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HOUSEHOLD NON-FINANCIAL WEALTH: METHODOLOGICAL ASPECTS AND INTERNATIONAL COMPARISONS

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HOUSEHOLD NON-FINANCIAL WEALTH: METHODOLOGICAL ASPECTS AND INTERNATIONAL COMPARISONS

Massimo Coletta¹

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1. Introduction

In most countries, non-financial assets and, in particular, dwellings, represent the most important component of household wealth. For example, at the end of 2011, in France, Germany, Italy and the UK real assets accounted, respectively, for about 74, 66, 69 and 61 percent of the net worth of households.

With the start of the crisis, there has been a growing interest in the measurement of non-financial assets of households in order to identify weaknesses in their balance sheets and the possible emergence of speculative bubbles that can undermine the stability of countries. To this end, the International Monetary Fund and the Financial Stability Board, as part of the project started to fill the data gaps emerged with the crisis in the G20 countries, have called for the compilation of non-financial balance sheets of the institutional sectors, giving priority to households and non-financial corporations. The Commission on the measurement of economic performance and social progress, generally referred to as the Stiglitz/Sen/Fitoussi Commission, in the report published in 2009 highlighted the importance of the measurement of non-financial assets of households with the following motivation: *“Measures of wealth are central to measuring sustainability. What is carried over into the future necessarily has to be expressed as stocks – of physical, natural, human and social capital”*.

The measurement of real assets, however, is often problematic. Few countries publish data on most of the components set forth in the classification of national accounts, whereas many provide an estimate for some items or just for the housing wealth. A major difficulty is the estimated value of housing separated from that of the land underlying. Moreover, the choice of the estimation method is strongly influenced by the degree of completeness, time coverage and reliability of available sources. Therefore, the results of comparisons between countries must be interpreted with caution. In Europe, a significant improvement has been achieved with the adoption of the ESA95 transmission program, which has requested the production of data on the real wealth of sectors, even though providing obligation only for the item "dwellings".

The aim of this work is, first, to provide an overview on the availability of data on the real wealth of households, then to discuss some methodological aspects and, finally, to present some comparisons between countries. The paper is organized in five sections. Section 2 explains the

¹ Bank of Italy, Economic and Financial Statistics Department. Email: massimo.coletta@bancaditalia.it.

two main sources of data: the databases of Eurostat and OECD.² Section 3 discusses some methodological aspects, while Section 4 presents some results of the comparison between countries. The conclusions and the appendix close the paper.

2. Data sources: Eurostat and the OECD

Eurostat and the OECD publish on-line data on the non-financial wealth of the household sector of the member countries.³ A brief description of the two archives is provide hereinafter.

2.1 Eurostat

The European countries transmit to Eurostat data on the real wealth of the institutional sectors (households, non-financial corporations, financial corporations, general government and total economy) with Table 26 (Balance sheets for non-financial assets) of the ESA95 transmission program,⁴ with a delay of 24 months from the reference year.⁵ The transmission program requires on a mandatory basis only the estimation of the stock of the housing wealth net of the value of the land underlying that the ESA95 records in "Land underlying buildings and structures." The Table 26 includes many of the items included in the ESA95 classification (see Table A1 in the Appendix).

Several countries have benefited from exemptions.

Nineteen EU countries provide data on the real wealth of households⁶ with a coverage somewhat different: eight countries send data only for the component dwellings,⁷ while France and the Czech Republic are the only ones to transmit the entire set of items.⁸ All countries provide an estimate of the value of housing net of land underlying, except for the United Kingdom that includes it; only the Czech Republic, France and the Netherlands, however, submit an estimate of the value of the land. In general, data start from 1995, except for those of Finland and France available respectively from 1975 and 1978. Table A2 in the Appendix presents the framework of the Table 26 with an indication of the time of availability of national data.

² Data presented in the work are updated at the end of August 2013.

³ The ECB publishes in its on-line Statistical Data Warehouse estimations, built on national data, on some components of the real wealth owned by the institutional sectors and the total economy of the Euro Area as a whole.

⁴ The transmission program is governed by Regulation (EU) No. 1392/2007 of the European Parliament and of the Council, which has updated the European Council Regulation no. 2223/1996 that adopted the ESA95 Manual. The program is available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:324:0001:0078:EN:PDE>.

⁵ The starting year is 1995.

⁶ As at the end of August 2013. Member countries that do not transmit data: Belgium, Bulgaria, Croatia, Greece, Ireland, Malta, Portugal, Romania and Spain.

⁷ Cyprus, Denmark, Estonia, Italy (Istat), Lithuania, Poland, Slovak Republic and Sweden.

⁸ The Netherlands, while not filling in some subtotals, provide all the details for the reconstruction of the total non-financial wealth, with the exception of valuables and intangible non-produced assets (e.g. patented entities, purchased goodwill).

Eurostat disseminates data from member countries with the table *Balance sheets for non-financial assets – current prices* available in the section *National Accounts* of the on-line database.⁹

2.2. The OECD

The OECD on-line database (*OECD.Stat*) is the richest archive on the non-financial wealth of households. The experience of the Organization in this field started a long time ago with the launch of the publication in the statistical appendix of its Economic outlook of data on the ratio non-financial wealth to disposable income for the household sector in some countries.¹⁰

In 2005, the OECD has subsequently undertaken the systematic collection of data on non-financial wealth of households through the table *Households' financial and non-financial assets and liabilities (7HAL)*, published in the Finance section of the on-line data warehouse.¹¹ The table aims to provide a simplified balance sheet of the non-financial assets based on six items (total, dwellings, other buildings and structures, machinery and equipment, inventory, land); consumer durables are included as a memorandum item. Currently, the data are transmitted, with a varying degree of detail, by twenty-two of the thirty-four member countries and by South Africa.¹² Five countries compile only the item dwellings, New Zealand provides only an estimate of the total non-financial wealth, while six countries compile all entries. Twenty-two countries submit data on housing wealth; of these, nine transmit the value of land inclusive, with the exception of Italy, of the value of land underlying dwellings. With few exceptions, data are available from 1995 onwards. Table A3 in the Appendix presents the scheme of the table 7HAL with the description of the items and the range of time covered by the countries that send data.

In addition, due to the strengthening of the cooperation with Eurostat for the exchange of data, the OECD receives and publishes the data transmitted by the European countries with the Table 26, also for the EU countries not members of the Organization (see par. 2.1). These data are published in the table *Balance sheets for non-financial assets (9B)* in the National accounts section of *OECD.Stat*.¹³

⁹From the page http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database, follow the path *Annual national accounts ->National Accounts detailed breakdowns (by industry, by product, by consumption purpose) ->Cross-classification of fixed assets by industry and by non-financial fixed asset and balance sheets for non-financial assets*. Eurostat transmits country data to the OECD (see par. 2.2).

¹⁰ The title of the table is “*Household wealth and indebtedness*” (Table 58 of the Annex) and include data on households of Canada, France, Germany, Japan, Italy, United Kingdom and United States. See the OECD *Economic Outlook*, Nr. 93, May 2013.

¹¹ The table includes detail items on the financial wealth of households in managed saving products (mutual funds, insurance and private pension plans), on financial liabilities broken down by maturity and purpose, and, finally, the total and some components of their non-financial wealth.

¹² As of end of August 2013. Member countries that do not compile the six items of the table are: Austria, Chile, Greece, Ireland, Iceland, Korea, Mexico, Poland, Portugal, Slovenia, Spain, Turkey. South Africa, a non member country, transmits data on the total non-financial assets and dwellings.

¹³ The table 9B can be found following the path *National accounts -> Annual National Accounts->Detailed tables and simplified accounts*. The table includes also data for non-EU OECD member countries that compile the table 7HAL. For these countries, data from table 7HAL and from table 9B are coherent, with two exceptions: Israel shows an incoherence for the item *Other buildings and structures* and provides only in table 9B data on inventories; Korea,

Finally, some data on the real wealth are published in the Country Statistical profiles.¹⁴

2.3. Comparison Eurostat-OECD

The comparison between data in table 26 of Eurostat and table 7HAL of the OECD for the thirteen EU countries members of the OECD that send data to the two institutions (Table 1) shows differences nil or usually low attributable to the different vintage, except for the rather high differences for dwellings of the households of Denmark (43%) and, in particular, Italy (-117%). For Italy the difference is due to the non-inclusion in the data published by Eurostat, transmitted by the National Statistical Office, the land underlying dwellings which is instead included in the figures published by the OECD, whose source is the Bank of Italy. There are some other high differences, without significant impact on the total wealth of households, for the “Machinery and equipment” component of France (14%) and the Netherlands (49%) and for the “Other buildings and structures” of the Czech Republic (31 %).

Table 1. Percentage difference between Eurostat (table 26) and OECD (table 7HAL). Percentages.

	Czech Republic	Denmark	Estonia	Finland	France	Germany	Hungary	Italy	Luxembourg	Netherlands	Slovak Republic	Sweden	United Kingdom
NON_FINANCIAL ASSETS	2.1	-	-	-	-1.8	-	-	-	-	-	-	-	-
Dwellings	0.2	43.0	0	3.4	0.0	0	0	-116.9	0	0	0	0	0
Other buildings & structures	31.3	-	-	-	-0.2	0	0	-	0	0	-	-	0
Machinery & equipment	4.9	-	-	-	13.9	0	0	-	0	49.1	-	-	0
Inventory	0.9	-	-	-	0.5	-	-	-	-	0	-	-	0
Land	0.8	-	-	-	-3.9	-	-	-	-	-	-	-	-

- Czech Republic, Denmark, Germany, Luxembourg, Netherlands, United Kingdom, Slovak Republic: year 2011.
- Estonia, Finland, France, Hungary, Italy, Sweden: year 2010.

The comparison between the two archives shows the following peculiarities: for Belgium, in table 26 of the ESA95 transmission program data are not available, while table 7HAL includes data on housing wealth; Estonia and the Slovak Republic send to Eurostat only an estimate of the value of housing while they transmit to the OECD the values of other components of the non-financial wealth; Germany does not provide Eurostat with an estimate of the value of land that instead sends to the OECD.

that does not provide real data in table 7HAL, provides estimations on the total non-financial assets, total produced and non-produced assets in table 9B.

¹⁴ The *Country statistical profiles* are available in the *General Statistics* section of *OECD.Stat*.

3. Methodological aspects

In the sequence of national accounts, the balance sheet records the values, at a particular point in time, of the financial and non-financial assets owned and of the liabilities owed by an institutional unit or group of units. The balancing item of the statement is called net worth.¹⁵ The non-financial assets are divided into produced and non-produced assets. The former are divided into three main groups: fixed assets (e.g. dwellings, machinery and equipment); inventories (e.g. finished goods); valuables (e.g. precious metals). Non-produced assets are divided into two groups: natural resources (e.g. land and subsoil assets) and intangible non-produced assets (e.g. patents). Table A1 in the Appendix shows the classification of non-financial wealth under ESA95; it is consistent with the classification of SNA2008.

The very detailed classification of the national accounts and the frequent inadequacy of the degree of completeness, historical depth and reliability of the sources available make it difficult measuring the non-financial wealth of sectors. In addition, many aspects, though not relevant for the measurement of the total wealth of a sector, are relevant for the correct assignment of values to its components and for the proper allocation to sectors and sub-sectors of the stocks, and of the flows of income associated with assets held. In this Section some of these issues are discussed.

3.1 The households sector

The household sector is composed of consumer and producer households. This definition implies that the household sector can hold wealth in many forms. Actually, the prevailing non-financial components are mostly made up of tangible goods, such as dwellings, land and valuables. There are also intangible assets, such as the value of a patent or the goodwill of a business. The non-profit institutions serving households are classified in a distinct sector to which a rather broad category of operators belongs (for example, trade unions, political parties and sports and cultural associations). Given the limited economic importance, these non-profit organizations are often presented jointly with the household sector (see Table A4 in the Appendix).

3.2 The separation between dwellings and land underlying

Accounting standards require that the value of dwellings is calculated excluding that of the land underlying (see Table A1 in the Appendix) and, as for each component of wealth, using

¹⁵ The stock of the 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 resident sectors, the total economy and the rest of the world. For the total economy the balance sheet provides as balancing item what is often referred to as national wealth, i.e 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 consists entirely of financial assets and liabilities. For further details refer to ESA95 (par. 7.01 et seq) and SNA2008 (par. 13.1 et seq). See also the volume *Understanding National Accounts* downloadable from the the OECD website.

market prices.¹⁶ These rules make it difficult to estimate the housing wealth and, more generally, of that held in buildings, considered that: first, it is usually not possible to physically separate a building from the land underlying; second, the location of the land is a major determinant of the value of a building on it: two buildings alike have values significantly different if the first is located in a small town while the second is in the center of a metropolis;¹⁷ third, market prices of dwellings available in the sources (e.g. cadastral registers and databases of research institutes) include the value of the land underlying. Moreover, the use of prices on the sale of land in non-residential areas to evaluate those underlying buildings can lead to an overestimation of the value of housing as these soils are usually found in urban areas of lower quality or in rural areas.

A way to circumvent the lack of information is to consider the building as a construction that can be placed on any land. It follows that its value, net of the underlying soil, is equal to the cost of its construction taking into account the depreciation. From a macroeconomic point of view this type of evaluation is obtained by applying the perpetual inventory method (PIM), which allows to obtain an estimate of the capital stock - in this case housing - on the basis of data on investment flows. ESA95 and SNA2008 recommend this method whenever direct information on the stock of fixed assets is missing.¹⁸ The use of this method, however, involves difficulties due mainly to the need: of sufficiently long time series on investments by institutional sectors; of a solid estimate of the initial stock of capital; of time series on price indices; of information on the transfer of property between sectors; of information for the reclassification of institutional units between sectors.

The information currently available on the methods used by countries to estimate the value of dwellings and land were collected in 2011 by the joint ECB/Eurostat Task Force on Quarterly Sector Accounts, and by the OECD with the Survey on Land. The results of the ECB/Eurostat survey show that European countries estimate the value of housing, net of land underlying, mainly using the perpetual inventory method and in a few cases, using direct sources (Poland and Sweden) or a mixed method (Germany, Denmark and the Czech Republic). The United Kingdom and Italy (source: Bank of Italy) produce an estimate of the value of housing inclusive of that of the land underlying through the use of direct sources.

The few countries that produce a separate estimate of the value of land, which also incorporates the land underlying dwellings, use both direct and indirect methods. Germany¹⁹ and

¹⁶ Par. 7.25 of ESA95 states that “A particular item in the balance sheet should be valued as if it were being acquired on the date to which the balance sheet relates, including any associated costs of ownership transfer in the case of non-financial assets. This implies that assets and liabilities are to be valued using current market prices on the date to which the balance sheet relates.” See also par. 7.33 of ESA95.

¹⁷ The value of the land in fact reflects the quality of the place in which it is located that, in turn, depends on the availability of public and private services (e.g. schools, parks, transports) and job opportunities.

¹⁸ See par. 6.04 of ESA95 and par. 20.8 of SNA2008.

¹⁹ The German National Statistical Office (Destatis) is responsible for the estimation of the value of dwellings, while the Bundesbank estimates the value of land underlying. For further details see O. Schmalwasser and M. Schidlowski, *Measuring Capital Stock in Germany*, Destatis, available at

the Czech Republic have data on size and price of land; Japan has direct information on transaction prices, while the Netherlands estimate the value of land underlying dwellings by subtracting from the market value of housing, inclusive of the land underlying, the value of dwellings estimated using the perpetual inventory method (net of land).²⁰ Canada and France produce estimates based on coefficients. The OECD survey also found that countries do not classify uniformly the land improvements (the so-called produced land) that some include in the land and others in the stock of fixed capital.²¹ To conclude, from the little information available on the estimate of the value of the component “Other buildings and structures” seems to emerge that countries are not able to separate from the value of these constructions that of the land underlying; however, this component is generally of little importance in the non-financial wealth of households (see Section 4).

In view of the findings of the two surveys and the priority given to the measurement of the non-financial wealth and, in particular, of the value of dwellings and land, Eurostat and the OECD have established in 2012 the Task Force on Land and other non-financial assets.²² The group is currently working on the compilation of a guide on the valuation of land.

3.3 Consumer durables

According to ESA95 (par. 7.63) and SNA2008 (par. 3.47) consumer durables (e.g. vehicles and appliances) are not regarded as components of the non-financial assets of households because, even if they offer a utility repeated over time, the services they provide are not within the production boundary. However, because of the interest in this information, it is suggested that consumer durables appear as a memorandum item in the balance sheet but not be integrated into the totals of the table.²³ On the contrary, on the measurement at the individual level of the household wealth at the international level prevails the opinion to include consumer durables in real wealth, with an impact not only on the distribution of wealth but also of consumption and income due to the services provided to households by those assets. It is also believed that this treatment would ensure greater consistency with the data on financial liabilities, as households often take out a loan to buy this category of assets.²⁴

Although some countries, such as Canada, Germany and the Netherlands, provide estimates of the non-financial wealth inclusive of consumer durables, the data presented in this

https://www.destatis.de/EN/Publications/Specialized/Nationalaccounts/MeasuringCapitalStockWista1106.pdf?_blob=publicationFile.

²⁰ For details on the estimation method see *Non-financial balance sheets for The Netherlands: use, compilation and extensions*, (2011) available at <http://www.imf.org/external/np/seminars/eng/2011/sta/pdf/neth.pdf>.

²¹ See par. 3.102 et seq of ESA95 and par. 10.80 and A3.78 of SNA2008.

²² Apart from the Eurostat and OECD representatives, the Task Force counts 20 members: 11 EU Member States, 8 (other) OECD countries and the European Central Bank. The TF is chaired by Eurostat and OECD.

²³ Par. 7.65 of ESA95 clarifies that: “Durable goods owned by owners of unincorporated enterprises may be used partly by the enterprise for production and partly by members of the household for final consumption. The values shown in the balance sheet for the enterprise should reflect the proportion of the use that is attributable to the enterprise.” See also par. 13.93 and 13.94 of SNA2008.

²⁴ For further details see the volume *Framework for statistics on the distribution of household income, consumption and wealth (2013)*, available on the OECD website.

paper exclude them. Some estimates of consumer durables are available in the table 7HAL published by the OECD (see Table A3 in the Appendix). Countries estimate the stock of these goods using the perpetual inventory method.

4. International comparisons

The comparisons presented in this Section are based on the data published by Eurostat and the OECD.²⁵ The different data coverage and length of the time series available and the non-uniformity of the estimation methods, chosen by countries according to the available sources, imply a lack of homogeneity of data that must be taken into account when making international comparisons. So, in order to assess the comparability of the data of the thirty-one countries for which estimates on non-financial wealth of households are available, the Table A4 in the Appendix, in addition to the source²⁶ and the time coverage of the data, provides information on the availability of an estimate of the total value of non-financial wealth and of its two most important components, housing and land. Moreover, it is indicated if dwellings include the land underlying.

With regard to the composition of the sector, fourteen countries include non-profit institutions serving households.²⁷ Only fifteen countries provide an estimate of the total non-financial wealth. All countries, with the exception of Korea and New Zealand, estimate the value of dwellings, while only nine countries provide an estimation of the value of land, inclusive of those underlying dwellings.

According to the information presented in Table A4, it is possible to divide countries into two groups with sufficiently homogeneous data to compare.

The first set consists of the ten countries for which a complete non-financial balance sheet is available.²⁸ The concise balance sheet classification corresponds to that adopted by the OECD in the table *Households' financial and non-financial assets and liabilities* which, however, includes the six main items of the real wealth of households. Table 2 presents the percentage composition of the non-financial wealth and the ratios to GDP. Countries are divided into two subgroups to separate those including in the value of dwellings the value of the land underlying (United Kingdom and United States).²⁹

²⁵ The only exception is the estimate of the housing wealth of the Spanish households carried out by the Banco de España that is not available in the two databases (see further down in this Section).

²⁶ Eurostat is the source for the EU countries transmitting data to both Institutions, except for those countries that provide OECD with more detailed data or updates.

²⁷ According to national accounting standards, the sector non-profit institutions serving households (S.15) is separated from the households sector (S.14). Nevertheless, it is stated that, when these institutions are not very important, they are classified together with households.

²⁸ The different sector composition is not here considered given the usually low importance of the non-profit institutions serving households.

²⁹ For Italy, the value of land underlying dwellings has been estimated by subtracting from the value of dwellings estimated by the Bank of Italy (including land underlying) the estimation carried out by Istat (net of land underlying). Bank of Italy is the source for the remaining components.

Table 2. Household non-financial wealth: percentage composition and ratio to GDP in 2011.

	Group 1								Group 2	
	Australia	Canada	Czech Republic	France	Germany	Italy	Japan	Netherlands	United Kingdom	United States
<i>Composition (%)</i>										
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Dwellings	29.4	51.7	74.8	46.2	60.9	38.8	28.5	47.5	94.5	86.8
Other buildings and structures	4.6	1.2	5.2	2.0	6.6	5.7	3.2	3.7	1.4	11.5
Machinery and equipment	2.2	0.4	4.1	0.6	2.1	4*	1.2	1.5	2.6	1.7
Inventories	0.6	0.6	5.5	0.4	n.a.	n.a.	0.6	0.5	0.4	n.a.
Land	59.5	46.1	8.9	48.4	30.2	49.5	66.4	46.5	n.a.	n.a.
<i>Ratio to GDP (%)</i>										
TOTAL	344.2	186.2	126.7	385.3	235.2	380.1	221.9	260.6	283.8	124.7
Dwellings	101.2	96.3	94.7	178.0	143.2	147.4	63.1	123.8	268.2	108.3
Other buildings and structures	15.8	2.2	6.6	7.6	15.5	21.6	7.0	9.5	4.0	14.3
Machinery and equipment	7.5	0.8	5.2	2.4	5.0	15*	2.7	4.0	7.4	2.1
Inventories	2.0	1.1	7.0	1.5	n.a.	n.a.	1.3	1.4	1.2	n.a.
Land	204.9	85.8	11.3	186.4	71.0	188.1	147.4	121.1	n.a.	n.a.

Data sources: see table A4 in the Appendix.

Group 1: dwellings do not include land underlying.

Group 2: dwellings include land underlying.

Data for Canada and Italy refer to 2010.

Residual differences between the total and the sum of the items are due to minor components, such as durables.

* Include inventories.

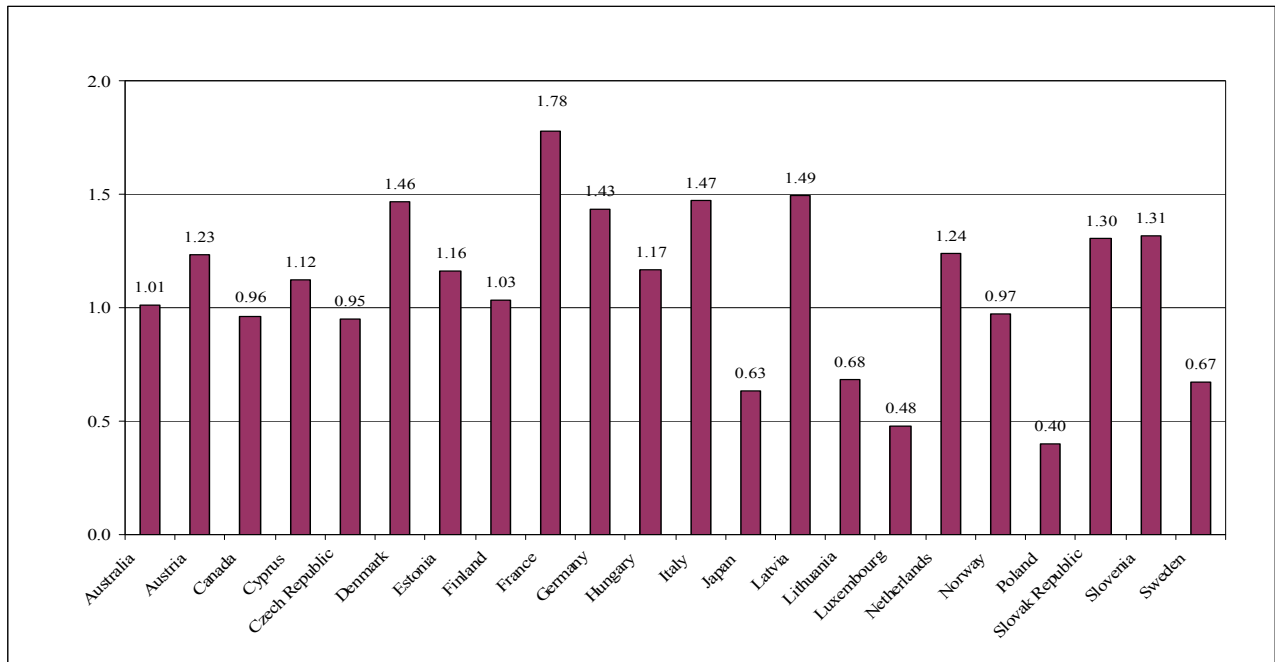
Although the results confirm the importance of housing wealth, it should be noted that in some countries, for which there is an estimate of the value of housing net of the value of the land underlying, soils are the predominant voice. This is the case of Australia, France, Italy and Japan, where the land represents, respectively, 59, 48, 49 and 66 per cent of the real wealth of households. In Canada, the value of land is slightly lower than that of the housing, while in the Netherlands the two components are substantially equivalent. In Germany and in the Czech Republic, dwellings have a weight significantly higher than that of the land. In the United Kingdom and the United States, housing (including land underlying) accounts for nearly all of the non-financial wealth of the sector (about 90 percent).

Turning to the ratio to GDP, we find that the total non-financial wealth is always greater than GDP. In France and Italy, households have the highest value, close to four times the GDP, followed by Australian households with a ratio of 3.5. Among the remaining seven countries, Germany, Japan, the Netherlands and the United Kingdom have a value between two and three times the GDP, while Canada, Czech Republic and the United States have a ratio between one and two times the GDP. Korea, Israel, New Zealand and South Africa, while not completing a

full statement, provide an estimate of the total non-financial wealth of households that is about, respectively, 2.6, 1, 3 and 0.7 times the GDP.³⁰

The second homogeneous group consists of the twenty-two countries that produce an estimate of the value of dwellings net of the land underlying; this group excludes not only countries that include land underlying, but also those for which no information on the inclusion is available.

Figure 1. Dwellings net of land underlying: ratio to GDP in 2011 (times).



Sources: see Table 4A in the Appendix.

Data for Canada, Cyprus, Estonia, Hungary, Italy, Latvia, Poland and Sweden refer to 2010.

This group is composed of the eight countries of the group 1 of Table 2, of (other) thirteen European countries, which transmit to Eurostat estimates to comply with the requirement of the ESA95 transmission program,³¹ and Norway, which sends the data to the OECD. Figure 1 shows that, in terms of the GDP, French households have the highest housing wealth with a value of about 1.8, followed by households of Denmark, Germany, Italy and Latvia with a value close to 1.5. The lowest value belongs instead to the households of Poland. It's interesting to note that only five of the twenty-two countries surveyed have a particularly low value, close to 0.5 times the GDP. Although not comparable with the data of Figure 1, the estimate of housing wealth of Spanish households, inclusive of land underlying dwellings, published by the Banco de España in

³⁰ Switzerland has a value of 2.6 times the GDP. This value should be partial given that the total non-financial wealth is equal to the value of dwellings.

³¹ Cyprus, Denmark, Estonia, Lithuania, Poland, the Slovak Republic and Sweden provide only data on dwellings, while Austria, Finland, Hungary, Latvia, Luxembourg and Slovenia transmit estimations for other components.

its website but not transmitted to the two Institutions deserves particular attention.³² The figure for 2011, equal to 4.7 times GDP,³³ is a very high value and significantly higher not only than that of countries carrying out comparable estimates - Italy (3.2), United Kingdom (2.7), United States (1.1), South Africa (0.6) and Switzerland (2.6) - but also higher than the ratios to GDP relative to the total non-financial assets presented in Table 2.

5. Conclusion

The recent crisis has highlighted the importance of having detailed, comparable and timely statistics also on the non-financial wealth of households, primarily in order to assess their ability to cope with prolonged phase of economic weakness. Although in recent years there has been a significant improvement in the availability of data, the majority of countries produce estimates for only some of the numerous components set forth in the classification of national accounts. The available sources impose constraints to the adoption of the most appropriate methods of estimation giving rise to methodological inconsistencies between national data. In addition, information on the methods are few and sometimes sketchy. The statistical institutions are therefore called upon to fill these information gaps, but there are difficulties mainly due to the lack of sources and resources. In view of all this, Eurostat and the OECD have set up in 2012 the Task Force on Land and other non-financial assets that is currently working on the compilation of a guide for the assessment of the land. In Europe, a significant improvement is also expected from the adoption of the transmission program of the ESA2010 which will come into force at the end of 2014. The new program extends the obligation to transmit to other items of the real wealth of households, planned for the moment only for housing, it calls for the sending of information on sources and methods of estimation and, from 2017, it also provides for a reduction of the delay of data transmission from 24 to 12 months.

The work has analyzed some methodological aspects related to the estimation of the real wealth. The distinction between dwellings and land underlying, required by the national accounts' standards, is the most problematic, especially for the lack of appropriate data sources. The investigation on the methods of estimation has showed that the method used by most of the countries for the valuation of the components of fixed assets, including housing, is the perpetual inventory method. The direct sources (e.g. censuses and surveys) are mostly used in the estimation of the other components.

The international comparisons presented in Section 4, based on the data available in the databases of Eurostat and the OECD, focused on countries that have data sufficiently homogeneous. The ratios of total non-financial wealth to GDP show that French households are

³² Data are quarterly and are published in the Statistical section under the path Summary indicators->Spain->Housing market indicators. The file *Table 6* includes data as a ratio to GDP, while the time series are available in the excel spreadsheet *Time Series of table 1.6*. The file *Methodological note to the table 1.6* illustrates the methodology adopted.

³³ The ratio for 2012 is 4.3.

the richest (3.9 times), followed by Italian (3.8 times) and Australian (3.5 times). Among the components of the real wealth, dwellings are usually the most important even when they do not include the value of the land underlying.

APPENDIX

Table A1. ESA95 classification of non-financial assets.

Table A2. Eurostat (Table 26): availability of data on household non-financial assets.

Table A3. OECD (Table 7HAL): availability of data on household non-financial assets.

Table A4. National data available in the Eurostat and the OECD databases.

Table A1. ESA95 classification of non-financial assets

AN. NON-FINANCIAL ASSETS (AN.1. + AN.2.)

AN.1. Produced assets

AN.11	Fixed assets
AN.111	Tangible fixed assets
AN.1111	Dwellings
AN.1112	Other buildings and structures
AN.11121	Non-residential buildings
AN.11122	Other structures
AN.1113	Machinery and equipment
AN.11131	Transport equipment
AN.11132	Other machinery and equipment
AN.1114	Cultivated assets
AN.11141	Livestock for breeding, dairy, draught, etc.
AN.11142	Vineyards, orchards and other plantations of trees
	yielding repeat products
AN.112	Intangible fixed assets
AN.1121	Mineral exploration
AN.1122	Computer software
AN.1123	Entertainment, literary or artistic originals
AN.1129	Other intangible fixed assets
AN.12	Inventories
AN.121	Materials and supplies
AN.122	Work in progress
AN.1221	Work in progress on cultivated assets
AN.1222	Other work in progress
AN.123	Finished goods
AN.124	Goods for resale
AN.13	Valuables
AN.131	Precious metals and stones
AN.132	Antiques and other art objects
AN.139	Other valuables

AN.2. Non-produced assets

AN.21	Tangible non-produced assets
AN.211	Land
AN.2111	Land underlying buildings and structures
AN.2112	Land under cultivation
AN.2113	Recreational land and associated surface water
AN.2119	Other land and associated surface water
AN.212	Subsoil assets
AN.2121	Coal, oil and natural gas reserves
AN.2122	Metallic mineral reserves
AN.2123	Non-metallic mineral reserves
AN.213	Non-cultivated biological resources
AN.214	Water resources
AN.22	Intangible non-produced assets
AN.221	Patented entities
AN.222	Leases and other transferable contracts
AN.223	Purchased goodwill
AN.229	Other intangible non-produced assets

Table A2. Eurostat (Table 26): availability of data on household non-financial assets.

NON-FINANCIAL ASSETS	Austria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Hungary	Italy	Latvia	Lithuania	Luxembourg	Netherlands	Poland	Slovak Republic	Slovenia	Sweden	United Kingdom
N1 - Produced assets	-	-	1993-2011	-	-	-	1978-2011	-	1995-2010	-	2000-2010	-	1995-2011	-	-	-	-	-	1990-2011
N11 - Total fixed assets	1995-2012	-	1993-2011	-	-	1975-2012	1978-2011	1995-2011	1995-2010	-	2000-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N111 - Tangible fixed assets	1995-2012	-	1993-2011	-	-	1975-2012	1978-2011	1995-2011	1995-2010	-	2000-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N1111 - Dwellings	1995-2012	1995-2010	1993-2011	1990-2011	2000-2010	1975-2012	1978-2011	1995-2011	1995-2010	1995-2010	2007-2010	1995-2011	1995-2011	1995-2011	1995-2010	1995-2011	1995-2011	1995-2010	1990-2011
N1112 - Other buildings and structures	1995-2012	-	1993-2011	-	-	1975-2012	1978-2011	1995-2011	1995-2010	-	2007-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N11121 - Non-residential buildings	-	-	1993-2011	-	-	1975-2012	1978-2011	-	-	-	-	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N11122 - Other structures	-	-	1993-2011	-	-	1975-2012	1978-2011	-	-	-	-	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N1113 - Machinery and equipment	1995-2012	-	1993-2011	-	-	1975-2012	1978-2011	1995-2011	1995-2010	-	2000-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N1114 - Cultivated assets	1995-2012	-	1993-2011	-	-	-	1978-2011	1995-2011	1995-2010	-	2000-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N112 - Intangible fixed assets	1995-2012	-	1993-2011	-	-	1975-2012	1978-2011	1995-2011	-	-	2000-2010	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N1121 - Mineral exploration	-	-	1993-2011	-	-	-	1978-2011	-	-	-	2007-2008	-	1995-2011	1995-2011	-	-	-	-	-
N1122 - Computer software	-	-	1993-2011	-	-	1986-2012	1978-2011	-	-	-	2007-2008	-	1995-2011	1995-2011	-	-	2000-2011	-	-
N1123 - Entertainment, literary or artistic originals	-	-	1993-2011	-	-	1975-2012	1978-2011	-	-	-	2007-2008	-	1995-2011	1995-2011	-	-	2000-2011	-	-
N1129 - Other intangible fixed assets n.e.c.	-	-	1993-2011	-	-	-	1978-2011	-	-	-	2007-2008	-	1995-2011	1995-2011	-	-	2000-2011	-	1990-2011
N12 - Inventories	-	-	1993-2011	-	-	-	1978-2011	-	2000-2007	-	2000-2010	-	-	1995-2011	-	-	2000-2012	-	1990-2011
N13 - Valuables	-	-	1993-2011	-	-	-	1978-2011	-	-	-	2000-2010	-	-	-	-	-	-	-	-
N2 - Non-produced assets	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	-	-	-	-	-	-
N21 - Tangible non-produced assets	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	-	-	-	-	-	-
N211 - Land	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	1996-2011	-	-	-	-	-
N212 - Subsoil assets	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	1996-2011	-	-	-	-	-
N21A - Non-cultivated biological resources and water resources	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	-	-	-	-	-	-
N22 - Intangible non-produced assets	-	-	1993-2011	-	-	-	1978-2011	-	-	-	-	-	-	-	-	-	-	-	-

Situation at the end of August 2013.

Data for Belgium, Bulgaria, Croatia, Greece, Ireland, Malta, Portugal, Romania and Spain are not available.

Table A3. OECD (Table 7HAL): availability of data on household non-financial assets.

NON-FINANCIAL ASSETS	Australia	Belgium	Canada	Czech Republic	Denmark	Estonia	Finland	France	Germany	Hungary	Israel	Italy	Japan	Luxembourg	Netherlands	New Zealand	Norway	Slovak Republic	South Africa ²	Sweden	Switzerland	United Kingdom	United States
TOTAL	1995-2012	-	1995-2010	1995-2011	-	-	-	1995-2010	1995-2011	-	2001-2011	1995-2008	1995-2011	-	1996-2011	1995-2011	-	-	1995-2011	-	2000-2011	1995-2011	1995-2011
Of which Dwellings	1995-2012	1995-2011	1995-2010	1995-2011	1995-2011	1995-2010	1995-2010	1995-2010	1995-2011	1995-2010	2001-2011	1995-2008	1995-2011	1995-2011	1996-2011	-	1995-2011	1995-2011	1995-2011	1995-2010	2000-2011	1995-2011	1995-2011
Of which Other building & structures (incl. non-residential build.)	1995-2012	-	1995-2010	1995-2011	-	2000-2010	-	1995-2010	1995-2011	1995-2010	2001-2011	1995-2008	1995-2011	1995-2011	1996-2011	-	-	1995-2011	-	-	-	1995-2011	1995-2011
Of which Machinery & equipment	1995-2012	-	1995-2010	1995-2011	-	2000-2010	-	1995-2010	1995-2011	1995-2010	2001-2011	-	1995-2011	1995-2011	1996-2011	-	-	1995-2011	-	-	-	1995-2011	1995-2011
Of which Inventory	1995-2012	-	1995-2010	1995-2011	-	2000-2010	-	1995-2010	-	-	-	-	1995-2011	-	1996-2011	-	-	-	-	-	-	1995-2011	-
Of which Land	1995-2012	-	1995-2010	1995-2011	-	2000-2010	-	1995-2010	1995-2011	-	-	1995-2008	1995-2011	-	1996-2011	-	-	-	-	-	-	-	-
Consumer durables (Memorandum item)	1995-2012	-	1995-2010	-	-	1995-2011	-	-	1995-2011	-	-	1995-2008	1995-2011	-	1996-2011	-	-	-	1995-2011	-	-	-	1995-2011

* Non OECD member.

Situation at the end of August 2013.

Data for Austria, Chile, Corea, Greece, Iceland, Ireland, Mexico, Poland, Portugal, Slovenia, Spain and Turkey are not available.

Table A4. National data available in the Eurostat and the OECD databases.

	Data source	Time coverage	Sector composition	Data availability			Dwellings include land underlying?
				Total non-financial wealth	Dwellings	Land	
Australia	OECD	1995-2012	S14, S15	X	X	X	No
Austria	Eurostat	1995-2012	S14, S15		X		No
Belgium	OECD	1995-2011	S14, S15		X		n.a.
Canada	OECD	1995-2010	S14, S15	X	X	X	No
Cyprus	Eurostat	1995-2010	n.a.		X		No
Czech Republic	Eurostat	1993-2011	S14	X	X	X	No
Denmark	Eurostat	1990-2011	S14, S15		X		No
Estonia	OECD	1995-2010	S14		X	X	No
Finland	Eurostat	1975-2012	S14		X		No
France	Eurostat	1978-2011	S14	X	X	X	No
Germany	OECD	1995-2011	S14, S15	X	X	X	No
Hungary	Eurostat	1995-2010	S14		X		No
Israel	OECD	2001-2011	S14	X	X		n.a.
Italy¹	Eurostat/Bank of Italy	1995-2010	S14	X	X	X	No
Japan	OECD	1995-2011	S14	X	X	X	No
Korea²	OECD	1997-2011	S14, S15	X			n.a.
Latvia	Eurostat	2000-2010	n.a.		X		No
Lithuania	Eurostat	1995-2011	n.a.		X		No
Luxembourg	Eurostat	1995-2011	S14, S15		X		No
Netherlands	Eurostat	1995-2011	S14, S15	X	X	X	No
New Zealand	OECD	1995-2011	S14	X			n.a.
Norway	OECD	1995-2011	S14		X		No
Poland	Eurostat	1995-2010	S14		X		No
Slovak Republic	OECD	1995-2011	S14		X		No
Slovenia	Eurostat	2000-2011	S14		X		No
South Africa	OECD	1995-2011	S14, S15	X	X		Yes
Spain	Banco de España	1987-2012	S14		X		Yes
Sweden	Eurostat	1995-2010	S14, S15		X		No
United Kingdom³	Eurostat	1990-2011	S14, S15	X	X		Yes
United States	OECD	1995-2011	S14, S15	X	X		Yes
Switzerland⁴	OECD	2000-2011	S14, S15	X	X		Yes

Situation at the end of August 2013.

S14: Consumer and producer households; S15: Non-profit institutions serving households.

¹ Bank of Italy data on 2009-2011, published on the Bank's website are not yet available in table 7HAL of OECD.Stat.

² Data from table Balance sheets for non-financial assets (9B) of OECD.Stat.

³ The total non-financial wealth is available in the table 7HAL of OECD.Stat.

⁴ Total non-financial assets is equal to dwellings.