

Session 2

Surveys of consumers/households

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Background note on surveys of households

Kerry Wood and Paul Van den Bergh¹

Households, together with non-financial corporations, are the ultimate private-sector drivers of market economies. It is therefore important for policymakers to understand their behaviour and expectations. More recently, households and financial markets have started to become more dependent upon each other as households attempt to improve the smoothing of their consumption across their lifetime and as financial markets develop services to facilitate this process, for instance through new mortgage finance products.

Official statistics, such as financial and national accounts data provide, in principle, full coverage to assess the household sector's economic behaviour and financial position. They also provide information on the interaction between the household sector and the financial system more generally. Much of the information is based on transactions data, for instance from retail sellers or indirect and direct tax payments. Another important source of information are the population surveys that national statistical agencies conduct every five or ten years.

Central banks need to have access to household sector data that are timely, methodologically consistent, and comprehensive. In many countries central banks have taken initiatives to conduct surveys of the household sector. One reason is to collect information on household sentiment such as with respect to inflation expectations or consumer confidence. Another is to obtain more detailed information on households' financial transactions or positions such as use of payment instruments or household assets and liabilities, including their distribution across income categories. The latter information can assist central banks in examining the effects of possible shocks, such as interest rate increases, on different groups of households.

In order to conduct household surveys the central bank needs to cooperate with other statistical agencies, particularly the census bureau and the national statistical agency. Elements of cooperation could cover survey design, coverage, and analysis. Some central banks outsource their household surveys to private or public sector agencies.

Data collected by central bank surveys on households

In general, household data are used by central banks to assist in the formulation and implementation of monetary and payments policy, as well as to assess financial system stability. The data can provide insights to the expected future path of inflation and other important macroeconomic variables, to gauge consumer confidence, to analyse distributional issues about debt and wealth, to assist reconcile data from different sources, to fill data gaps, and to provide insight to specific policy and operational issues.

More specifically, there are four main types of data on households that are collected by central banks through surveys.

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- *Expectations of inflation.* In most instances, central banks are not responsible for calculating retail price indices. While these are crucial variables for the conduct of monetary policy, central banks are interested in household expectations of future inflation over a spectrum of horizons, including for different components in the consumption price basket. Not surprisingly, an important number of central banks collect such information through regular surveys. In a number of cases this survey includes questions with respect to the public's knowledge of, and attitudes towards, the central bank (see Annex 1).
- *Consumer confidence.* Just as in the case of businesses, changes in household confidence can affect real activity. Of interest in this context are current and expected confidence of economic and personal financial situation, unemployment, savings, intentions to buy goods and buy, rent or build a house. Many central banks therefore regularly conduct such surveys.
- *Household financial position.* Many, if not most, central banks are responsible for the compilation of the financial accounts for their country. As for the other sectors in the flow of funds, they therefore need to estimate the aggregate asset and liability positions of households. In this context, household surveys can be used to test the consistency of national and financial accounts data, and to cover gaps. Such surveys typically include indications of trends in household income, expenditure, savings, wealth, financial and non-financial assets, liabilities, housing equity withdrawal and injection, capital gains, pensions, employment history, risk aversion, use of financial institutions, and expected responses to shocks, such as higher interest rates. Surveys are also often the only way to gain insight into the distributional aspects of household finances, that is, to distinguish between the financial situation of poorer and richer households. Finally, household surveys allow central banks to determine how informed household borrowers are about terms and conditions of their housing loans.
- *Consumer use of payment instruments.* Central banks may also collect survey evidence from households with respect to consumer use of different payment instruments, household bill payments in terms of number and value, and fees paid to bill collection agents. Central banks' interest in these questions relates to their responsibility for the stability and efficiency of the payment system. This, together with the need to have good data on cross-border retail payments for balance-of-payments compilation, is the reason why central banks play an active role in monitoring systems for remittances.

Household survey methods

Household censuses are conducted infrequently and are generally restricted to gathering demographic statistics to assist governments in planning new investment such as in education, health facilities and transport routes. Censuses are expensive because of the very large number of respondents and are therefore only undertaken infrequently (every five or ten years). In order to obtain more frequent information on household behaviour, national statistical agencies and central banks resort to making inferences about the total population using sample surveys. This allows data to be gathered at a lower cost.

Aggregate information on households can also, in some cases, be obtained indirectly, for instance, from financial institutions. Official national account statistics often derive household data as a residual item. Sample surveys are increasingly being used to complement such sources for assessing households. Central banks can conduct household surveys themselves, outsource them to a third party or attach specific questions to surveys conducted by national statistical agencies.

Methodological guides

Apart from the harmonised framework for the European Programme for Business and Consumer Surveys, in which a number of European central banks participate, there are no specific international guidelines or international best practice recommendations with respect to household surveys. The main methodological guide used to compile household statistics is the Manual on the System of National Accounts (SNA 1993), and for financial variables, the IMF Monetary and Financial Statistics Manual (MFSM 2000) but these do not provide specific guidance on the use of surveys.

In 2004, the International Household Survey Network (IHSN) was set up by a number of international organisations with a “virtual” secretariat that is hosted by the World Bank. The network aims to (i) coordinate international survey programmes by fostering better timing, sequencing and frequency of internationally-sponsored surveys, (ii) promote adoption of international standards and best practices by harmonising data collection instruments, (iii) establish a central survey data repository, and (iv) develop tools and guidelines for improving survey documentation, dissemination and preservation.

So far there appears to be no unified approach, at the international level, on the sampling technique that central banks use to collect data on household statistics. Overall, simple random sampling is the most common approach, with stratified and fixed sampling also frequently used.

Current and planned surveys on households

The background material collected from central banks for the preparation of the workshop provides interesting information on central banks statistical data collections with respect to the household sector.

- Almost two-thirds of the central banks that provided background information indicate that they conduct one or more surveys of the household sector. Whether central banks are active in this area seems to depend on country-specific circumstances, that is, there is no major difference between industrial and emerging market economies, small or large countries, EU or non-EU countries.
- Specialised surveys of household inflation expectations or forecasts are carried out by the central banks of Australia (where a separate survey is conducted for officials from major trade unions), Belgium, the Czech Republic, India, New Zealand, Norway, the Philippines, South Africa and the United States. In most cases such surveys are carried out quarterly. A number of central banks carry out inflation expectation surveys with non-financial corporations (Italy and Macedonia), sometimes in addition to household inflation surveys (Czech Republic).
- A significant number of central banks survey consumer confidence more generally, including those from Austria, Belgium, Croatia, Luxembourg, Mexico, the Philippines, Slovakia, and Turkey. Sometimes these surveys also contain information on inflation expectations. The surveys of European national central banks are often part of the European Programme for Business and Consumer Surveys. Most consumer confidence surveys are carried out monthly.
- With respect to household financial positions, surveys are conducted by the central banks in Australia (housing equity withdraw and injection, expectations about financial institution failure), Greece (indebtedness), Italy (income and wealth), Portugal, Spain, Thailand and the United States. The frequency of such surveys is typically annual (triennial in the case of the US). The Philippines is expected to commence an annual survey in 2008 on consumer finances.

- Australia has conducted a number of one-off surveys of consumers' use of different payment methods. These have been assessing how various payment methods are used in different circumstances, including potential substitutability between forms of payment. Surveys of international remittances are covered in more detail in the background note on the survey of the external sector.

Issues for discussion

- What challenges do central banks face when sampling households? For example, the reluctance of high-debt and high-wealth households to respond to surveys, and their tendency to understate their income and assets. What procedures do central banks follow to minimise sample bias?
- What in-house expertise do central banks have to design and conduct household surveys? Is there cooperation between central banks and national statistical agencies to ensure that sample survey designs and collection methods are optimal?
- What is the optimum frequency to survey households?
- What sample techniques, such as simple random sampling or stratified random sampling, are best suited to gathering household data?
- Are the definitions and coverage of household variables consistent with international standards, such as SNA 1993? How comparable are data collected from household surveys? What are the issues concerning international comparisons?
- How useful are inflation expectations survey data compared to other sources, such as financial market measures derived from bond yields? Are there differences in the usefulness of data obtained from different sectors of the economy? How do central banks deal with potential biases, such as non-responses and extreme values?

**Annex 1:
Selected examples of central bank surveys
of the public's knowledge of,
and attitudes towards, the central bank**

Central Bank of	Survey type	Timing	Main results
Canada	Special survey	1999	Public knows little about the central bank. Where there is knowledge, most thought it had a big influence on loan rates, the exchange rate.
Finland	Part of Omnibus opinion survey	First time 2006	Confidence in the Bank was rated high, below the respondent's own commercial bank and the police, but above all other institutions of state. Suomen Pankki seen as respected but old-fashioned.
Hungary	Commissioned survey, supplemented by focus group research	2003–2006	Bank rated as second most trustworthy institution behind the Constitutional Court, ahead of Government, Parliament, the Ministry of Finance, etc. But specific knowledge of the tasks of the central bank is weak.
Japan	Regular survey, inflation & general perceptions	Since 1993	More than two-thirds know little if anything about the Bank; less than one-third express confidence in it. Over half with an opinion think the Bank's communications aren't clear enough. Lack of knowledge of the Bank is put down to distance and unfamiliarity, and lack of understanding of intent of policy.
New Zealand	Part of regular Omnibus survey; special surveys & focus group work mid 1990s	Since early 1990s	Favourability rating moves with the level of interest rates, in 30–50% range. Unfavourability rating trended down over 1990s. Awareness of tasks of Bank generally low.
United Kingdom	Part of regular inflation perceptions survey	For last 7 years	(Allowing that questions come at end of survey of inflation perceptions...) A bit over one-third know who sets rates. Around half are satisfied with the Bank's job. Both proportions steady over several years.

The 2002 wave of the Spanish Survey of Household Finances (EFF): sample description and some results

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1. Introduction

The distribution of real assets and debts across households has important consequences on how macroeconomic shocks affect aggregate demand. For example, the impact of increases in interest rates on aggregate consumption depends on the fraction of households who are indebted and the extent to which debt is large relative to their assets or their income. Household surveys are in many instances the only alternative to obtain joint information on assets, debt, income and consumption, hence becoming an essential tool to analyze issues related to the distribution of household wealth.

The Banco de España carried out the first Survey of Household Finances (EFF) in 2002, and has continued conducting the survey on a triennial basis. This paper reviews the main features of the EFF2002 and illustrates how the survey has been used to assess the financial situation of Spanish households. Section 2 presents the contents of the survey, some sampling design issues and the imputation of missing variables. Section 3 presents uses of the EFF2002 to study the financial position of Spanish households from an international perspective and includes an application that assesses the financial vulnerability of those households. Section 4 concludes.

2. Contents of the survey, sampling design and imputation of missing variables

The Spanish Survey of Household Finances (EFF) was launched in 2002.³ The EFF collects information about household's demographics, real assets and their associated debts, financial assets, pension plans and insurance, the labor market situation and labor market income of each household member, labor and non-labor market income over the last year, means of payment, consumption and savings.

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² This paper summarizes a presentation at the December 2007 conference on "The Use of Surveys by Central Banks", jointly organized by the Irving Fisher Committee on Central Bank Statistics and CEMLA in Buenos Aires. The results shown are obtained from Barceló and Bover (2007), the Banco de España 2005 Annual Report and Bover, Martínez-Carrascal and Velilla (2005).

³ The second wave was conducted in 2005, and includes a panel component and a refreshment sample – see Bover (2008). The fieldwork of the third wave will start at the end of 2008.

2.1 Sampling design

A distinctive feature of the distribution of wealth is that a small fraction of households holds a large proportion of the aggregate stock. Barceló and Bover (2007) document that 0.4 % of Spanish households hold 40% of aggregate taxable wealth. Therefore, to understand the determinants of aggregate wealth, it is important to have a sample that represents not only the population, but also the wealth distribution. That representation is achieved in the EFF by oversampling rich households using a scheme that involves the collaboration of the Tax Office and the National Statistical Institute.

At the time of the collection of the first wave of the EFF, there was in Spain a wealth tax. In 1999 (basis year for the EFF2002), around 5% of Spanish households were liable for the wealth tax. Eight wealth strata were defined and oversampled at progressively higher rates.

Given the stringent confidentiality conditions that the Tax Office is subject to, the actual sample was obtained using a blind system of collaboration with the National Statistics Office and the Tax Office. The population frame was the Continuous Municipal Census dated in 2001. For each address, the Tax Office constructed three variables to do the sampling: wealth stratum indicator, income distribution quartile and per capita income of the household. The role of income variables is crucial to select the sample replacements when a household in the target sample cannot be reached, to ensure inclusion of households from all income levels, and to allow ex-post corrections for non-response. A unique characteristic of the EFF sampling strategy is that a single sampling population frame is maintained, permitting a relatively straightforward computation of sample weights.

The sampling design differed in three cases. First, in large municipalities, there was random sampling within the eight wealth strata. In small municipalities the sampling was a two stage cluster design. Within Primary Sampling Units, the selection was different according to the number of wealth tax filers. Finally, in two regions with special tax arrangements (Navarre and the Basque Country) sampling was based on a two-stage stratified cluster design with six strata defined according to municipality size.

To try and preserve the original oversampling procedure, up to four tightly controlled replacements were selected for each household originally in the sample. Replacement households included the two households immediately before and the two immediately after the household in a file ranked by income quartile, wealth stratum, and per capita income (in large municipalities and within primary sampling units).

The degree of over-sampling in the final sample can be computed using confidential information provided by the Tax Office. According to that information, 40% of households that completed the interview correspond to wealth tax filers. In a 5,000 random sample, we would expect to have at most 20 households in the top 4 per thousand of the wealth distribution. The EFF2002 contains over 500 of such households.

To correct for unit non-response, the sample weights are adjusted within the cells defined by the sampling frame variables. Due to confidentiality reasons, stratum and cluster indicators are not available to users. The EFF thus provides replicate weights to calculate appropriate variances.

2.2 Fieldwork, non-response and supervision

The Banco de España outsources the fieldwork for the EFF. As wealth surveys ask sensitive information about household income and wealth, the number of households refusing to participate in the survey (or unit non-response) is typically high. Furthermore, the refusal rate is non-random and tends to increase with the wealth strata (Barceló and Bover, 2007). To reduce such rates of unit non-response, the Banco de España provides information to sample households and prepares written material. In addition, tight selection of replacement

households becomes especially important to guarantee that the sample interviewed preserves the oversampling strategy described in the previous subsection.

Completed interviews were revised by fieldwork agency and sometimes households were re-contacted to check potential inconsistencies and to confirm extreme values. The CAPI program (Computer-Assisted Personal Interviewing) is also crucial at detecting logical inconsistencies. Furthermore, the EFF team at the Banco de España also examined the completed interviews for overall coherency. The process of validating the interviews is indeed necessary to obtain a reliable dataset.

2.3 Imputation

Some households who agree to participate to wealth surveys do not answer some questions. While answers to questions about whether the household holds a particular asset or debt do not pose special problems, some households experience problems when answering questions about the value of an asset or the amount of income received from a particular source. Furthermore, item non-response is correlated with income and wealth, so ignoring non-response would lead to biased statistics (see Barceló and Bover, 2007).

In this setting, it is beneficial to provide the users of the data with some imputation of missing data (“filling in” the questions not answered). The first advantage is that imputation enables the analysis with complete data tools. The second is that imputation is viewed as a responsibility of the data provider because it is a resource-consuming process that may use non-public information. Finally, it is important to mention that the EFF contains explicit information about which variables are imputed, so users may opt for alternative ways of handling the data.

Imputation methods rely on the “missing at random” assumption (see Rubin 1976). The assumption requires that item non-response is random within groups defined by observed data. The EFF has chosen multiple stochastic imputation methods that mainly use randomized linear regression models.⁴

i. *Stochastic imputation methods.* Unlike methods like “fill-in with means”, stochastic methods preserve the distribution of variables and the covariances between them.

ii. *Random linear regression type models.* Linear models permit conditioning on sufficient number of variables that make the “missing at random hypothesis” more credible. Linear regression models also permit handling a huge number of different patterns of item missingness among the imputation model covariates.

iii. *Multiple imputation.* To make explicit the degree of uncertainty involved in the imputation process, the EFF uses multiple imputation, providing 5 imputates for each variable (Rubin 1987).

The EFF has been very fortunate to be able to use the SAS routines written by Arthur Kennickell for multiple imputation in Survey of Consumer Finances of the Board of Governors. The imputation work was adapted to a large extent to the specific questionnaire and to the implementation of the EFF2002. Barceló (2006) provides a detailed summary of the imputation methods used.

⁴ Barceló (2006) describes how hot-deck has been used to impute categorical variables.

3. Using the 2002 EFF to assess the financial situation of Spanish households

Spain has experienced two important developments since 1995: aggregate household wealth and debt-to-GDP ratios have increased substantially. Survey data identifies what segments of the Spanish population have been exposed most to such developments and permits an evaluation of the consequences of macroeconomic changes on the financial situation of households.

Bover, Martínez-Carrascal and Velilla (2005) assess the financial position of Spanish households by comparing the magnitude and the distribution of the assets and debt in Spain to that in the United States, Italy and the United Kingdom.⁵

A first conclusion that emerges from the comparison is that Spain had the highest median net wealth in 2002 among the four countries (see Table 1). A closer examination of the composition of wealth reveals that in 2002 Spain was also the country where real assets constituted the largest component of household wealth: 87%, while the corresponding share in Italy was 85 %, 70.3% in the United Kingdom or 55.7 % in the United States. Furthermore, the large share of housing as a proportion of net wealth is rather stable across asset and income groups in Spain.

Turning to the international comparison of household debt, the fraction of Spanish households holding any type of debt is 45%, lower than in the United States (75.1%) or in the United Kingdom (60.7%) –see Table 2. Among indebted households, the median ratio of outstanding debt to household income is 70.5%, lower than, but similar to that in the United States 76.8%. Those figures lie in between the much higher estimate for the United Kingdom: 95.5% and the lower number for Italy (38.2%). Similarly, the median ratio of outstanding debt to assets is lower than in the United States or the United Kingdom, but slightly higher than in Italy (18% vs. 12%).

Microeconomic data on household debt also permit examining how debt-income ratios are distributed across different levels of income, thus identifying what groups are relatively more exposed to changes in interest rates. The international comparison in Figure 1 reveals that in the United States or the United Kingdom median debt-income ratios were higher in the top income quintiles than in the lowest quintile. That was not the case in Italy, where debt-income ratios were similar across income groups or in Spain, where the ratio decreased with income. While the magnitude of the debt-income ratios shows a sound overall financial situation of Spanish households, the distribution of debt-income ratios across groups in Figure 1 suggests that changes in interest rates will affect the lowest income groups differently in Spain than in the other countries.

The 2005 Annual Report of the Banco de España assesses the financial vulnerability of indebted Spanish households by simulating the impact of 100, 200 and 300 basis points increases in interest rates on the fraction of indebted households that had a financial burden above 40% in 2002. Rich survey data on household debt is crucial for the exercise, because the simulation requires knowledge of amount of debt and interest rate paid currently, the mode of interest rate setting (fixed or adjustable), and the maturity of each loan.

The results using the distribution of debt in 2002 suggest that the increases in interest rates is considered to have a limited impact on the financial burden of indebted households. Faced with an increase in interest rates of 200 basis points, the fraction of indebted households in

⁵ The analysis of the United States is conducted using the Survey of Consumer Finances 2001. The Survey of Household Income and Wealth 2002 is analyzed to study the Italian case and for the United Kingdom, the data source is the 2000 wave of the British Household Panel Survey.

the lowest income quintile with financial burden above 40% would increase from 30 to 35 percent. Nevertheless, two notes of caution are in order. The first is that the distribution of debt has changed since 2002. Secondly, the marginal propensity to consume of low income groups may be higher than that of other groups, so the impact on aggregate demand may be higher than that suggested in Figure 2.

4. Conclusions

We have reviewed the main challenges faced in conducting the first wave of the Spanish Survey of Household Finances (EFF), including the design of the sample, the way the oversampling of the rich was achieved and the imputation work. We have also reviewed some uses of the EFF (2002) to assess the financial position of Spanish households.

A second wave of the EFF was conducted in 2005, and the field work of the third wave will start by the end of 2008. Both waves include a panel component and a refreshment sample. Those features permit conducting analysis of the evolution of Spanish portfolios and of the distribution of changes in household wealth and debt.

Table 1
Household wealth and portfolio composition
 By country

	Spain	United States	Italy ¹	United Kingdom ²
Median net wealth	95.7	56.4	90.8	56.4
(Perc75-Perc25)/Perc25	3.4	75.3	9.9	55.5
Mean net wealth	152.5	291.9	156.5	127.6
Percent owner-occupier	81.9	67.7	69	69.7
Real assets as a fraction of total assets	87.4	55.7	85.3	70.3

¹ Net wealth and total assets exclude pension wealth. ² Net wealth and total assets exclude business and pension wealth.

Source: Bover, Martínez-Carrascal and Velilla (2005) using EFF2002, SCF2001, SHIW2002, BHPS 2000. Monetary magnitudes in thousand euro.

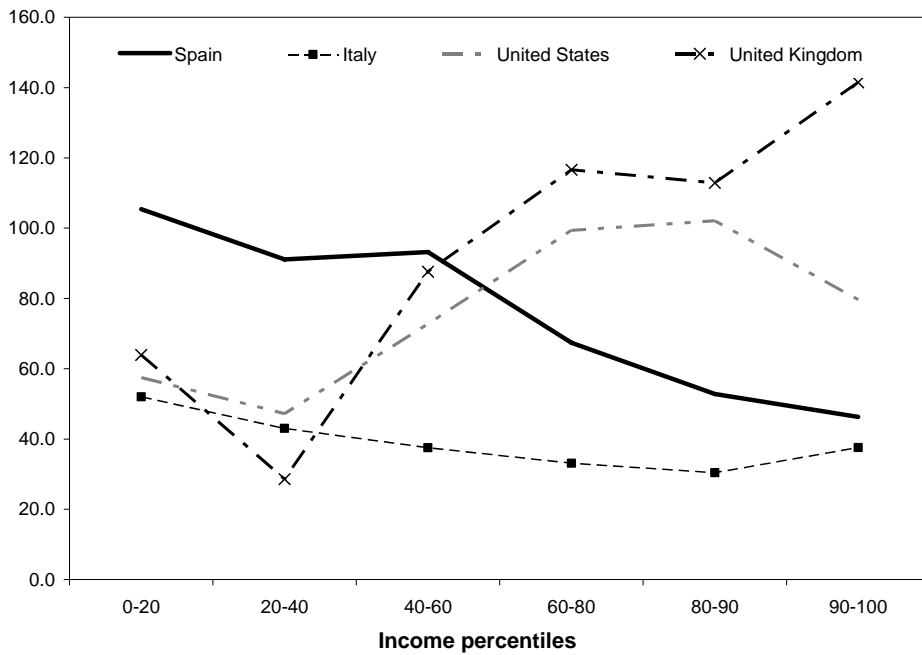
Table 2
Household debt
 By country

	Spain	United States	Italy	United Kingdom
Fraction of households with debt	43.6	75.1	22.1	60.7
Among debtors				
Median debt-income ratio (times 100)	70.8	76.8	38.2	95.5
Median debt-asset ratio (times 100)	18	36.2	12	46.5
Uses of debt				
Purchase of real estate, investment, home refurbishment	87.8	82.2	64.8	88.1 ¹
Vehicles/other goods	12.2	17.8	35.2	11.9 ²

¹ Mortgage debt. ² Non-mortgage debt.

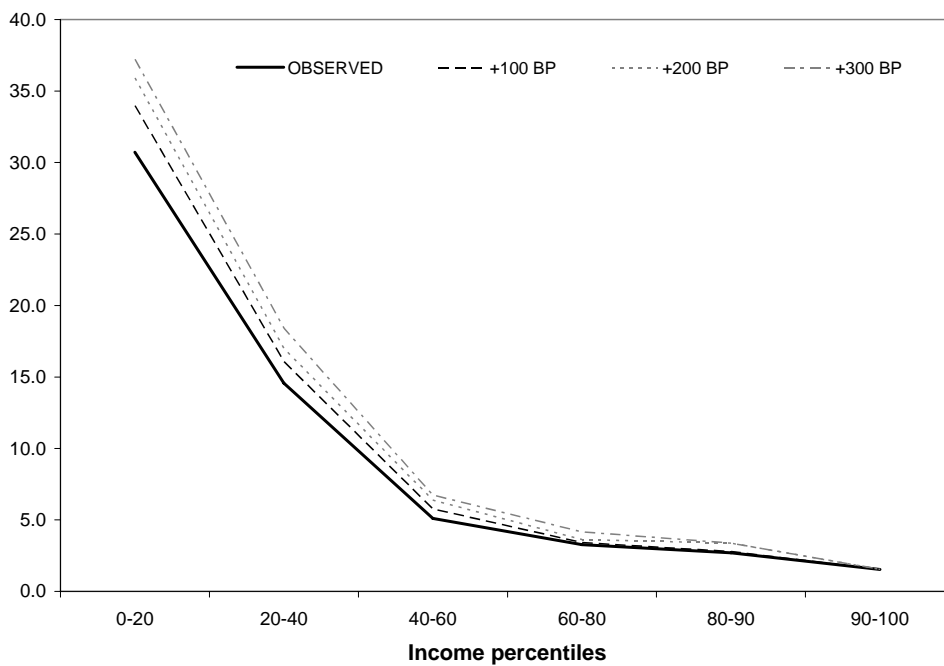
Source: Source: Bover, Martínez-Carrascal, Velilla (2005): EFF2002, SCF 2001, SHIW 2002, BHPS 2000. Italy: "Income" is net income. Total assets exclude pension wealth. United Kingdom: assets exclude business (self-employment) and pension wealth.

Figure 1
Household debt-income ratios
 By country and income percentile



Source: Bover, Martínez-Carrascal and Velilla (2005).

Figure 2
Fraction of indebted Spanish households with financial burden above 40% under alternative interest rates



Source: Banco de España 2005 Annual Report.

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Results of inflation expectations survey of households

S.N.S. Tyagi¹

1. Introduction

Expectations play an important role in economic activities. Among them, Inflation expectations are of special significance for the Central Bank, as they may play an important role in economic decisions such as the setting of interest rates, prices, wages, consumption and investment decisions. The conduct and effects of monetary policy are also influenced by inflation expectations. Many of the actions of economic agents viz., households, corporates and financial sector, depend on their expectations about future economy. As inflation plays a key role in overall economic development, short-term price developments, price stability, sustainable economic growth and investments in long run, the expected inflation forms an important input to Central Banks for monetary policy purposes.

In order to get an idea about household inflation expectations, majority of central banks make use of broad-based surveys i.e. collecting information on inflation as a part of surveys such as Consumer Expectation Survey / Consumer Confidence Survey rather than dedicated Inflation Expectations Survey. The periodicity of these surveys is either monthly or quarterly and targeted respondent groups are business people, professional forecasters, financial market participants, households and labour (both trade unions and employer organizations). Among the target respondent groups of the survey, households form an important segment. Surveys conducted by outside organizations on behalf of central banks are more common than in-house surveys. The surveys are conducted mostly by postal enquiries or by interviews and cover multiple-choice questions, providing either qualitative options or quantitative ranges. In majority of surveys, the expected inflation figure (either specific figure or ranges) or expected change in Consumer Price Index is solicited – not merely directional movement of inflation. Among the various price indexes available, the Consumer Price Index is most widely used as a measure of inflation in most of the countries. However, in India, both the Wholesale Price Index and the Consumer Price Indices have been used for measurement of inflation and closely watched in various policy formulations.

2. Review

Most of the central banks, which have adopted inflation targeting as an objective of monetary policy are conducting inflation expectation surveys regularly, while a few other central banks, which though have not adopted inflation as an objective of monetary policy, are also collecting information on inflation expectations through surveys. The results of inflation survey are mainly used in two ways, namely for inflation forecasts and to evaluate policies adopted in controlling inflation.

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A few details on inflation expectation survey for selected countries are given in Statement 1.

Statement 1				
Inflation expectations survey – international practices				
Name of the Country	Name of the Agency conducting Inflation Expectation Survey	User of the data	Frequency of the Survey	Sample Size
Australia	Melbourne Institute of Applied Economic & Social Research	Reserve Bank of Australia	Monthly	Sample of about 1200 households
United States	1. Institute for Social Research Center, University of Michigan 2. Conference Board, New York	¹	Monthly Monthly	Randomly selected households (size is not known)
United Kingdom	1. Market research agency named NOP 2. GfK Martin Hamblin	Bank of England European Commission	Quarterly Monthly	Opinion of around 2000 households Sample of 2000 households
New Zealand	AC Nielsen	Reserve bank of New Zealand	Monthly	Randomly selected 1000 households
Sweden	1. Statistics Sweden 2. National Institute of Economic Research of Sweden	¹ ¹	Monthly Monthly	Randomly selected 1500 households Randomly selected 1500 households
South Africa	Bureau of Economic Research (BER)	South African Reserve Bank (SARB)	Quarterly	Area-stratified probability sample of 2500 households
Czech	Czech National Bank	Czech National Bank	Quarterly	Randomly selected sample of 600 households
Indonesia	Central bank of Indonesia	Bank Indonesia	Monthly	Randomly selected sample of more than 4300 households

¹ It is not clear from the information about the user of these data.

3. Objectives

For the purpose of formulation of monetary and credit policy, it is generally opined that consumers' views on the likely changes in the prices of selected goods and services could assist the Bank in its policy formulations. In view of this, the Reserve Bank India has taken

to solicit the inflation expectations from households through quarterly surveys from September 2005 onwards with the following objectives:

- (a) To assess the variations in the expected prices for six parameters (i.e., General Price Level, Prices of Food Products, Prices of Non-food Products, Prices of Household Durables, Housing Prices and Cost of Services) for next 3 months and for next one year.
- (b) To have the views of respondents on expected rate of inflation for next 3 months and for next one year.
- (c) To collect the respondent's views on current rate of inflation.

4. Sampling scheme

To assess the variations in the expected prices for next 3 months and for next one year a quarterly survey from household's angle is conducted in 12 cities of the country including four metros and 8 other cities. From each metro city 500 households and 250 households from each of the remaining 8 cities are selected in the sample, thus making the total sample size to 4000 households. The following cities are selected for the survey:

North Zone:	Delhi, Jaipur, Lucknow
East Zone:	Kolkata, Guwahati, Patna
West Zone:	Mumbai, Ahmedabad, Bhopal
South Zone:	Chennai, Bangalore, Hyderabad

A two-stage sampling scheme has been adopted for the survey. The geographical locations (i.e. city) form the first stage, the households form the second and ultimate stage units. The households in a city are selected from different parts of the city with the intention to cover the entire city geographically and the respondents are also selected from different categories such as financial sector employees, other salaried employees, self-employed persons, housewives, retired persons, daily workers and others.

5. Salient features of the survey

The salient features of the various round of surveys are presented in 3 sections. The classification of respondents by category and gender is presented in Section-1. An overall view of the expectations of respondents on prices for next 3 months and next one year is presented in Section-2 for all the six parameters (i.e., general price level, prices of food products, prices of non-food products, prices of household durables, housing prices and cost of services). Section-3 presents the views of respondents on expected rate of inflation for next 3 months, for next one year and on current rate of Inflation.

Section 1: Distribution of respondents

1.1 Distribution of respondents, March 2007

- The survey has covered 74.15 per cent males and 25.85 per cent females in March 2007. It represented 458 financial sector employees, 707 other employees, 696 self-employed persons, 631 housewives, 423 retired persons, 525 daily workers and 560 persons in other categories.
- Among the 2966 male respondents, 652 respondents (21.98 per cent) were Self-employed Persons, 617 respondents (20.80 per cent) were Other Employees, 412 respondents (13.89 per cent) were Financial Sector Employees, 470 respondents (15.84 per cent) were Daily Workers, 392 respondents (13.21 per cent) were Retired Persons and 423 respondents (14.26 per cent) belong to Other category.
- Among 1034 female respondents, 631 respondents (61.02 per cent) were Housewives, 90 respondents (8.70 per cent) were Other employees, 44 respondents (4.25 per cent) were Self-employed Persons, 46 respondents (4.45 per cent) were Financial Sector Employees, 55 respondents (5.31 per cent) were Daily Workers, 31 respondents (2.99 per cent) were Retired Persons and 137 respondents (13.24 per cent) belong to Other category.
- Gender wise and Category wise Distribution of Respondents given in Table1.

Table 1

Gender wise category wise distribution of respondents five quarters

From March 2006 to March 2007

Categories	March-2006			June-2006			September-2006			December-2006			March-2007		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Financial sector	272	31	303	366	37	403	428	28	456	384	55	439	412	46	458
Other Employees	743	108	851	719	87	806	581	107	688	674	114	788	617	90	707
Self Employed	782	50	832	621	86	707	651	64	715	702	64	766	652	44	696
House Wife	0	584	584	0	604	604	0	672	672	0	653	653	0	631	631
Retired Person	280	20	300	363	18	381	405	32	437	371	41	412	392	31	423
Daily Worker	384	27	411	446	31	477	422	73	495	449	61	510	470	55	525
Others	628	91	719	492	129	621	384	153	537	298	134	432	423	137	560
Total	3089	911	4000	3007	992	3999	2871	1129	4000	2878	1222	4000	2966	1034	4000

Section 2: Overall View

2.1 Expectations on general price level, March 2007

- About 88 per cent respondents reported that prices in general will increase in next 3 months. Among these, about 35 per cent reported increase in prices more than current rate and about 36 per cent reported that prices will increase similar to current rate. About 17 per cent respondents reported that prices will increase less than current rate in next 3 months.
- About 88 per cent respondents reported that prices in general will increase in next one year. Among them, about 40 per cent reported the increase in prices more than current rate and about 31 per cent reported similar to current rate. About 17 per cent respondents expected the increase less than current rate in next one year

Table 2.1

Expectations on general price level for next 3 months and next 1 year for five quarters

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	34.3	42.2	49.8	27.9	35.0	36.2	47.2	57.2	36.4	39.8
2	Price increase similar to current rate	38.1	33.9	27.6	38.9	36.0	37.8	34.0	24.7	38.2	30.8
3	Price increase less than current rate	14.6	12.1	10.8	20.7	17.0	12.5	9.3	9.0	17.4	17.5
4	No change in prices	12.3	10.3	9.4	11.4	10.2	12.4	7.7	6.6	6.0	9.5
5	Decline in price	0.8	1.5	2.6	1.1	1.8	1.2	1.8	2.5	2.1	2.4
6	Total Sample Size	4000	3999	4000	4000	4000	3089	3999	4000	4000	4000

Per cent responses.

From Table 2.1, it can be observed that , compared to previous quarter (December 2006) as well as March 2006 quarter, increasing number of respondents reported increase in prices in general by more than current rate in next 3 months and next one year in the March 2007 quarter. Further, under item general price level similar to current rate the percentage of respondents has declined in next 3 months and next one year in the March 2007 quarter compared to December 2006 quarter as well as March 2006 quarter.

2.2 Expectations on prices of food products, March 2007

- About 90 per cent respondents reported increase in prices of food products in next 3 months. Among them, 40 per cent reported the increase more than current rate and 38 per cent reported similar to current rate. About 12 per cent households reported that prices of food products will increase less than current rate in next 3 months.

- About 91 per cent respondents reported that prices of food products will increase in next one year. Among these, about 49 per cent respondents reported increase in prices more than current rate and 31 per cent reported this similar to current rate. About 11 per cent respondents reported that prices of food products may increase less than current rate in next one year.

Table 2.2

**Expectations on prices of food products
for next 3 months and next 1 year for five quarters**

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	40.7	45.8	55.6	40.1	45.9	42.8	53.3	62.4	49.1	48.0
2	Price increase similar to current rate	36.8	38.6	28.3	37.8	27.8	37.2	34.1	24.5	31.1	26.3
3	Price increase less than current rate	12.9	8.7	12.1	12.2	13.6	11.8	6.8	9.2	10.9	13.6
4	No change in prices	8.3	6.4	4.3	8.9	9.6	6.4	3.4	3.2	6.4	9.0
5	Decline in price	1.4	0.5	0.3	1.2	3.1	1.9	0.5	0.7	2.6	3.2
6	Total Sample Size	4000	3999	4000	4000	3999	3089	3999	4000	4000	4000

Per cent responses.

It may be seen from Table 2.2 that increasing number of respondents reported increase in prices of food products more than current rate in next 3 months in the March 2007 quarter compared to previous (December 2006) quarter and a year ago quarter (i.e. March 2006) but the similar trend is not observed in the expectation of increase in prices of food products by more than current rate in next one year. Further, the percentages of respondents reported increase in prices of food products less than current rate in next 3 months and next one year are increased in March 2007 quarter compared to both the previous (December 2006) quarter and a year ago (March 2006) quarter.

2.3 Expectations on prices of non-food products, March 2007

- About 84 per cent respondents reported increase in prices of non-food products in next 3 months. Among these, about 28 per cent reported the increase in prices more than current rate and about 36 per cent reported similar to the current rate. About 20 per cent respondents reported that prices of non-food products will increase less than current rate in next 3 months.
- About 87 per cent respondents reported increase in prices of non-food products in next one year. Among them, about 37 per cent reported that prices of non-food products will increase more than current rate and about 32 per cent reported similar to current rate. About 18 per cent respondents expected that increase in the prices of non-food products will increase at less than current rate in next one year.

Table 2.3

**Expectations on prices of non-food products
for next 3 months and next 1 year for five quarters**

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	26.3	36.3	44.4	27.8	34.0	30.4	42.2	54.3	37.2	42.6
2	Price increase similar to current rate	39.5	40.9	30.7	36.1	31.7	39.5	38.5	23.6	31.6	25.7
3	Price increase less than current rate	19.3	14.8	15.4	19.6	16.2	18.2	13.3	13.9	18.0	15.1
4	No change in prices	13.1	7.2	8.6	14.9	14.2	10.0	5.2	6.9	10.6	12.4
5	Decline in price	1.9	0.8	1.0	1.7	3.9	1.9	0.8	1.3	2.7	4.3
6	Total Sample Size	4000	3999	4000	4000	3999	3089	3999	4000	4000	4000

Per cent responses.

From Table 2.3, it appears that increasing number of respondents reported increase in prices of non-food products more than current rate in next 3 months and next one year in March 2007 quarter. Further the percentages of respondents reported increase in prices of non-food products similar to current rate and less than current rate in next 3 months and next one year are declined in March 2007 quarter compared to previous (December 2006) quarter as well as a year ago quarter (March 2006).

2.4 Expectations on prices of household durables

- About 65 per cent respondents reported that prices of household durables will increase in next 3 months. Among these, about 20 per cent respondents were in favour of increase in prices of household durables more than current rate and about 26 per cent reported that prices of household durables will increase similar to current rate. About 19 per cent respondents reported that prices of household durables will increase less than current rate in next 3 months.
- About 65 per cent respondents reported increase in prices of household durables in next one year. Among them, about 24 per cent respondents reported that prices of household durables will increase more than current rate and about 26 per cent reported similar to current rate. About 18 per cent respondents expected that increase in the prices of household durables will be less than current rate in next one year.
- About 25.5 per cent and 26.7 per cent respondents reported no change in prices of household durables in next 3 months and in next one year respectively.

Table 2.4

**Expectations on prices of household durables
for next 3 months and next 1 year for five quarters**

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	19.9	21.4	29.0	16.6	19.8	22.6	26.2	35.5	23.4	24.3
2	Price increase similar to current rate	23.0	28.4	21.8	26.0	26.6	23.6	27.7	18.4	25.5	23.3
3	Price increase less than current rate	23.5	22.6	18.7	21.1	18.9	22.3	20.2	16.1	20.3	17.7
4	No change in prices	20.2	21.3	20.8	29.9	25.5	18.5	19.6	20.9	25.5	26.7
5	Decline in price	13.5	6.2	9.7	6.4	9.3	13.1	6.8	9.0	5.4	8.0
6	Total Sample Size	4000	3999	4000	4000	4000	3089	3999	4000	4000	3999

Per cent responses.

From Table 2.4, it can be observed that increasing number of respondents reported increase in prices of household durables more than current rate for next 3 months and next one year in March 2007 quarter compared to previous (December 2006) quarter as well as a year ago quarter (March 2006).

2.5 Expectations on housing prices, March 2007

- About 87 per cent respondents reported that housing prices will increase in next 3 months. Among these, about 41 per cent respondents reported in favour of increase in housing prices more than current rate and 33 per cent reported that housing prices will increase similar to current rate. About 13 per cent respondents reported that housing prices will increase less than current rate in next 3 months.
- About 90 per cent respondents reported increase in housing prices in next one year. Among them, about 44 per cent respondents reported that housing prices will increase more than current rate and 32 per cent reported that housing prices will increase similar to current rate. About 14 per cent respondents expected that increase in the housing prices will be less than current rate in next one year.

Table 2.5

**Expectations on housing prices
for next 3 months and next 1 year for five quarters**

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	37.3	38.2	49.2	43.5	40.5	38.0	40.9	54.2	47.3	44.0
2	Price increase similar to current rate	26.2	26.5	22.5	28.4	33.1	28.1	30.5	26.0	26.8	32.0
3	Price increase less than current rate	18.2	22.0	11.2	9.9	13.0	18.3	20.3	9.5	10.4	13.6
4	No change in prices	17.4	11.9	14.4	16.6	12.2	13.6	6.9	7.8	12.2	9.5
5	Decline in price	1.1	1.3	2.8	1.7	1.2	2.1	1.4	2.5	3.4	0.9
6	Total Sample Size	4000	3999	4000	4000	4000	3089	3999	4000	4000	4000

Per cent responses.

It may be observed from Table 2.5, that increasing number of respondents reported increase in housing prices more than current rate for next 3 months and next one year upto September 2006 quarter but the trend is reversed in December 2006 quarter onwards.

The percentages of respondents reported increase in housing prices similar to current rate and less than current rate in next 3 months and next one year are increased in March 2007 quarter compared to previous quarter (December 2006). The percentages of respondents reported "no change" in housing prices in next 3 months and next one year are, however, declined in March 2007 quarter compared to previous quarter (December 2006).

2.6 Expectations on cost of services, March 2007

- About 64 per cent respondents reported that cost of services will increase in next 3 months. Among these, about 26 per cent respondents viewed that cost of services will increase more than current rate and 24 per cent reported that the increase will be similar to current rate. About 14 per cent respondents reported that cost of services will increase less than current rate in next 3 months.
- About 68 per cent respondents reported that the cost of services will increase in next one year. Among these, about 32 per cent respondents were of the view that the cost of services will increase more than current rate and 23 per cent reported that it will increase similar to current rate. About 13 per cent respondents reported that the cost of services will increase less than current rate in next one year.
- About 31.3 per cent respondents reported no change in the cost of services in next 3 months and 27.7 per cent respondents reported that cost of services will not change in next one year.

Table 2.6

**Expectations on cost of services
for next 3 months and next 1 year for five quarters**

From March 2006 to March 2007

Sr No	Item	For Next 3 Months					For Next 1 Year				
		Mar-06	Jun-06	Sep-06	Dec-06	Mar-07	Mar-06	Jun-06	Sep-06	Dec-06	Mar-07
1	Price increase more than current rate	25.8	25.6	38.0	27.4	25.9	27.9	27.9	44.7	31.9	32.1
2	Price increase similar to current rate	27.9	28.0	20.3	27.6	23.9	30.0	28.3	20.7	24.5	22.6
3	Price increase less than current rate	20.4	20.3	15.0	12.5	13.8	19.6	20.4	11.5	11.7	13.3
4	No change in prices	22.3	22.3	20.3	28.8	31.3	18.2	19.9	17.7	26.6	27.7
5	Decline in price	3.7	3.8	6.4	3.7	5.2	4.4	3.4	5.5	5.3	4.4
6	Total Sample Size	3089	3999	4000	4000	4000	3089	3999	4000	4000	4000

Per cent responses.

From Table 2.6, it seems that increasing number of respondents reported increase in cost of services more than current rate for next 3 months and next one year in September 2006 quarter compared to earlier two quarters but the trend is reversed from December 2006 quarter onwards. Further the percentages of respondents reported “no change” in cost of services in next 3 months and next one year are increased in March 2007 quarter compared to earlier quarters.

Section 3: Expectations of inflation rate

3.1 Expectations of inflation rate for next 3 months and next one year, March 2007

- Out of 3511 respondents, 352 respondents (10.02 per cent) reported the inflation in the range of 4 to 5 per cent for next 3 months, 782 respondents (22.27 per cent) reported the inflation in the range of 5 to 6 per cent and 1255 respondents (35.74 per cent) reported it in the range of 6 to 7 per cent.
- The average expected inflation for next 3 months is worked out about 5.90 per cent with coefficient of variation 26.62 per cent.
- Out of 3501 respondents, 394 respondents (11.25 per cent) reported that the inflation will be in the range of 3 to 5 per cent and 1827 respondents (52.18 per cent) reported it in the range of 5 to 7 per cent for next one year.
- The average expected inflation for next one year is worked out about 6.32 per cent with coefficient of variation 25.97 per cent.

Table 3.1

**Gender wise expected inflation rate
for next 3 months and next one year for five quarters**

From March 2006 to March 2007

Quarter	For Next 3 Months						For Next 1 Year					
	Male		Female		Total		Male		Female		Total	
	Av-er- age	CV	Av-er- age	CV	Av-er- age	CV	Av-er- age	CV	Av-er- age	CV	Av-er- age	CV
March-06	3.40	55.90	3.17	60.85	3.37	57.08	4.00	51.80	3.88	54.27	4.00	60.85
June-06	3.46	56.01	3.52	54.79	3.47	55.71	4.32	47.29	4.40	46.16	4.34	54.79
September-06	4.47	38.17	4.89	34.69	4.80	37.23	5.54	33.31	5.63	30.55	5.57	34.69
December-06	5.21	30.40	5.28	27.83	5.23	29.69	5.77	27.45	5.80	25.61	5.78	27.83
March-07	5.91	26.83	5.90	25.97	5.90	26.62	6.29	24.61	6.41	22.62	6.32	25.97

CV-Coefficient of variation in per cent.

From Table 3.1, it appears that both male and female respondents expected a higher rate of inflation in the March 2007 quarter compared to earlier quarters for next-3-months and next-one-year. In general, female respondents expected higher inflation rates compared to male respondents. It is also observed that all respondents expected a higher rate of inflation for next-one-year compared to their expectation for next 3 months.

3.2 Current rate of inflation, March 2007

- Out of 3592 respondents, 2284 respondents (63.58 per cent) have reported that the inflation for current month is in the range of 4 to 6 per cent and 1 per cent (53 respondent) said that the Inflation for current month is below 3 per cent.
- The average current rate of inflation is worked out to about 5.93 per cent with coefficient of variation 21.18 per cent.
- Comparison of reported Current rate of Inflation with the Expected rate of Inflation for next 3 months and next one year, March 2007 are given in Table 3.2 (a) and Table3.2(b).

Table 3.2 (a)

**Comparison of reported current rate of inflation
with the expected rate of inflation for next 3 months, March 2007**

Number of responses

Current Rate of Inflation	Expected Rate of Inflation for next 3 months										Total
	Less than 1 %	1–2 %	2–3%	3–4%	4–5%	5–6%	6–7%	7–8%	8% & above	No Idea	
Less than 1%	0	0	1	0	0	0	0	0	0	0	1
1–2 %	1	1	2	0	0	0	0	0	0	0	4
2–3%	0	1	13	28	6	0	0	0	0	0	48
3–4%	1	1	22	40	112	22	3	0	0	0	201
4–5%	2	4	20	35	147	236	18	1	4	14	481
5–6%	16	15	64	61	61	360	366	20	8	53	1024
6–7%	4	16	35	24	11	138	780	204	15	33	1260
7–8%	0	0	1	1	4	7	72	220	63	13	381
8% & above	0	0	0	1		3	8	12	146	22	192
No Idea	0	0	1	2	11	16	8	7	9	354	408
Total	24	38	159	192	352	782	1255	464	245	489	4000

From Table 3.2 (a) it can be observed that:

- (i) **2414** respondents (more than 60 per cent) who have reported the current rate of inflation in the range of 3–7 per cent were expecting the inflation rate in the range of 3–7 per cent for next 3 months.
- (ii) **441** respondents (about 11 per cent) who have reported the current rate of inflation in the range of 7 per cent and above, were expecting the inflation rate in the range of 7 per cent and above for next 3 months.

Table 3.2 (b)

**Comparison of reported current rate of inflation
with the expected rate of inflation for next 1 year, March 2007**

Number of responses

Current Rate of Inflation	Expected Rate of Inflation for next 1 year										Total
	Less than 1 %	1–2 %	2–3%	3–4%	4–5%	5–6%	6–7%	7–8%	8% & above	No Idea	
Less than 1%	0	0	0	1	0	0	0	0	0	0	1
1–2 %	1	0	0	2	1	0	0	0	0	0	4
2–3%	0	0	7	7	14	7	3	2	0	8	48
3–4%	0	0	4	6	50	91	24	13	2	11	201
4–5%	0	6	2	6	58	198	149	25	27	10	481
5–6%	7	34	32	84	68	218	254	256	32	39	1024
6–7%	0	9	14	36	42	173	580	270	95	41	1260
7–8%	0	0	0	2	6	14	77	144	124	14	381
8% & above	0	0	0		3	4	7	6	145	27	192
No Idea	0	2	0	0	8	13	15	10	11	349	408
Total	8	51	59	144	250	718	1109	726	436	499	4000

Table 3.2 (b) shows that:

- (i) 2037 respondents (about 51 per cent) who have reported the current rate of inflation in the range of 3–7 per cent were expecting the inflation rate in the range of 3–7 per cent for next one year.
- (ii) Only 8 respondents who have reported the current rate of inflation in the range of less than 3 per cent were expecting the inflation rate in the range of less than 3 per cent for next one year.
- (iii) **419** respondents (about 10 per cent) who have reported the current rate of inflation in the range of 7 per cent and above, were expecting the inflation rate in the range of 7 per cent and above for next one year.

3.3 Quantification of inflation expectation based on qualitative survey data

The results of qualitative surveys are usually reported as time series or cross section data of percentage of respondents answering each question. An attempt is made convert the results of qualitative survey data to standard quantitative variables by using by Carlson and Parkin method.

Results based on surveys results and ***Based on Carlson-Parkin Methods are given in Table 3.3 (a) and 3.3(b).***

Table 3.3 (a)

**Expected inflation rate for next 3 months
based on survey results and Carlson-Parkin Methods
for five quarters (From March 2006 to March 2007)**

Per cent

Month in which survey conducted	Period Covered (Next 3 Months)	Lead Expected Inflation Based on Survey Results		Lead Expected Inflation Based on Carlson-Parkin Methods	
		Average	Coefficient of variation	Average	Coefficient of variation
Mar-2006	Apr–Jun 2006	3.37	57.08	4.80	56.57
Jun-2006	Jul–Sep 2006	3.47	55.71	6.02	59.61
Sep-2006	Oct–Dec 2006	4.80	37.23	7.22	63.93
Dec-2006	Jan–Mar 2007	5.23	29.69	6.13	58.13
Mar-2007	Apr–Jun 2007	5.91	26.62	–	–

Table 3.3 (b)

**Mean and coefficient of variation of the expected inflation rate
reported by the respondents for different items
for next 3 months and next 1 year**

Per cent

Items	Lead Expected Inflation Based on Carlson-Parkin Methods							
	Mar-2006		Jun-06		Sep-06		Dec-06	
	Apr–Jun 2006		Jul–Sep 2006		Oct–Dec 2006		Jan–Mar 2007	
	Average	CV	Average	CV	Average	CV	Average	CV
General	4.8	56.57	6.02	59.61	7.22	63.98	6.13	58.13
Food Products	5.9	59.63	6.57	49.50	7.28	44.84	7.48	56.28
Non-Food Products	5.03	59.58	5.69	52.61	6.44	54.81	5.95	64.44
Household Durables	5.03	69.94	3.71	93.96	4.24	110.91	3.95	107.04
Housing	5.03	59.58	5.22	60.03	6.81	69.92	7.42	65.80
Services	5.03	59.58	4.13	82.81	5.26	93.32	5.28	89.05

TableNote

Highlights

- Increasing number of respondents reported increase in prices in general by more than current rate in next 3 months and next one year in the March 2007 quarter compared to previous (December 2006) quarter as well as March 2006 quarter.
- The percentage of respondents reporting increase in general price level similar to current rate in next 3 months and next one year is declined in the March 2007 quarter compared to December 2006 quarter as well as March 2006 quarter
- Increasing number of respondents reported increase in prices of food products more than current rate in next 3 months in the March 2007 quarter compared to previous (December 2006) quarter and a year ago quarter (i.e. March 2006)
- Out of 4000 respondents, 489 respondents (12.23 per cent) reported not having any idea regarding inflation rate in March 2007.
- Out of 3511 respondents, 765 respondents (21.79 per cent) reported the inflation below 5 per cent for next 3 months, 2501 respondents (71.23 per cent) reported the inflation in the range of 5 to 8 per cent and 245 respondents (6.98 per cent) reported it above 8 per cent for next 3 months in March 2007. The average expected inflation is worked out to about 5.90 per cent with coefficient of variation 26.62 per cent for next 3 months in March 2007. The average current rate of inflation is worked out to about 5.93 per cent with coefficient of variation 21.18 per cent in March 2007.
- 2414 respondents (more than 60 per cent) who have reported the current rate of inflation in the range of 3–7 per cent expected the inflation rate in the range of 3–7 per cent for next 3 months in March 2007.
- The average expected inflation *for next one year* is worked out to about 6.32 per cent with coefficient of variation 25.97 per cent in March 2007.

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Reserve Bank of Australia-Bulletin.

Reserve Bank of New Zealand-Bulletin.

Survey on workers' remittances

Enrique Montes¹

In this paper we describe the main characteristics of the quarterly survey on workers' remittances that is conducted by the central bank of Colombia (Banco de la República). This paper is divided into three parts. In the first part, we establish the background of migration and remittances in Colombia. Then, we set the main objectives and the methodological issues. And finally, the main results of the survey are presented.

I. Background

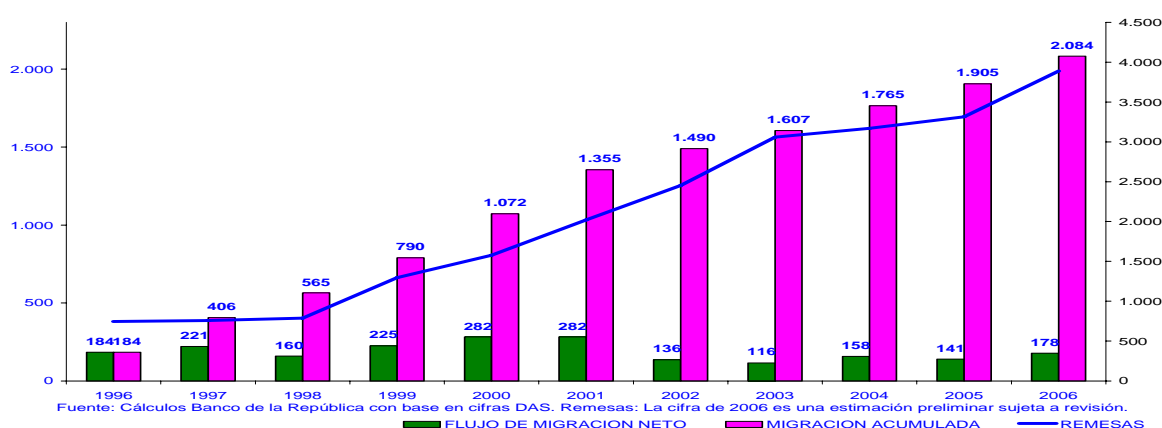
Migration and remittances in Colombia. The migration flow of Colombians into industrialized countries and the importance of the external resources in the form of remittances from workers are typical issues in developing economies. For the Colombian case, migration has presented high growth rates since 1996. This fact, in turn, has caused an increasing inflow of external resources for the country.

The economic crisis of the late 1990s and the country's worsening domestic problems were behind a major international migration flow. Thus, between 1996 and 2006, around 2.1 million Colombians are estimated to have permanently emigrated mainly to United States and Spain. Therefore, this income received by Colombian families has recently been an important source of resources for the economy. In the last five years, the flow of remittances has been the second longest source of income in the current account of the balance of payments. In 2003, remittances represented 3.9% of GDP and 15.4% of current revenue in the balance of payments. In the first half of 2007, remittances represented 2.4% of GDP.

Graph 1

Migration and workers' remittances in Colombia

In thousands of persons and USD millions



¹ This work does not reflect the views of Banco de la República or its Board of Directors. The opinions herein expressed or any mistakes are attributed to the author only.

As can be seen from Graph 1, the number of Colombians abroad and the cumulative total of remittances are highly correlated.

With a view to gaining a broader knowledge of the characteristics of the remittances phenomenon in Colombia and to measuring the effect of remittances transactions cost, the Bank of the Republic has been conducting the survey on remittances since 2004.

II. Objectives and methodological issues

The main purpose of the survey is to gather information in addition to what is available from administrative records. Specifically, we identify remittance flows more fully and provide public information on the cost of remitting money. Moreover, we monitor the functional structure of the market: number and type of agents participating.

Principal features

Below, we summarize the main characteristics of the survey and the sampling strategy that is used in this investigation.

Target population: Entities providing currency exchange services that pay out remittances for a cumulative total of USD 1 million or above.

Sample: cut-off sampling meeting the cumulative annual payment criterion.

The survey covers 22 entities that in 2006 paid out approx 93% of remittances by value.

Frequency: quarterly.

Reporting medium: form circulated via e-mail.

Variables surveyed:

In the first phase (2003–04), four variables were covered:

Values, volumes, country of origin.

Corresponding agents and transaction costs.

Mechanisms for outpayment of remittances.

Operating structure by type of payer.

Subsequently, the number of variables covered was reduced:

Values, volumes, country of origin.

Corresponding agents and transaction costs.

Mechanisms for outpayment of remittances.

III. Main results

Remittances by type of payer

Workers' remittances payments in Colombia are made mainly by institutional payers, which in 2006 paid more than 95% of total remittances. In this year, the main payers of Colombian remittances market were the Bureau of Change (BC) and the Banks (B), who paid 66% of transfer volume and 75% of transfer value. The highest average remittances were paid by B and Commissions Brokers (CB), US\$606 and US\$589, in that order (Table 1).

Table 1

Remittances by type of payor

Market for remittances in Colombia, 2006

Categories	Annual transfer volume (millions)	Annual transfer value (USD millions)	Average remittance (USD)
1. Institutional payors	10.0	3740	373
Banks	2.1	1263	606
Bureaux of Change (CC)	4.5	1542	343
Trade finance companies (CFC)	3.4	905	266
Commission brokers (CB)	0.0	29	589
2. Non-institutional payors 1/	n/a	150	n/a

n/a = not available. 1/ Includes transactions at ATMs, in cash and others. Bank of the Republic estimates.

Source: Bank of the Republic calculations based on Exchanges Office declarations.

Remittances by country of origin

About 50% of transfer volume and 40% of transfer value in the first half of 2007 was originated from in the United States, while Spain accounted for 27.5% and 39.5% respectively. Other important countries were Venezuela, United Kingdom and Italy (Table 2).

The European average remittances are larger than American ones. In the first half of 2007, Spanish and UK average remittances were over US\$520 each, while the size of US and Venezuelan remittances ranged from US\$267 and US\$300 (Table 2).

Table 2

Remittances originate principally countries**Remittances by country of origin, first half of 2007¹**
Relative shares in per cent

	Volume	Value
United States	51.0	40.8
Spain	27.8	39.5
Venezuela	7.0	5.0
United Kingdom	1.9	2.7
Italy	1.9	2.2
Panama	2.0	1.3
Ecuador	1.7	1.2
Others	6.7	7.2
Total	100	100

Average remittance by country of origin, first half of 2007²
USD/Remittance

Spain	535
United Kingdom	524
Italy	430
Ecuador	267
United States	301
Venezuela	267

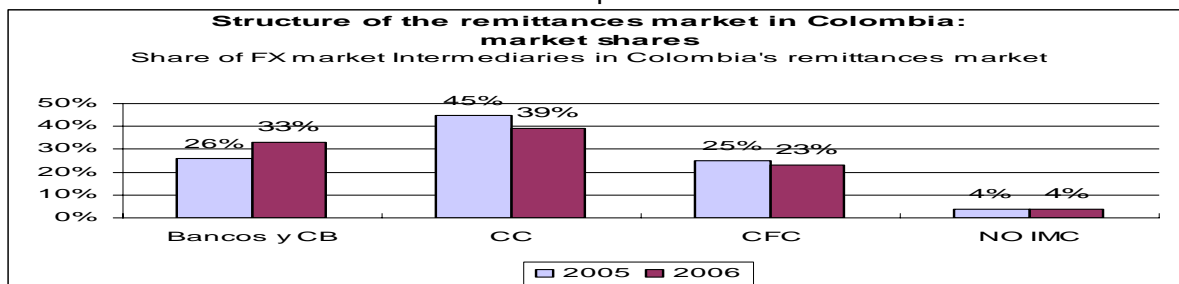
¹ Preliminary data. ² Value of remittances divided by number of transactions.

Source: Quarterly Remittances Survey – Bank of the Republic.

Structure of the remittances market in Colombia: market shares

Between 2005 and 2006, the market structure of remittance payers shows a higher share for B and CB than for BC and Trade Finance Companies (TFC). While the former increased from 26% to 33%, the latter decreased from 45% to 39% (Graph 2).

Graph 2



Source: Bank of the Republic estimates based on Exchanges Office declarations.

Structure of the remittances market in Colombia: transaction costs for remittances

The remittance process and later payment of the remittances involves an intermediary chain that originates in the emitting country and ends in the receiving country. This chain of agents generates the cost of transmission and payment of family remittances, which in the Colombian case is made up of a cost by fees and cost by of the exchange differential.

The results of the survey show that transaction costs of the remittances in 2006 increased compared to last year, 3.2% and 3.4%, respectively. The major component of transactions costs for remittances in 2006, was accounted for by fees (2.1%) and by exchange rate differentials (1.3%). The increase of these costs in 2006 is explained by the majors exchange rate differentials charged by the BC, which rose from 1.3% to 2.7% in the analyzed years. Conversely, the other payers decreased their costs.

Table 3

Structure of the remittances market in Colombia: transaction costs for remittances

Transactions costs for remittances by type of intermediary

Porcetajes		2005	2006
Banks	Comisión 1/	4.0%	4.0%
	Diferencial cambiario 2/	0.8%	-0.2%
	Total	4.8%	3.8%
C.F.C.	Comisión 1/	1.3%	1.1%
	Diferencial cambiario 2/	1.5%	1.6%
	Total	2.8%	2.7%
C.C.	Comisión 1/	1.0%	1.0%
	Diferencial cambiario 2/	1.3%	2.7%
	Total	2.3%	3.7%
Market	Comisión	2.0%	2.1%
	Diferencial cambiario	1.2%	1.3%
	Total	3.2%	3.4%

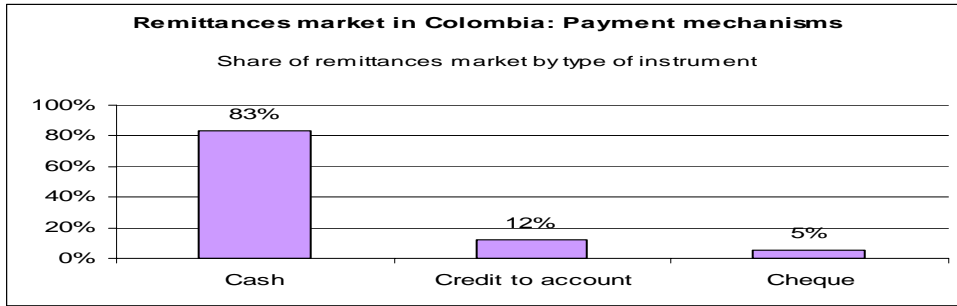
1/ As reported by FX market intermediaries. 2/ Annual average margin.

Source: Bank of the Republic calculations – Quarterly Remittances Survey.

Remittances market in Colombia: payment mechanisms

Of the US\$3.740 million received in workers' remittances in 2006, the results of the survey show that 83% of these were paid in cash, 12% was charged to the beneficiaries accounts of these resources and 5% were paid by check (Graph 3).

Graph 3



Source: Bank of the Republic calculations – Quarterly Remittances Survey.

National Labor Force Survey (NLFS)

Dafne Vales¹

Objective of the NLFS

To obtain indicators for understanding and analysing of trends in employment, unemployment, and income according to type of economic activity, occupation, employment situation, educational level, age, and gender.

Methodological aspects of the NLFS

Survey period: first week of April and first week of October each year.

Size of the Sample: 9,952 households selected.

Coverage: National.

Domains of Estimation: For a semester, estimates can be obtained for rate indicators for 10 planning regions, for the 4 large regions (Ozama, North, South, and East) and country total and in absolute values for these last two districts. Nevertheless, for the year, in addition to those mentioned above, rate indicators can be obtained for the principal province of each planning region, as well as the main tourist provinces of the country.

Reference Period: The general reference period is the last week prior to the undertaking of each survey (in March and September), although there are questions that relate to different reference periods, as in the case of period of time looking for work (four weeks before the interviews), income according to type of work (month before the week of the interview), income from local and foreign transfers (prior month or year), and remittances from abroad (semester prior to the week of the interview).

Responsible/Executing Institution: Central Bank of the Dominican Republic.

Frequency of Information: Semi-annual.

Type of Information: http://www.bancentral.gov.do/english/statistics.asp?a=Labor_Market.

Research categories

- Household characteristics
- Demographic characteristics of all household members
- Employment situation of all household members
- Income by occupation and hours worked
- Income from domestic transfers
- Income from abroad

¹ Central Bank of the Dominican Republic.

Conceptual framework

The basic units for observation are: Household, Housing, and Household Members.

Condition of employment activity of household members

The target population of the study in the measurement of labor market indicators is the **Working Age Population (WAP)**, which is divided into the categories of **Economically Active** and **Inactive**.

Workers 10 years of age and older that devoted at least one hour to working in economic activities during the reference week, that actively looked for work during the prior four weeks, and that did not look for work but are immediately available for work, are considered the **Economically Active Population (EAP), made up of the employed and the unemployed**.

The **Employed Population (EP)** is composed of working age population that worked for at least one hour in the reference period, as well as those who, having an occupation, at the time of the survey were absent from their place of work due to circumstantial reasons such as: vacation, illness, strike, etc.

The **Open Unemployed (OpU)** are defined as workers 10 years of age and older that during the reference period declared that they did not have work, that are immediately available for work, and that actively looked for work during the prior four weeks.

The **Extended Unemployed (ExU)** includes the Open Unemployed as well as persons that did not look for work during the reference period but are immediately available for work.

The **Inactive** population is made up of working age persons who did not work, did not look for work during the prior four weeks, and are not available to work.

Income by occupation

The Labor Force Surveys record the income of employed persons that derive from their principal economic activity, either in dependent fashion, as in the case of salaried workers, or in independent fashion as in the case of the self-employed, owners, or employers.

Formal and informal sectors

The employed population may be classified as being either in the formal or informal sector of the economy.

Formal sector: Comprises all employed salaried workers in establishments with 5 or more employees, as well as the self-employed and employers belonging to the following occupational groups: professionals and intellectuals, managers and administrators, professionals and technical staff, regardless of the size of the establishment where they work.

Informal sector: Comprises all wage earners working in establishments with less than 5 employees, as well as the self-employed and employers belonging to the following occupational groups: farmers and ranchers, operators and drivers, artisans and blue collar workers, dealers, merchants, sales staff, and unskilled workers. In addition, domestic help and non-salaried workers.

Labor market indicators

Principal results – April 2008 (in %)

Rate categories	October 2007	April 2008	Absolute difference April 2008/ October 2007
Total participation	56.3	55.7	-0.6
Employed	47.4	47.8	0.4
Extended unemployment	15.6	14.0	-1.6
Open unemployment	4.3	4.2	-0.1
Cessation of trade	7.8	6.1	-1.7
Inactive	43.9	44.3	0.4

Source: National Labor Force Survey.

Population 10 years and older – Condition of employment activity by gender and type of economic activity

April 2008

Type of economic activity	WAP	EAP	Employed	Unemployed			Inactive
				Total	Cessation	New	
Total	7,628,557	4,246,171	3,649,901	596,270	260,115	336,155	3,382,386
Agriculture and Livestock	526,614	526,614	516,081	10,533	10,533	0	0
Mining and Related Activities	9,305	9,305	8,992	313	313	0	0
Manufacturing	565,049	565,049	501,178	63,871	63,871	0	0
Electricity, Gas, and Water	33,376	33,376	31,522	1,854	1,854	0	0
Construction	260,382	260,382	250,585	9,797	9,797	0	0
Wholesale and Retail Commerce	825,243	825,243	773,692	51,551	51,551	0	0
Hospitality	243,412	243,412	228,477	14,935	14,935	0	0
Transportation and Communications	286,210	286,210	271,951	14,259	14,259	0	0
Financial Intermediation and Insurance	82,818	82,818	77,249	5,569	5,569	0	0
Government and Defense	166,414	166,414	156,794	9,620	9,620	0	0
Other Services	911,193	911,193	833,380	77,813	77,813	0	0
Population without Type of Activity	3,718,541	336,155	0	336,155	0	336,155	3,382,386

**Population 10 years and older –
Condition of employment activity
by gender and type of economic activity (cont)**

April 2008

Type of economic activity	WAP	EAP	Employed	Unemployed			Inactive
				Total	Cessation	New	
Men	3,795,384	2,547,846	2,320,311	227,535	110,198	117,337	1,247,538
Agriculture and Livestock	476,090	476,090	466,621	9,469	9,469	0	0
Mining and Related Activities	8,819	8,819	8,819	0	0	0	0
Manufacturing	319,340	319,340	292,435	26,905	26,905	0	0
Electricity, Gas, and Water	21,602	21,602	20,328	1,274	1,274	0	0
Construction	251,133	251,133	241,612	9,521	9,521	0	0
Wholesale and Retail Commerce	545,175	545,175	517,972	27,203	27,203	0	0
Hospitality	105,775	105,775	99,934	5,841	5,841	0	0
Transportation and Communications	256,796	256,796	249,695	7,101	7,101	0	0
Financial Intermediation and Insurance	44,651	44,651	42,649	2,002	2,002	0	0
Government and Defense	110,561	110,561	105,169	5,392	5,392	0	0
Other Services	290,567	290,567	275,077	15,490	15,490	0	0
Population without Type of Activity	1,364,875	117,337	0	117,337	0	117,337	1,247,538
Women	3,833,173	1,698,325	1,329,590	368,735	149,917	218,818	2,134,848
Agriculture and Livestock	50,524	50,524	49,460	1,064	1,064	0	0
Mining and Related Activities	486	486	173	313	313	0	0
Manufacturing	245,709	245,709	208,743	36,966	36,966	0	0
Electricity, Gas, and Water	11,774	11,774	11,194	580	580	0	0
Construction	9,249	9,249	8,973	276	276	0	0
Wholesale and Retail Commerce	280,068	280,068	255,720	24,348	24,348	0	0
Hospitality	137,637	137,637	128,543	9,094	9,094	0	0
Transportation and Communications	29,414	29,414	22,256	7,158	7,158	0	0
Financial Intermediation and Insurance	38,167	38,167	34,600	3,567	3,567	0	0

**Population 10 years and older –
Condition of employment activity
by gender and type of economic activity (cont)**

April 2008

Type of economic activity	WAP	EAP	Employed	Unemployed			Inactive
				Total	Cessation	New	
Government and Defense	55,853	55,853	51,625	4,228	4,228	0	0
Other Services	620,626	620,626	558,303	62,323	62,323	0	0
Population without Type of Activity	2,353,666	218,818	0	218,818	0	218,818	2,134,848

Source: National Labor Force Survey.

Consumer Confidence Survey in Armenia

Martin Galstyan¹ and Vahe Movsisyan²

Overview

The effect of consumer attitudes on economic activity is a subject of great interest to both policymakers and economic forecasters. The Consumer Confidence Survey of Central Bank of Armenia (CBA) is an important source for collecting information about households' opinion on current economic conditions and expectations for future development. The survey was designed to allow policymakers to follow the changes in households' expectations and use this information in the inflation targeting process. In this article, we review the purpose and tasks of the survey, the structure of survey questionnaire, the sample selection methodology and provide some empiric results.

Purposes and tasks of the survey

In response to the widespread belief that consumers' opinions and expectations influence the direction of the economy, a growing number studies have been set out to analyze the relationship between consumer attitudes and economic variables.

Taking into consideration this fact, the estimation of households' expectations (as an ultimate private-sector driver of market economies) on the economic situation is an important factor in organization and implementation macroeconomic policies.

For observation of households' point of view on the whole current economic situation and estimation their expectations on the future economic changes, Statistics Department of CBA conducts quarterly Surveys of Consumer Confidence since the first quarter of 2005. The main purpose of the survey is an estimation of consumers' behavior, concerning their expectations of current and future economic conditions, and calculation of Consumer Confidence Index (CCI).

In order to achieve these goals the following tasks are observed:

- Analysis of households' opinions on the overall economic situation (current and future).
- Analysis of households' opinions on their material security (current and future).
- Calculation of current and future conditions' indexes.

The methodology of survey

The methodology of organization of this survey is based on several international expertise on this area, especially on the University of Michigan's Consumer Sentiment and the

¹ Head of Statistics department at the Central Bank of Armenia.

² Statistics Department: Economist-Statistician at the Central Bank of Armenia.

Conference Board's Consumer Confidence surveys, which are the most widely used calculation measures of U.S. consumer confidence.

The survey is conducted every second month of each quarter with time-independent samples of households and covers all Armenian households.

In order to facilitate the analysis of the evolution of phenomena over time, from the next survey part of the sample will be comprised households interviewed in previous survey (panel households). The panel of household will be about 40%.

The process of collecting data from households is implementing by phone interviews.

Survey Questions. The questionnaire consists from two main parts: standard and non standard. The standard part includes 20 questions, which are repeated in each survey in order to gauge responses over time. Some other questions are included if needed.

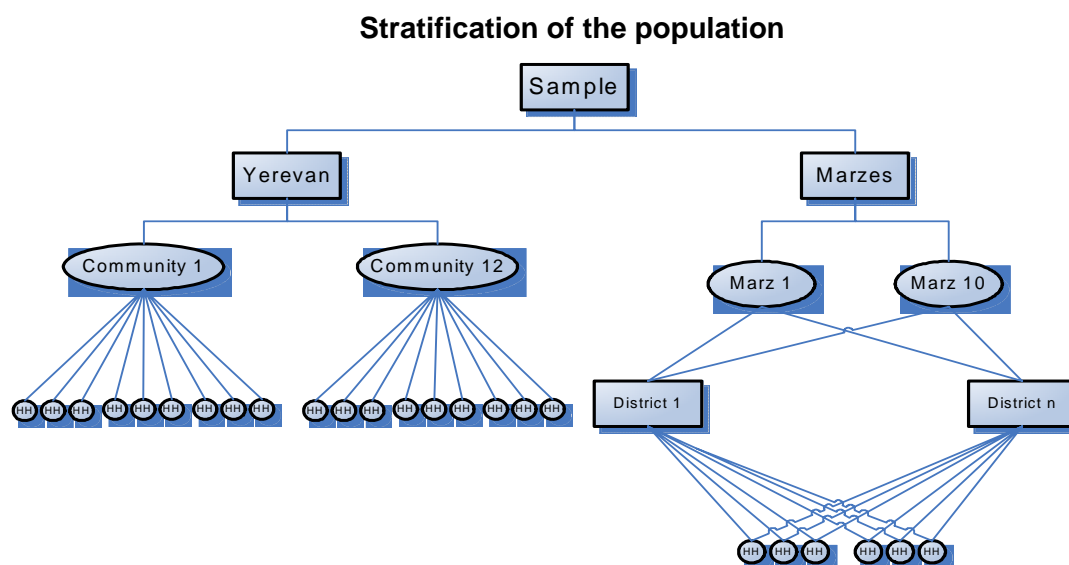
Survey questions are drafted with the aim of eliciting useful information without imposing undue burden on respondents. The questions are generally qualitative, and mainly take a form of asking households to use a three-point scale of response (increase, stable, decrease). Quantitative questions are also included, but generally concern to demographic questions of households. In questionnaire there is also question about households' income, but because of sensitiveness of this question, households are proposed to put their income in one of the proposed income intervals), etc.

Sample design. The survey sample size is approximately 1700–2000. The sampling of survey has stratified one stage simple random sample design without replacement:

The whole universe was divided into administrative sub-divisions, called stratums. Yerevan is divided into communities (stratum) and marzs (regions) into districts.

The sample units are selected randomly from each stratum. The sample size of each stratum is defined by proportional to their population.

Stratification of the universe can be shown as follows:



The structure and construction of Consumer Confidence Index

Consumer Confidence Index is an arithmetic mean of six diffusion indexes, which are constructed by answers to six questions. Particularly, the index of current conditions calculates as an arithmetic mean of questions of current conditions, and the index of future conditions- by the questions, concerning the households' future expectations. Diffusion indexes are calculated by summation of the positive and half of neutral answers.

The structure of Consumer Confidence Index can be presented as follows:

Consumer Confidence Index	
Current conditions' index	Future conditions' index
Q1.1. The fact of purchases of durable goods and services in the previous quarter (yes +; no -)	Q4.1. The fact of purchases of durable goods and services in the current quarter (yes +; no -)
Q1.2. The fact of purchases of durable goods and services in the current quarter (yes +; no -)	Q4.2 The expectation of purchases of durable goods and services in the next quarter (yes +; no -)
Q2. Changes of family's income as compared with previous quarter (increased +; unchanged =; decreased -)	Q5. Changes of family's income in the next quarter (will increase +; wouldn't change, - will decrease)
Q3. Households estimation of current economic situation (positive +; neutral =; negative -)	Q6. Changes of households' employment (will increase +; wouldn't change, - will decrease)

On basis of these six questions, as we mentioned, are constructed not only Consumer confidence Index, but also Current and Future situations sub-indexes. The process of calculations of these indexes can be described with following steps:

Step 1: Balance of current conditions (Bcc) and future conditions (Bfc) is defined as follows:

$$B_{cc} = \frac{1}{3} \left(Q_{1.2} + \frac{1}{2} \{ Q_{1.1-}; Q_{1.2-} \} + Q_2 + \frac{1}{2} Q_2 = + Q_3 + \frac{1}{2} Q_3 = \right)$$

$$B_{fc} = \frac{1}{3} \left(Q_{4.2} + \frac{1}{2} \{ Q_{4.1-}; Q_{4.2-} \} + Q_5 + \frac{1}{2} Q_5 = + Q_6 + \frac{1}{2} Q_6 = \right)$$

where "Q_{i+}" – is the percentage of positive answers on i-th question,
 "Q_{i=}" – is the percentage of neutral answers on i-th question,
 "Q_{i-}" – is the percentage of negative answers on i-th question,
 { "Q_{i.1-}"; "Q_{i.2-}" } – the share of respondents, answered negatively simultaneously to the corresponding questions.

Step 2: Balance of Consumer Confidence (BCC)

$$BCC = 1/2(B_{cc} + B_{fc})$$

BCC varies between 0 to 100.

If **BCC=0** – all respondents responded negatively to all questions,

BCC=100 – all respondents responded positively to all questions,

BCC = 50 – is the constant state (the numbers of respondents, having positive and negative expectations, are equal).

Step 3: Consumer Confidence Index

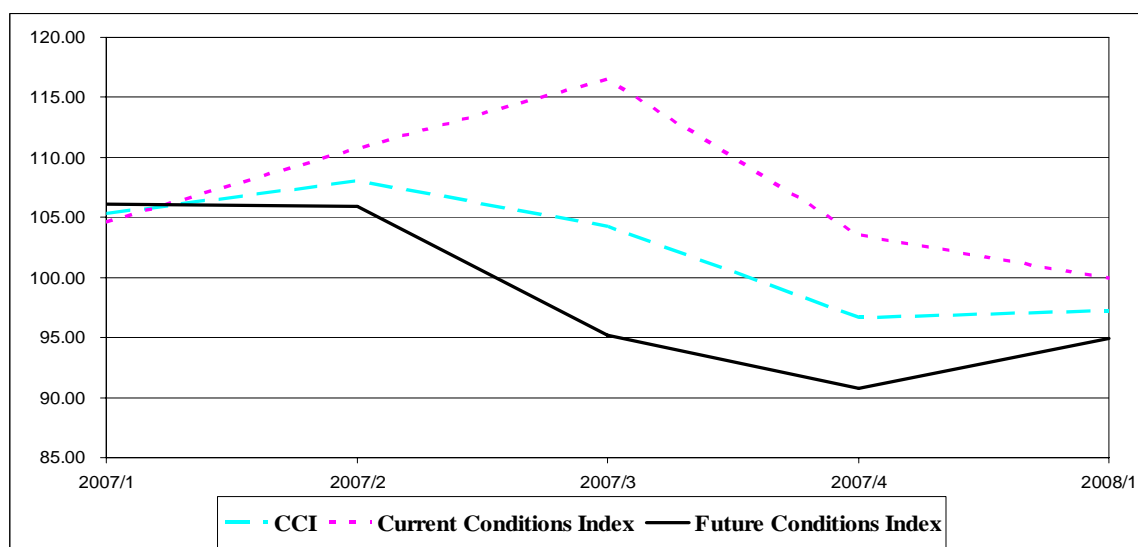
$$CCI = \frac{BCC_1}{BCC_0} \cdot 100\%$$

Where BCC_1 and BCC_0 – are the Balances of Consumer Confidence and for the current and comparable quarters correspondingly.

Example of Survey Results. The latest survey, which was conducted on first quarter of 2008 shows decline of Consumer Confidence compared with the first quarter of 2007.

CCI and its components' dynamics

Compared with the same quarter of previous year



The survey data are useful measure for monitoring the changes in households' expectations over time. So survey results are used by Forecasting group of Monetary Policy Department of CBA to help understand economic situation in the households' sector.

Survey results are reported on the CBA's web site (www.cba.am).

The distribution of financial assets in Austria: some selected results of the OeNB Survey of Household Financial Wealth 2004

Peter Mooslechner, Martin Schuerz and Karin Wagner¹

The results of a survey on Austrian households' financial wealth conducted by the Oesterreichische Nationalbank (OeNB) in 2004 show the composition and distribution of financial assets of private households and allow for analyzing respondents' socioeconomic characteristics. To some extent the results are comparable with a previous survey on households' financial wealth (Mooslechner, 1997). The survey results are available via the Luxembourg Wealth Study (LWS) framework. Therefore, international comparisons with LWS data from Canada, Cyprus, Finland, Germany, Norway, Sweden, the U.K., the U.S.A. and Italy are possible (<http://www.lisproject.org/lws.htm>). The microdata on Austrian households' financial assets and liabilities complement the aggregated presentation of averaged figures on households' financial assets as shown in the financial accounts.

This paper is organized as follows: In the first part, we discuss some methodological and conceptual problems of measuring wealth. In the second part, we describe the 2004 Survey on Financial Household Wealth, by evaluating the data on the basis of selected socioeconomic characteristics of respondents (income, age, profession, formation, housing situation).

As our analysis of the distribution of wealth in Austria at present only captures financial assets, which constitute the smaller part of households' total assets, any analysis of private households' wealth position is currently rather limited. Furthermore, since wealthier households are often reluctant to respond in surveys, households with large financial holdings are often underreported. However, as the data situation on wealth distribution in Austria is generally quite poor, almost any available data-based information is extremely valuable for wealth-related analyses.

1. Conceptual and methodological issues of financial wealth measurement

Wealth is in general considered to be the sum of goods which are not *consumed* on a day-to-day basis but *used* over a certain period. In this context, we distinguish between various forms of *assets*: direct business property, real estate assets (rented, owner-occupied), immaterial assets (licenses, copyrights, patents), financial assets (shares, mutual funds, bonds, saving books), natural assets (forests, other natural resources), households' assets (owner-occupied housing, vehicles, furniture, collections), human capital (qualifications) and social assets (Hahn and Magerl, 2006).

Functions of assets: Asset holdings have specific functions for households. Depending on the relative importance of these functions for individual households, differences in saving behavior and asset accumulation occur. The different functions are:

¹ The authors, all from the Oesterreichische Nationalbank (OeNB), would like to thank Pirmin Fessler for valuable research assistance.

1. Earning income function: Asset yield income in the form of dividends, rents, leases, interest or distributed profits. Valuation gains and losses directly affect the size of assets and can therefore also be seen as (positive or negative) asset earnings.
2. Profit function: Primary assets (e.g. real estate) can be used for production and consumption. As such, they may serve as income substitution.
3. Protection function: Assets can be used (“realized”) in cases of emergency (especially for the proverbial rainy day when there is not enough available income to cover expenses).
4. Transfer function: Assets can be shifted to other persons (gifts and/or bequests).

In general, *financial assets* cause fewer valuation problems than housing wealth. Therefore, empirical financial assets data are subject to less criticism than housing wealth data. The share of financial assets ranges from 13% (Germany) to 38% (U.S.A.) of total assets (Sierminska et al., 2006).

If we define net financial wealth (NFW) as gross financial assets minus consumer loans and minus home loans, the term does not include real and immaterial asset components. The present paper concentrates on net financial assets per household.

The *OeNB Survey on Financial Household Wealth 2004* (SFHW) covered a representative stratified random sample of Austrian households. The general criterion for an analyzed unit to qualify as a household in the survey was the cooperative administration of total disposable income. In this context, a household comprises all persons living in the same apartment or house. Therefore, the terms *household* and *family* cannot be used synonymously, even if a large, but probably decreasing number of households also qualify as families. It is important to stress that in the survey, interviewees (heads of households) defined themselves who was to be considered a member of their respective household. Sometimes they even did not consider, or classify, some of the persons living in their household (e.g. grandparents) as household members. The survey required the interviewee to be present and willing to answer the questions posed; it did not require the presence of all household members. Therefore, the household sample cannot be analyzed as a households’ individual member’s sample as it contains too little information on the individual households’ members’ financial situation.

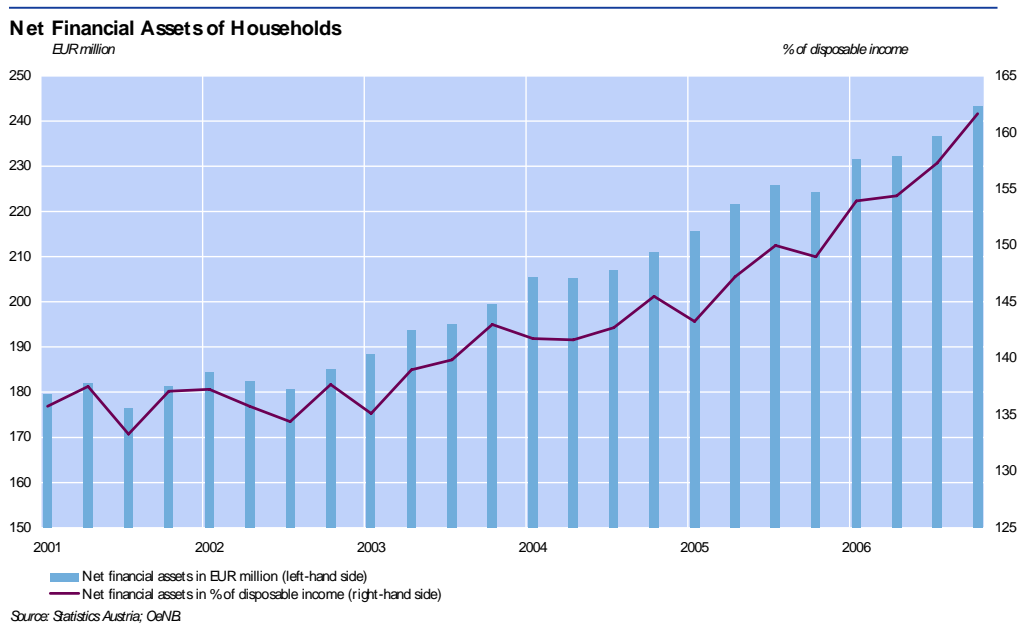
As *participation* in the OeNB Survey on Financial Household Wealth was *voluntary* and wealth-related questions appear to touch upon sensitive issues (especially in the case of wealthier households), it was particularly important that before the interview took place, interviewers clearly explained to the respondents how important the survey was. However, regarding the conduct of the survey, there is still room for improvement.²

On the basis of the survey results, we calculated a weighted household income according to the equivalence scale defined by the OECD. Like comparable surveys, the OeNB Survey on Financial Household Wealth showed the typical *middle class bias*. It did not cover homeless persons and prison inmates and, as mentioned before, the participation of wealthy households was limited. If the survey had reached more very wealthy households, this would have caused massive upward distortions of data regarding households’ average net financial accounts. Taking these considerations into account, however, would have required significantly higher methodological effort and entailed markedly higher costs.

² Steps toward achieving higher data quality are: more interviewer training, a panel component, oversampling and replacing paper and pencil interviews (PAPIs) by computer-assisted personal interviews (CAPIs), which allow immediate consistency checks. CAPIs are already being used in the ongoing 2008 OeNB Household Survey on Housing Wealth and will be used in future surveys.

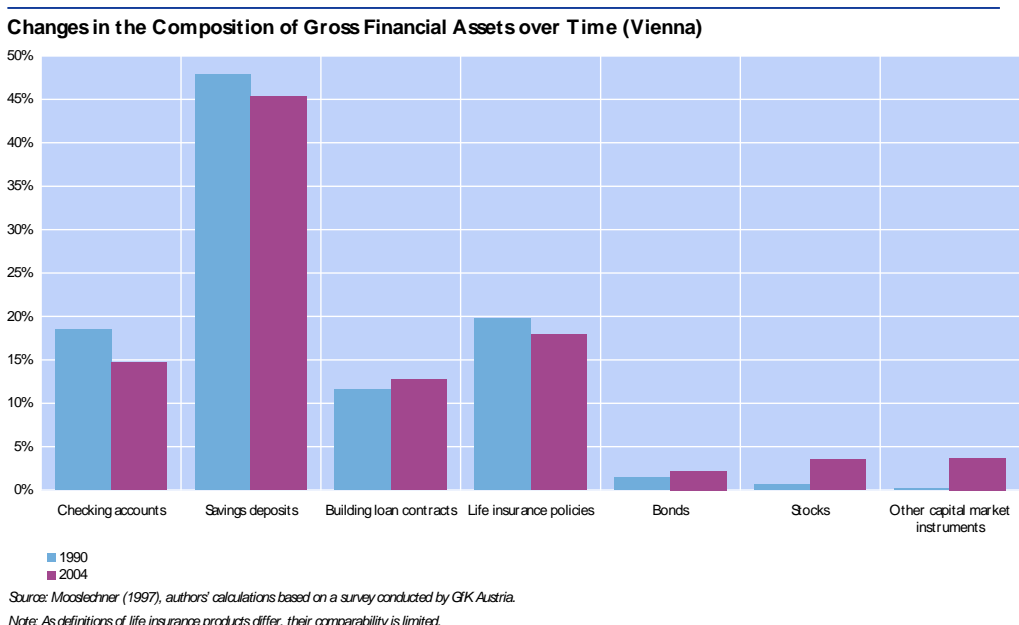
The results derived from comparing survey microdata and financial accounts macrodata are fairly similar to those derived from other countries (see Andreasch et al., 2006). In recent years, households' financial assets as captured in the financial accounts have augmented considerably.

Chart 1



In line with the rise in financial wealth, the investment behavior of Austrian private households has changed (see Beer et al., 2006a, 2006b). The importance of shares and investment certificates within households' portfolios has grown most markedly. The average shares of stocks, bonds and investment certificates in the gross financial assets surged between 1990 and 2004, while savings accounts and life insurance holdings declined (see chart 2).

Chart 2



However, this development should not lead to the conclusion that, unlike some years ago, households now display long-term saving behavior. They might also use their financial assets to finance durable consumer goods on a regular basis. It is therefore necessary to carefully analyze asset changes and portfolio switching by referring to detailed microdata.

2. OeNB Survey on Financial Household Wealth (SFHW) – selected results

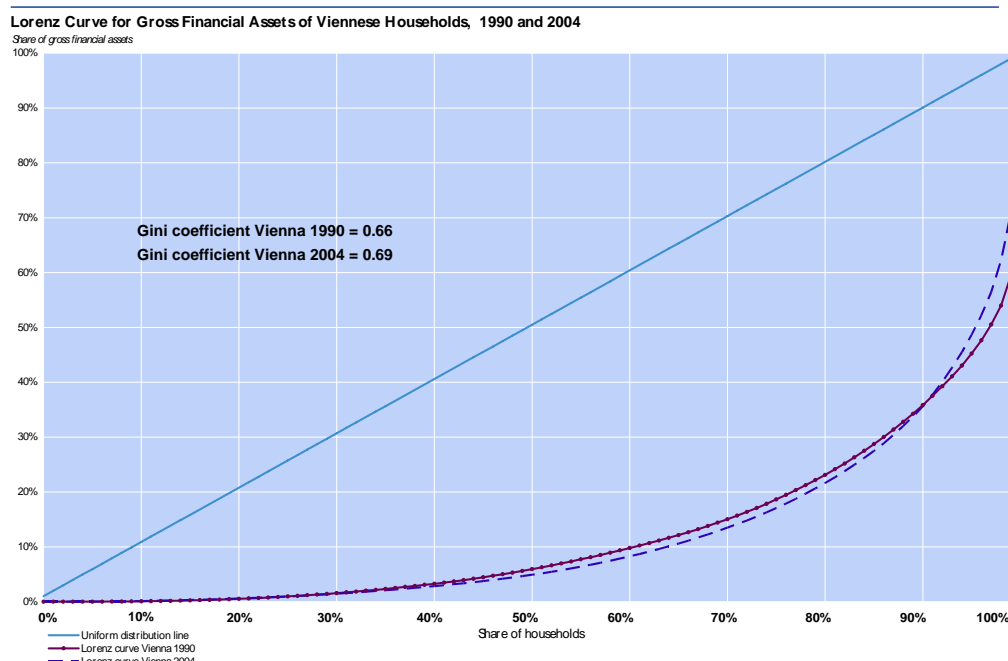
This section provides some information on the distribution of wealth in Austria on the basis of selected indicators. In this context it is important to note that the level of households' financial assets may depend on household income, income security, saving behavior, inherited assets, consumption attitudes and many other factors (educational level, risk orientation, etc.).

2.1 Selected indicators of financial wealth distribution in Austria (or Vienna, respectively)

The SFHW showed that Austrian households' gross financial assets average EUR 55,000 (median: EUR 24,000). The *standardized Gini coefficient* for Austrian households amounts to 0.66.

Financial wealth inequality slightly increased in Vienna over the period from 1990 to 2004³ (see table A 2). When analyzing this comparison over time, it has to be kept in mind that 1990 data are unweighted and 2004 are weighted. As the *Lorenz curves* for the distributed financial accounts in 1990 and 2004 cross twice, a clear-cut statement concerning the observed trend in financial accounts is not possible.

Chart 3



³ For analyzing trends over time we have to refer to Viennese data, as the 1990 data (Mooslechner, 1997) refer to Vienna.

The *P90/P10 ratio*, relates the lower limit of the tenth decile to the upper limit of the first decile. As this ratio excludes households with the lowest and the highest wealth holdings, it is resistant to outliers such as negative levels in the first decile and fluctuations of levels in the highest decile. This ratio is 84.1 (see table A 2). It went up slightly against 1990.

Households in the wealth deciles 2 to 7 reported a rather low level of assets (compared to average total assets). Asset levels are far above average in the tenth decile, and variation is also high within this decile. The tenth decile holds over 50% of gross assets, the 99th percentile still over 30% (2116% of the median; see table A 1). The forthcoming Survey on Housing Wealth data are expected to show that – like in other countries – housing wealth is even more unequally distributed than financial wealth.

Households in the lowest wealth decile show a negative average level of financial assets (see table A3). It has to be kept in mind, however, that only part of households' wealth is captured by the financial wealth definition used here. Gross financial assets are offset by loans which are used for financing consumer goods. For a meaningful analysis, therefore, it is important to know the specific purpose of households' loans. The negative average level of the net financial accounts of households in the first wealth decile, for example, is mainly attributable to consumer loans (t-tests in table A3 underline the high variation in the level of consumer loans of the first decile – among all deciles the first decile's consumer loan level displays the highest standard deviation). At EUR 15,000 (median: EUR 7,000) their average level of consumer loans is five times higher than the average level across all Austrian households.

2.2 Financial wealth distribution by socioeconomic characteristics

Our analysis of financial wealth distribution in Austria is based on socioeconomic variables such as age, educational level, net income, housing situation and household size and the occupational status of the head of household. The occupational status was assigned to one of the following categories: self-employed, entrepreneurs, employees, public servants, farmers, workers, free-lance professionals and persons that are not employed. Free-lance professionals are a very heterogeneous group in terms of their assets, showing both small and large asset holdings. Entrepreneurs hold by far the highest level of assets (EUR 190,000; median: EUR 38,000), while blue collar workers record the lowest level (EUR 25,000; median: EUR 15,000); the median asset level of free-lance professionals is still lower (EUR 12,000), though. Besides, free-lance professionals are the occupational group that takes out the highest consumer loans. The group of persons that are not employed comprises students, retirees and jobless persons. Their comparably comfortable financial asset situation on average results from the fact that this group consists mostly of households headed by retired persons.

The life-cycle model of Modigliani and Brumberg (1954) predicts an increase of wealth until retirement. This should result in a hump-shaped trend of financial assets. According to this model, saved assets are consumed during retirement; therefore, an uneven distribution of assets is mainly attributable to the age curve. We would expect to find the highest asset levels among heads of households at the time of their retirement and the lowest levels among retired heads of households at the moment of their passing and households comprising young families. Hence, an uneven distribution of assets could be justified as socially sustainable as it does not distort equal opportunities. However, our cross-sectional survey data do not confirm the life-cycle hypothesis. According to the survey data, there are several households head by a retired person which show a positive and high personal saving rate. In fact, the average level of net financial assets continues to rise for households headed by persons aged between 60 and 69. The ratio of average and median assets is highest for the group of household headed by retired persons.

49.9% of Austrian heads of households live in their own homes (OeNB Household Survey on Housing Wealth 2008). It is frequently the case that households with above-average financial

asset levels also report a certain level of real estate assets. While a higher share of heads of households in the highest asset decile live in owner-occupied housing, this applies to just 27.5% of those in the lowest asset decile. The situation for tenants of subsidized apartments is different: While 17% of heads of households in the first decile live in subsidized apartments or houses, just 5.1% of those in the highest decile receive such a subsidy. Although the target groups of subsidized housing in Austria are socially disadvantaged households, a surprisingly high share of wealthy households claim to receive housing subsidies. This is attributable to the fact that many households tend to keep their subsidized apartments once their financial situation has improved.

In Austria, the general level of education has increased considerably over the last decades. A higher educational level is generally related to higher income,⁴ and higher asset accumulation can be expected to accompany higher income. Graduates account for just 12% of the Austrian population, but their share in households' net financial assets is 22%, and their net financial assets average EUR 90,000. Although the group of graduates displays a rather notable variation in terms of financial assets, even the respective median is higher than the average value for persons who have only completed compulsory education, an apprenticeship or vocational schooling. The lowest level of financial assets is found with persons who have only completed compulsory schooling, the second lowest with households headed by persons who have completed an apprenticeship or vocational schooling. The higher the educational level of the head of the household, the higher the probability that the children living in the household will also complete higher education; in addition, these children may receive financial support or inheritances. The combination of these factors reinforces the social reproduction of inequality.

Conclusions

Empirical literature on financial wealth broadly supports the notion that financial assets are more unevenly distributed than income (for a survey see e.g. Davies and Shorrocks, 2000). The OeNB Survey on Financial Household Wealth (SFHW) provided the first microdata on Austrian households' financial situation in a number of years. Analyzing the results this paper discussed a few aspects of the distribution of financial assets in Austria.

A large number of Austrian private households have very low levels of net financial assets and a few households have very high financial wealth holdings. Income level and future income security are key determinants for the level of households' financial assets and their portfolio structure. Overall, the results of the OeNB SFHW point to the need for further empirical research on this topic.

⁴ This significant correlation is underpinned by the 2004 survey data.

Annex I: Design of the OeNB Survey on Financial Household Wealth 2004

GfK Austria GmbH Market Research used a combination of multistage, stratified, clustered and address random sampling to conduct representative surveys. Households were stratified according to provinces at the Austrian level and according to the 23 districts in Vienna. Households were weighted based on age, occupation and education of the head of the household as well as according to the size of the household, the presence of children up to 14 years of age and according to district clusters. The interviewees were the heads of the respective household or the household member with the most accurate knowledge about the household's finances.

Interviews lasted between 30 and 50 minutes, depending on the size of the household and the number of investment options it used. The respondents did not receive any compensation for participating in the survey, but they had the opportunity to participate in a draw for prizes/competition (for further information, see Beer et al., 2007b).

OeNB Household Survey on Housing Wealth 2008

In the first half of 2008 the OeNB started a survey on housing wealth. The persons interviewed during this survey are the owners of apartments/houses or the persons who signed the respective housing contract. Results will be available in the spring of 2009.

Annex II

Table A1

Distribution of financial assets in Austria

Percentiles	Gross financial assets		Net financial assets	
	Quantile	% of median	Quantile	% of median
	<i>in EUR</i>		<i>in EUR</i>	
1	300	1.3%	-21,346	
5	1,309	6%	-1,979	
10	3,276	14%	1,240	6%
20	7,085	30%	5,300	24%
25	9,175	39%	7,197	33%
30	11,431	48%	9,771	45%
40	16,975	72%	15,125	69%
Median, 50	23,579	100%	21,855	100%
60	33,419	142%	31,725	145%
70	47,682	202%	43,595	199%
75	55,886	237%	52,021	238%
80	65,161	276%	63,054	289%
90	106,498	452%	105,513	483%
95	177,862	754%	177,151	811%
99	498,881	2116%	498,573	2281%
Mean value, total	54,666	232%	51,790	237%
Mean/median	2.32		2.37	
Quartile 3/quartile 1	6.09		7.23	
P90/ P10	32.51		85.09	
P99/ P1	1662.94			

Source: OeNB calculations based on a GfK Austria survey.

Table A2

Comparison of 1990 and 2004 survey data

Vienna 2004 (weighted) Vienna 1990 (unweighted)

Gross financial assets		
Percentile ratio P90/P10	84.11	83.52
Relative mean deviation	1.08	0.98
Gini coefficient	0.69	0.66
Loans		
Percentile ratio P90/P10	-	-
Relative mean deviation	1.46	1.40
Gini coefficient	0.89	0.85

Source: OeNB calculations based on a GfK Austria survey.

Note:

Credits = total loans taken out by households

The relative mean deviation measures households' average absolute deviation from the mean.

In this analysis, the normed Gini coefficient is used.

Table A3
Testing mean deviations for some key variables

Austria									
Net Financial Assets Including Life Insurance Policies									
Test value = 51760									
	Mean	Standard deviation	Standard deviation of the mean	T	df	Significance (2-sided)	Mean difference	95% confidence interval of the difference	
								Lower bound	Upper bound
<i>Deciles of net financial assets, in EUR</i>									
Decile 1	-8,031	19,496	1,627	-37	143	0.0000	-59,791	-63,007	-56,575
Decile 2	3,286	1,193	100	-485	142	0.0000	-48,474	-48,672	-48,277
Decile 3	7,392	1,232	103	-431	142	0.0000	-44,368	-44,571	-44,164
Decile 4	12,307	1,525	127	-310	142	0.0000	-39,453	-39,705	-39,201
Decile 5	18,317	1,874	157	-214	142	0.0000	-33,443	-33,752	-33,133
Decile 6	26,722	3,047	254	-99	143	0.0000	-25,038	-25,541	-24,536
Decile 7	37,646	3,243	272	-52	141	0.0000	-14,114	-14,651	-13,577
Decile 8	53,042	5,717	480	3	141	0.0084	1,282	334	2,230
Decile 9	80,639	12,177	1,018	28	142	0.0000	28,879	26,866	30,891
Decile 10	287,003	407,679	34,098	7	142	0.0000	235,243	167,838	302,648

Source: OeNB calculations based on a GfK Austria survey.

Austria										
Consumer Loans										
Test value = 2876										
	Mean	Standard deviation	Standard deviation of the mean	Median	t	df	Significance (2-sided)	Mean difference	95% confidence interval of the difference	
								Lower bound	Upper bound	
<i>Deciles of net financial assets, in EUR</i>										
Decile 1	14,856	30,858	2,575	7,000	4.65	143	0.000	11,980	6,890	17,071
Decile 2	1,666	4,618	387	0	-3.13	142	0.002	-1,210	-1,975	-446
Decile 3	1,956	7,701	644	0	-1.43	142	0.155	-920	-2,193	353
Decile 4	895	3,895	325	0	-6.09	142	0.000	-1,981	-2,624	-1,338
Decile 5	1,190	4,572	382	0	-4.41	142	0.000	-1,686	-2,441	-931
Decile 6	850	3,190	266	0	-7.61	143	0.000	-2,026	-2,552	-1,500
Decile 7	2,970	8,641	724	0	0.13	141	0.897	94	-1,337	1,525
Decile 8	1,072	4,372	367	0	-4.92	141	0.000	-1,804	-2,529	-1,079
Decile 9	1,036	5,344	447	0	-4.12	142	0.000	-1,840	-2,723	-957
Decile 10	2,222	10,830	906	0	-0.72	142	0.471	-654	-2,445	1,136

Austria										
Housing Loans										
Test value = 16758										
	Mean	Standard deviation	Standard deviation of the mean	Median	t	df	Significance (2-sided)	Mean difference	95% confidence interval of the difference	
								Lower bound	Upper bound	
<i>Deciles of net financial assets, in EUR</i>										
Decile 1	9,050	26,909	2,246	0	-3.43	143	0.001	-7,708	-12,147	-3,269
Decile 2	11,018	33,612	2,814	0	-2.04	142	0.043	-5,740	-11,303	-176
Decile 3	14,207	34,282	2,867	0	-0.89	142	0.375	-2,551	-8,218	3,117
Decile 4	13,226	33,447	2,794	0	-1.26	142	0.208	-3,532	-9,055	1,991
Decile 5	13,575	35,293	2,948	0	-1.08	142	0.282	-3,183	-9,012	2,645
Decile 6	19,477	45,632	3,806	0	0.71	143	0.476	2,719	-4,805	10,242
Decile 7	24,681	55,326	4,635	0	1.71	141	0.090	7,923	-1,240	17,085
Decile 8	23,623	47,075	3,949	0	1.74	141	0.084	6,865	-941	14,671
Decile 9	20,520	48,481	4,053	0	0.93	142	0.355	3,762	-4,251	11,774
Decile 10	18,291	50,659	4,237	0	0.36	142	0.718	1,533	-6,843	9,909

Austria										
Total Loans										
Test value = 16758										
	Mean	Standard deviation	Standard deviation of the mean	Median	t	df	Significance (2-sided)	Mean difference	95% confidence interval of the difference	
								Lower bound	Upper bound	
<i>Deciles of net financial assets, in EUR</i>										
Decile 1	23,906	47,877	3,995	10,000	1.07	143	0.287	4,272	-3,625	12,170
Decile 2	12,684	33,989	2,846	0	-2.44	142	0.016	-6,950	-12,576	-1,324
Decile 3	16,164	35,272	2,950	0	-1.18	142	0.241	-3,470	-9,301	2,361
Decile 4	14,120	35,068	2,929	0	-1.88	142	0.062	-5,514	-11,304	277
Decile 5	14,765	35,751	2,987	0	-1.63	142	0.105	-4,869	-10,773	1,035
Decile 6	20,327	45,533	3,798	0	0.18	143	0.856	693	-6,815	8,200
Decile 7	27,651	55,821	4,677	0	1.71	141	0.089	8,017	-1,228	17,261
Decile 8	24,695	47,170	3,957	0	1.28	141	0.203	5,061	-2,761	12,883
Decile 9	21,556	49,846	4,167	0	0.46	142	0.645	1,922	-6,316	10,160
Decile 10	20,513	52,550	4,395	0	0.20	142	0.842	879	-7,809	9,568

Source: OeNB calculations based on a GfK Austria survey.

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