Definition of net wealth, assets and liabilities

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12 December 2018
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- Questionnaire design techniques
- Other information that should be collected with wealth.
Household wealth definition and its components
Household definition

Unit used for analysing micro data on wealth

Defined as individual person or group of persons who:

- live together under the same household arrangement
- combine to provide themselves with food and other essentials of livings

Economies of scales:

dwelling and other households facilities are shared between households members
Household definition

Exclusions / special cases

- Households in collective living quarters and institutional households (Canberra Group)
- Household not residing in the national territory (HFCS)
- Individuals living in more than one place chose the residence where they spend the majority of the year
- Lodgers and domestic staff

“Measuring Income and Wealth through Household Surveys for Welfare Monitoring”
Perugia, 10-14 December, 2018
Each person belongs to one and only one household

Consistency with consumption

All members of a household must be resident in the same country

The wealth of some households will be excluded

Add complexity on micro-macro comparison

Some population groups (students, older people) may be under-represented

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Family is a group of two or more persons who live in the same household and who are related each other through blood, marriage or adoption.

May differ from household:
- A household may consist of only one person.
- A family includes persons who usually live separately.
- Households member need not to be related.

Different cultural and institutional arrangements can affect comparability of families across countries.

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• Wealth generally refers to economic resources of the household

• Wider concepts of wealth are possible to include human capital, social capital and cultural capital but these concepts are:
  – Multidimensional and difficult to evaluate
  – Hard to measure at households level
  – Interpreted differently across countries
Net Wealth Definition

Households net wealth

Real & Financial assets

Liabilities

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Net Wealth Definition

• Wealth is whole amount of material and immaterial goods with a market value that can be changed against money or other goods

• The recommended definition of asset and liabilities to be included in micro statistics on household wealth are based on those in the National Accounts (NA):
  – Asset is a store of value representing a benefit accruing to the economic owner by holding or using the entity
  – Liability is established when one unit (the debtor) is obliged to provide a payment to another unit (the creditor)
Real Wealth components

Non-financial (real) assets

- Households main residence
- Land and other real estates
- Valuables

Consumer durables

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A consumer durable (CD) is a good that can be used for purposes of consumption repeatedly or continuously over a period of a year or more. Examples are:
- Vehicles (cars, motorcycles, boats, bikes...)
- Kitchen and laundry appliances, furniture
- Computers and other entertainment equipment

Valuables are durable good (usually expansive) that do not deteriorate over time and are held not for consumption but in expectation that their price will either remain stable or increase over time (store of value). Examples are:
- Fine jewellery or precious stones
- Work of art
Consumer durables: classification

• In the NA CD are excluded by the concept of assets but their value should appear as a **memorandum item** in the households balance sheet.

• For micro statistics the recommended treatment of CD is to **include** them in measures of households wealth.
  – For low wealth households CDs account for most of their wealth
  – Often debts are associated with CD so their inclusion provide a more informative measure of net wealth

• Be consistent with other accounts (only CD depreciation should be included in consumption)
The inclusion of CD has an impact on the amount of net wealth (+7-10%).

The share is decreasing over time.
The inclusion of CD in the net wealth has an impact on concentration (Gini index from 0.61 to 0.59 in 2014).

The impact is decreasing over time (0.06 in 1991 vs 0.02 in 2014).
Financial Wealth components

- Currency and deposits
- Bonds and other debt securities
- Net equity in own unincorporated enterprises
- Shares (listed/unlisted)
- Mutual/investment funds
- Life insurance and pension funds

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Financial wealth components

- **Deposits**: is the most common form of financial asset. This category comprises highly liquid assets that allow access to currency relatively quickly for performing economic transactions (transaction accounts, saving accounts, fixed-term deposits and certificates of deposit).

- **Bonds and other debt securities**: Negotiable instruments serving as evidence of debt (government saving bonds, corporate bonds issued by resident enterprises and banks,)

- **Net equity in own unincorporated enterprises**: Household members’ share of the net equity in unincorporated enterprises in which they work (usually best valued on the basis of how much the enterprise could be sold for as an operating entity, including any business goodwill and the like, less any liabilities)
Financial wealth components

- **Shares in corporations**: Instruments and records acknowledging claims on the residual value of incorporated businesses after the claims of all creditors have been met (publicly traded shares, listed and unlisted shares, private equity securities). They generally entitle the holders to a share in the profits of the corporations.

- **Mutual funds and other investment funds**: Collective investment undertakings through which investors pool funds for investment in financial or non-financial asset (mutual funds, hedge funds, managed investment fund). Investment fund shares are usually split into subcategories of funds classified according to their main support: money market funds, real estate funds, bond funds, mixed funds and equity funds.
Financial wealth components

- **Life insurance funds**: the insurer guarantees to pay the policy-holder an agreed minimum sum or an annuity at a given date or earlier if the policy-holder dies beforehand. The holder pays a premium (regularly and/or lump sum).

- **Pension funds** pay the holder an income only when he/she becomes eligible for a state pension:
  - defined benefit schemes: the formula for defining a member’s pension is agreed in advance (for example as a function of the last salary and length of employment).
  - defined contribution schemes: the amount of the pension depends on the performance of the assets acquired with the member’s contributions.

These components are not always included in wealth. Current value difficult to measure. Country specificity in pension options. Uncertainty in future value. Government social security pension entitlements schemes are always excluded.
Liabilities components

- Loans
- HMR, other real estates
- Vehicles, other durables
- Valuables
- Education
- Credit card debts
- Other debts

Debits towards friends and relatives

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Credit and debts toward relatives and friends

• Not collected in NA because they cancel out of by a process of consolidation at household level.
• The same netting/consolidation principle should be used for credit/debts among components of the same household.
• Particularly relevant for those households at the bottom of the distribution or that do not have access to other kind of financial support (less developed areas, low level of education)
Credit and debts toward relatives and friends

• In Italy Bartiloro & Rampazzi (2015) show that the financial support provided by family and friends has increased during the crisis.

• The probability of exploiting the informal network is greater when:
  – the head of the household is unemployed
  – the family faces difficulty to meet the monthly expenses
  – with the use of consumer credit (the amount of the loan granted by the intermediaries is too low to cover financial needs or to pay the instalments on the debt itself)
Foreign assets/liabilities

• Although the survey only considers resident households, foreign assets and liabilities hold from those households should be recorded
  – Dwellings in foreign countries
  – Deposits in non resident banks
  – Securities issued by non-resident entities
  – Debts incurred with non-resident lenders.
How to measure household wealth components
Valuation (market value, self reported value)

Reference point (time of recording vs end of the year)
The NA recommends that all assets and liabilities be valued at **current value on the market**

- Ensures consistency between flow and stocks measures
- Economic decisions are usually taken in function of market prices

Current market value is also the preferred measurement for micro level wealth but sometimes it is difficult for a household to establish

- Some assets are only traded rarely or do not face regular market test
- There can be more than one trading approach
- Non-marketable and non-traded assets

In these cases need to estimate a “fair value” : the value that would have been observed if a transaction had taken place
Valuation example 1: HMR

- The household's main residence (HMR) is difficult to value for the household, unless it is sold or it has been just bought.
- Can be valued by professional real estate valuers (expansive approach).
- Its value depends on the length of time available for the transaction: “quick sale” may lead to a lower price than that obtained filtering among potential buyers to optimise the sale price (range of values).
- Self evaluation or “reservation price” is the price an owner (not intending to move) is willing to sell. Useful to explain consumption behaviour and financial decision but may differ from current value.
Valuation current value: HMR

Survey on household income and wealth

• In your opinion, how much is your house/flat worth (unoccupied)? In other words, what price could you ask for it today (including any cellar, garage or attic)? Please give your best estimate.

Household Finance and Consumption survey

• What is the value of this property, i.e. if you could sell it now how much do you think would be the price of it?

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Can you give an estimate, even a rough one, of the value of all the goods owned by the household at the end of 2016 in the following categories: valuables, means of transport, furniture/furnishings/household appliances? (SHOW CARD) (Interviewer, prompt if necessary) Think of what you would have received in 2016 if you had sold them.

• Valuables (jewellery, ancient or gold coins, works of art, antiques)
• Cars
• Other means of transport (motorcycles, caravans, motor boats, boats, bicycles)
• Furniture, furnishings, household appliances, sundry equipment (rugs and carpets, lamps, small household appliances, washing machine, dishwasher, vacuum cleaner, floor polisher, TV, PC, fridge, cooker, heater, air conditioner, radio, video-recorder, CD player, HI-FI equipment, mobile phone, fax machine, camera, camcorder, etc.)

Being more specific about durables helps in gathering greater accuracy but increase respondents burden. The degree of detail is country specific.
All assets and liabilities should be recorded at the same point of time (usually end of the year)

- Consistent with macro statistics based on NA
- Ensures integrity of aggregates measured at the same date
- Improves comparability across surveys

This choice is particularly suitable for some assets (such as financial assets) for which comparable documentation is available at a certain point of time (bank statements) but less in other cases (especially when the valuation is based on hypothetical question)
In practices, when hypothetical question on the current market value are asked (such as HMR value), to contain cognitive burden the reference period is the time of interview.

In these cases it is important to consider:

a) how long it takes the field (in SHIW 5-6 months)
b) the dynamic of asset prices

The bias in the evaluation induced by the time lag between the interview and the reference point can be ex post adjusted knowing the date of interview and information on asset price dynamic.

For example it is possible to deflate the property values reported by households using the monthly house price index.
### Adjustments in real estate wealth using the house price index

<table>
<thead>
<tr>
<th></th>
<th>Original</th>
<th>Adjusted</th>
<th>(A-O)/O</th>
</tr>
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<tbody>
<tr>
<td>2008</td>
<td>206,913</td>
<td>206,791</td>
<td>-0.1</td>
</tr>
<tr>
<td>2010</td>
<td>220,478</td>
<td>219,675</td>
<td>-0.4</td>
</tr>
<tr>
<td>2012</td>
<td>206,359</td>
<td>210,353</td>
<td>1.9</td>
</tr>
</tbody>
</table>

### Percentage changes and differences

<table>
<thead>
<tr>
<th></th>
<th>ΔO</th>
<th>ΔA</th>
<th>ΔO-ΔA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2008</td>
<td>6.6</td>
<td>6.3</td>
<td>-0.3</td>
</tr>
<tr>
<td>2012-2010</td>
<td>-6.4</td>
<td>-4.2</td>
<td>2.2</td>
</tr>
</tbody>
</table>

- The adjustment affects the average values of real estate wealth (-0.1 and -0.4 per cent in the 2008 and 2010 surveys, when house prices were nearly stationary and +1.9 in 2012)
- The adjustment also affects estimates of the variations between two surveys. The adjustment is larger in 2012, with the dynamic in the average values of property corrected by 2.2 percentage points

D’Alessio and Iezzi (2015)
Questionnaire design techniques
• Wealth-related topics are:
  – among the **most sensitive** topics addressed in household surveys.
    Need to develop credible systems and procedures to provide respondents with assurance that their information will remain confidential.
  – **more complicated** than information collected in most other household surveys.
    Need to structure the questionnaire, avoiding technical language and enabling respondents to report what they know (even if the information is only partial).
Stepwise selection of respondents meeting criteria:
- Ask all households for most diffused assets
- Filter question for others
- For example do not ask for assets that needs a current account to be managed if the household does not have one
- For less diffused items ask before for the possession of a general group (bonds, assets, mutual funds) and if yes go for the detailed information

Unfolding bracket technique (Juster & Smith, 1997) to reduce missing data
- Put respondents holding into quantitative ranges
SAVINGS AND INVESTMENTS

Let us now talk about some form of savings, often used by households.

*(SHOW CARD. C24)*

C24. This is a list of different forms of saving and investment. Did the household have ... *(form of saving or investment)* on 31-12-2016? **POS_A1 ... I**

*(Code in column C24 code 1=Yes or 2=No)*

*(SHOW CARD C25)*

*(For each form of saving or investment held on 31-12-2016)*

C25. What was the value on 31-12-2016? Answer using one of the ranges on this card.

*(Write in column C25 the code for the value range) **CLA_A1 ... I***
Respondent has to report a number from 1 to 15

<table>
<thead>
<tr>
<th>Card</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>More than 1,000,000€</td>
</tr>
<tr>
<td>14</td>
<td>From 500,001€ to 1,000,000€</td>
</tr>
<tr>
<td>13</td>
<td>From 300,001€ to 500,000€</td>
</tr>
<tr>
<td>12</td>
<td>From 150,001€ to 300,000€</td>
</tr>
<tr>
<td>11</td>
<td>From 70,001€ to 150,000€</td>
</tr>
<tr>
<td>10</td>
<td>From 35,001€ to 70,000€</td>
</tr>
<tr>
<td>9</td>
<td>From 18,001€ to 35,000€</td>
</tr>
<tr>
<td>8</td>
<td>From 12,001€ to 18,000€</td>
</tr>
<tr>
<td>7</td>
<td>From 8,001€ to 12,000€</td>
</tr>
<tr>
<td>6</td>
<td>From 6,001€ to 8,000€</td>
</tr>
<tr>
<td>5</td>
<td>From 4,001€ to 6,000€</td>
</tr>
<tr>
<td>4</td>
<td>From 2,001€ to 4,000€</td>
</tr>
<tr>
<td>3</td>
<td>From 1,001€ to 2,000€</td>
</tr>
<tr>
<td>2</td>
<td>Up to 1,000€</td>
</tr>
<tr>
<td>1</td>
<td>Nothing (only for current accounts and savings accounts)</td>
</tr>
</tbody>
</table>
• Ranges should be constructed taking into account the distribution (at first estimated) of financial wealth. Usually financial wealth is highly concentrated therefore ranges are more detailed for lower amounts (owned by most of the households) and less for higher amounts (hold by few households).

• Also to be less detailed for higher amounts give the impression to the household not to have provided a precise information on the owned amount.

• Higher amounts are positioned at the beginning of the list so, due to the so called *primacy effect*, respondents will choose with greater confidence the first item that represents their financial situation (partially contrasting the phenomena of under-reporting).
Unfolding bracket technique: example

(For each form of saving or investment held on 31-12-2016)

C26. Can you tell us the approximate value on 31-12-2016? AMM_A1 ... I€
(Enter the value in column C26)
(Interviewer, in the event of a refusal to answer go to Question C27, otherwise go to Question C28)

(If no value is given)

C27. Could you at least tell me whether the value of the household’s savings or investments was closer to (lower bound), to .... (upper bound) or about half way between the two? SCL_A1 ... I*
(Interviewer, enter the code: l=lower, C=middle, S=upper in column C27)
When the answer can be subject to measurement error due to the complexity of the question a strategy consists in collecting related information that can be used for:

- Internal coherence checks (CAPI)
- Editing
- Imputation in case of missing answer
In the case of the HMR we collect data about:
- the year and the value at acquisition of the property
- the surface area (square meters)
- quality: the year when it was built, number of bathrooms

For the HMR we ask to the interviewer to provide qualitative information on the exterior appearance of the building and about the surrounding area (before starting the interview)
Life insurance and pension funds not tradable: it is not possible to determine the current market value directly.

Easy to collect only if the present value of a pension fund is provided to participant in an annual statement; otherwise valuation from the respondents may be difficult and results are often inaccurate.

Need to collect other information (annuity vs lump sum, retirement age or not, survivor benefits, known percentage of last salary, employer-employee contribution, annual premium-lump sum paid, other benefits in case of incapacity or death) to get an overall evaluation of the value of the life insurance/pension fund (estimate of the present value of future expected cash flow).
Usually loans are categorised by purpose of the loan (SHIW) or by the collateral used to obtain the loan (HFCS).

Many loans involve a series of payments. During the life of the loan it is difficult to determine how much principal is still outstanding (i.e. current value of the liability) unless an annual statement from financial institution is provided.

If this is not the case additional information is needed to internally validate the declared outstanding balance or to impute it:
- Initial amount borrowed;
- Year in which the mortgage/loan was obtained;
- The total contract length:
- The interest rate and its characteristics (fixed or floating)
- The cost of the loan repayment instalments in the year (both principal and interest)
To assess the quality of the data collected it is useful to ask the interviewer to provide their judgment (face to face interviews).

At the end of the interview they have to rate the reliability of the information on forms of saving, financial investment, the household’s dwelling and other properties provided by the respondent.
Other information that should be collected with wealth
When collecting wealth data it is important to include in the questionnaire other variables that may be particularly useful in its analysis:

- **Socio-demographic information** (household and individual level) useful to classify households into groups
- **Related information** for editing and internal coherence checks
- **Individual ownership** (gender gap)
- **Flow variables** (income, capital gains, inheritance) to study household vulnerability, sources of wealth accumulation
- **Attitudinal and behavioural** variables

**TRADE-OFF between respondent burden and amount of data collected**
Net wealth variation

Level of household wealth at time T-1

Change in the level of household wealth, T-1->T

Level of household wealth at time T

Income

Consumption

Saving/dissaving

Capital gain/loss

Inheritance

“In Measuring Income and Wealth through Household Surveys for Welfare Monitoring”
Perugia, 10-14 December, 2018
• Following NA:

\[ \Delta W_t = S_t + CT_t + CG_t + OVV_t \]

where

- \( S_t \) = savings
- \( CT_t \) = capital transfers
- \( CG_t \) = capital gains
- \( OVV_t \) = other volume variations
\[ \Delta W_t = S_t + CT_t + CG_t + OVV_t \]

- **Savings** \( S = Y - C \)

- **Capital transfers** (CT) in NA only consider involving non-resident households (or other sectors). Their role in wealth variation is almost negligible. At the micro level, CT are an important source of wealth variation (gifts and bequests between households)
ΔWₜ = Sₜ + CTₜ + CGₜ + OVVₜ

- Capital Gains (CG): variations of wealth deriving from changes in the prices of its items

- In NA Other Volume Variations (OVV) include catastrophic losses due to earthquakes or floods, etc ...
  At the micro level, OVV may assume the form of: lotteries and gambling; insurance claims (life and non-life insurance, net of the actual loss).
  Note: in NA these transfers are considered as current as, on the whole, they are not extraordinary
Collecting data on wealth variations

• Difficult to obtain reliable estimate of Savings

\[ S = Y - C \] (measurement errors on both sides)

Difficult to define good direct questions for saving (some “payments” include savings, i.e. installment loans)

• SHIW collects data on transfers (donations and inheritances). As the phenomenon is quite stable, the survey collects very simple information every wave and submits special modules every 10 years
Collecting data on wealth variations

• Special modules: 1991, 2002 and 2014 on received transfers
• For each item follow-up questions on:
  • kind of good received
  • from whom it was received (parents, grandparents vs other persons)
  • year when it was received
  • Value (at the moment it was received, in 2002 also other period can be chosen)
• Expected transfers (2002, 2014)
Collecting data on wealth variations

Stable questions about the origin of the house of residence and other real estate (2/3 of net wealth)

How did the household acquire ownership of the dwelling?
- purchased from private individual 1
- inherited 2
- part purchased/part inherited 3
- received as a gift 4
- ... ...
- other 8

In what year did the household acquire ownership of the dwelling?
- Year |___|___|___|___|
Value of real estate inherited or received as a gift

(as a percentage of net wealth)

Adjusted for probability of sale and capitalisation

Adjusted for probability of sale

Unadjusted

Source: Cannari and D’Alessio (2014)
Conclusions

• Use recommended definitions (OECD Guidelines) to enhance comparability (cross country, with NA).
• Questionnaire design strongly depends on the country specificity about the diffusion of household wealth components.
• Provide interviewer with detailed definitions about key concepts (household), assets to be recorded and how to value them (subjective valuation vs market value).
• In choosing complementary variables, both research interest and editing/imputation needs should be taken into account, without forgetting respondents burden.
Main references


Thank you

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