who may have very different income and consumption patterns. As a consequence, they behave differently than private households and their (equivalized) results are not really comparable. For that reason, **it is proposed to treat institutional households differently from private households in the compilation of household distributional results, and to analyse and present their results as a separate category**. An alternative is to treat all persons within an institutional household as a separate one-person household in compiling the distributional results, although this may not do justice to the specific circumstances these individuals live in. Furthermore, treating them as a single household comprising many individuals would lead to heterogeneous results, which may have a distorting effect on distributional analyses. On the other hand, it has to be borne in mind that it may be difficult to obtain good quality information on the group of institutional households and that their share in total households will usually be very small.

Unit of observation

18.   Whereas the household constitutes the unit of observation in compiling distributional results, it has to be borne in mind that households may differ in size and composition, as a consequence of which they may have different consumption needs. In that sense, an income level of 3,000 euros per month for a single person household is not comparable with an income level of 3,000 euros for a household consisting of two adults and three children living at home. Therefore, **in analysing data on income, consumption and wealth at the household level, it is recommended to focus on 'equivalized' results, using equivalence scales that take into account differences in size and composition of households, to arrive at comparable results across households,** recalculating results according to the number of consumption units in each household. A value is assigned to each household type in proportion to its needs, depending on its size and composition. Due to economies of scale (in particular the sharing of dwellings), the per capita requirements of larger households are lower than those of smaller households to achieve the same levels of economic well-being.

19.   For wealth, there is usually less consensus on the appropriate equivalence scale to apply. However, for consistency across domains, it is deemed appropriate to use the same equivalence scales to adjust wealth as those used to adjust income and consumption. In that regard, it has to be borne in mind that wealth may often be used to support current consumption. However, as it is a stock and not a flow measure, it should also be considered that for specific purposes, it may be relevant to show results on the distribution of wealth on the basis of alternative equivalence scales. The equivalence scales are further discussed in section 3.4.4.

Main balancing items

20.   The aim of the project is to derive household distributional results in line with national accounts totals that provide more insight in important economic indicators such as household income, consumption, saving and net worth. The starting point for this work is the information for the household sector as included in the System of National Accounts. However, it may be discussed whether the current balancing items that are defined from the perspective of the economy as a whole are also the most suitable for analysing household distributional results. It can be envisaged that alternative measures may be more suitable for policy purposes. It will have to be discussed whether these should be presented as additional measures or whether in some cases this may warrant changes to the current recording of some items in the SNA. This section discusses main balancing items related to 'income', 'consumption' and 'net worth', also touching upon saving and net lending/net borrowing.

Income

21.   The main balancing items related to income as defined in the System of National Accounts that would be of most interest for distributional analyses are 'primary income', 'disposable income' and 'adjusted disposable income'. These are currently targeted in the work of the EG DNA, but alternative concepts could be envisaged, removing specific items and/or adding specific items. It will most likely depend on the main policy interest which concept would be best suited.

22.   An alternative income concept that could be envisaged is one that comes closer to what an individual household would normally consider as 'income', such as the income concept as used by the Canberra Group (UNECE, 2011). This income measure states that "household income consists of all receipts whether monetary or in kind (goods and services) that are received by the household or individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one-time receipts". Such an alternative income concept

would be equal to adjusted disposable income as defined in the 2008 SNA minus non-life insurance benefits and winnings from lotteries[7]. Furthermore, the Canberra definition also excludes specific national accounts related items such as imputed social contributions, investment income disbursements and the adjustment for FISIM.

23.   When looking at non-life insurance benefits and winnings from lotteries, there are indeed important arguments to exclude them from an income measure as used for distributional analyses. Whereas they may be regarded as current transfer from a macroeconomic perspective, this is not the case when looking at it from the perspective of an individual beneficiary. From their perspective, it would make more sense to treat them as capital transfers. And whereas winnings from lotteries may have an upward effect on the funds that households have at their disposal, this may often not be the case for non-life insurance benefits. They are provided in relation to certain events often in order to offset certain negative impacts, for example due to sickness, theft or specific forms of damage. Treating them as part of household income may create undesirable results that people move up the income ladder when they receive more insurance benefits needed to offset negative impacts. **Recording non-life insurance benefits and lottery winnings as capital transfers would make more sense for the purpose of distributional analyses.** This may also require a reassessment of the recording of insurance premiums and lottery tickets. Instead of treating them as current transfers, it may make more sense to record them as consumption, in line with the treatment in micro statistics, or as some form of financial transactions[8]. These changes in recording would also affect savings, but would leave net lending/net borrowing unaffected. **Whereas this may be a specific recommendation in relation to the compilation and presentation of distributional results, it may also ask for a re-assessment of the current recording of these two items in the 2008 SNA.** This would also avoid the need for the use of an alternative income measure for distributional analyses.

24.   Looking at the question of the need for removing specific national accounts items such as imputed social contributions, investment income disbursements and the adjustment for FISIM to come closer to a cash concept and to what households themselves would normally regard as their income, this is not deemed desirable. It concerns relevant items that form part of income from an economic point of view, despite the fact that individuals may not directly regard them as such. Including them in the income concept provides a more comprehensive and accurate overview of inequalities between certain household groups[9].

25.   Instead of a smaller income concept as discussed above, one could also envisage a broader income concept, such as developed by Haig (1921) and Simons (1938), and by Hicks (1946), measuring income as the maximum amount that can be consumed in a

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[7] The latter may be more difficult to exclude from a practical perspective, as they are a sub-item of miscellaneous current transfers. This would then require separating them out.

[8] Particularly non-life insurance has some similarities to financial derivatives. People pay an insurance premium to protect themselves against negative impacts from certain events for a specific amount of time. For most people the value of the contract will diminish over time when the event does not take place (negative revaluation of the asset). However, for some, the contract may gain a large value if such an event occurs. This will then lead to a large revaluation of the asset (the contract) which will be offset when the payment takes place of the insurance benefit. Showing these amounts in the financial accounts may also have the benefit that it reflects the fact that an insurance benefit is often paid out in relation to the loss (or a significant reduction in the value) of an asset (or consumer durable), for example in case of damage to a dwelling or human capital in relation to health insurance.

[9] It is important to mention that several of these imputed items cancel out at the level of disposable income. For example, employers' imputed social contributions and investment income payable on pension entitlements are both a resource (respectively as part of compensation of employees and of property income received) and an expense (as social contributions) for households. Other imputed items may cancel out at the level of savings, such as FISIM, which is affecting property income, leading to equivalent corrections to operating surplus, mixed income and consumption. Some imputed items, however, do affect savings, such as investment income attributable to life insurance policyholders and investment income attributable to collective investment funds shareholders.

given period while keeping real wealth unchanged. This means that in addition to income as defined in the System of National Accounts, it would also include holding gains and losses related to the holding of non-financial and financial assets and liabilities. Such a concept could be reconstructed when accumulation accounts would also be broken down by household group. In that case, revaluations could be added to income to arrive at the broader income definition. However, for this purpose, a distinction may need to be made into realised and unrealised holding gains. Furthermore, one of the issues discussed as part of the SNA research agenda is whether undistributed profits on portfolio investment should also be included in the income account[10]. If this is going to be the case, the SNA income measure would already come closer to the broader income concept. Furthermore, it is expected that it will come closer to the income concept as used in DINA, as they already allocate non-distributed profits of domestic corporations to resident households[11]. It could also be envisaged to take it one step further to fully align to the income concept as used by DINA, which would imply allocating the full amount of national income to resident households, including amounts related to government surplus/deficit, collective consumption, and any gaps between social insurance pension contributions and benefits[12]. As a consequence, this income measure would be much broader than the one currently defined in the 2008 SNA.

Consumption

26.   The main balancing items related to consumption as defined in the System of National Accounts that would be of most interest for distributional analyses are 'final consumption expenditure' and 'actual final consumption'. These are currently targeted in the work of the EG DNA, but alternative indicators could be envisaged, removing specific items and/or adding specific items. It will most likely depend on the main policy interest which indicator would be best suited.

27.   As was the case for income, micro statistics use a slightly different definition of household consumption expenditure. The ICW Framework (OECD, 2013) explains that consumption expenditure only includes the acquisition of consumption items, i.e. items that are expected to be used up immediately or in a relatively short period of time. Whereas consumer durables are included in the consumption measure of the SNA, they are excluded in the ICW Framework because they may provide services to households over a longer period of time. For that reason, they are regarded as capital expenditures in the ICW framework. Although it is not recommended to remove the consumption of consumer durables from the final consumption measure in the SNA, **for the purpose of compiling distributional results, it is deemed relevant if countries could show results on consumer durables as a separate (of which) subcategory**, particularly as they may significantly affect savings results

28.   The ICW Framework also applies a different treatment for non-life insurance premiums and small claims, as well as for expenditure and small gains related to gambling. Whereas these are recorded as current transfers in the SNA, they are treated as consumption expenditure in the ICW framework[13]. As was explained above (see under income), in compiling distributional results, **it may indeed be relevant to record**

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[10] In the 2008 SNA only undistributed profits related to foreign direct investment are accounted for in the income account.
[11] Please note that this is not exactly the same as recording undistributed profits as part of household income, as part of the non-distributed profits of corporations may benefit non-resident entities and as resident households may also benefit from non-distributed profits of foreign corporations.
[12] See Zwijnenburg (2017) for more information on the difference between EG DNA and DINA.
[13] The expenditures on non-life insurance and gambling are recorded as consumption, whereas small windfall gains from non-life insurance and small gambling winnings are treated as negative consumption. On the other hand, large windfall gains are treated as capital transfers in the IDD.

non-life insurance benefits and winnings from gambling as capital transfers and the premiums and lottery tickets as consumption.

Savings and net lending/net borrowing

29.   Both saving and net lending/net borrowing are important balancing items that link the non-financial and the financial accounts (see also subsection 3.4.5). In that regard, it has to be borne in mind that in case changes are made to the indicators as defined in the System of National Accounts (e.g. changing the income or consumption concept), that this may also have consequences for some of the other accounts in the SNA framework in order to maintain consistency between the accounts. For example, not including imputed property income (such as investment income attributable to collective investment fund shareholders) in the income measure would also imply that it should not be recorded as a form of reinvestment in the financial accounts. In that case, it should be reflected as revaluation.

30.   Technical discussions have already identified the challenge to arrive at consistent household distributional results across income, consumption and wealth. Besides the specific challenges in the compilation of distributional results for these dimensions separately and the challenge in linking the data across these dimensions, 2008 SNA para. 18.20 and 22.77 also recognise that "often, the compilation process for the financial accounts […] is sufficiently separate from the rest of the accounts" and that "in practice a statistical discrepancy could appear as a result of using different sources and of possible errors and omissions". This has to be borne in mind when trying to link data from the non-financial and the financial accounts.

Net worth

31.   The main balancing items related to wealth as defined in the System of National Accounts that would be of most interest for distributional analyses are 'net financial worth' and 'net worth'. These can be targeted in deriving distributional wealth measures, but alternative indicators could be envisaged, removing specific items and/or adding specific items. It will most likely depend on the main policy interest which indicator would be best suited.

32.   A specific item that households themselves may not consider as part of their wealth are non-life insurance technical reserves. In this regard, households will most likely consider the payment of the premiums as consumption and not as a form of prepayments. However, to align with the accrual accounting of the SNA, it would make most sense to still allocate these amounts to the relevant households. Furthermore, households may not regard the amount set aside by insurance companies to meet outstanding claims as part of their wealth. However, as it concerns amounts that have been set aside in relation to events that already occurred, it could also be reasoned that the relevant households will most likely already anticipate receiving these amounts and that this may indeed be regarded as part of their wealth. The main complication will be to allocate the amounts to the relevant households.

33.   **A broader wealth concept could be envisaged that includes social security pension entitlements.** These are not covered under the asset boundary as defined in the 2008 SNA, but constitute an important resource for households when going into retirement and are captured in a supplementary table on social insurance pensions. Whereas the government may have the ability to change the entitlements, including them in the analysis would provide more insight in the available resources that households may have available regarding their retirement and also provide more insight in impacts resulting from policy changes in relation to the aging society.

34.   **It may also be worthwhile to show the value of consumer durables as memorandum item**, as some of these (such as cars, yachts and planes) may concern an

important wealth component for certain household groups. This is also in line with the recommendation as included in para. 13.93 of the 2008 SNA.

3.2   Breakdowns

35.   The following criteria may be used in the choice of the household groups selected, i.e. targeting groups that:

- provide most insight in differences in consumption, income, and wealth patterns between groups;

- are of most interest for economic analysis and government policy purposes;

- enable users to easily identify themselves with one of the groups; and

- meet specific user demands.

36.   In selecting the breakdowns and targeted levels of detail, the quality of the results play an important role. Breakdowns into household groups have to rely on information at the individual and at the household level as available from the micro data sources. Specific household groups may be of much interest to users, but if their results have to rely on a very limited number of observations and/or on a large number of assumptions, it may not be opportune to target/publish at this level.

37.   This section presents proposals for household group breakdowns on the basis of the above criteria.

Standard of living on the basis of current income and/or wealth (equivalized disposable income and wealth quintiles, deciles, percentiles, etc.)

38.   Household groups can be created on the basis of their standard of living. This can be done by looking at the relative income or wealth available to a household (i.e. aligned to national accounts' totals), ranking households accordingly and allocating them into quintile groups, decile groups, percentile groups or even into more granular groups, depending on the quality of the underlying results. **As a minimum one should target income quintile groups, a median and if possible results for the top 10%, 5% and ideally also for the top 1% and top 0.1%.** With regard to the latter, it has to be assessed whether the quality of the results can be assured at this level, also bearing in mind the complexities in deriving consistent results across income, consumption and wealth.

39.   As was explained in section 3.2, households may have different consumption needs, depending on their size and composition. Therefore, **in looking at the standard of living, one should focus on 'equivalized' results**, i.e. recalculating results according to the number of consumption units in each household. Whilst this is quite common with regard to income, no internationally agreed equivalence scales are yet available for wealth. However, it is general practise that studies jointly analysing income and wealth, the equivalence scale applied to income is also applied to wealth. The equivalence scales are discussed in more detail in Section 4.3.3.

Standard of living on the basis of permanent income

40.   An alternative for looking at household groups on the basis of their current income, is to look at income distribution on the basis of their 'permanent income'. Current income varies systematically for lifecycle reasons and for cyclical reasons. Consequently, households will move across groups from one observation period to another, depending on their age and economic conditions. Lifecycle and business cycle effects are both important for stable classification. Households generally experience steep rising incomes when young, and steep falling incomes around retirement. Thus, the "low" income group at any point in time will mostly be young and old. Furthermore,

there are also important differences in income cyclicality across income groups, as households with modest wage incomes (more subject to employment risk) and households with high business incomes have the most volatile income streams. Indeed, the bottom of the income distribution in a severe downturn will be dominated by workers with modest earnings who lost their jobs and normally very high business owners who experience business losses. For comparisons of groups outcomes over time, the best strategy is to start with a measure of income which has been purged of cyclical effects (see Box 4 of Bricker et. al., 2017) and then sort within age groups in order to purge lifecycle effects. Whereas it may be difficult on the basis of national accounts' data to derive an income measure that has been 'cleaned' for cyclical effects, it would be possible to derive distributional results according to standard of living focusing on different age groups (also dependent on the level of detail of the underlying micro data). For that purpose, each household member should be assigned the equivalized income of that household and subsequently, distributional can be derived for various age cohorts (e.g. 0-14, 15-24, 25-34, 35-44, 45-64, and 65+) on the basis of this equivalized income.

Main source of income

41.   Households can also be grouped according to their main source of income. A breakdown that is often used is into 'wages and salaries', 'income from self-employment', 'net property income' and 'net current transfer received'. Households are classified in the category that shows the highest contribution to their income. When applying this classification, it is preferable to look at income cleaned from cyclical effects (see above), as these may otherwise lead to undesirable temporary reclassifications (for example self-employed that suffer a temporary loss). For this purpose, it may also be relevant to look at the employment status of an individual. Another issue with this breakdown is that the coverage in the micro data for some of these groups may be quite small, leading to larger margins of error surrounding the results, as a consequence of which it may not be opportune to publish the results.

Household type

42.   Households can also be clustered considering the number and age of the members of the households. For example, the following eight household compositions could be used: *single less than 65 years old*; *single 65 and older*; *single with children living at home*; *two adults less than 65 without children living at home*; *two adults at least one 65 or older without children living at home*; *two adults with less than 3 children living at home*; *two adults with at least 3 children living at home*; and *other*.

43.   Within the above household compositions, children are classified as up to 16 years and between 17 and 24 years if they are the offspring of one of the household members and are still living at home. The classification of children may vary between countries dependent on national legislation.

Other possible household breakdowns

44.   Alternative classifications can also be considered. Please note that for a lot of these breakdowns it can also be opted to present them as additional socio-demographic information, accompanying the distributional results (i.e. the number of households or individuals with specific socio-demographic characteristics included in various household groups). This is further discussed in Section 3.5. Classifications that can be foreseen are:

- By geographic region;

- By housing status (e.g., rental, owner-occupied with mortgage, and owner-occupied without mortgage);

- By the age of the reference person (e.g., 0-24, 25-34, 35-44, 45-64, and 65+);

- By labour market status of the reference person (e.g., unemployed, employee, employer, own account worker, unpaid family worker, member of producer's cooperative, student, retired and not classified by status);

- By highest education attainment of the reference person (e.g., low, middle and high);

- By disability status of the reference person;

- By migratory status of the reference person;

- By ethnicity of the reference person;

- By degree of urbanisation; and

- By gender of the reference person.

45.   In this, the reference person is defined as the person aged 15 years or over selected to represent the household based on a set of selection criteria related to home ownership, couple or parental status, income and/or age (see Section 6.3.2 of the Canberra Handbook). The Canberra Handbook provides an example of the selection criteria that could be used to identify the reference person. These criteria should be applied in the order listed until a single appropriate reference person is identified:

- one of the partners in a registered or de facto marriage, with dependent children[14];

- one of the partners in a registered or de facto marriage, without dependent children;

- a lone parent with dependent children;

- the person with the highest income;

- the eldest person.

46.   Cross-sections of the groupings as listed above may also be possible, such as further breaking down labour market status groups by income quintile results or by looking at the income distribution within regions. This may provide more detailed insight in inequalities within specific subgroups. However, as mentioned before, it is important to assess the quality of the results at these more granular levels of detail. In that regard, more detailed insight in household groups may also be obtained by combining the distributional results with socio-demographic information, focusing on specific socio-demographic characteristics of households or individuals belonging to the various household groups. This is further discussed in Section 3.5.

3.3   Methodology

47.   This section describes the basic methodology that can be applied to compile distributional results in line with national accounts' totals on the basis of underlying micro data sources. This approach has been developed by the EG DNA for the compilation of distributional results on income, consumption and saving, and is also applied by the EG DFA to derive distributional results on wealth. This section provides a general description of the methodology. More information can be found in the forthcoming handbook on the EG DNA approach (OECD, 2020).

Step 1: Adjustment of NA totals

48.   As the distributional results only concern private households, in the first step the national accounts totals have to be adjusted to exclude information that relate to

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[14] Dependent children are defined as persons aged less than 15 years; and persons aged 15-24 years old who are full-time students, have a parent in the household, and do not have a partner of child of their own in the household.

other units. This entails adjustments to exclude for the part of the national accounts data that relates to institutional households, but may also concern other adjustments, depending on the coverage of the available data. For example, in case the household sector is published in combination with non-profit institutions serving households, a correction would be needed to exclude the latter from the national accounts results. Furthermore, a specific correction may be needed with regard to consumption results included in the national accounts, if these still include expenditures of non-residents on the territory.

Step 2: Selecting relevant micro data in relation to macro items

49.   The second step consist of a targeted and structured micro data sources' selection, to select the best suitable micro data source for each of the items, as this will provide the starting point for the underlying distribution for the specific item. This selection will depend on the available data sources in countries, the variables included in the data sets with their specific definitions, the population covered, the assessment of the data quality, and the timeliness and frequency of the data. This step may lead to the selection of a single data source that provides the best information across all national accounts' items, but it will often concern the selection of a variety of data sources, including both survey data and administrative data sources, all providing the best link for one or more of the national accounts' items. In the case that multiple data sources are used, this will require linking data across data sources to arrive at coherent households' results across the various items. The quality of this data linking will largely depend on specific characteristics of the various data sources (e.g. providing the possibility to link at the micro level on the basis of unique identifiers or linking on the basis of common identifiers), and this should be taken into account when selecting the relevant data sources for the various items. The issue of linking is further discussed in Section 3.4.3).

50.   Sometimes, the selected micro variable will perfectly match the national accounts' item from a conceptual perspective. However, in various cases, there will be some conceptual and/or classification differences that need to be overcome. This may lead to the need for specific aggregations, disaggregations and/or re-classifications of certain sub-items in order to arrive at conceptually sound matches with the national accounts items. Furthermore, explicit adjustments may be needed to overcome some of the conceptual and/or classification differences.

Step 3: Imputing for missing elements and aligning micro and macro results.

51.   Even in case of perfect conceptual matches, the micro data will usually not perfectly align with the national accounts data. For that reason, the third step concerns the bridging of any gaps. First of all, gaps may arise due to the fact that certain items may not be covered by micro data at all. It has to be borne in mind that certain variables are specific to the System of National Accounts and do not have a counterpart item in the micro data. This for example concerns items which surveyed households would be unlikely to report, as referring to specific National Accounts concepts, such as financial intermediation services indirectly measured (FISIM) or investment income disbursements, or that tend not to be included in surveys, e.g. holdings of currency (coins and banknotes). For these items, the distribution will have to be obtained in a different way, for example on the basis of auxiliary information or linking it to the distribution of other items (see also Section 3.4.2).

52.   Secondly, for items for which a corresponding micro item is available, the aggregates will not always match perfectly. This may be caused by several reasons, such as conceptual and classification differences between the micro and macro results that have not yet been tackled in step 2, parts of the population that may be missing in micro data sources, quality issues with the adjusted national accounts totals, or measurement

and estimation errors in the micro data. As the goal is to arrive at distributional data in line with national accounts totals, these gaps will need to be bridged in the third step of the step-by-step approach. As this may often concern substantial amounts that may significantly affect the distributional results, it is important that compilers further explore the main underlying reasons for these gaps and allocate the amounts accordingly.

Step 4: Clustering households according to household groups

53.   In the fourth step, on the basis of the aligned results, households can be clustered into household groups. This may for example be done on the basis of their equivalized income into income quintiles/deciles/percentiles or on the basis of their equivalized wealth into wealth quintiles/deciles/percentiles, but also on the basis of alternative classifications as discussed in Section 3.2.

Step 5: Derive relevant distributional indicators

54.   At the completion of Step 1 to 4, the distributional results may be presented. This can be done in the form of absolute monetary values showing the totals for each of the household groups, as shown in the template in Appendix 1, but also on the basis of results per household or per consumption unit. As discussed earlier, the latter provides the fairest comparison of results across household groups. As these are relevant breakdowns, compilers should publish information on the number of consumption units, the number of households and number of persons for each household group in order to assist users in properly understanding and interpreting the distributional results.

55.   From the per consumption unit (or per household) results, indicators can be derived to show the presence and degree of inequality between household groups. The following indicators can be used for that purpose:

- the ratio to the average, which shows the value of equivalized income, consumption and wealth for each household group relative to that for all private households;

- the ratio of the highest to lowest shows the value of equivalized income, consumption and wealth for the household group with the highest value to that of the group with the lowest value. The ratio is often used to make cross-country comparisons and to monitor changes over time within a country; and

- the coefficient of variation (CV) shows the variation from the average. For a given classification of households the CV is the ratio of the standard deviation to the mean. It is less relevant when results are broken down into relatively large groups of households (as these conceal a lot of inequality within the group), but becomes much more relevant when focusing on more granular breakdowns into relatively homogeneous groups.

56.   Furthermore, specific indicators may be derived on the basis of the results per household group, such as:

- share of each household group in total income, consumption and wealth;

- composition of income, consumption and wealth for each household group;

- savings ratio for each household group;

- specific financial indicators, such as the debt to income ratio; debt to financial assets; and debt to residential assets per household group; and

- Impact of redistribution measures by government for each household group.

57.   In publishing the distributional results, it is also important to provide metadata to explain how these results may differ from other (e.g. micro) distributional results, explaining (differences in) the underlying concepts and the scope of the work. Furthermore, it is important to explain the relative strengths and appropriate uses of distributional results based on national accounts concepts and measures of inequality and poverty based on micro-based sources. Finally, it is also important to be transparent on specific steps in the compilation process for users to have a better understanding of the quality of the data. Eurostat and the OECD are working on a quality framework that may be used for this purpose.

3.4 Specific practical, conceptual and methodological issues

58.   There are some specific conceptual and methodological issues that are of specific relevance in the compilation of distributional results in line with national accounts and that may need to be mentioned in the updated SNA. These issues are discussed below.

3.4.1. Inter-households' flows and stocks

59.   Whereas the results for the household sector as included in the System of National Accounts form the starting point for the compilation of distributional results, it has to be borne in mind that this may conceal information on inter-households flows and stocks that may not be relevant from a macroeconomic perspective, but may be very relevant in deriving distributional results. For the household sector as a whole, these flows and stocks may cancel out, but this need not be the case at the level of more granular household groups, as payments and receipts, as well as assets and liabilities, may be expected to concern different groups of households. Some household groups may turn out to be net contributors/debtors, while other household groups may turn out to be net receivers/creditors. For that reason, **it is important in the compilation process to explicitly acknowledge inter-household flows and stocks and if they are not already covered in the results of the household sector in the national accounts, compilers have to come up with separate estimates.**

60.   There are specific items that are of particular relevance in this regard, such as current transfers (e.g. remittances), capital transfers (e.g. bequests, inheritances), second-hand trade, and loans (including the related property income flows).

3.4.2. Allocation of imputed items

61.   Some items are specific to the System of National Accounts and will not have a corresponding item in micro data sources. These items will require imputations to properly allocate them to the relevant household in compiling distributional results. This concerns items such as *employers' imputed social contributions*, *investment income disbursements[15]*, *financial intermediation services indirectly measured* (FISIM), and *social transfers in kind*. On the financial side, it may also concern *currency* that is not an imputed item, but is often not covered in micro data sources. The same applies to *pension entitlements*.

62.   In some cases, indirect micro data may be available that may be used for the allocation to the relevant households. For example, regarding *social transfers in kind (STiK)*, information may be available from administrative data sources on who is actually benefiting from these services. In that case, the amounts can be allocated to the relevant households accordingly. This is known as the 'actual value approach'. This may be applied to allocate amounts related to health care, education, housing, childcare and elderly care. If such information is missing, one may apply a modelled approach,

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[15] These consist of investment income attributable to (life and non-life) insurance policyholders, investment income payable on pension entitlements and investment income attributable to collective investment fund shareholders.

for example using socio-demographic information to approximate the actual use. E.g., if socio-demographic information is available on age or schooling status/level of education (and whether or not the relevant students are in public education), and STiK spending per capita for all these sub-groups is available, then education related STiK allocations can be made fairly close to the actual value.

63. For STiK related to health care, the modelled approach is known as the 'insurance value approach', according to which an insurance premium equivalence is allocated to the households. This approach basically comes down to allocating the average per capita STiK for health to each individual, which can be refined by segmenting the population based on socio-demographic information and allocating STiK in line with the various needs/provision costs related to each population segment. There has been a lot of discussion whether it would be better to apply this insurance value approach as the default for allocating STiK related to health. The main rationale would be that the government support mainly relates to insuring people against certain risks (individuals benefiting from the knowledge that they are protected against the negative impact of certain events), than actually providing the health care to specific individuals. This approach would then actually come down to two imputations, i.e. one for the non-life insurance provided to households for free (as a STiK which is then paid into an insurance scheme) and one for the actual benefits received by specific individuals on the basis of this insurance. Under the current SNA, these amounts would both feed into adjusted disposable income and would cancel out at the level of the household sector as a whole (i.e. the insurance benefits would equal the insurance premiums). However, when looking at more granular breakdowns, these flows may no longer cancel out. Furthermore, if it would be decided to not consider non-life insurance benefits as part of household income for the purpose of distributional results (see section 3.1), the insurance value approach would lead to different recordings than the actual value approach. Looking at the intent of **the STiK related to health care, it looks like an insurance approach would be preferable with the insurance that is provided for free feeding into adjusted disposable income** (with the same amount paid into the insurance)**, whereas any actual health care benefits that are received are reflected in the capital account.**

64. For other items, auxiliary information may be used to derive the distribution. One may for example look at the distribution of another component, assuming that the imputed item is distributed in a similar way. The distribution for *employers' imputed social contributions* may for example be derived on the basis of the distribution of *wages and salaries*, whereas the distribution of *FISIM* may be linked to *interest received* and *interest paid*. For items that are closely linked to financial assets, such as *investment income disbursements*, one may also look at the distribution of the underlying assets. These may be available from survey data or administrative data. For *pension entitlements*, information may be available from administrative records. However, if that is not the case, it may be possible to derive results on the basis of socio-demographic information (the age and activity status of the individual (employed, pensioner)) combined with information on (the length of) pension contributions (often available from income surveys) and possibly on the type of scheme (defined benefit or defined contribution). For the allocation of *currency*, no specific best practice seems to be available, so for this item compilers may have to rely on some assumptions, for example that currency holdings may be correlated to consumption expenditure. It may also be the case that some socio-demographic groups (such as elderly) hold more cash than others (such as youth).

65. Specific attention is also required for the non-observed economy. As mentioned in the 2008 SNA, it is not necessarily the case that non-observed and illegal activities are excluded from normal data collection processes (see §6.48), but in case part of them are, this also requires explicit imputations in the compilation of distributional results. A

first step would be to look at micro-macro gaps for the various items and to assess what part may be explained by the underground economy, illegal and/or informal activities. In the second step, the amounts should be allocated to the households that are most likely to be involved in these activities. In some cases, information may be available on which types of households are more likely to be involved in what type of non-observed activities. In other cases, assumptions will have to be made, for example looking at implausibilities in reported data that may point to missing information (e.g. when for some households consumption by far exceeds their income, without this being reflected in their financial accounts).

3.4.3. Linking data across different data sources

66.   Distributional information on household economic well-being can be obtained from a number of sources. Household surveys are probably the most common instrument to gather individual-level data. In most countries, National Statistical Offices and National Central Banks conduct surveys on income, employment, expenditure and/or wealth. Nevertheless, surveys covering all the multidimensional aspects of well-being simultaneously are rare, since they would result in an excessive burden on respondents and may lead to a lower quality of data collected. Another potential data source comes from administrative records. In most countries, income sources, dwellings, other wealth items such as deposits, bonds or mutual funds must be registered, either for fiscal purposes or for other reasons. For example, central banks generally held credit registers with information on the loans granted by the banks and guarantees issued to their customers. Tax offices hold personal income registers, tax and/or social benefit records and, in some countries, cadastral records with information on individuals' real estate ownership, as well as the raising and writing-off of mortgages.

67.   A single source of individual-level information that covers all the aspects of well-being rarely exists. It is generally necessary to combine information from different data sources to compute the desired statistics. The optimal approach may vary, depending on the country circumstances, privacy laws, availability and quality of survey and register data.

68.   The preliminary and necessary step to combine information from different data sources is to deal with possible differences in concepts and definitions. This is especially the case when survey data and registers are used, but may also be an issue when combining information from two different types of surveys. Differences may concern the delineation of population, the definition of corresponding items (such as income as covered in different surveys[16]), the valuation applied, the reference periods, and the level of detail and reliability of the results. Compilers will need to overcome these differences when they want to properly link information across these data sources.

69.   Once these issues are addressed, two broad kinds of techniques are available for combining multiple archives: exact matching and statistical matching. The former consists in linking data referring to the same individual from different archives. It requires the availability of individual identifiers in each dataset. This operation may be straightforward if all the archives are in possession of the same institution, which has the right to collect and use identifying information. Otherwise, it is difficult to carry out, because privacy laws often prevent different data producers from exchanging identifying data about individual or households.

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[16] A specific question that often arises is whether data should be matched before or after alignment to national accounts totals, particularly when 'income' is one of the variables that is used in the matching process. It will then mainly depend on the assessment of the compiler of the soundness of the fit (both conceptually and practically) between the income variables as available from the various data sources before and after the alignment. Looking at the underlying results and distributions of income as covered in different data sources may often already provide insight in the soundness of the fit.

70. Statistical matching is a model-based approach for identifying and linking records from different sources that correspond to similar units. It does not require personal information since the matching is based on a set of common socio-demographic characteristics that are available (and comparable) for all the data sources (usually denoted as matching variables)[17]. Its main disadvantage lies in the uncertain nature of the process. The quality for the results is strictly related to the assumption that these matching variables are strongly associated with the economic variables to be merged (conditional independence assumption). This assumption may often not hold in practice and is difficult to test. It can be a valid assumption though if one of the matching variables is a proxy that is closely correlated with the target variable. The statistical matching of multivariate distributions (such as income, expenditure and wealth) is particularly challenging and still in its infancy. Methods and models for statistical matching have been developed in order to overcome these limitations, at least in part, and to estimate the level of uncertainty of the estimates based on matched data sets. Whatever the method used, it is important to be transparent on the methodology used and to define criteria to assess the quality of results.

3.4.4. Equivalence scales

71. Distributional analysis for households needs to account for differences in income, consumption and wealth that accrue to households of different sizes and composition. The needs of a household grow with each additional member, but due to economies of scale in consumption, not in a proportional way. For example, a household comprising three people would normally need more income and consumption than a single person household, if the two households are to enjoy the same standard of living.

72. National accounts measures often use the simple per capita adjustment. Another way of adjusting would be to divide the income of the household by the number of its members so that all income is presented on a per capita basis. These simple adjustments, however, assume that there are no economies of scale from living in the same household. The Canberra Report (UNECE, 2011) and the EG DNA Guidelines (2019) both recommend adjusting resources by an equivalence scale. Equivalence scales have been developed to adjust household income to reflect the economies of scale achieved in consumption by households comprising more than one person. A value is assigned to each household type in proportion to its needs, often depending on their age, but possibly also taking into account other socio-demographic characteristics, such as sex, level of income, labour force status and home ownership. It may also depend on the specific delineation of the income or consumption measure that is analysed. For example, if it includes social transfers in kind, this may require a somewhat different assignment of number of consumption units to the individual household members than when these transfers are excluded. Furthermore, it may depend on the composition of consumption expenditure of various households. Equivalence scales that are appropriate for lower income households may be less appropriate for higher income households due to different consumption patterns. For that reason, equivalence scales may differ across countries, as well as within a country for households with different socio-demographic characteristics (see Radner (1994) for more information).

73. As it is virtually impossible to derive equivalence scales that take into account all the relevant underlying factors, distributional studies often apply a simplified scale. Although this may have some caveats, it ensures consistency and transparency towards

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[17] The simplest form of statistical matching would be to link data on the basis of a single reported variable only, such as income. However, as this may lead to very heterogeneous results, possibly linking information from people with very different socio-demographic backgrounds and income, consumption and wealth patterns, this is far from ideal. It is recommended that compilers look for a larger set of matching variables on the basis of common variables included in the various data sources to apply the statistical matching to arrive at more accurate matches.

users, and also facilitates the assessment of the impact of the equivalence scale on the results. There are three commonly used equivalence scales in international comparisons:

1) the square root of household size that, as it states, derives the number of consumption units by taking the square root of number of persons in the household;

2) the OECD scale that assigns a value of 1 to the first household member, of 0.7 to each additional adult (14+) and of 0.5 to each child (up to 13); and

3) the modified OECD scale that assigns a value of 1 to the household head, of 0.5 to each additional adult member (14+) and of 0.3 to each child (up to 13).

74. These equivalence scales are often used in the analysis of the distribution of both income and consumption. With respect to wealth, the use of equivalence scales depends on the purpose of the analysis. They should be avoided when analysing the characteristics of individual components of wealth and distribution of net wealth. To control for different household structures, complementary analysis can be done on per capita basis. However, for the joint analysis of income, consumption and wealth, it is practical to use the same equivalence scales to adjust wealth as those used to adjust income and consumption. In this case, wealth is treated as a source of income streams that can be used to finance current consumption and contribute to current economic wellbeing in the household (see also Section 7.3.6. of the OECD Guidelines on Micro Statistics on Household Wealth (OECD (2013)).

75. Within the EG DNA the modified OECD scale is used as the default, but as the most appropriate scale may depend on specific circumstances, countries may look for more appropriate equivalence scales to apply in deriving distributional results. The most important issue is that **compilers are transparent about the equivalence scale used and the impact on the results**. In that regard, it is recommended to publish information on the number of consumption units and the number of households together with the distributional results.

3.4.5. *Breaking down changes in wealth into underlying flows*

76. A specific issue may arise when trying to derive financial flows from changes in stock data for specific household groups, as this involves changes in the composition of household groups over time. Furthermore, additional information may be needed to breakdown the changes into transactions, revaluations and other flows. Linking information from the non-financial accounts to the financial accounts may be helpful for this purpose.

77. The intertemporal household budget constraint is the key to connecting measured income and consumption to changes in wealth. The intertemporal budget constraint states that the change in wealth has to equal saving, properly defined. The identity holds at the macro level (2008 SNA, Tables 2.13, 2.14) and the micro level (Feiveson and Sabelhaus, 2019). Disaggregating micro wealth change into transactions, revaluations, and other flows has the same challenges as the macro disaggregation along with some additional challenges. Along with providing key insights about sources of wealth accumulation, the micro wealth change disaggregation provides an alternative to solving for household saving using disposable income minus consumption.

78. The starting point for disaggregating wealth change during an observation period is the wealth levels observed at the beginning and end of that observation period. The change in wealth during the period is (using the intertemporal budget constraint) the net of additions to wealth minus subtractions. For most households the key additions are from current income, and the key subtractions from current expenditure. It is also important to capture all interhousehold transfers, both capital transfers such as

inheritances and inter vivos gifts, and transfers for current support such as alimony and child support.

79.   Changes in wealth are attributable to transactions, revaluations, and other changes in volume. Assuming changes in volume are well captured or negligible, the empirical approach involves estimating and subtracting revaluations, leaving transactions (net saving) as a residual. Aggregate household balance sheets with assets valued at market prices implicitly include revaluations, and subtracting revaluations using aggregate asset-specific price indexes is appropriate for disaggregating aggregate wealth change. A starting point for subtracting revaluations in micro level wealth changes might be to assume a proportional revaluation rate. For example, if the overall equity market appreciates five percent in an observation period, one could assume that five percent of the increase in household level equity holdings during that period is due to revaluations for all household groups.

80.   Assuming proportional revaluations across distributional groups might be biased, however, because several studies have shown that wealthier households tend to realize higher revaluations. Differences in capital income relative to underlying asset values is shown to be a key to reconciling estimates of wealth distribution. Estimates of wealth holdings based on "capitalizing" measured income flows (Saez and Zucman 2016) tend to assign too much wealth to top wealth groups, because higher wealth households earn a higher rate of return on average (Bricker et. al. 2016; Smith, Zidar, and Zwick, 2019). If differential returns also manifest in differential revaluations, assuming proportional revaluations will tend to assign too little of the observed wealth change to revaluations for high wealth households, and thus overstate the extent to which their wealth change is attributable to transactions.

81.   A further complication arises when trying to derive financial flows from changes in stock data for specific household groups, as this involves changes in the composition of household groups over time. Under a classifier such as current income, households will move across groups as they experience lifecycle and cyclical earnings changes, and thus will move across household groups. If the wealth of households entering and leaving a given household group are systematically different, the derived wealth changes will be directly affected. For that reason, **it is important that compilers keep close track of dynamics between household groups over time** and that they assess whether these may call for specific entries in the recording of other changes in the volume of assets account to account for certain changes in balance sheet totals for certain household groups over time.

3.5   Socio-demographic information

82.   Socio-demographic information on various household groups helps to enable the identification and monitoring of policy-relevant target groups and therefore to facilitate effective policy interventions. The forthcoming UNECE Guide to data disaggregation for poverty measurement (UNECE, 2020) in particular recommends data disaggregation by specific socio-demographic variables, which would allow for a more complete analysis on the distributional side. Some of these breakdowns may focus on specific socio-demographic characteristics of households, whereas others may focus on characteristics of the individuals belonging to the households in the various household groups. It will depend on the information available from micro data sources which type of socio-demographic information can be published. This section provides a description of the additional socio-demographic information that may be published together with the distributional results. Some of these breakdowns have already been discussed in Section 3.2 as they may also be used to break down the household sector in more granular household groups.

83.   When looking at the UNECE Guide on Poverty Measurement (UNECE, 2017); the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (UN, 2019); the World Bank's Monitoring Global Poverty report (World Bank, 2017) and the Canberra Group Handbook on Household Income Statistics (UNECE, 2011), the following list of socio-demographic breakdowns focusing on individuals can be envisaged:

- Gender;

- Age group (e.g., 0-24, 25-34, 35-44, 45-64, and 65+);

- Education level (e.g., low, middle and high);

- Employment status (e.g., unemployed, employee, employer, own account worker, unpaid family worker, member of producer's cooperative, student, retired and not classified by status);

- Disability status;

- Migratory status;

- Ethnicity.

84.   The following socio-demographic breakdowns, as already discussed as possible breakdowns for the household sector in Section 3.2, can also be envisaged: Household type; housing status; main source of income; geographic region. Furthermore, one could also focus on degree of urbanisation.

85.   For analytic purposes combinations of two or more of these variables (especially age and gender) is often helpful to identify drivers and specific vulnerabilities across the life cycle.

86.   The list of selected variables for disaggregation is not exhaustive. Examples of target groups that are not covered are homeless people, drug users, sex workers, refugees or undocumented immigrants as these groups are usually not well covered by regular data collections (see UNECE 2020, Chapter 3).

4. Changes required to the 2008 SNA and other statistical domains

87.   It is proposed to add a specific chapter to the System of National Accounts, focusing on the compilation of distributional accounts in line with NA totals. This chapter should 1) highlight the importance of this type of information, 2) discuss the scope of the work linking it to relevant parts in the SNA, 3) discuss specific balancing items of relevance for this line of work and where these may deviate from the standard SNA ones, 4) present possible distributional breakdowns, and 5) highlight specific issues in the compilation of distributional results.

1)   Importance of the work

88.   The introduction of the chapter should highlight the relevance of this type of information, presenting multidimensional aspects of material well-being (i.e. income, consumption and wealth) in coherence, providing results that are consistent across accounts, coherent with macroeconomic aggregates, and comparable over time and across countries. This information will be of considerable relevance for macroeconomic analyses and the monitoring of economic well-being, providing new insight in how specific household groups are faring and how macroeconomic trends and policies may affect specific household groups.

2)   Scope of the work

89.   It needs to be explained that the starting point of the work is the household sector as defined in the System of National Accounts, and that for the purpose of the compilation of distributional results, institutional households should be treated differently from private households, presenting their results as a separate category. Furthermore, it needs to be explained that whereas the household is the unit of observation, the focus in the analysis should be on 'equivalized' results, using equivalence scales that take into account differences in size and composition of households, to arrive at comparable results across households.

3)   Balancing items

90.   The balancing items as included in the System of National Accounts constitute the starting point of the work, but the chapter needs to explain that alternative concepts may also be used that may better suit distributional analyses. With regard to income, this means introducing an alternative income concept that treats non-life insurance benefits and lottery winnings as capital transfers, and insurance premiums and lottery tickets as consumption. Whereas this may be a specific recommendation in relation to the compilation and presentation of distributional results, it may ask for a re-assessment of the current recording of these two items in the 2008 SNA. This would also avoid the need for the use of an alternative income measure for distributional analyses.

91.   Furthermore, it may be interesting to have an income concept that also includes undistributed profits of corporations related to portfolio investments by the household sector. Regarding consumption, an alternative measure could be foreseen that includes insurance premiums and lottery tickets. Another aspect of relevance on the consumption side is to show results on consumer durables as a separate (of which) subcategory. Finally, on the wealth side, a broader wealth concept can be envisaged that also includes social security pension entitlements. Furthermore, it may be worthwhile to show the value of consumer durables as memorandum item, as some of these (such as cars, yachts and planes) may concern an important wealth component for certain household groups.

4)   Possible breakdowns

92.   The SNA chapter should discuss possible breakdowns for the household sector to present information on more granular household groups. As a minimum compilers should target a breakdown by standard of living on the basis of current income, targeting income quintile groups, a median and if possible results for the top 10%, 5% and ideally also for the top 1%. The chapter should also present alternative breakdowns, such as by main source of income, household type, housing status and by age of the reference person.

5)   Specific issues in compilation of distributional results

93.   The chapter should briefly discuss the step-by-step approach, highlighting the main issues regarding these steps. More detailed information can be provided regarding specific issues, such as 1) to explicitly acknowledge inter-household flows and stocks; 2) to properly allocate amounts for which direct micro information may be lacking (providing more detailed guidance regarding the allocation of social transfers in kind and providing some examples of imputed items); 3) to properly link data across different data sources on the basis of matching techniques; 4) to properly determine the relevant equivalence scales; 5) to keep close track of dynamics between household groups over time in order to properly break down changes in wealth into underlying flows.

94.   This chapter should also stress the importance of communication, highlighting the need to provide metadata to accompany the distributional results in order to explain how these results may differ from other (e.g. micro) distributional results, to explain the relative strengths and appropriate uses of these distributional results, and, if possible, to provide insight on margins of error surrounding the results.

5. References

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