Session 6

International surveys

Case study: Challenges of international surveys: plans for a Eurosystem survey on household finance and consumption

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1. Introduction

Household level data provide extremely valuable information for understanding the economic behaviour of households in an increasingly complex financial environment, including how the structure of household portfolios reacts to interest rate changes. Against this background and in view of the expertise of central banks on financial matters, some euro area national central banks (NCBs) have already been conducting this kind of surveys. However, these surveys are not harmonised and in addition not all euro area countries are covered.

To assess the impact of monetary policy on households in the euro area, in 2008 the Governing Council of the European Central Bank (ECB) decided to implement a euro area survey on household finances and consumption, the Household Finance and Consumption Survey (HFCS). This paper describes the challenges that the HFCS as an international survey has to address.

The paper is structured as follows: Section 2 discusses the necessity for a euro area household survey on household finances. Section 3 introduces the survey design proposed by the Household Finance and Consumption Network. Section 4 describes the main challenges faced by surveys on household finances and consumption and the particular challenges posed by the international nature of the HFCS. Section 5 describes the content and implementation options of the HFCS and the necessary harmonisation efforts. Finally, section 6 concludes.

2. Why a Eurosystem micro-level survey?

In practice, the "representative" household of economic textbooks is an illusion. Households are characterised by extreme heterogeneity (e.g. a large proportion of total household wealth is held by only a few percentiles of households), which cannot be captured by aggregate economic measures. For example, the response of household portfolios and spending to economic shocks may substantially differ for the top and bottom wealth percentiles, different demographic sub-groups, households with different compositions, etc. Household-level data are thus essential for analysis and a better understanding of the implications of shocks for macroeconomic variables.

Moreover, the implications of the steep increases in household indebtedness in a number of euro area countries over the recent years cannot be adequately judged from aggregate data alone. It is important to know whether such increases over time are due to previously

[1] European Central Bank. The paper is based on the work of the Household Finance and Consumption Network and as such the authors are very thankful to its members for their invaluable contributions. Still, the paper reflects the views of the authors and not necessarily those of the ECB or of the members of the Household Finance and Consumption Network.

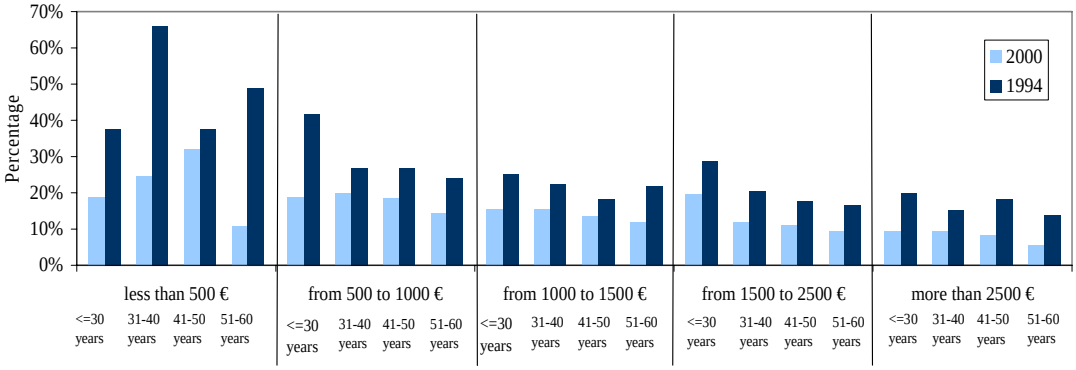
indebted households accumulating further debt or to new households having access to credit, with potentially very different consequences for financial vulnerability. Indeed, the US subprime crisis has demonstrated that a relatively small fraction of households (in this case the ones that are highly indebted) can have important effects on macroeconomic outcomes. The study of Farinha (2003) on the household debt of Portuguese households demonstrates how household level data can shed new light on aggregate level effects: Aggregate household debt in Portugal increased rapidly during the 1990s (from 36% of disposable income in 1995 to 85% in 2000) raising concerns about its sustainability. However, as Chart 1 shows, there was a considerable decline in the average debt burden for all the categories of age/income considered. The growth of debt is primarily explained by a marked increase in the share of indebted households between 1994 and 2000 rather than an excessive increase in the level of already indebted households.

Furthermore, household-level data are also crucial for estimating structural relationships between consumption and wealth. Households whose wealth increases spend more because they have more resources available and because their liquidity or collateral constraints are relaxed. Household level data can reveal how income, age and home ownership status may affect the response of household consumption to changes in household wealth.

Chart 1

Average debt burden by categories of income and age

1994 vs. 2000



Source: Farinha (2003).

The Eurosystem[2] HFCS is designed to provide such structural micro-level information and will thus shed light on economic relationships as well as on issues related to monetary policy transmission or financial stability.

Some central banks in the euro area have been conducting household surveys for this purpose.[3] In the U.S. the Survey of Consumer Finances has been run by the Federal Reserve Board in cooperation with the US Department of Treasury triennially since 1983,

[2] The Eurosystem comprises the ECB and the national central banks of those countries that have adopted the euro.

[3] Different types of related household surveys have been conducted by the national central banks in Austria, Greece, Italy, Netherlands, Spain, and Portugal. Wealth surveys have also been conducted by the National Statistical Institutes of France and Finland.

while a similar such survey was first carried out 1962.[4] Similar surveys have also been conducted in the U.K.

The surveys in the euro area countries concerned were individually developed and their coverage varies widely (for instance, some of them only cover issues related to household indebtedness). In addition, they follow different methodologies and consequently do not produce sufficiently comparable data.[5] Other partly similar European surveys (e.g. EU SILC[6]) are not covering all the spectrum of data needed for analyses related to the interests of central banks or are only targeted to specific sub-groups of households (e.g. SHARE [7]).

3. The Survey proposed by the Household Finance and Consumption Network

Against the identified need for household-level data on finance and consumption, the Governing Council of the European Central Bank (ECB) mandated a "network" of Eurosystem experts – the *"Household Finance and Consumption Network"* (HFCN)[8] – to design a euro area HFCS. The design would cover a common questionnaire, modalities for its implementation and an estimate of the associated costs.

In setting up the euro area survey the HFCN thoroughly examined the existing surveys on finance and consumption (particularly of the euro area countries and the U.S.), their questionnaires, the survey design, implementation practices, the infrastructure and resources used, as well as data dissemination practices.

In particular the questionnaire was initially drafted from the questionnaires of these surveys. It was further developed by trying to find common grounds between the participating countries so that it would be feasible to implement it in all of them. Finally the pretests helped enormously to shape both its content and its form and structure. Even so, substantial cross-country differences within the euro area imply that comparable information sometimes requires different questions in each country as well as a considerable amount of country-level expertise. Therefore, the HFCS will be conducted at a decentralised level following an output-oriented approach, that is, the countries will provide the same set of "output" variables, which have been commonly defined, without necessarily using a common questionnaire. New country surveys though will provide comparable information using the common Eurosystem questionnaire while pre-existing country surveys will gradually converge to the Eurosystem benchmark. A common set of variables, the "core" variables, are

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4 Survey of Financial Characteristics of Consumers.

5 The lack of comparability or relevant data has been noted, for example, in Bover, Martínez-Carrascal and Velilla (2005).

6 The European Union Statistics on Income and Living Conditions (EU-SILC) is an instrument aiming at collecting timely and comparable cross-sectional and longitudinal multidimensional microdata on income, poverty, social exclusion and living conditions. The EU-SILC was launched in 2004 in 13 Member States while it is now covered in all EU states plus Norway and Iceland.

7 The Survey of Health, Ageing and Retirement in Europe (SHARE) is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of more than 30,000 individuals in Europe aged 50 or over (http://www.share-project.org/).

8 The HFCN comprised economists and statisticians from the ECB and the 16 Eurosystem national central banks, in some cases including a member from the respective National Statistical Institute or from a research institute. A Eurostat representative also participated as observer. Three renowned experts in the field acted as regular consultants to the HFCN: Luigi Guiso (European University Institute), Michael Haliassos (Goethe University Frankfurt) and Arthur Kennickell (Board of Governors of the Federal Reserve System).

to be covered by all country questionnaires, while an additional set of standardised "non-core" extensions can also be added to country questionnaires on a voluntary basis. A few non-standardised country-specific questions can also be included in the country questionnaires.

The main aim of the Eurosystem HFCS is to gather micro-level structural information on households' assets and liabilities in the euro area. In addition, in order to adequately capture and analyse the economic decisions of households, it is indispensable that additional information be collected, for example on income and consumption. Along these lines the blueprint Eurosystem questionnaire consists of two main parts: one targeted at the household as a whole and the other at individual household members. The block covering household-level questions encompasses the following areas: real assets and their financing, other liabilities/credit constraints, private businesses, financial assets, intergenerational transfers and gifts, and consumption and saving. Questions to individuals cover the following areas: demographics, employment, future pension entitlements and income. In addition to these questions there are standardised questions to determine the respondent responsible for the household questionnaire, "the reference person", and also questions to be answered by the interviewer related to the conduct of the interview (to provide the so-called "paradata").

4. Challenges of the HFCS

4.1 Challenges common for household surveys on income and wealth

A particular challenge for these surveys is that questions on household income and wealth are sensitive and interviewees may find them particularly intrusive. Therefore, convincing potential respondents to participate in the survey and also building up trust in order to collect truthful responses is quite a challenge but at the same time essential for the success of the survey. In this regard, it was considered important that the interview should be a personal interview so that the interviewer could communicate the importance of the survey, reassure respondents about the treatment of their data and build up this trust and rapport. It was also considered essential that, before the first call of the interviewer, an introductory letter should be sent to the potential respondents, which would explain the purpose of the survey, the importance of the participation in the survey and the strict confidentiality with which the data would be handled. Contact numbers with the survey organisation and the central bank should also be provided – the existing national surveys have shown that respondents do use them, as they often seek reassurance that it is indeed the central bank conducting the survey.

Given the variety of subjects to be tackled, the length of the interview, if all subjects were to be covered in detail, could well exceed the time considered reasonable for a survey interview (one hour to an hour and a half on average). Thus, to minimise response burden the questions should in principle only be as detailed as strictly necessary. However, asking about individual items instead of about aggregates may help respondents better remember all relevant items thus minimising recall bias. In addition, while short questionnaires may look appealing, once respondents decide to participate in surveys of this kind, they often appreciate that sensitive aspects like income and wealth are tackled rigorously over the interview, as this gives them a sense of the significance of the survey. Yet again, the questions should not appear too intrusive. Overall, in constructing the questionnaire, one should try to carefully balance the need for detail against the need to contain response burden.

To facilitate the conduct of the interview, questions should be formulated in layman's language. In addition, the use of administrative information may reduce response burden. That is particularly relevant in the case of pensions and social benefits.

An important feature related to income and wealth questions is the reference period for questions pertaining to flows (consumption, income) and stocks (financial assets and liabilities). For the HFCS, current wealth is preferred to wealth measured at any fixed point in time as it combines both analytical usefulness and easiness for respondents to answer, thus minimising recall bias. Income questions cover income earned over a twelve-month period. The last twelve months are in principle preferred over the last calendar year as this period reflects more accurately the current situation of respondents and is more consistent with the reference period of wealth questions. However, some countries may obtain superior quality by framing income questions over the last calendar year (as respondents can consult their tax records). In this case, countries are also encouraged to add non-core questions on current monthly income for the sake of better linking the results to the current situation of respondents.

4.2 Particular challenges posed by the international nature of the HFCS

Since the HFCS is going to be a euro area wide survey, particular challenges and constraints arise specifically because of its international nature.

There are substantial institutional and social/cultural differences in the wealth composition across euro area countries. In most countries most of household wealth is invested in real estate, such as primary residences, holiday homes or alternative investments in rental housing. However, in some countries financial investments are preferred. Consequently, the questionnaire has to be flexible enough to adequately cover financial (and other) products which are common in any participating country.

Major institutional differences exist in the case of pensions. Pensions systems are in some countries linked to employment and in other countries they are provided by the state irrespective of the employment situation. When linked to employment the fund may be a social security fund or a private fund sponsored by the employer. While in some countries defined contribution plans (where respondents may know the current value of the fund) tend to prevail, in others defined-benefit (usually unfunded) schemes (where the current value of the plan is not known) are widespread. The pre-tests of the Eurosystem questionnaire in some countries confirmed that people typically knew very little about their future pension entitlements. Because of these difficulties, it was decided that in the first wave of the HFC survey only some indicator questions will be included.[9] In the future waves, or in possible future add-on module, pensions could be covered in more detail.

A second example of cross-cultural differences concerns everyday concepts such as employment income: the “salary” figure people know off-hand is gross annual employment income in some countries and monthly net employment income in others. Furthermore, the interpretation of “net” salary varies from country to country, being in some net of social contributions and/or net of tax in others. For the HFC survey it was agreed that countries should provide the gross annual employment income but the questions would be such so as to enable the respondents to give the most accurate answer regarding their employment income.[10]

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[9] The questionnaire now covers: participation in social security and private plans, yearly contributions, current account balance of defined contribution plans.

[10] Some countries suggested they would give the respondents the option to report what they knew best and record exactly what this amount referred to/what it included and how often it was paid. Some countries would ask both for last year’s gross annual income and current monthly net income.

5. Modalities for implementation and harmonisation efforts of the euro area HFCS

Although some aspects of implementation must, by necessity, differ across countries, it was considered important to make some common choices on issues that affect fundamental statistical properties.

(a) Sampling design aspects

Statisticians, survey methodologists and survey organisations strongly urge to use a *probability sample*. Indeed, a probability design is a basic requirement for a scientifically sound survey and thus a probability sample selection method is to be applied for the HFCS in all countries.

Given the probability selection method, other aspects of the design can be flexible and adapted to the specificities of each country (see for example Kish 1994, p.173).

Lynn et al (2007) suggest that national sample designs for cross-national surveys meet two fundamental criteria: (a) The study population must be equivalent in each country, practically meaning that the same population definition is applied in each participating nation and (b) that the sample based estimates must have a "known" and "appropriate" precision in each nation. A "known" precision refers to the probability selection requirement and that the details of sample design should be available on the microdata to permit estimation of standard errors. An "appropriate" precision means that some minimum precision requirement should be met and the precision should be similar in each nation if a prime objective is to make cross-country comparisons.

In line with the above, the HFCN agreed on a common definition of households as the unit of analysis (largely consistent with the one prevailing in the EU Survey on Income and Living Conditions (EU-SILC)) and the reference population (again, in line with EU-SILC).[11]

A key decision was whether the survey should provide only euro area indicators or whether it should also be representative of each participating country. The first option has serious analytical limitations as it does not permit to control for cross-country differences in the analysis of the impact of policy decisions. Moreover, there are large fixed costs at country level even when implementing a survey with a small sample. Hence, this option was considered as sub-optimal. Therefore the recommended country sample sizes should allow analysis at both country and euro area levels.

Another aspect of sampling that was examined was the issue of *oversampling the wealthy*. Given that in most countries wealth is highly concentrated and that essentially only the wealthy invest in some of the sophisticated financial products, oversampling is important in approximately characterising ownership or financial behaviour at the macro level. Furthermore, the wealthiest exhibit substantially higher rates of non-response and so a design that oversamples the wealthy would help correct for non-response bias.

Oversampling the wealthy poses two significant challenges: the first one is finding an appropriate sampling frame that contains wealth information and can also be combined with the general population frame. A good example of successful design with oversampling the wealthy is Spain, where there is a wealth tax and the households are sampled form tax records that have been stratified according to their income and wealth. The second one is

[11] In the definition of all variables care was taken that they are as comparable as possible with other survey and macro-data. Definitions are, to the extent possible consistent with EU-SILC, ESA95 definitions, definitions in ECB Regulations and other recognised definitions and standards, for example Eurostat's Concepts and Definitions Database, the OECD glossaries, the International Standard Classification of Education.

cost: more resources are required to include wealthy households in the sample, because of the difficulty in contacting them and persuading them to participate.

A further challenge of such a cross-national survey will be faced upon the aggregation of the data: as oversampling may not be carried out or not according to the same methodology in all countries, incomparabilities may appear. It is therefore crucial that the way it is done is thoroughly documented and the euro area data pool has the means to take the effect into account.

(b) Survey frequency

Balancing the substantial costs of the survey and the need for relatively timely data for policy use, it has been agreed that the minimum recommended frequency to carry out the HFCS is three years. Two NCBs plan to conduct the survey every two years. The HFCN agreed that synchronisation of the surveys would be desirable, but it also acknowledged that at least for the first wave of the survey, synchronisation was unfeasible.

(c) Interview mode

The survey mode (i.e. the way the survey is conducted, whether through face-to-face interviews, paper questionnaires, over the internet, via telephone, etc.) has proven to be an important determinant of measurement error.[12] Most importantly, different modes applied across countries may affect the comparability of the aggregate results. Consequently, to minimise differential effects of measurement error and to maximise comparability the same survey mode should be applied throughout sample units and across countries.

The proposed mode for the HFCS is the Computer-Assisted Personal Interviewing (CAPI), i.e. a face-to-face interview administered by an interviewer using a computer.[13] Such a survey mode is considered important in a survey on income and wealth because of the crucial role of interviewers in many respects: (a) persuading respondents to participate in the survey and thus increasing response rates; (b) maintaining rapport throughout the survey and thus ensuring the completion of the questionnaire; (c) assisting the respondent with the natural difficulties of such a complex survey (d) providing additional information after the interview regarding how the interview was conducted, the appearance of the dwelling, etc. (such paradata is deemed important for ex-post data editing). The use of a computer is recommended because of the complex nature of the questionnaire (routing) and also because of the facility to incorporate instantaneous and automatic checks of the data (which are primarily numerical) over the interview.

The use of different auxiliary modes for a few survey items may also be useful though. For example, CAPI may be complemented by telephone interviews or drop-off questionnaires.

(d) Panel vs. cross-section

The HFCN also considered whether the HFCS should be a series of cross-sectional surveys or whether it should also include a panel component. Introducing a longitudinal component in the design of the Eurosystem sample would entail significant advantages for policy analysis.

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12 For example, Lyberg and Kasprzyk (1991), Häder and Lynn (1998), Dillman (2005), Dillman (2006).

13 The Dutch DNB Household Survey (DHS) is conducted via Computer Aided Web-based Interviews (CAWI) self-administered by respondents. Because of the high fixed/set-up costs of running such a survey and the role of the interviewer stressed above, this mode is not generally recommended for the HFC survey, but for reasons of cost-effectiveness the DHS may contribute to the Eurosystem survey following its current survey mode.

For example, panels provide statistical information on transitions and permit detailed analyses of causal effects, lifecycle and cohort effects as well as distinguishing between short and long-term phenomena. In addition, panel data may reduce sampling variance, may allow controlling for unobserved heterogeneity and may also help evaluate data quality.

On the other hand, the introduction of a longitudinal component also entails a number of difficulties related to the need to follow the individuals included in the panel, the need to refresh/renew the panel to compensate for attrition/drop outs, etc. In turn, the continuing representativity of both the longitudinal component and the cross-sectional sample over the whole population needs to be ensured.

Because of these additional difficulties that the panel would introduce, this was not considered essential for the initiation of the project. Wherever possible country samples will include a longitudinal component or measures will be taken to allow for the inclusion of a panel component in future waves of the survey.

(e) Data editing and imputation

Data editing

Every effort will be made to provide high-quality data. Data editing tasks entail an important component of know-how that develops over time and is very much linked to the institutional set-up in each country. And since it is not a mechanical task but requires some knowledge on the subject matter of the survey, it should not be left to the survey companies alone, but a large part of it should be done at the NCBs or the NSIs, as it also currently the case with existing surveys. Nevertheless, communication with the interviewers and the survey company is often necessary during the data editing phase. For these reasons, it looks most efficient that a large part of the data editing takes place at the country level.

It is envisaged that the ECB will undertake further general consistency checks when the country data sets are pooled.

Imputation

Imputation assigns a value to a variable when it was not collected or not correctly collected. Imputation is not meant to create artificial information or give the impression that the data set contains more information than it actually has, but it aims to fill in the missing data, so that analysis with standard econometric tool, which deal only with complete datasets, can be used.

Imputation is considered to be the responsibility of data providers (Rubin 1996). Apart from being a quite resource-intensive process, which need not repeated by each user separately, the data provider usually has access to unreleased – confidential – information, which is essential for imputation. Therefore, imputation will be undertaken by the central banks. At the same time, the imputed values will be flagged appropriately, and so the users will be free to use the imputed or original data.

(f) Final outcome codes

A key quality criterion of any survey is the response rate achieved. Despite that, response rates are not uniquely defined.[14] Different survey organisations may define differently the final outcomes of the selected sample cases (for example, refusal, non-contact, ineligible

[14] Though there have been proposals for standards, for example, The American Association for Public Opinion Research provides specific guidelines for the final classification of the sample units, which represents the basis for the calculation of response rates (AAPOR 2000).

case, etc), which are used for the definition of response rates. To remedy this insufficiency, the HFCN agreed to use common final outcome ("disposition") codes so that the outcome of each case is recorded in a detailed and standardised way and the various response and cooperation rates are uniformly defined and hence comparable. The outcome codes used are almost identical to those proposed by Lynn et al (2001),[15] though they were somewhat adjusted to the specificities of the HFC survey.

6. Conclusions and next steps

In view of the large benefits of micro-level data on household consumption, income and wealth for policy and research purposes and given the limitations in the currently available information, the Governing Council of the ECB approved the implementation of a household survey on household finances in the euro area, the HFCS.

The HFC survey will provide data on euro area households' income, assets, liabilities, employment, pensions, intergenerational transfers and consumption to the research community. As of spring 2009, implementation of the HFCS has already begun in a number of euro area countries.

The sensitive nature of the survey and its cross-national dimension poses particular challenges which became evident in the process of survey development, particularly in view of designing a common questionnaire and of defining the items to be covered. Although the implementation of the survey may somewhat differ across countries, basic principles have been agreed in order to ensure compatible outcomes, cross-country comparability and high-quality data.

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[15] Which are in turn based on AAPOR disposition codes, but adapted and extended so that they apply to face-to-face household surveys in the U.K.

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