Online Appendix C1 – The National Accounts by household categories

Building full household accounts by household category to assess their relative economic situations, including comparing their respective savings rates, is an idea anything but recent. It has even been argued that “the concern to put ‘people’ at the center of national accounting is a theme that has already been addressed [...] The fact that national accounts had such an orientation at their inception can be noted [in the] national income of England in 1688 as set out by Gregory King” (Pyatt, Round, 1985, p. 13)[1].

The national accounting systems that developed after the Second World War ultimately chose to consider only an aggregate household account. At the same time, however, some attempts at more disaggregated approaches took place: for example, in France a tentative account was carried out for the year 1951 that distinguished twelve social groups. In 1960, a similar attempt for the year 1956 distinguished six. The ambition of a full account by categories was however abandoned in the 1960s, because of the problems posed by the poor quality of household surveys on consumption then available (Vanoli, op. cit., p. 106). The usefulness of distinguishing several categories of households was not denied, but other issues seemed of more concern to national accountants, both in France and abroad.

When the United Nations Statistical Office published a major revision and extension of its system of national accounts in 1968, it acknowledged that a number of themes had, in view of the difficulties they raised, been set aside for further examination, including the analysis of household distribution of income, consumption and wealth.

Any hope of achieving a statistical understanding of household disparities does not disappear in these years, though. In France, for example, the decomposition by CSP of the *income* side of the accounts, which, based on the tax source (income tax file), produces results that statisticians consider fairly reliable, continued until the mid-1980s (Roze, Martin, 1971). While, taking the question by its "microeconomic" end, the survey statistician seek to estimate the distribution of household *savings* by collecting, on the same sample of households, a survey on financial wealth in two successive waves separated by a two year gap, in order to estimate the financial savings of each household by the difference between the two levels successively observed. The idea, which may seem natural, reflects actually a rather unrealistic vision. Despite no survey of household wealth had ever been carried out in France, it was claimed from the outset to collect it in a panel. Since, among others shortcomings, each wave delivered an aggregate wealth estimate about 60% too low (L’Hardy, 1972, Appendix IV, p.71 and sq.), the related estimation of savings appeared barely credible; at the time, this view prevailed. The experiment was considered a failure, not to be renewed (Masson & Verger, 1996).

During the 1960s and 1970s, the issue of economic inequality took on a particular dimension in the public debate in many countries. However, as Stone notes, “clearly, if social accounts are to contribute to a discussion of inequality and of the factors that affect it, the household sector must be isolated and divided into categories. Households are appropriate for this purpose because they are the units in which decisions on spending and saving of income are generally made”. (R. Stone, 1985).

In this periode, work on household heterogeneity was particularly illustrated by the proponents of the social accounting matrix approach (SAM), who argued that their method was better suited than the presentation chosen by the NAS to decompose (between social groups) the household account. Particularly active at the World Bank, following the SAM developed by Pyatt and his collaborators 1977 for Sri Lanka, they carried out similar studies for various developing countries (Pyatt & Roe, 1977). This effort was abandoned in the 1980s.

During these same years, in France, household (income) accounts by categories reappear under another, and rather special, avatar: the standard budgets. They stem from a counter-proposal by trade-union centres, which wanted to challenge the price index (Vigreux, 2014; Jany-Catrice, 2018) and to capture, behind the average inflation figure, its variations between household categories with different consumption structures.

To address this concern, Insee published from 1980 to 1985, in the annual report on the accounts of the nation, an income account for several dozen types of households. The aim is to give a reasoned picture of the likely budget of a

[1] The table drawn up by Gregory King in 1696 (half a century before Quesnay's Economic Table) distinguishes 26 categories of households (King speaks of families): from the Temporal lords to the Vagrants via the Baronets, the Freeholders, the Common seamen, etc. (see also Vanoli, 2002, p. 21 and sq.).

household with certain socio-demographic characteristics, based on empirical observations of surveys, but also on various behavioural hypotheses (consumption, job offer, savings, etc.) considered as the most plausible.

Finally, during the 1990s, the original project of a complete household account by socio-professional category based on the concepts and figures of the national accounts resurfaced. It is the subject of a study from 1995 to 1997, under the responsibility of Jacques Bournay and Jean-Jacques Malpot, covering income (Madior Fall), consumption (Gérard Abramovici, Luis Casès) and heritage (Véronique Paquel). But this work is stopped to give priority to the establishment of base 95 of the national accounts. Only the income count part, in line with those produced up to 1985 is published (Fall, 1997).

In 2007, the Insee's Department of National Accounts reinvested this idea. Together with their colleagues in social statistics, experts in microeconomic sources, national accountants produce a breakdown of the household account of 2003 according to different categories: by five-year age group (of the household reference person), by social category (idem), by quintile of “standard of living”[2].

The results, published in the 2009 edition of the French Economy, are received with interest at the OECD. In 2010, the international organization recruited the Insee project manager to extend the attempt, but this time on an international scale. An Expert Group (EG) was formed, bringing together 13 countries. The results, i.e. accounts by categories produced according to a common methodology, were published in 2013 (Fesseau & Mattonetti, 2013). A second EG (bringing together 19 countries, Eurostat, the OECD, the ECB and the experts from the Luxembourg Income Study) followed up, producing a new version of the accounts by household categories in 2015. Its work is currently ongoing.

At the same time, Insee has addressed the implementation of household wealth accounts by categories, taking advantage of the existence in France, since the mid-1980s, of a household survey dedicated to heritage conducted every six years. These accounts were developed by broadly following the previous methodology, and with the same categories of households (Durier *et al.*, 2012). The extension to several countries with a rigorous comparability objective is a project currently carried out by the ECB (the Household Finance and Consumer Survey); this project, which it coordinates in the Eurozone countries, would be the microeconomic source from which the distributions of the various assets would be taken.

[2] *That is, in this framework, an adjusted equivalised disposable income*

Online Appendix C2 – Decomposition of the household account, national transfer accounts, world income database

Two other projects developed in recent years aim, as the decomposition of National Accounts by household categories, to determine the distribution of household income and consumption in a manner consistent with the aggregates in the national accounts: the National Transfer Accounts (United Nations, 2013), initiated in the early 2000s by Ronald Lee and Andrew Mason, and the World Income Database (Garbinti *et al.*, 2017), developed since the early 2010s by Thomas Piketty and his collaborators.

Their respective methods are very similar to that of the DNA: they rely on the available microeconomic sources, while trying to control the differences that the latter present with the National Accounts both in the concepts and in aggregate levels. There are, however, significant differences between the three approaches. Each pursues a specific main objective which determines, crucially, the simplifying assumptions to adopt, since the exact knowledge of each individual's resources and consumption is, for the time being, out of reach. The main divergences with the DNA are (currently), the following:

- National Transfer Accounts (NTA) aims specifically to determine the resources and consumption over the life cycle at *each age*. While the method tries to be "broadly" consistent with the SNA[3], it differs on some concepts (gross disposable income, mixed income of individual entrepreneurs, treatment of taxes on production, etc.). It is foremost a long-term approach, it does not focus on short and medium term developments; it is hardly affected either by the differences in periodicity and vintage between the surveys of the different countries it works on. Age is the essential criterion of stratification, the other criteria (standard of living, type of household, socio-professional category, etc.) being rarely considered. In particular, the difficulties raised by the consumption / savings gap among low-income households are not a serious concern. On the other hand, it must imperatively work at the individual – and not household – level. As a consequence, it has to make various assumptions – most of them impossible to verify empirically – in order to distribute the income received by the household among its members;

- The World Inequality Database (WID): it is limited to income, consumption is not taken into account. Its major objective is to estimate the inequality in the distribution of income and its changes. Much attention is thus paid to very high incomes (as they have a major effect on levels of inequality). Because, in most countries, it the only source able to capture the highest incomes, tax data is the main provider of the database.[4] This has consequences on the measurement of some types of income, in particular social income. More generally, the definitions of household income deviate from the definitions of the National Accounts central framework (a fact that raises certain conceptual and practical problems and gives rise to various criticisms from national accountants). The approach is individual, with, like the NTAs, the use of agreements on the sharing of household income between its members.

In addition, an important difference lies in the institutional organization of these projects: WID and NTA are initiatives of economists, supported by teams from the academic community (although NTA benefits of a strong support from international institutions) and whose final objective is less the production of accounts than their analysis, to shed light on specific issues. The researchers have thus much latitude to adopt the assumptions most adapted to their analyse. By contrast, the DNA is a project of national accountants who strictly follow the concepts and methods of the SNA and which aims to produce official statistics offering the same methodological homogeneity in time and space as the aggregates of the central frame.

Whatever the differences between the three methods and however justified they may be, it must be kept in mind that, in essence, they deal with the same subject. It is therefore legitimate to expect that, as they develop, they will become more and more consistent in their sources, their hypotheses, their treatments and, ultimately, their results.

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[3]"*Many of the concepts* [...] *in NTA are broadly consistent with those in the SNA*" (United Nations, 2013, p. 28).
[4]*It differs, then, from the DNA which follow the general principe of National Accounts to use the source deemed the most reliable.*

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