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Luigi Cannari , Giovanni D'Alessio* and Grazia Marchese**

1. Introduction

There are many benefits associated with having information on household wealth available. First and foremost, wealth is an important indicator of the economic wellbeing of households: knowing its amount, measuring increments over time and assessing its distribution among different households or geographical areas is vital to our understanding of Italian society and its development.

For central banks the availability of detailed information on household wealth, its total value, composition and distribution, can enhance many functions of economic analysis and policy formulation, including monetary policy, financial stability and payment systems. In the case of the monetary union, information also needs to be comparable across countries in order to provide an adequate picture of the European Union as a whole.

Moreover, this information is becoming increasingly useful as time goes by, in part because greater uncertainty and more precarious working arrangements have made it less meaningful to use income to measure quality of life. The level of involvement of international institutions and central banks in producing household wealth estimates is accordingly greater today than in the past.

At international level, the OECD provides the macroeconomic data on this phenomenon. Progress has also been made at a micro-data level, with the launch of the Luxembourg Wealth Study project (LWS), in March 2004. A harmonized survey of the whole euro area is likely to create new possibilities for analysis.

In Italy, the primary data sources on household wealth comprise the financial accounts and the results of the Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy. The financial accounts refer to financial wealth components only, while the SHIW data present the advantages and drawbacks typical of sample surveys.

The need to complement the macroeconomic data with the non-financial wealth components and to promote a closer reconciliation of micro- and macro-level data sources is the driving force behind this conference. Some of the papers focus on the methods used to estimate the macroeconomic aggregates that supplement the statistics reported in the financial accounts (for example, the residential property portfolios of households, the value of land and of non-residential buildings etc). The methods often exploit data on wealth gathered in sample surveys; whenever possible, the new aggregate estimates are compared with those inferred from the micro-level data.

The essential objective of this conference was to furnish the basic material for a discussion on how the balance sheets of households are constructed. The conference speakers did not, however, confine their comments to methodological aspects alone; the papers also embraced issues regarding the composition and distribution of wealth –

* Bank of Italy. Our thanks to I. Visco, L. F. Signorini and R. De Bonis for their useful comments.

including from an international comparative perspective – in addition to its impact on other important economic variables, with a view to stimulating debate on these issues.

After the conference the methods used to estimate the net wealth have been revised following the suggestions provided by participants; the new estimates display small differences from those presented at the conference. Figures and methods described in the papers have been revised accordingly.

Our introduction offers a broad overview of the topics addressed during the conference. Section 2 recalls the principal reasons for central bank involvement in the compilation of statistics on wealth. Section 3 looks at the Bank of Italy's experience in this specific field. Section 4 provides a brief synopsis of the research to date. Section 5 compares the new estimates with those previously available. Finally, Section 6 provides some thoughts on the future direction of the research.

2. The involvement of central banks

The availability of data on wealth enables central banks to probe deeper into how household behaviour, financial markets and the main macroeconomic variables interact, bolstering their analyses undertaken in support of the various institutional functions.¹

One of the channels for monetary policy transmission is constituted by the effects of wealth on consumer spending. For instance, an expansive monetary policy, by raising share prices and the financial wealth of households, can lead to an increase in consumption and production. Similarly, an expansive monetary policy, by increasing bank deposits and curbing adverse selection and moral hazard phenomena, can lead to an increase in household loans and consumption.²

Data on wealth and its composition are also useful to highlight risks present in the household sector, for example in terms of vulnerability to a fall in house prices or a rise in interest rates. Decisions on consumption and savings are vital to understand the overall economic cycle and long-term trends in the growth path; decisions on the composition of household portfolios are central to understanding the long-term evolution of asset prices.

The size and even the direction of the effects of variations in the various forms of wealth on economic behaviour, in addition to their implications for financial stability, can vary with the distribution of assets and liabilities among households with different resources; it is therefore desirable that the macroeconomic data be flanked by comparable micro-level data.

As Governor Draghi has also pointed out, data on wealth are becoming increasingly useful.³ To date statistics have provided only partial responses to these requests for data. Despite being included in the European System of Accounts (ESA95),

¹ Previous studies on these issues, conducted by the Bank of Italy in the early 1990s, are published in the volume edited by Ando, Guiso and Visco (1994).

² See for example, Mishkin (1996; 2006).

³ "Changes in the functioning of advanced capitalist economies, as well as in the ageing of the population, contribute to shift the emphasis from income to wealth. In a society where employment tends to be permanent and where the welfare state generously supplies education, health and housing benefits, covers against the risk of unemployment and protects old-age income levels, the regularity of actual and expected income flows ensures living standards are maintained and holdings of wealth are less important. When these conditions cease to hold, on account of greater job insecurity or reduced social expenditure, wealth takes on a new significance for household prosperity. Personal wealth has a crucial role in cushioning against life's uncertainties, and the possibility of relying on a buffer stock makes people feel less vulnerable. But the implications are even more far reaching, as wealth is a crucial determinant of what people can do at the beginning of their lives." (Draghi, 2007).

under balance sheets,⁴ comprehensive macroeconomic data on wealth are not currently available. A full dataset exists for financial assets and liabilities only.

International institutions and central banks have become increasingly involved in compiling statistics on these phenomena. The OECD publishes a series of macroeconomic data confined to the household sector;⁵ these estimates are only modestly disaggregated by instrument type (net wealth, net financial wealth, financial and non-financial assets, equities, liabilities and mortgages), and significant differences of construction methods make them difficult to use for comparative purposes. Despite this, OCSE data are often utilized.

At the microeconomic level, in March 2004 the Luxembourg Income Study (LIS) and statistical offices, central banks, and research institutions from several European and North American countries launched the Luxembourg Wealth Study (LWS). The primary objective was to construct a cross-nationally comparable database on household wealth assembling micro-data from existing national sources. The second objective was to establish a network of data producers to share accumulated knowledge and to stimulate a much needed harmonization of concepts and definitions (Visco, 2007). The results of the project were recently presented at a conference organized by the Bank of Italy in Rome to which interested readers are referred.

We may soon see significant new developments if the Eurosystem implements the euro-wide survey on household finance and consumption currently under study. As Governor Draghi has said, “the importance of a survey on household finance with comparable data for the whole euro area can hardly be overstated” (Draghi, 2007).

3. The Bank of Italy’s experience in estimating wealth

The primary source of microeconomic data on household wealth in Italy is the Survey of Household Income and Wealth (SHIW) conducted by the Bank of Italy. Launched in 1962, this survey regularly measures income, consumption (of durable and non-durable goods), wealth (and its various components), payment instruments, the characteristics of residential dwellings, forms of insurance, and the socio-demographic characteristics of household members (gender, level of education, work, social origin etc.).

Over the years, several specific issues related to wealth have been surveyed (for example, capital gains, inheritance, risk aversion, and so on).

Part of the sample, which in the latest surveys comprised around 8,000 households, has remained unchanged since 1989 from one survey to the next; in recent surveys half of these panel households had already taken part in previous surveys. In this way it has been possible to study phenomena such as household mobility between classes of wealth.

⁴ According to ESA95 a balance sheet is a statement, drawn up at a particular point in time, of the values of assets owned and liabilities outstanding. The balancing item is called net worth. The stock of assets and liabilities recorded in the balance sheet is valued at the market prices prevailing on the date to which the balance sheet relates. A balance sheet is drawn up for sectors, the total economy and the rest of the world. For a sector the balance sheet shows the value of all assets – produced, non-produced and financial – and liabilities and the sector’s net worth. For the total economy the balance sheet provides as balancing item what is often referred to as national wealth – the sum of non-financial assets and net financial assets with respect to the rest of the world. The balance sheet for the rest of the world, called the external assets and liabilities account, consists entirely of financial assets and liabilities.

⁵ See, for example, OECD (2007).

Despite the considerable attention paid to strategies aimed at gaining the trust of respondent households,⁶ the survey is affected by problems of selection bias, in other words by the lower levels of participation of wealthier households (D'Alessio and Faiella, 2002), and by under-reporting, i.e. statements regarding income or wealth that are not entirely truthful (Cannari and D'Alessio, 1990; 1993; D'Aurizio *et al.* 2006).

Despite these problems, the surveys have proved to be an irreplaceable instrument of economic analysis, as testified to by the over 500 scientific works produced by more than 350 Italian and foreign authors listed in the bibliography of works based on the survey data (Biancotti and D'Alessio, 2007).

The Bank of Italy also prepares the financial accounts, which record the country's financial assets and liabilities in terms of annual stocks and flows.⁷ These can be used to evaluate the composition of households' financial savings and wealth, the quantity of funds raised by enterprises and general government, the stocks and flows of a country's assets and liabilities vis-à-vis the rest of the world, and the evolution of the financial structure with respect to indicators such as real wealth and disposable income.

The Bank's Annual Report for 1948 included a first, highly simplified, table of financial flows with a limited number of sectors. Since 1970 the financial accounts have been compiled by applying the definitions introduced by Eurostat's European System of Accounts (ESA). Between 1992 and 1995 a number of working groups coordinated by Eurostat drew up the rules of the new European system of national and regional accounts (ESA 95), which includes a financial account for each of the various institutional sectors. As things stand today, it is up to the European Commission, and especially Eurostat, to establish the methodology of the financial accounts, which are an integral part of the national accounts. The Memorandum of Understanding signed by Eurostat and the European System of Central Banks (ESCB) nonetheless places the financial accounts in the sphere of "shared responsibility" in view of the ESCB's direct interest in these statistics for the performance of its functions and the decisive role national central banks (NCBs) play in their compilation in many countries. Since 2001 the European Central Bank (ECB) has received data based on the financial accounts of the euro-area countries in accordance with the criteria established by the Monetary Union Financial Accounts working group and uses them in its *Monthly Bulletin* to compile the tables on saving, investment and the financing of non-financial sectors in the euro area. The Bank of Italy cooperates closely with the National Institute of Statistics (Istat) on the preparation of Italy's annual and quarterly financial accounts, especially as regards the measurement of the assets and liabilities of general government. Istat establishes the criteria for classifying the different institutional units. It also sends Eurostat Italy's annual financial accounts, which are part of the EU's official statistics.

Macroeconomic data on national accounts and the micro-level survey sample estimates present both advantages and drawbacks. The macroeconomic data are probably more accurate in their estimation of the overall value of instruments, but they do not permit data on wealth to be correlated with the characteristics of the various owners. Moreover, some pieces of the macroeconomic puzzle are missing, such as the value of firms organized as sole proprietorships and partnerships.

⁶ Sample households are sent a letter outlining the purposes of the survey in advance, and explaining that the data will be treated as confidential and used for statistical purposes exclusively; they also receive copies of several newspaper articles highlighting the importance of the survey. To those who request it, the interviewers – who always carry an ID badge – give a report containing the main results of the previous survey. Interviewees can also request further information both from the survey company (via a toll-free number) and directly from the competent Bank of Italy offices.

⁷ See Banca d'Italia (2003) and (2006).

The micro-level data, by contrast, offer an opportunity for much more in-depth analysis – on the basis of the numerous data on the subjects that it is possible to gather in the surveys – but suffer from some quality issues, in particular the lesser willingness of the wealthiest families to respond to the surveys, and widespread under-reporting.

The availability of data from both sources is therefore particularly useful, insofar as there are obvious complementary areas for economic analysis purposes. This availability, moreover, facilitates useful comparisons for a cross-validation of estimates and offers the possibility of modifying and supplementing each source with the help of the other. In practice, a comparison of the two sources is often hindered by differences in the definitions of the household sector and the instruments considered; some papers for this conference have quite successfully addressed and resolved problems of these comparability issues.

The consolidated experience of the economists and statisticians of the Bank of Italy in the preparation of the financial accounts, on the one hand, and of the microeconomic estimates on the other, is an advantage for the Bank when it comes to: completing the macroeconomic estimates (with new information on the non-financial wealth components of households); comparing micro and macro results (which requires the redefinition of sectors and instruments to increase the comparability of the two sources); and improving the quality of both sets of statistics.

4. The conference sessions

The primary focus of the conference was on submitting to the critical assessment of experts the methodological aspects underpinning the construction of the balance sheets of households, in order to ensure that the estimation process is fully transparent and universally accepted. The conference also aimed, however, to discuss several aspects of a more strictly interpretative nature relating to the value, composition and distribution of household wealth. Three issues, in particular, were taken into consideration:

- 1) the methodologies: from estimates of the macroeconomic aggregates to a comparison of microeconomic data and aggregate estimates;
- 2) the composition of wealth and its relationship to other economic phenomena;
- 3) analyses of wealth distribution.

4.1 Methodological issues

As Alberto Baffigi shows in his analyses of the economists and statisticians active in the late nineteenth and early twentieth centuries, data on wealth have long been a subject of interest to a great number of scholars, including such names as Benini, Nitti, Einaudi, Gini, Livi and Pantaleoni. In the first 70 to 80 years of the Italian Republic estimates are numerous, but fragmentary.

Even the most recent estimates of household wealth (see Tresoldi and Visco, 1975; Pagliano and Rossi, 1992; Brandolini *et al.*, 2004) are hampered by differences in sources, definitions and methodology. Generally speaking these shortcomings are more apparent in the non-financial components⁸ and have to do with gaps in the statistics on: a) the prices of total property holdings, residential and non-residential, and the quantity of non-residential buildings owned by households; b) the forms of wealth related to

⁸ The methodology for drawing up the financial components of the financial accounts is now quite well established.

households' business activities and; c) the main balance-sheet items of sole proprietorships and partnerships.

Three of the papers contain proposals for overcoming these limitations of current estimate methodologies.

Cannari and Faiella focus on estimating residential wealth, the prime requirement for which is data on house prices. In Italy there is no official source; data are collected by an agency of the Ministry of Finance and, mainly, by two private sources. Information is also available from the SHIW, which gathers housing data from a small, representative, sample of Italian households. Each source has its own pros and cons. Cannari and Faiella present a method for estimating the price per square meter of the average Italian house – using different sources – and compare the results with the SHIW estimates. According to their results, the SHIW estimates for 2002 turn out to be very close to market values. They then compare the SHIW estimates with Census data, showing that the survey overestimates the average surface area of houses while it strongly underestimates the number of secondary dwellings. Overall, in 2002 the SHIW-based housing wealth is about 14 per cent lower than macroeconomic estimates. The adjustment for under-reporting and non-reporting of dwellings changes the share of homeowners and the ratio of the housing wealth to total net worth; from a qualitative point of view, the profiles of these shares by income deciles show minor changes after the adjustment. The Gini index of housing wealth remains almost unchanged.

Cannari, Faiella, Marchese and Neri consider the wealth components linked to the entrepreneurial activities of producer families. The paper proposes methods to estimate the wealth components of lands, non-residential buildings, plant and machinery, transport equipment, inventories and goodwill; an assessment of valuables is also provided. They find that the value of households' tangible assets in 2005 was €4.9 trillion, the bulk of it in dwellings and almost 20 per cent in producer household assets (in particular lands and non-residential buildings). These estimates are then compared with the results of the SHIW, after the necessary adjustments to ensure the sample data are compatible with the macroeconomic data. In 2004, the most recent year for which they are available, the sample estimates of real wealth come to about 90 per cent of the aggregate estimate.

Rodano and Signorini assess the value of non-financial quasi-corporations owned by households. After showing the importance of micro-enterprises in Italy (according to Census data, about 3.4 million non-financial enterprises – out of a total of 4 million – are sole proprietorships or other unincorporated businesses), the authors outline the strategy that the Bank of Italy is developing for estimating the net worth of non-financial quasi-corporations with a view to filling the gap in the national Financial Accounts. This strategy is based primarily on data from the SHIW, which contains questions on households' equity holdings in all types of businesses. It also makes use of banking statistics and other financial statistics. Different methods are applied to 2004 data; it is encouraging that all the methods give very similar results, in the rather narrow range of €178-190 billion. While further robustness checks are warranted, the authors are confident that this is a good starting point for developing a method for regular estimation of the total value of non-financial quasi-corporations. Revising financial accounts to insert this estimate would result in significant changes in some important financial aggregates. The total amount of the item "shares and other equity" would increase by approximately 25 per cent; the value of households' financial assets would be revised upwards by about 5-6 per cent and that of the non-financial sector's liabilities by 7-8 per cent.

Albareto, Bronzini, Caprara, Carmignani and Venturini provide new estimates of real and financial wealth of Italian households by region from 1998 to 2005, following the methodology suggested by Cannari, D'Alessio and Venturini (2003) and Cannari, D'Alessio and Paiella (2006), who used regional series to break down the national figures in order to obtain territorial data. Compared with the earlier literature their estimates are more comprehensive: new, previously neglected, components of real and financial wealth are now estimated and included in overall wealth (physical capital, inventory and goodwill of producer households, insurance and pension fund reserves, trade credits, shareholders' loans to co-operative societies and shares in quasi-corporations). In addition, for the estimation of some components of wealth they use more accurate data that only recently became available. The estimates confirm the highly unequal territorial distribution of per capita wealth arising from the previous analyses.

4.2 Value, composition and relations with other economic phenomena

Bartiloro, Coletta and De Bonis examine the size and composition of household wealth compared with international portfolios (the main European countries, the United States and Japan) from the second half of the nineties to today. Using national and financial accounts data they define household wealth so as to minimize the problems arising from the different definitions adopted in the various countries. Special attention is paid to analysing the incidence of real wealth components and household debt to explain variations observed in levels of net wealth, the different weight and role of intermediaries in individual economies, the details of financial instruments in each country, and the aggregate degree of risk of portfolios.

Paiella's paper examines the literature on the link between stock and house prices and consumer spending. Overall, most studies agree that a statistically significant relationship exists between these variables. There is much less agreement on the size of the correlation and nature of the channel through which changes in wealth affect consumption. The estimates vary depending on whether aggregate or micro data are employed (aggregate data-based values are generally higher than micro data-based ones). The estimates also tend to be asset-specific, which may be due to mental accounts or preferences for accumulating wealth in a specific form for taxation, testamentary or other reasons. Moreover, there appear to be large differences across countries, which economic theory goes only so far in explaining. In fact, most determinants of the marginal propensity to consume, such as the intertemporal elasticity of substitution in consumption, the real interest rate, the probability of death and taxation, are similar across countries. The divergences most likely reflect different ways of measuring wealth and a failure to account for differences in the nature of the shocks to consumption and wealth. Estimates of the marginal propensity to consume out of wealth tend to be higher among American and British households than among continental European households. This, together with a higher wealth-to-consumption ratio, implies that the elasticity of consumption to wealth is much higher among the former. As to housing wealth effects relative to stock market wealth ones, the evidence suggests that the impact of a change in house prices on aggregate expenditure is at least as large as that of stock prices.

Regarding the nature of the correlation between wealth and consumption, wealth effects appear to be mainly direct in the US, while elsewhere the evidence points toward other channels and varies depending on the asset considered. Recent studies have also highlighted important differences in the transmission mechanism of equilibrium-distorting shocks. In Anglo-Saxon countries asset price fluctuations are behind most deviations of consumption, wealth and income from their common trend. After a shock, it is wealth that adjusts to restore the equilibrium. Instead, in those European countries with bank-based (as opposed to market-based) financial systems, transitory shocks appear to

be significant only for income, which is also the variable that adjusts in the event of deviations from the equilibrium.

Bassanetti and Zollino's paper, by contrast, presents an estimate of wealth effects on consumption in Italy. Based on the new estimates of household wealth, they find sound evidence in favour of the existence of a cointegrating relationship between consumer spending and different stock components, with positive wealth effects in the long run. They also investigate the role of transitory and permanent shocks in the variables they consider. They find that consumption, housing and non-housing wealth respond almost exclusively to permanent shocks, which play an overwhelming role also for disposable income over the long term, whereas in the short run the effects of transitory shocks are not negligible. The marginal propensity to consume out of housing and non-housing wealth turns out to be, respectively, 1.5-2 and 4-6 cents per euro.

4.3 *Wealth distribution*

Three of the conference papers address the distribution of wealth. The first contrasts the distribution of wealth among countries adhering to the LWS project. The other two refer to the Italian context and deal with two issues that have not received much attention in the literature to date, probably due to the lack of adequate information on the role of inheritance and capital gains in the accumulation and distribution of wealth.

The paper by Sierminska, Brandolini and Smeeding presents some descriptive evidence on household wealth for the nine countries included in the β -version of the LWS database. They focus on asset and debt participation, portfolio composition, and the distribution of net worth. As wealth accumulation patterns vary over the life cycle, it is useful to portray the demographic structure in each country before reviewing this evidence. The average household size ranges from 1.96 persons in Sweden to 2.65 in Italy and 3.35 in Cyprus. Italy emerges as the country with the most pronounced ageing process, with both the lowest share of young household heads (under 35 years) and the highest share of old heads (65 and over): 10 per cent and 33 per cent, respectively.

The age profiles for the possession of financial assets, principal residence, debt and positive net worth are significantly different across countries. Italy stands out as an outlier. On the one hand, intergenerational differences appear to be dissimilar, since the hump-shape of debt-holding and home ownership is much flatter than in the other countries. On the other hand, the low propensity to borrow and the parallel high proportion of positive net worth holders are common across all age classes.

Both in terms of mean and median income, the United States is the richest country followed by Canada and the United Kingdom, then Germany and Sweden, and lastly Finland and Italy. This is not the case for mean net worth, where the United States and Italy emerge as the richest nations, and Sweden and Finland the poorest. Once the authors switch to the median, the US falls toward the middle and is overtaken by Finland and the United Kingdom. Italy and the United Kingdom show the highest median net worth by far, almost twice the corresponding values for the other countries.

According to the β -version of the LWS database, the highest Gini concentration index is found in Sweden, followed closely by the United States, with Germany and Canada next in line. Finland, the United Kingdom and Italy exhibit a more equal distribution of net worth. When the share of net worth held by top population percentiles is considered, the US regains the lead: the richest one per cent of US households controls 33 per cent of total wealth, according to the SCF, or 25, according to the PSID, and the next four per cent controls another 25 per cent. These proportions are far higher than in all other countries, including Sweden.

This paper confirms the importance of formulating definitions and methods that are fully comparable across countries. Understanding the extent to which these results are affected by the different measurement methods or the differences in the comprehensiveness of the definition of wealth is an important question left for future LWS research.

Cannari and D'Alessio examine the role of intergenerational transfers in the wealth accumulation of Italian households. The traditional measures show that transfers received represent an important share of household net wealth. Direct estimates referring to 2002 range from 30 to 55 per cent, depending on the inclusion of the income stream produced by transferred assets. This share has shown a tendency to increase over the last decade.

In a lifetime perspective, the ratio of transfers received over the whole life span to the total amount of resources, both computed at the age of 15, is on average equal to 4.6 per cent. Computed on the recipients, the same ratio is 9.4 per cent. Households receiving transfers show higher levels of lifetime income, consumption, net wealth and transfers given than non-recipient households. Richer households receive larger transfers but, as a proportion of their current wealth holdings, transfers are greater for poorer households than richer ones. These results cannot be interpreted as an equalising effect of transfers, because people tend to react to transfers, changing their saving and consumption behaviour.

There is a positive correlation between transfers (received or expected over the whole life span) and lifetime income. Again, richer households receive greater inheritances and other wealth transfers than poorer households; as a proportion of their lifetime income, transfers are greater for poorer households than richer ones. This result is likely to be due to the much more important role played by family background variables than bequests as factors of transmission of inequality of lifetime resources.

The authors find a positive relationship between bequests left to children and inheritances received from parents; this relationship holds even after controlling for lifetime resources, suggesting the importance of the role of family traditions.

The paper by Cannari, D'Alessio and Gambacorta analyses the influence of capital gains on wealth distribution and growth. Macroeconomic estimates show that between 1989 and 2005 the net wealth of households (valued at 2005 prices using the consumer price index for the whole nation) increased by €3,640 billion, to €7,698 billion. In 1990-2005, total household net saving amounted to €2,091 billion, equal to 57.4 per cent of wealth variation. Over the same period, the contribution of capital gains to total household wealth variation was greater than 40 per cent.

Between 1990 and 2005, capital gains averaged around 13.4 per cent of household disposable income (which does not include them), while income from capital was about 30 per cent. Capital gains are highly variable over time; during half of the observed period they were larger in absolute value than one-fifth of disposable income.

Analysing SHIW data, the authors obtained results qualitatively similar to the National Accounts: between 1989 and 2004 the contribution of capital gains to per capita wealth variation was about 40 per cent in real terms. The Gini concentration index for wealth increased by 3.9 percentage points; holding asset prices constant, the increase is 2.4 points. Asset price variation explains more than one-third of wealth concentration dynamics.

These studies confirm the importance of the availability of data on intergenerational transfers and asset price variations with a view to further exploring aspects linked to wealth distribution.

5. Comparison with previous estimates

This section compares the estimates produced for this conference with the estimates for Italy processed in the past by Brandolini *et al.* (2004), Cannari and D'Alessio (2006) and the estimates provided by the Bank of Italy and published by OECD (2007).⁹ For ease of presentation, we list the sources referred to by the acronyms BCDF (Brandolini, Cannari, D'Alessio and Faiella), CD (Cannari and D'Alessio) and BI-OECD.

There are various causes for the differences between estimates: for example, there are differences in the definitions of wealth and in the methodologies for estimating some of the common items, in particular dwellings. Finally, it should be considered that the estimates can diverge due to the availability of new sources or modifications and revisions of data (for example, the census data).

Table 1 quantifies the divergences between the various estimates provided in 2002, the last year for which all the abovementioned sources are available, and enables a review of the factors that determine divergences in the values of total net wealth.

In absolute terms, without taking account of the effect of differences in the definitions adopted, in 2002 CD and BI-OECD report a 10 per cent overestimate with respect to current estimates, while the total overestimation of BCDF is 2 per cent. This result derives from the combined effect of a variety of factors that we will now briefly outline.

When compared with the new figures, all the estimates listed below show an overestimation of net wealth of 8.1 per cent, due to the inclusion of durable goods, and an underestimation of around 13 per cent, due instead to the omission of valuables, non-residential buildings, plant and machinery, inventories, goodwill and loans to co-operatives.

The BCDF estimates report another underestimation due to the omission of lands (3.5 per cent) and net financial assets held by producer households (5.3 per cent). Moreover, all three estimates considered overestimate dwellings by an amount equal to around 15 per cent of net wealth.

Taking account of all these factors, the estimates are reconciled, not counting residuals that we can impute to the revisions of the individual data. It is significant that this residual is greater in the BCDF estimates, which are also the least recent.

Aside from the definitions, the most important new development regards the estimate of residential dwellings. Previous estimates computed the price per square meter on the basis of data from Consulente Immobiliare, while the current estimates combine these with data from an agency of the Ministry of Finance (Agenzia del Territorio).¹⁰

Based on the new estimates, in 2004 households' net wealth was equal to 8.2 times their disposable income, compared with 9.5 times in the previous estimates reported in OECD. By international standards, Italy continues to have the highest wealth to income ratio but the disparity has been considerably attenuated (Figure 1).

⁹ Cannari, D'Alessio and Paiella (2006), or CDP, make regional estimates by drawing on the national totals in the estimates by Cannari and D'Alessio (2006). The estimates published by the OECD in its Economic Outlook (2007) are arrived at by combining the data published in the Financial Accounts with the unofficial estimates of real assets provided by the Bank of Italy.

¹⁰ The availability of this new data base has enabled a significant overestimation to emerge in house prices drawn from the data base of the Consulente Immobiliare, a twice-yearly survey of real estate agents published by Italian media group *Il Sole 24 Ore*; this is explained by the predominant role of prices in provincial capitals in this data base (see the paper by Cannari and Faiella).

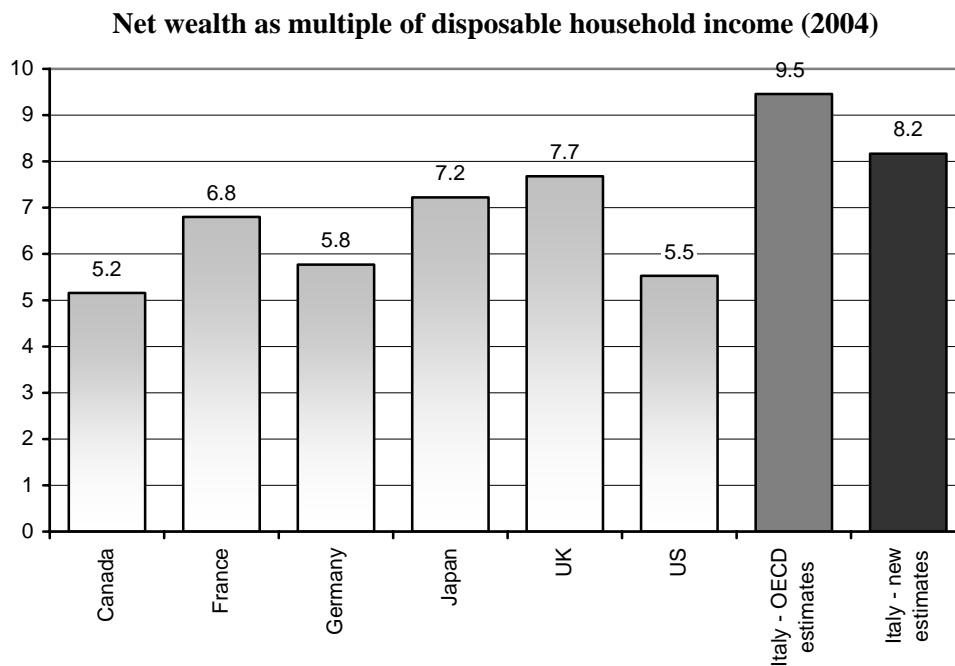
Table 1

Reconciliation of current and previous estimates
(index, 100 = 2002 net wealth based on current estimates)^(*)

	BCDF	CD and CDP	BI-OECD (**)
Total value of net wealth.....	102.1	109.1	111.2
<i>Differences due to definition:</i>			
Durable goods.....	8.1	8.1	8.1
Valuables.....	-1.8	-1.8	-1.8
Lands.....	-3.5	-	-
Non-residential buildings, plant and machinery, inventories....	-8.5	-8.5	-8.5
Financial accounts: consumer households only.....	-5.3	-	-
Sole proprietorships.....	-2.5	-2.5	-2.5
Loans to co-operatives.....	-0.2	-0.2	-0.2
<i>Differences due to estimation methods:</i>			
Residential buildings.....	13.3	13.3	15.7
Other (residual).....	2.5	0.7	0.4

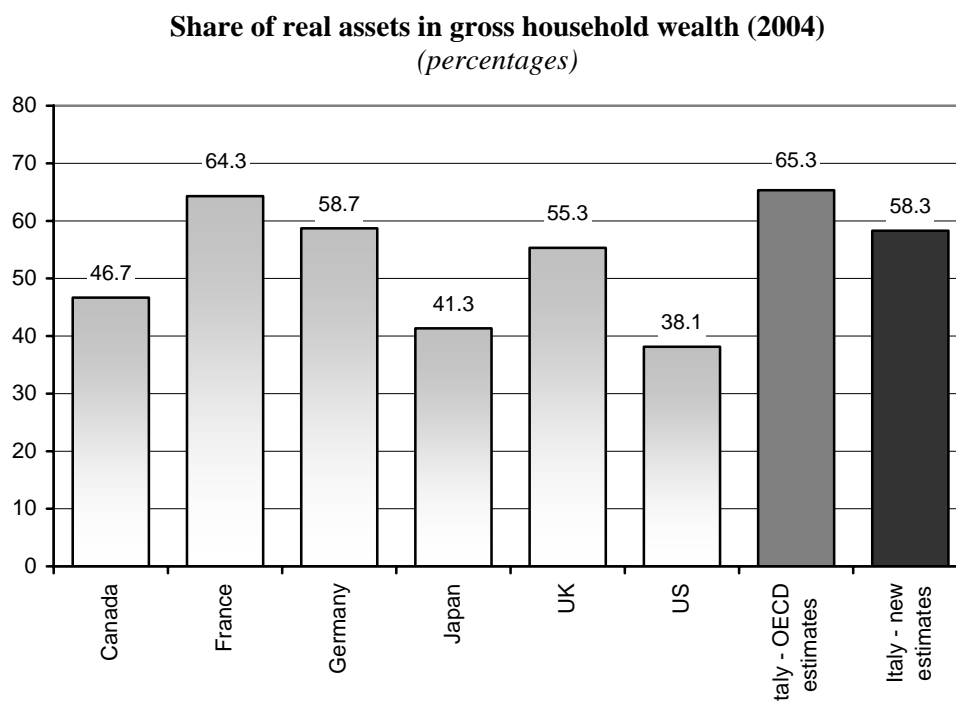
(*) The values indicate the differences between old and new estimates. (**) OECD, Economic Outlook No. 81, May 2007.

Figure 1



The share of real assets in gross wealth also differs with respect to the previous estimates; in 2004 this was equal to 58.3 per cent, a little over the UK estimate, almost in line with the figure for Germany and lower than France (Figure 2).

Figure 2



6. The questions outstanding

The papers presented at the conference enlarge the body of statistics available on household wealth and improve our knowledge of the interaction between this variable and other economic phenomena.

Numerous issues, nevertheless remain open, concerning the statistical methodology, economic analysis and the interpretation of the data. Let us draw attention to four points of particular importance.

1) As to the methodology of the national accounts, the data on wealth are the natural complement to the complex of information that illustrates how the production of goods and services is organized and how this output is channelled into consumption and savings / investment. Estimates of wealth must therefore be reconciled with savings and investment accounts. Given that variations in wealth are due to both savings and to capital gains, reconciliation heightens the need to enlarge the information set on asset price variations, especially for non-financial assets. There is also a greater need for better reconciliation between the financial and the non-financial accounts.

Also with regard to economic analysis, reconciling between savings and wealth poses questions. In the period 1995-2005 only 40 per cent of the increase in family wealth originated from savings; the remainder – almost 60 per cent – was attributable to capital gains. Obviously, what happened in this period may not be repeated in the future: while savings has a relatively stable history, capital gains are much more volatile and not infrequently make a negative contribution. But the data for the last few decades confirm that capital gains is a major component that cannot be treated as a residual or stochastic

disturbance that averages out to zero, unable to influence, in the long term, growth in wealth. Special attention needs to be paid to this component, in terms of the analysis of its origins, its characteristics and impact upon other fundamental variables.

2) Household wealth is only a part of the balance sheet accounts; so a natural extension of the statistical work begun here would be to consider the other institutional sectors.

Household wealth is very closely connected with other sectors, in particular State wealth¹¹. Citizens can in fact be considered to be the final owners of the assets and of the liabilities of the State; taking account of this within a single framework is thus most appropriate. Pending the development of the full accounting scheme, household wealth estimates should usefully be flanked by those assets and liabilities of the State.

Another related aspect that has recently received considerable attention by international statistical organizations is that of future national social security obligations to pensioners.

Public pension wealth, i.e. the current discounted value of the future monthly pension entitlements, is not counted in the definition of household wealth adopted here. Nevertheless, the amount is large indeed, such as to influence the savings behaviour of households very significantly: where the pension system provides higher retirement benefits, households have less incentive to save, because they can count on a definite income in old age. On the other hand, family pension wealth is a State liability of equal amount. As citizens sooner or later will be called upon to settle this liability, the pension element, overall, does not increase household wealth on an infinite time horizon, but it is crucial from the distributive standpoint, as a transfer from children to parents.

Modifying the national accounting framework to include public pension liabilities has advantages and disadvantages that cannot be discussed here;¹² in any event the development of adequate pension accounting, separate from ordinary national accounts, would seem to be a particularly useful advance.

3) With regard to the distributive aspects and the use of wealth as an indicator of economic welfare¹³ the question of which deflator to use remains open. Since wealth can be defined as a reserve that can be used for current or future consumption, it is reasonable that its value should be measured in relation to the level of prices, i.e. at a purchasing power parity.

To take prices at any single point in time as the deflator when wealth potentially refers to future consumption as well is no doubt partial.

Theoretical frameworks capable of taking this aspect into account have been examined in the literature, leading to the proposal to include asset prices in the measurement of inflation. As Alchian and Klein (1973) note, consumer price indexes and the GDP deflator share the defect of being limited respectively to consumption and production. In their view a complete measure of the cost of living should also consider future asset price variation. If, for example, house prices rise while rents remain stable, the index – according to these authors – should record the increase. This would reflect the

¹¹ See Barro (1974; 1989).

¹² See Semeraro (2006).

¹³ As an indicator of economic welfare wealth is not, as noted, a sufficient statistic (Merton, 2006); levels of income and consumption seem to be at least as effective to this end. Nevertheless, monitoring the level of households' wealth is useful for a more complete assessment of their economic condition.

increased cost of a future house purchase or, in an equivalent way, the future rent increases that, in equilibrium, are coherent with the increase in the price of houses.¹⁴

Reiter (1999) also holds that wealth should not be appraised using consumer price indexes; on the contrary one should use the expected interest rate for future income, a parameter that takes account of the relative prices of assets over time. According to this rule a variation in the value of wealth due solely to a variation in the expected interest rate should be ignored, as having no effect on expected income in the future.

Numerous studies have been conducted in this field; most acknowledge the theoretical founding of the approach described above, but many highlight the difficulty of deriving an index that, taking account of asset prices, is not dominated by their volatility and remains useable in practice; we must also note the incompleteness of forward markets and the consequent unavailability of future price data for the majority of goods and services.

Whether asset prices should or should not be included in the measurement of inflation and, consequently, whether in defending price stability central banks should or should not react to asset price variations, is still subject to debate. There is no doubt that the evolution of asset prices merits special attention from central banks.

A further element worth noting is the scarcity of price level information in the various Italian regions.

Work based on the elementary price data collected by the municipal statistical offices for the consumer price index shows a negative differential between the South and the Centre, and even more so the North. The differential is wider for services than for goods, and practically nil for energy. Price differentials are closely correlated with regional per capita GDP. Caution is needed in interpreting the findings of these studies, given their methodological limitations and the only partial representativeness of the samples. Nevertheless, they suggest that territorial disparities in wealth at purchasing power parity may be much less than at nominal values. These results further underscore the urgent need for indexes of comparative purchasing power by region.¹⁵

4) The availability of macroeconomic data on wealth also has implications for microeconomic studies. While maintaining their own specificity and definitions, sample surveys should allow the smooth reconstruction of aggregates comparable with the macroeconomic aggregates. The comparison should produce useful indications for assessing and improving the quality of data from both sources. However, in some instances comparability between the microeconomic estimates and the aggregates of national accounts may be an obstacle to international comparability of microeconomic studies, due to differences between the accounting systems of Europe and the United States. Some authors have accordingly suggested disaggregated definitions that can be recomposed in a way that ensures comparability between microeconomic studies of the various countries and comparability between each micro study and the relevant system of national accounts. The methodological reflection on the redefinition of the components of wealth in some papers for this conference helps us to advance towards greater comparability of micro and macro estimates.

¹⁴ According to Goodhart and Hofmann (2000), further to the considerations of Alchian and Klein (1973), the inclusion of asset prices in the inflation measure would be justified for practical reasons since some of these prices, in particular house prices, are strongly associated with inflation trends.

¹⁵ Istat has been engaged for some time on a project to calculate indexes of purchasing power parity on a regional basis, but the results are still unavailable.

With regard to Italy, there is ample scope for improving the quality of sample survey estimates by using macroeconomic data on household financial assets and liabilities, available by value classes in the banking statistics. Conversely, sample data, occasionally the only source from which one can derive information regarding some wealth components, such as the value of micro-businesses included in the household sector, can be usefully employed to integrate macroeconomic estimates.

A good part of the methodological investment has already been made. Now we have to continue the development along the lines traced out and fully exploit the new data for economic analysis.

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