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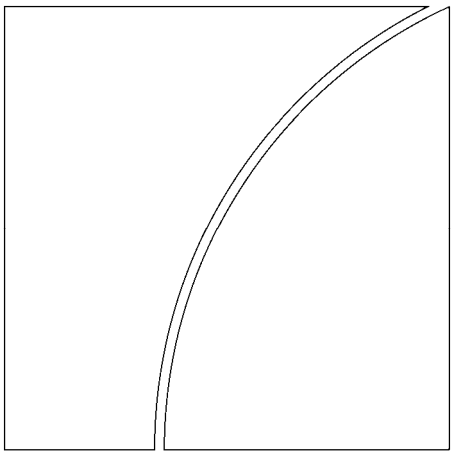

The use of surveys by central banks

Proceedings of the IFC Workshops in Pune June 2007, Buenos Aires December 2007 and Vienna March 2008

July 2009

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The IFC Bulletins contain proceedings of meetings of the Irving Fisher Committee on Central Bank Statistics. Papers in this volume were prepared for IFC-sponsored workshops entitled "The use of surveys by central banks", held in Pune June 2007, Buenos Aires December 2007 and Vienna March 2008. Not all papers presented at the workshop are included in this volume. The views expressed are those of the respective contributors and do not necessarily reflect the views of the IFC, the BIS, the central banks or other institutions represented at the meeting. Individual papers (or excerpts thereof) may be reproduced or translated with the authorisation of the authors concerned.

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Foreword
by the IFC Chair

This volume of the IFC Bulletin contains the proceedings of a series of three workshops organised by the IFC on "The use of surveys by central banks". The main focus of these workshops was on methodological issues and challenges faced by central banks in conducting surveys.

The first workshop took place from 27 to 29 June 2007 in cooperation with SEACEN (the South East Asian Central Banks Research and Training Centre) and was co-sponsored by the Reserve Bank of India. The second workshop was held from 11 to 13 December 2007 in Buenos Aires, in cooperation with the Centre for Latin American Monetary Studies (CEMLA) and the Central Bank of the Republic of Argentina. The third and final workshop was presented in cooperation with the Austrian National Bank at the Joint Vienna Institute from 18 to 20 March 2008. The workshops were attended by a total of 90 participants from 51 central banks.

Mr Paul Van den Bergh and Mr Christian Dembiermont from the IFC Secretariat at the BIS acted as workshop directors. They were assisted by Mr Chatwaruth Musigchai, a survey expert from the Bank of Thailand who also provided support in preparing the background material to the workshops. This material was put together on the basis of information provided by a large number of IFC member institutions regarding their statistical data collection exercises, including surveys. Representatives from the European Central Bank, the Federal Reserve System as well as the central banks of Austria, Belgium, Canada, France, Italy, Spain and Turkey shared their experiences with participants by delivering detailed case study presentations. Various participants also contributed country presentations to the workshops. A warm thank you to all these experts, the local organisers, the country presenters and participants for contributing towards the success of the workshops.

Since all three workshops were run on the same structure and with the same programme, the Bulletin groups the contributions by session/topic as it appeared on the programme rather than by separate event. The Bulletin concludes with a summary of the panel discussions that took place at the end of the workshops. This provides a useful summary of best practices for the conduct of surveys identified by workshop participants.

Manuel Marfán
Chairman of the Irving Fisher Committee
on Central Bank Statistics
and Member of the Board of the Central Bank of Chile

Key findings of the workshops on "The use of surveys by central banks"

Paul Van den Bergh

The IFC organised three workshops on "The use of surveys by central banks". A total of 90 participants from 51 central banks attended these workshops. Apart from reviewing country experiences, the workshops allowed participants to draw some general conclusions on particular issues and to identify a number of best practices with respect to the use of surveys.

The workshops confirmed that central banks are active collectors and compilers of statistics, in particular with respect to money and banking, external statistics, and finance. Traditionally they have used a full reporting or census approach. Increasingly they are also starting to rely on survey methods. There are a number of reasons for this, including the reduction of compilation costs, the easing of reporting burdens on respondents, and the need to speed up the process of gathering information in order to obtain more timely statistics. Surveys can also be used more readily to collect qualitative information, for instance on inflation expectations and consumer/business sentiment. Sometimes survey methods can also provide more statistical rigour in compilation techniques (for instance the calculation of representative interest rates), and facilitate the monitoring of particular developments and innovations (such asfinancial innovations in payment systems and financial literacy of the population). Finally, in some cases surveys are part of coordinated international data collection efforts, eg the IMF Coordinated Portfolio Investment Survey (CPIS) and the BIS Triennial Survey of Foreign Exchange and Derivative Market Activity.

From the workshop discussions it was clear that conducting surveys is an art as much as a science. Many central banks are building up internal expertise on survey methodology and are collaborating closely with their respective national statistical offices, sometimes outsourcing surveys to them or asking them to extend their existing surveys to cover issue of particular interest or concern (eg financial position of the household sector). Until the workshops there has been little structured exchange of information or cooperation between central banks with respect to the conduct of surveys. One reason is that relatively little information is readily available on the types of surveys and survey techniques used by central banks. The background material collected by the IFC Secretariat on the various data collection exercises of central banks, including the conduct of surveys, proved to be of particular interest and should be regularly updated and made available on the IFC internal website.

A number of general lessons were learnt and best practises were identified at the workshops. These covered principally the organisation of surveys, the statistical survey techniques used, the design of the questionnaire and how to improve response rates. In terms of the *organisation of surveys*, there was general agreement that it is crucial to define clear objectives, and to stay focused. Agreement should be obtained from all stakeholders (eg the management of the central bank, industry associations, the national statistical office). A cost/benefit analysis should be conducted in order to select most appropriate collection system since surveys can be costly in terms of human resources. Other sources of statistical information should be explored first. Even if it is decided to conduct a survey, it is necessary to analyse how to combine the survey data with information which are obtainable from other sources.

The frequency of regular surveys should be carefully determined. Irrespective of whether they are carried out on a once-off or regular basis, surveys should be properly planned. Care

should be taken in the design and definition of the data processing procedures and in the coordination across national agencies (and internationally where appropriate). An adequate legal framework should be ensured, including to guarantee the confidentiality of respondents' answers. New web technologies should be utilised as much as possible and attention should also be given to the effective communication of survey results. Survey exercises should regularly be evaluated and re-evaluated.

There was also broad consensus on a number of issues related to *statistical survey methodologies*. Of key importance is the precise definition of the population and the frame (eg business register, list of authorised financial institutions) as well as the identification of valid units to be included in the sample. The choice of sampling technique should be made with care. Probability (random) sampling might be preferable whenever it is possible, particularly to allow proper statistical inference. The sample should be stratified to the extent possible and largest units should be properly represented in case of a skewed distribution. A panel (fixed sample) can be included to improve comparability of results over time. The representativity of the sample should be continuously checked over time. Monitoring the evolution of the population/frame is particularly important for surveys using probability sampling techniques. The (non-)response rate should be taken into account when interpreting survey results. Moreover, survey users should be provided with a detailed description of the population, frame and sampling technique used, as well as information on the level of the response rate.

There was little doubt that a *good questionnaire* is of key importance for a successful survey. To ensure optimum results, questionnaires need to be clear, concise and consistent. Where possible, advice should be sought from experts/consultants on the design of the questionnaire. Questionnaires should also be tested beforehand. It may be useful to add guidelines for respondents as a supplement to questionnaire. Changes in the questionnaire used for regular surveys should be introduced carefully in order to maintain consistency in the survey results over time. At the same time, limited flexibility should be allowed to include ad hoc and/or specific questions.

Since the quality of any survey results depends on an *adequate response rate*, serious efforts should be made to improve the willingness of the sampled persons to participate in the survey. The workshops made various suggestions in this respect. For instance, interviewers should be properly trained and motivated to obtain optimum results. Invitations to participate in a survey should be made through high-profile, official communication. Incentives to respond could include financial compensation as well as the communication of survey results to the respondents in line with their interests (eg by sector, region, professional group, comparisons with peers). Respondents could also be motivated by explaining the purpose of the survey and emphasising the analytical value of the survey results, eg for policy or research purposes. The importance of building good relationships with respondents to regular surveys cannot be overemphasised. Working with industry associations could improve members' willingness to participate through peer pressure. Other ways of improving response rates include: ensuring strict confidentiality of responses, allowing data submissions via different channels according to respondents' preferences, sending gentle reminders and showing appreciation for responses received (again, perhaps, through high-profile official communication).

The interest and active participation in the IFC workshops demonstrated that issues relating to the conduct of surveys by central banks are becoming more important, and that there may be a need among central banks to continue to share their expertise in this area, and, to the extent possible, continue to identify best practices. Some possible follow-up topics were identified, including the statistical properties of quantitative indicators based on qualitative information (ie net difference of diffusion indices), the use of surveys to measure inflation perception and inflation expectations, and the usefulness of bank lending surveys during normal times as well as in times of financial turmoil.

Session 1

Overview of central bank data collection practices

Background note: Data collection techniques by central banks: trends and issues
Chatwaruth Musigchai, Bank of Thailand

Case study: Surveys conducted by Reserve Bank of India
C.L. Agarwal, Reserve Bank of India

Background note on data collection techniques by central banks: trends and issues

Chatwaruth Musigchai[1]

Introduction

All central banks, even those with limited statistical data collection activities, collect a minimum of key data relating to economic and market developments. In countries where central banks collect a vast array of statistics, several categories of economic data pertaining to various sectors, monetary & financial, external, household, and business are extensively captured. This reflects the fact that detailed information of this nature is of key importance to central banks in regardto the conduct of monetary policy, monitoring of exchange rates, economic analysis/outlook and the promotion of financial stability. It also reflects the operational or regulatory role that central banks play, for instance with respect to payment and settlement systems or bank supervision.

In fact, many central banks invest considerable resources in statistical activities;, including data collection, compilation, analysis and dissemination. Moreover, they are significantly involved in methodological issues in domestic and international fora to ensure production of reliable and relevant data for monetary and regulatory purposes. These activities require substantial amount of human resources, IT, communication with data reporters/providers, and good cooperation with other statistical agencies, both at domestic and international level.

For central banks, recent emphasis has been on the selection of data collection approaches that are relatively "cost effective" and could satisfy certain requirements. Preferred approaches should be able to significantly lower the overall reporting burden on respondents without compromising too much the level of detail on data received. Moreover, such approaches also must not be difficult in actual implementation, well consistent with compilers' resource constraints and flexible enough to accommodate any future changes in user requirements (ie in terms of more demanding details, international comparability, new variables and serviceability)[2] without undermining other quality features and data accuracy.

Full reporting vs. surveys

Full reporting or census has long been recognized as the traditional method for central banks to collect economic and financial data, in particular from commercial banks. This method is widely used in areas where central banks have legal authority to demand full reporting: eg, monetary and banking statistics (banking supervision), ITRS (exchange controls). An important characteristic of the census method is that it can collect data with full coverage so

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[1] Team Executive, Data Management Department, Bank of Thailand. This article is prepared based upon discussion materials and presentations delivered during the *Irving Fisher Committee's* workshop series on "The Use of Surveys by Central Banks" held at Pune during 27–29 June 2007 (co-hosted by the SEACEN and the Reserve Bank of India), at Buenos Aires during 11–13 December 2007 (Co-hosted by CEMLA and BCRA) and at JVI, Vienna, 18–20 March 2008 (co-hosted by the Oesterreichische Nationalbank). The views expressed herein are those of the author's and not necessarily those of the Bank of Thailand.

[2] Refers to frequency and timeliness.

that the information from niche areas as well as major components are fully captured. Nevertheless, there are possible disadvantages as well; ie high reporting burden for the respondents, too costly to conduct and poor serviceability. In this regard, compilers must conduct careful cost-benefit analysis before extending or launching new full reporting exercises; while this may offer a way to collect full economic and financial data it comes with high cost to both respondents and compilers.

Meanwhile, developments such as financial innovation, globalisation, and the relaxation of foreign exchange controls and the growing role of non-banks in international financial transactions have posed particular challenges upon data collection exercises by central banks. These factors have made it more difficult and costly for central banks to collect data through full reporting, not only because there are new financial instruments to deal with but also due to the more complex nature of transactions as well as larger numbers of counterparties involved.

Over time other forms of data collection systems have become more common in Thailand, in particular the conduct of surveys. Surveys have well served as alternative to full reporting approach as they offer several potential/perceived advantages over traditional full reporting systems. For instance, surveys are more "cost effective" in that they can reduce not only reporting burdens to data providers but also resources used by compilers. Additionally the method is flexible enough to accommodate demands for more detailed and timely data by users. In fact, survey approach can also be used to capture qualitative information (e.g., inflation expectations or market outlook) and is more suitable for ad-hoc data collection exercises.

Initially, surveys were introduced for the reporting of new types of transactions or variables. Gradually, surveys soon became popular and started to overshadow full reporting systems. More recently, surveys have been used increasingly by central banks as well as by other statistical agencies such as national statistical institutes, international organizations to capture the details of more complex data pertaining to household, corporate, external, sectors as well as monetary & financial conditions including some internationally-coordinated surveys (e.g., CPIS)[3].

Basic data collection concepts: populations, frame, sample, sampling techniques

Prior to launching each data collection exercise, a compiler needs to identify the *population*, i.e., set of all elements of interest in a particular study. In some exercises where overall population might not be fully available a *target population* must be identified to work with. Sometimes, the term *frame* is referred to as empirical equivalent of the target population.[4] More importantly, compiler also need to explicitly identify about which units qualify as data providers under each data collection exercise, the size of the population or frame to work with, the homogeneity or difference of data across different groups and how to maintain the dynamic frame over time as well as frequency of update.

Under traditional full reporting or census framework, all units are fully covered. But with survey approaches, only a subset of the population or frame is actually observed, and it is referred to as *sample*. *Sampling* is the technique used for a subset of the population to

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[3] *Coordinated Portfolio Investment Survey* (CPIS) organized by the *International Monetary Fund* (IMF).

[4] For example: Population can be the business sector of the economy. Target population in this case would correspond to non-financial corporations (excluding self-employed and non-incorporated entities) while Frame would include the list of enterprises with contact and classification information in the business register.

represent the whole population while *survey* simply means collection of data from a representative sample to infer developments in whole frame/population.

Different forms of surveys exist and can be distinguished according to the sampling technique selected for a particular survey. The choice of sampling techniques depends on various factors such as nature of data collected, frequency, difficulty in actual implementation, number of qualified reporters, resource constraints to both providers and compilers etc. There are two different classes of sampling techniques; namely, *non-probability sampling techniques* (or *non-random sampling*) and *probability sampling techniques (random sampling)*.

With probability sampling, sample is selected in such a way that each unit in frame has a known "chance" (or probability) of being selected. There are several types of probability or random sampling: (i) *simple random sampling* (where each member of the population has an equal chance of being included in the sample)[5], (ii) *systematic random sampling* (similar to simple random sampling but lists of the population elements are in a purely random ordering and systematic selection rule can be applied after random starting point)[6], (iii) stratified *random sampling* (group similar or "homogenous" units into same partition or *"strata"*)[7], (iv) *cluster random sampling* (group elements with mutual relationship into small clusters)[8] and, (v) *multi-stage sampling* (combine several stratified or cluster samplings in one survey).

Unlike random sampling approach, non-probability sampling places more emphasis on various factors such as convenience during implementation, personal judgment of surveyors, or sometimes with no attempt to achieve representativeness of sample to the population. Common non-probability sampling techniques are (i) *accidental selection* (or *convenience sampling*)[9], (ii) *judgmental sampling*[10], (iii) *quota selection*[11], and (iv) *Cut-off tail sampling (CoT)*: a technique widely used in enterprise surveys in the case where distributions are highly skewed.

Cut-off tail sampling technique (CoT)

This non-random sampling technique is well worth receiving special attention due to its important role as popular choice for many central banks to handle enterprise and other financial sector surveys. Cut-off tail sampling technique (CoT) is derived from census or full report but with a different objective: it is designed to alleviate reporting burden of small/marginal respondents in the case where distribution of respondents is highly skewed,

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5 For instance, consumer and business survey.

6 For instance, consumer or enterprise survey with name listed in certain orders (i.e., ranked by capital values or in alphabetical order).

7 This technique is popular as it takes into account geographical location/income category in household surveys or sectors in business surveys.

8 The technique is mainly used in households surveys and other demographic exercises.

9 Under convenience sampling, sample is identified primarily on the basis of its relative ease of access or convenience; for example, consultants surveying market developments.

10 Under this technique, survey conductor most knowledgeable on the subject of the study selects elements of the population that he/she feels are most representative of the population. Used primarily when there is a limited number of people that have expertise in the area being researched. For example: survey conductor samples 3–4 parliamentarians, judging them as reflecting the general opinion of the parliament.

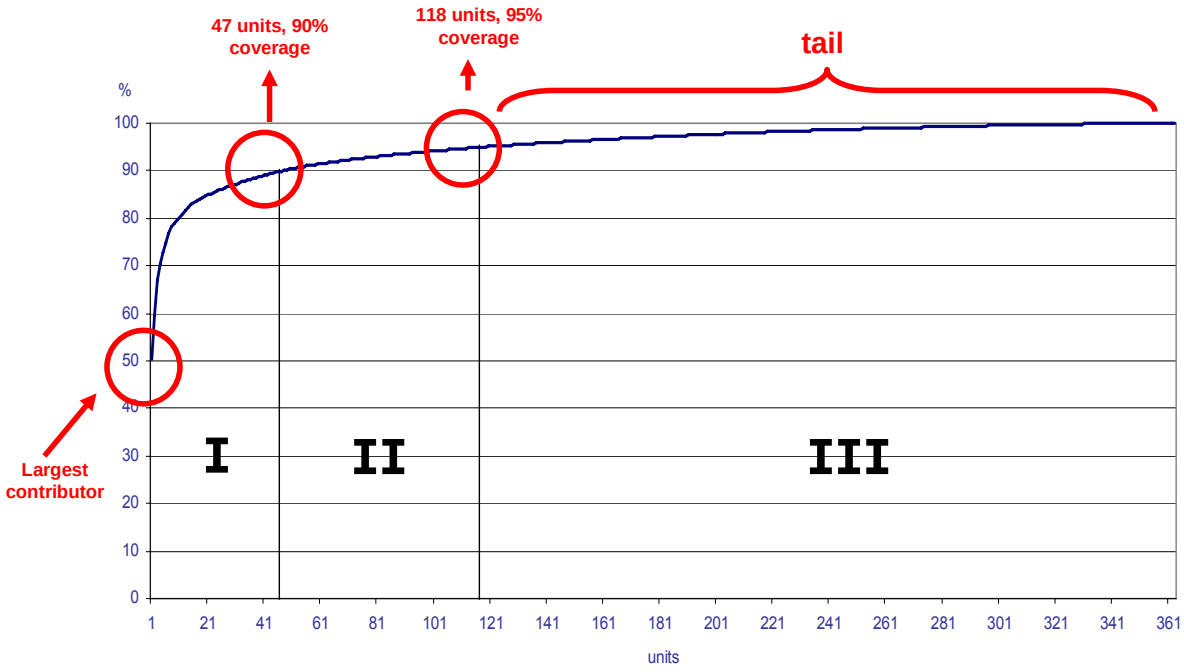
11 With Quota selection, first, frame will be segmented into mutually exclusive sub-groups (as in stratified random sampling). Then use judgment to select subjects from each group based on specified proportion.

e.g., few large units with highest relevance and significant number of small units of marginal importance. There are two types of CoT; namely, cutting off certain *sub-set of frame/population* and cutting off below certain value or *threshold*.

CoT offers central banks an interesting alternative due to its cost-effective design while reporting burdens only fall upon subset of overall respondents (e.g., largest institutions/contributors) and if compilers are endowed with sufficient resources, such CoT exercise can be repeated at a higher frequency and at considerably lower cost as compared to full reports. Nevertheless, some disadvantages of this method can also be seen: as a portion of frame is left out from observation, some *bias* is inevitably introduced in the survey results. A precise and constantly-updated register of frame and cumulative distribution of all units (occasionally through census) are required in order for compilers to "gross up" the survey results to achieve the "least bias" population estimate.[12]

Chart 1

Cumulative distribution of responses



Under CoT, each responses are ranked first according to their relevance or contribution. Then, units can be stratified into stratum. A survey sample design can be something like this: (1) all units in strata I be selected with 100% probability and included in every survey periods, (ii) units in strata II can be selected via a random sampling technique and (iii) units in strata III or the "tail" can be fully omitted (i.e., below certain threshold value or % coverage) or selected via a random sampling technique.

[12] See Chart 1.

Table 1

Data collection techniques: a summary comparison

	Census	Cut-off-tail sampling	Random sampling
Objective	cover the whole survey frame or population	representativeness of the population and the aggregate	representativeness of the population (and, in some exercises, the aggregate)
Reporting burden	full	alleviate burden on small respondents	keep overall respondent burden to a minimum
Unit selection criteria	all	size of reporter/size of total population (i.e., thresholds are applied)	sampling technique depending on type of exercise
Cost-effectiveness	overall costs may be high	cheaper, more convenient than census	cheaper, more convenient than census
Serviceability	difficult and costly	more flexible and easier than census	more flexible and easier than census
Fairness of burden distribution	all units must report	burden only on major contributors	burden on surveyed units
Overall reporting burden to respondents	maximum	depends on number of respondents relative to population	depends on sample size relative to population

Conclusion and issues with surveys

In recent years, it is quite evident that more and more statistical agencies, including central banks, seem to moving toward non-census data collection approaches. Full census reveals several disadvantages such as high reporting burden to respondents, costly to compiler and poor serviceability while survey approach can offer several advantages over traditional full reporting systems. For instance, surveys are more "cost effective" in that they can reduce reporting burdens to data providers while the method is flexible enough to accommodate demands for more detailed and timely data.[13] Surveys can also be used to capture qualitative as well as ad-hoc data collection exercises.

Despite this trend towards the use of surveys, there are certain concerns regarding conducting survey exercises from all related parties as well. From survey respondent's perspective, issues of sensitivity of information requested has come on top of the list and this discourages the providers to cooperate significantly. The respondents also complain about complexity of the questionnaire,[14] reporting burden, insufficient time to complete survey form (especially for regular and high-frequency surveys) and resource constraints.

Compilers who conduct survey exercises also find that sometimes survey implementation become very difficult as there is a lack of incentives for respondents to cooperate with survey

[13] See Table 1.

[14] For example, Foreign Direct investment Survey, Survey on International Investment Position , Financial Derivatives Survey and Corporate Balance Sheet Survey.

and hence may lead to a poor response rate. Central bank compilers also found that staff turnover at responding institutions leads to inconsistency of survey results (for regular surveys). In some countries, central banks are not empowered with proper legal mandate to collect information through survey and poor response rates have become a major concern. In fact, there are some initiatives to conduct surveys in conjunction with other compiling agencies which have regulatory authority to enforce data providers to report, eg the national statistical offices, the tourism authorities etc.

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Surveys conducted by Reserve Bank of India

C.L. Agarwal[1]

Summary

A large volume of primary data (mostly on financial variables) are collected by Reserve Bank of India (RBI) at various intervals (i.e. daily, weekly, fortnightly, monthly, quarterly, yearly, etc.) through its various departments for its own use and for the use of Government and public. Though a lot of data are collected under various statutory provisions, a large quantum of information is also collected on voluntary basis through various surveys. Some of these surveys are conducted using purposive samples and several others are conducted using scientifically selected samples. These scientifically planned surveys are mostly conducted by the Survey Division of the Department of Statistics and Information Management (DSIM).

Surveys conducted by the Survey Division of DSIM are considered for this paper. These surveys are country level large scale sample surveys mostly using scientific sample designs for selecting the samples and cover the following subjects.

1. Debt and Investment Surveys.
2. Survey of Ownership of Capital of Joint Stock Companies.
3. Small Scale Industrial Surveys.
4. Survey of Traders and Transport Operators.
5. Survey of Small Borrowal Accounts.
6. Survey of FCNR and NRER Accounts.
7. Industrial Outlook Surveys.

These seven types of surveys are examined in detail beginning with its first survey and surveys of each type are described in separate sections of this paper. The survey details comprise (1) Objective of the survey; (2) Scope and Coverage; (3) Reference Period; (4) Sample Design and Estimation Procedure; (5) Schedules/Questionnaires; (6) Field Work and Response and (7) Reports and Statistical tables published. A summary of these surveys is given in the following paragraphs.

1. Debt and investment surveys

The Reserve Bank of India's responsibility in rural finance has been occasioned by the predominantly agricultural basis of the Indian economy and the urgent need to expand and coordinate the credit facilities available to the Agricultural Sector. Therefore the Agricultural Credit Department (ACD) was organized in Reserve Bank of India (RBI) simultaneously with its establishment in April 1935.

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[1] Director DSIM, RBI Mumbai. The views expressed herein are those of the author's and not necessarily those of the RBI.

The initial task of ACD was to make a study of the problems of agricultural credit in the country. The results of the study were embodied in two reports submitted by the Bank to the Government of India. According to the reports, almost the entire finance required by the agriculturalists in India was supplied by moneylenders, the part played by the co-operative and other institutional agencies being negligible.

Accordingly, the Bank advised State Governments in 1943 to conduct scientific enquiries into the problems of rural indebtedness. Subsequently, in 1944, the Government of India also made similar recommendations to the States. As a result, many committees were set up to study the problems.

In 1951, the Bank convened an informal conference on Rural Finance. Eminent economists, co-operators and state authorities participated in this conference. It underlined the inadequacy of factual information on credit needs, borrowing practices and other economic characteristics of rural families and recommended that the Reserve Bank should undertake a comprehensive enquiry to meet this information gap and suggest suitable measures in effecting structural reforms in rural credit. The Bank, in pursuance of these recommendations, decided to conduct an all-India level enquiry on rural credit and appointed a small Committee of Direction for this purpose.

Under the guidance of the high level Committee of Direction, a country-wide sample survey was conducted by Reserve Bank during 1951–52. Based on this survey data and other information, the Committee of Direction made a number of recommendations to improve the rural credit system. The Committee also recommended that the main features of the credit situations in the rural sector should be periodically reviewed through annual investigations of moderate scope and at a longer interval, say 10 years, an elaborate country-wide survey may be undertaken. The main responsibility of these investigations should vest in the Reserve Bank.

In pursuance to these recommendations of Committee of Direction, several annual follow-up surveys (i.e. annual surveys during 1957–58, 1958–59, 1959–60, 1960–61, 1962–63, 1963–64, 1964–65, 1965–66, 1966–67, 1967–68, 1968–69) and five decennial All India level surveys on debt and investment position of households (i.e. AIRCS, 1951–52; AIRDIS, 1961–62; AIDIS, 1971–72; AIDIS, 1981–82; AIDIS, 1991–92 and AIDIS, 2002–03) are already completed. All these surveys are described in this paper.

2. Survey of ownership of capital of joint stock companies

The Reserve Bank of India publishes, in its monthly Bulletin, various aspects of the working of Joint Stock Companies, viz., income and expenditure account, assets and liabilities, and sources and uses of funds. The data on capital raised by the non-government and government companies, published by the RBI in its annual publications relate only to the total capital raised during a year in the form of share capital and debenture capital. An important aspect of the capital is its ownership, i.e., the source sector from which the capital received by the companies. No data were published regularly on this aspect. The ownership details are important from the view point of investors, particularly of household sector which lends its surplus resources to deficit and needy sectors. Details of investment in corporate shares can, however, be obtained from their annual accounts, whereas no such published data on household sector are available.

Estimates of savings of the household sector in the form of shares and debentures of private corporate business sector comprising non-government non-financial companies, is estimated indirectly, as a residual, by deducting from the total capital raised, the investment of various institutions, like banks, mutual funds and other financial institutions, co-operative credit societies, etc. The household sector's share, thus derived, is subject to the limitations inherent in the data taken from other sectors' accounts. If these ownership details are taken

from original source, viz., corporate entities themselves, such limitations of data could be minimum. Therefore, it was thought that a study on pattern of ownership of corporate shares would be useful as it throws light on the pattern of flow of funds into corporate sector through shares and debentures from various economic units.

The first attempt at conducting a "survey of ownership of shares of joint stock companies and government securities" was made towards the close of 1954 by the Reserve Bank of India. The assessment records for the year 1952–53 of the Income-tax Department (Government of India), Bombay city, constituted the basic material for this enquiry. This was only a pilot enquiry for estimating the ownership of shares and securities and not to make any precise estimate.

The first systematic and scientific sample survey on the ownership of shares of joint stock companies was conducted by the RBI with end-December 1959 as the reference date. The survey covered 70 manufacturing non-government public limited companies (comprising 56 old companies incorporated prior to January 1956 and 14 new companies which were incorporated during the four years ending December 1959), each with paid-up capital of Rs.1 crore and above. The information collected in the survey related only to ordinary shares. The results of this survey were published in May 1962 issue of the RBI Bulletin.

The second survey, with end-December 1965 as reference period, covered 189 public limited companies listed with stock exchange. A sample of 200 companies was initially selected on the basis of stratified random sampling from different size classes of paid-up capital. While the first survey was restricted only to industrial companies this survey also covered the companies engaged in trade, banking, insurance and finance activities.

The third survey, with end-December 1978 as reference period, covered 361 public limited companies listed on the stock exchanges. The scope of the survey was similar to the second survey. A sample of 400 public limited companies was selected based on two-stage stratified sampling. The single schedule of the previous surveys was modified into two schedules. The 361 companies accounted for 50.8 per cent of the paid-up capital of all listed companies. The companies were grouped into "old" and "new" companies where the latter were the companies which raised capital through public issue for the first time during the four year period preceding the reference date of the survey. The results of the survey were published in February 1983 issue of the RBI Bulletin. The fourth survey in the series of such surveys was conducted by RBI with end March 1995 as the reference date. It is described in some detail in this paper.

3. Survey of small scale industrial units – 1977

The rural credit surveys, over a period of time, led to the evolution of a hierarchy of rural credit institutions and organized credit structure which played a very active role in the development and diversification of agriculture, storage, processing and marketing etc. To evolve a concrete credit policy in regard to other priority sectors, viz. small scale industries, there were no reliable statistics on many key characteristics of small scale industries such as investment, finance, production and sales etc.

In 1972, then Secretary, Planning Commission, suggested that in order to encourage and regulate the growth of the small scale sector industries through policies, such as reservation of industries, offer of incentives etc. a comprehensive survey of small scale industrial units is required to assess the structure of small industries. At the instance of the Planning Commission, the Reserve Bank of India, in collaboration with the financing banks, organized a country-wide sample survey of the assisted small scale industrial sector during 1977–78.

The main object of the survey was to yield estimates of the important economic magnitudes such as capital structure, investment expenditure, sources and uses of funds, value of

output, pattern of sales etc. in respect of small industries financed by banks, for important industry groups at all India level as well as for major states. It was also proposed to collect qualitative information on various aspects pertaining to the management and performance of the assisted units as also the customer service rendered by the financing banks.

All the small scale industrial units assisted by the commercial banks all over the country and coming within the purview of the Credit Guarantee Scheme were included in the scope and coverage of the survey. For this purpose a small scale industrial unit was defined as an industrial unit with an original investment not exceeding Rs.10 lakhs in plant and machinery. For ancillary units this limit was Rs.15 lakhs.

The reference period for the survey was the accounting year ended during April 1976 to March 1977. In respect of units which did not adopt any particular accounting year, the reference period was the year ended March 1977.

An overall sample of about 15,000 assisted units was decided upon for investigation in the survey. The units were selected through a two stage stratified random sampling procedure. A sample of the financing bank branches was selected in the first stage and the sample of ultimate units (i.e. SSIs) selected in the second stage from the SSI units financed by a selected bank branch.

The first stage units (i.e. the financing bank branches) within each state were stratified by Bank Group (viz., (1) State Bank and Associates, (2) Other Nationalised Banks and (3) Other scheduled commercial banks) and District Type (i.e., whether located in industrially backward districts or otherwise. The requisite number of branches were selected within each stratum with probability proportional to the assistance to the small scale industrial units as at the end of June 1975. In all, a total of 869 bank branches were selected in the sample.

In respect of each of the branches selected in the above manner all the assisted units were stratified according to the credit limit sanctioned. Within each credit limit stratum, the units were further arranged by industry type on the basis of the information available at the branch level and the requisite number of industrial units selected separately from each credit limit stratum by the method of linear systematic sampling using appropriate sampling fractions.

4. Survey of traders and transport operators, 1979–80

The Survey of Traders and Transport Operators conducted by the Reserve Bank during 1979–80 was second in the series of periodic sample surveys organized by the RBI to collect information on various organizational, financial and operational aspects of the units in the priority sectors which were of particular use in the formulation of appropriate policies in financing the priority sectors. The first in this series was the Survey of Small Scale Industrial Units conducted during the year 1977–78.

The objective of the survey was to yield estimates of important economic magnitudes such as capital structure, investment expenditure, sources and uses of funds, purchases and sales, income and expenditure, employment, value added etc. in respect of three populations viz., (1) Retail Traders, (2) Wholesale Traders and (3) Transport Operators. Information of a qualitative nature on various aspects of the management and performance of the assisted units as also the customer service rendered by banks, was also collected during the course of the survey.

The scope of the survey was restricted to only those traders and transport operators which were assisted by commercial banks. The public sector undertakings were excluded from the scope of the survey. All commercial bank branches in the country were covered in this survey.

The reference period for the survey was the accounting year ended during the one year period preceding the month of investigation. However, the reference period for some of the items (eg., purchases and sales of traders and gross earnings of transport operators) was the year July 1978 to June 1979.

The sample of units for investigation was selected through a two stage stratified random sampling procedure. A sample of the financing bank branches was selected in the first stage. The separate samples for each of the three occupations viz., retail traders, wholesale traders and transport operators were selected at the second stage within each of the selected first stage units.

All financing bank branches within each State and Union Territory were first classified under 3 broad bank groups. The branches under each of the above categories were further stratified by the size of the population of the place of location. The branches in a stratum were further classified by the size of the branch in terms of the number of assisted units under the three occupations. A total of 1,453 branches were selected in all ensuring proportionately larger weight to the bigger branches.

In each of the selected sample branches, the samples of second stage units (i.e. traders and transport operators) were selected separately for the three occupations (i.e. retail traders, wholesale traders and transport operators) after stratifying the units into two size classes according to the credit limit and ensuring proportionately greater representation to the bigger units. Before selection, the units were further arranged by commodity classification in respect of traders and category of transport for transport operators. The samples of units were selected by linear systematic sampling scheme.

5. Survey of small borrowal accounts

In the system of Basic Statistical Returns (BSR) on banking statistics, data on various aspects of borrowal accounts are collected through BSR-1 return comprising two parts: Part A and Part B. The detailed account-wise data on borrowal accounts, each with above a pre-determined cut-off point of credit limit (which was Rs. 10,000 upto June 1983, Rs. 25,000 up to March 1998 and Rs. 2 lakh since March,1999; however, for RRBs, this limit of Rs. 2 lakh was applicable from March 2002) are collected in Part-A. Data in respect of accounts each with equal to or less than the cut-off point (referred to as Small Borrowal Accounts) are collected broad occupation wise in a consolidated form through Part-B of BSR-1 return. These small borrowal accounts are predominant in number comprising more than 90 per cent of all accounts, though their share is relatively low accounting for less than one-forth of the total outstanding credit.

Though the share of small borrowal accounts in total credit is small, they are significant in specified sectors such as agriculture, retail trade, services and personal loans. With the increasing attention being given to the “weaker” sections among such categories of borrowers, the need to have a broad idea about the structure and profile of such accounts was keenly felt.

The first survey on Small Borrowal Accounts was undertaken in 1979 with the main objective of providing some insight into the distributional aspects of the aggregate credit magnitudes of these accounts. It was felt that the enquiry could also give some idea of the rate of interest charged on the small borrowers with further break-ups according to occupation and size of credit limit. As the collection of data in respect of all small accounts would have involved heavy workload, it was decided to conduct the enquiry on a sample basis. The second, third, fourth and fifth surveys on this subject were conducted in 1993, 1997, 2001, 2004 and 2006 respectively. All these surveys are described in this paper.

6. Survey of foreign currency non-resident (FCNR) and non-resident external rupee (NRER) accounts

As a result of the revision of the interest rates on the FCNR and NRER deposits from time to time, there was a substantial increase in the outstanding balances in these accounts. The balances in the accounts were freely repatriable in foreign currencies by the authorized dealers. The repayment obligations on account of repatriation of amounts standing to the credit of the non-resident accounts were reflected in the country's balance of payments accounts. The maturity-wise details of these FCNR and NRER deposit accounts facilitated compilation of liabilities to be met in future at different points of time and thus constituted an input in the formulation of foreign exchange budgets. The periodical return on FCNR/NRER deposits submitted by authorized dealers to the Reserve Bank of India provided only broad aggregates on the fund flows and hence were not amenable to statistical analysis.

Therefore, a sample survey on FCNR and NRER deposit accounts was conducted to obtain detailed information on the maturity pattern and the sensitivity of these deposits to changes in interest rates. The first survey had a 3-year reference period covering accounts opened during July 1985 to June 1988.

In view of the relevance and importance of these results for policy formulation purposes, a repeat survey of such deposits opened during July 1988 to June 1991 was conducted in November 1991, with a view to build up, inter alia, similar estimates for the period July 1988 to June 1991. Both the surveys were conducted adopting the mail questionnaire.

7. Industrial outlook surveys

The Business Expectations or Business Tendency Surveys are the important means of generating timely information on short-term economic developments. These surveys collect information from Business Managers on their assessment of the current economic situation and their perceptions and intentions for the near future (say, quarter or so). These surveys usually ask for qualitative information on assessment and perceptions of the units on their business. The questionnaire is designed in such a way so that it can be filled-in by the respondents easily and quickly. These surveys cover a number of variables selected for their ability to monitor business cycle and include information on variables which are not covered by quantitative surveys.

RBI initiated first survey in 1998 and collected the data on output, capacity utilization, order book outstanding and inventory holding from the industrial units. The quantitative data and quarterly growth rates on these variables were collected for the quarter ended December 1997 and expectations for the January–March 1998 quarter. In the first two rounds of the survey, public limited companies in the private sector and industry associations/chambers of commerce were addressed to get required information from the point of view of demand for credit. However, the schedule canvassed with industry associations/chambers of commerce was discontinued from the third round onwards. On the supply side, the branches of scheduled commercial banks were addressed, however, it was also discontinued from Round 16. So far, 43 quarterly surveys are completed.

The objective of this survey is to collect the qualitative information from private corporate units in the manufacturing sector with a view to gaining insights into the performance and assessment/prospect with regard to economic and industrial environment.

The scope of the survey is restricted to obtain only qualitative information on 17 variables, i.e. (1) overall business situation, (2) overall financial situation, (3) working capital finance requirement, (4) availability of finance, (5) production, (6) order books, (7) inventory of raw materials, (8) inventory of finished goods, (9) capacity utilization, (10) level of capacity

utilization, (11) assessment of the production capacity with regard to expected demand in next six months, (12) employment, (13) exports, (14) imports, (15) selling prices, (16) rate of increase in selling prices and (17) profit margins. In addition, qualitative questions on production constraints are also asked.

The schedules canvassed with the companies collect the qualitative assessment/expectations with regard to overall business situation, financial situation, output, order books, inventories, capacity utilization, selling prices and profitability for the current and the next quarter.

The schedule design has been modified time to time and the revised schedule canvassed with the companies now contains only qualitative questions on 17 parameters on the lines of international practices. These seek assessment for the current (on-going) quarter and perceptions for the next quarter, on a 3-point scale (generally, Improve/No change/Worsen), compared to the respective previous quarter.

The fieldwork and necessary follow-up is outsourced and carried out by private market research agencies. The agencies, generally follow, both “mail enquiry” and “interview” methods. The target respondents are senior management personnel, from finance department of the companies. The response rate is around 30 to 40 per cent per cent. The low response from the companies may be attributed to the facts that the return is not mandatory in nature. An index, termed as “Business Expectations Index” is also developed based on the qualitative data reported by the companies The results of the survey are used by the top management of the Bank for policy purposes.

Session 2

Surveys of consumers/households

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Country presentations:	
Pune	Results of inflation expectations survey of households S.N.S. Tyagi, Reserve Bank of India
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	National Labor Force Survey (NLFS) Dafne Vales, Central Bank of the Dominican Republic
Vienna	Consumer Confidence Survey in Armenia Martin Galstyan and Vahe Movsisyan, Central Bank of Armenia
	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 Wagner, Austrian National Bank

Background note on surveys of households

Kerry Wood and Paul Van den Bergh[1]

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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[1] Monetary and Economic Department of the Bank for International Settlements.

- *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 then 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

Ernesto Villanueva[1, 2]

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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1 DG Economics, Research and Statistics, Banco de España.

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 implicates 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]

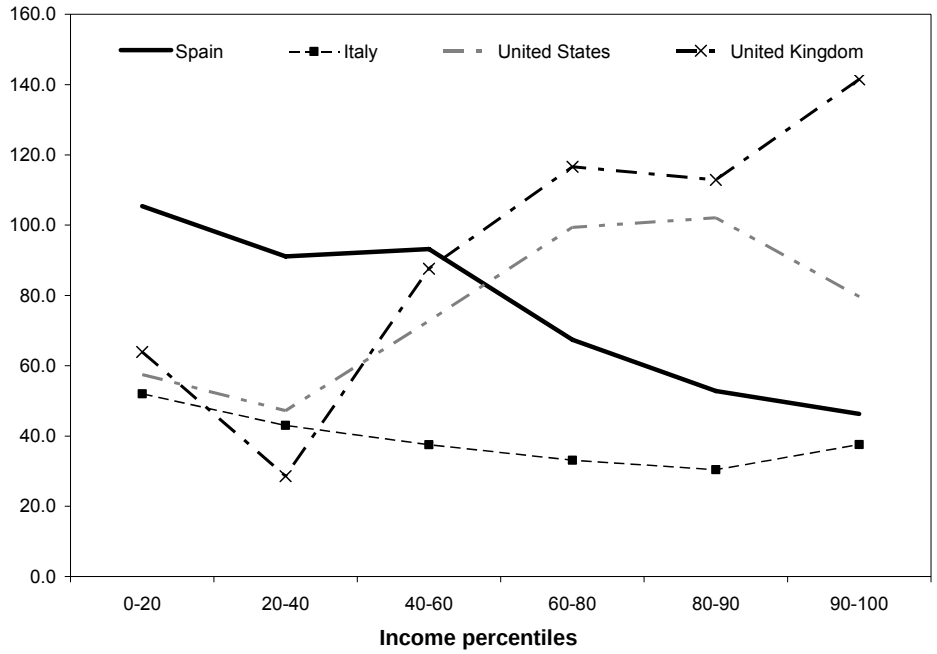
[1] Mortgage debt. [2] Non-mortgage debt.

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

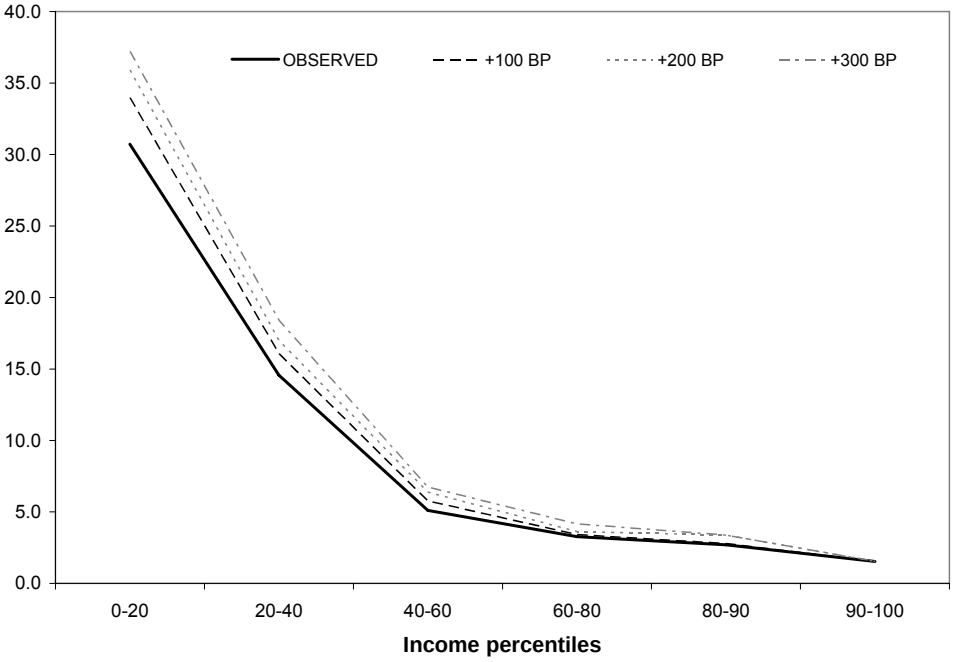
By country and income percentile



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. Tyagi[1]

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	Quarterly	Opinion of around 2000 households
		European Commission	Monthly	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 Re-search of Sweden	[1]	Monthly	Randomly selected 1500 households
		[1]	Monthly	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 1year										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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Survey on workers' remittances

Enrique Montes[1]

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

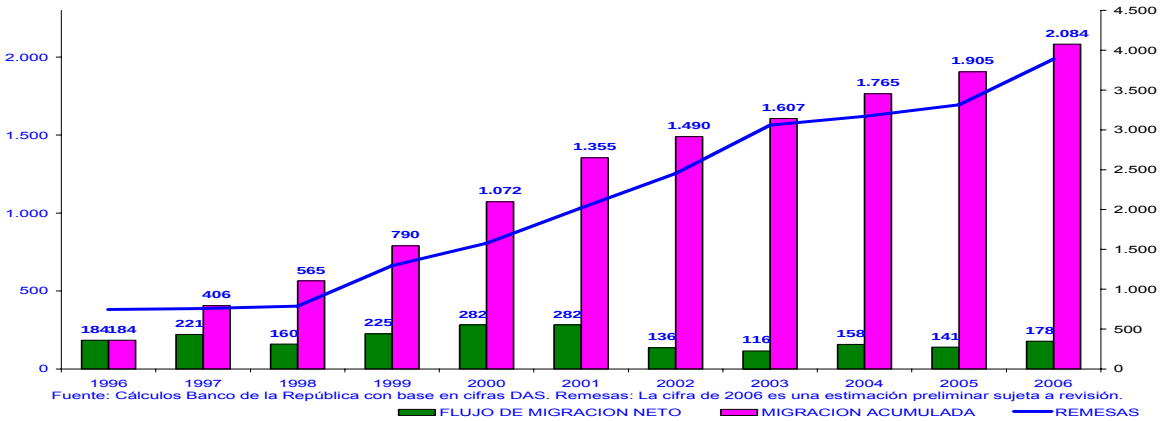
Migration and remittances in Colombia. The migration flow of Colombians into industrialized countries and the importance of the external resources in the form of remittances from workers are typical issues in developing economies. For the Colombian case, migration has presented high growth rates since 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 Venezuelean remittances ranged from US$267 and US$300 (Table 2).

Table 2

Remittances originate principally countries

Remittances by country of origin, first half of 2007[1]
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 2007[2]
USD/Remittance

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

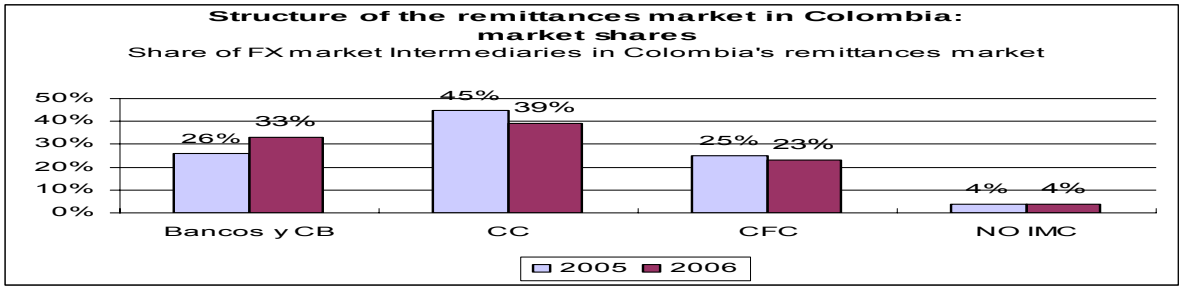
[1] Preliminary data. [2] Value of remittances divided by number of transactions.

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%**

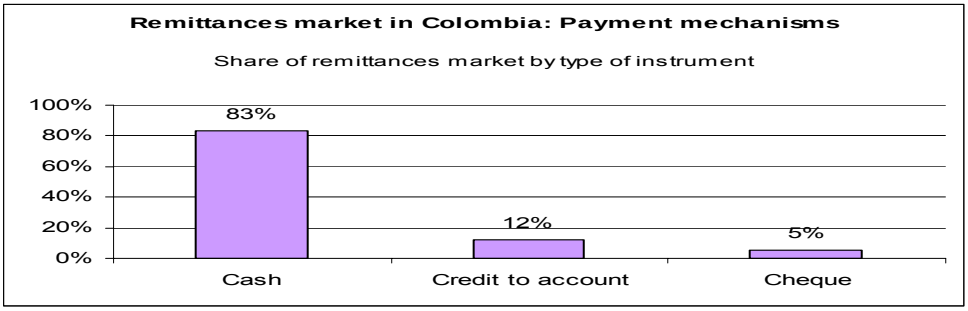
1/ As reported by FX market intermediaries. 2/ Annual average margin.

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 Vales[1]

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

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[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 Interme-diation 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 Interme-diation 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 Interme-diation 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 Galstyan[1] and Vahe Movsisyan[2]

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

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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.

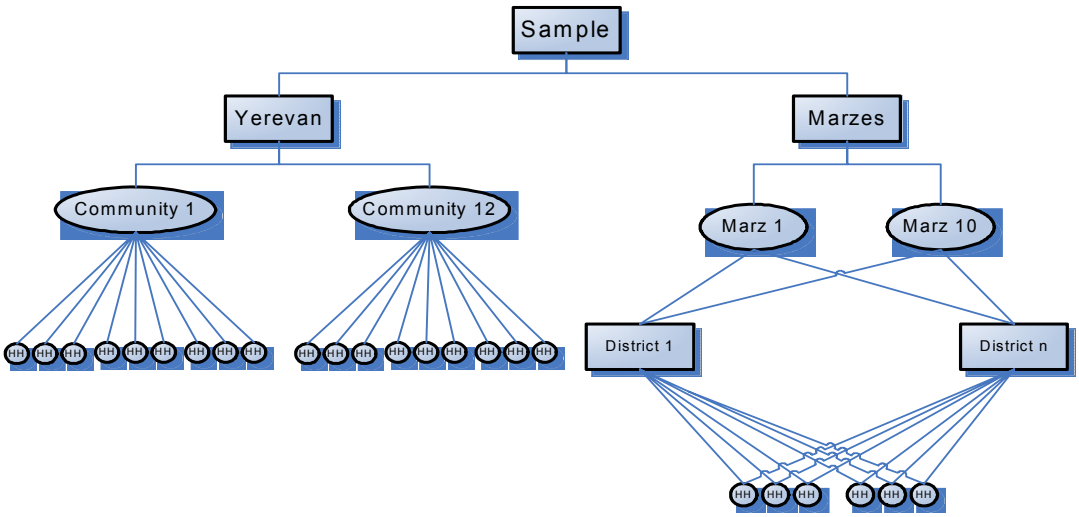
Sample design. The survey sample size is approximately 1700–2000. The sampling of survey has stratified one stage simple random sample design without replacement:

The whole universe was divided into administrative sub-divisions, called stratums. Yerevan is devided 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:

Stratification of the population



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:

$$Bcc = \frac{1}{3}\left("Q1.2+" + \frac{1}{2}\{"Q1.1-";"Q1.2-"\} + "Q2+" + \frac{1}{2}"Q2=" + "Q3+" + \frac{1}{2}"Q3="\right)$$

$$Bfc = \frac{1}{3}\left("Q4.2+" + \frac{1}{2}\{"Q4.1-";"Q4.2-"\} + "Q5+" + \frac{1}{2}"Q5=" + "Q6+" + \frac{1}{2}"Q6="\right)$$

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

Step 2: Balance of Consumer Confidence (BCC)

BCC=1/2(Bcc+Bfc)

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

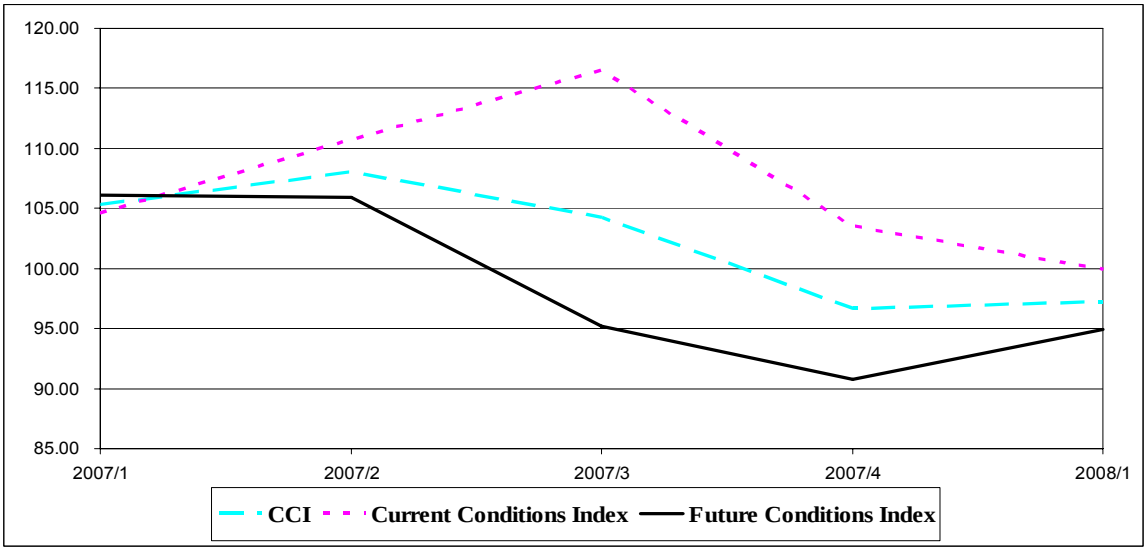
$$CCI = \frac{BCC_1}{BCC_0} \cdot 100\%$$

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 Wagner[1]

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, bons, 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.

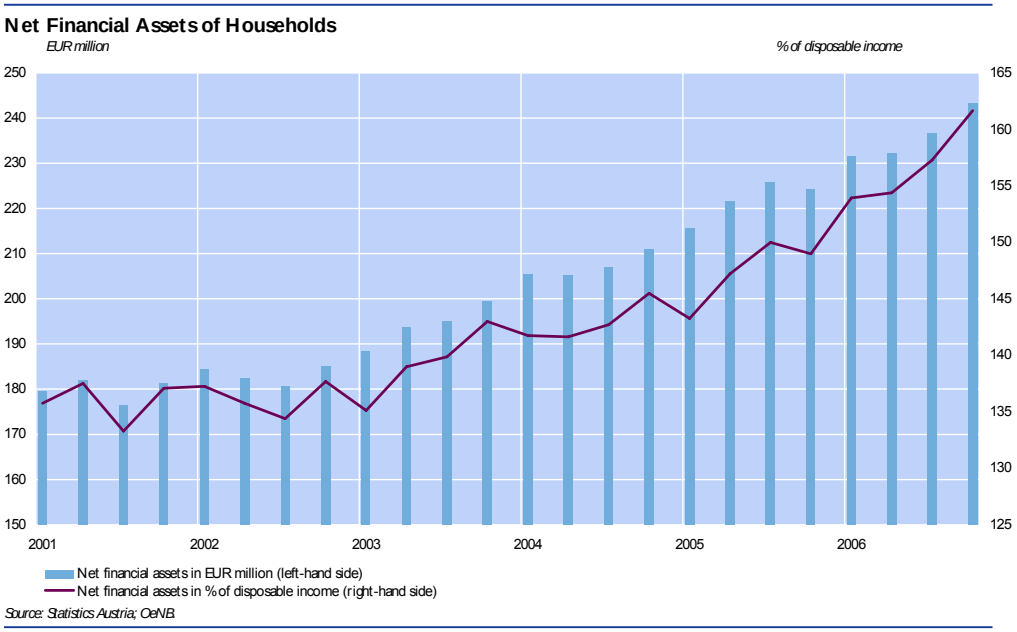
As *participation* in the OeNB Survey on Financial Household Wealth was *voluntary* and wealth-related questions appear to touch upon sensitive issues (especially in the case of wealthier households), it was particularly important that before the interview took place, interviewers clearly explained to 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.

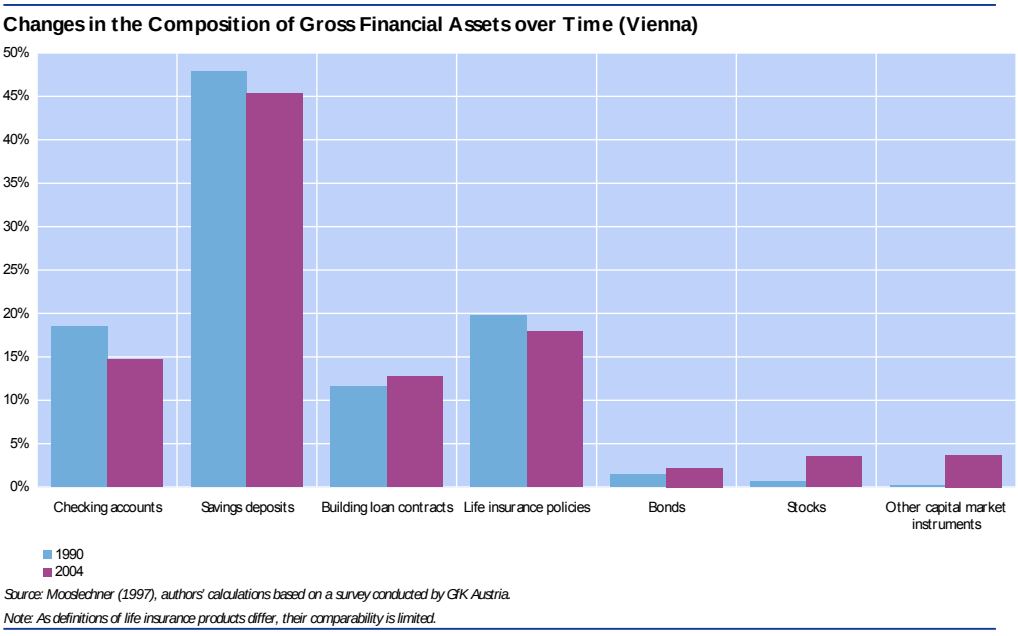
The results derived from comparing survey microdata and financial accounts macrodata are fairly similar to those derived from other countries (see Andreasch et al., 2006). In recent years, households' financial assets as captured in the financial accounts have augmented considerably.

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

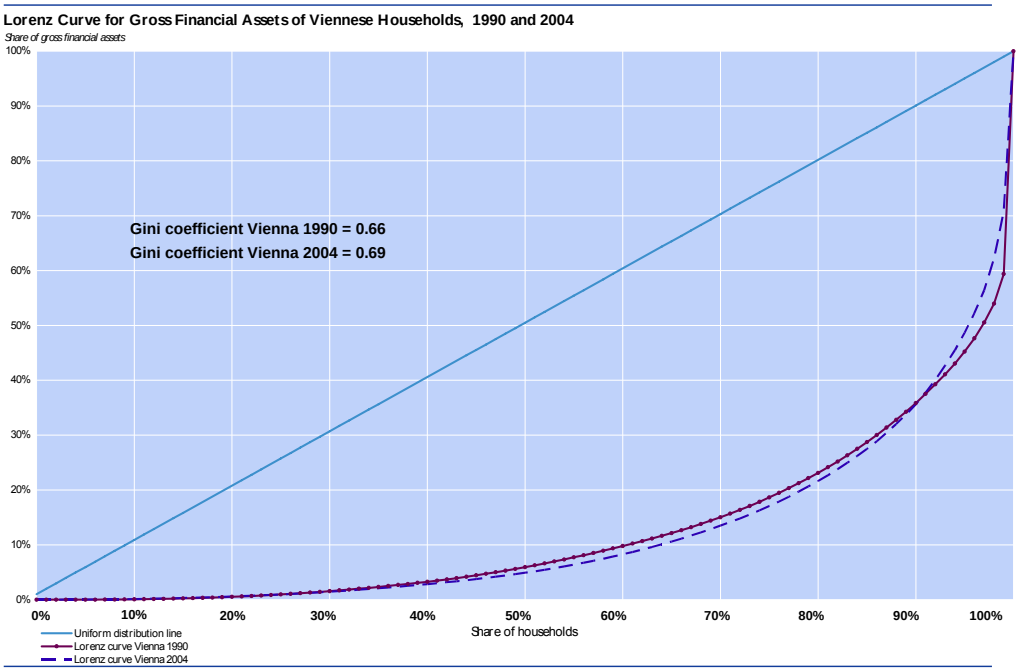
This section provides some information on the distribution of wealth in Austria on the basis of selected indicators. In this context it is important to note that the level of households' financial assets may depend on household income, income security, saving behavior, inherited assets, consumption attitudes 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 2004[3] (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
	in EUR		*in EUR*	
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

Comparision 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	
Deciles of net financial assets, in EUR								Lower bound	Upper bound
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	
Deciles of net financial assets, in EUR									Lower bound	Upper bound
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

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	
Deciles of net financial assets, in EUR									Lower bound	Upper bound
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

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	
Deciles of net financial assets, in EUR									Lower bound	Upper bound
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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Session 3

Business surveys

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Background note on surveys of the corporate sector

Tracy Chan and Paul Van den Bergh[1]

The non-financial corporate sector is one of the key sectors in a market economy. Through its accumulated capital stock and new investment it generates the production capacity of the economy, it produces the tradeable and non-tradeable goods and services demanded by the household sector and the rest of the world and offers most of the employment opportunities in the country. A good understanding of its ongoing activities as well as the expectations and sentiments of its managers is of major importance to market analysts and policy makers.

The major source of statistical information on the non-financial corporate sector comes from the national and financial accounts. National account compilers collect information from a wide range of sources, including tax declarations, business registers, industry associations, and retail sales records to estimate relevant macroeconomic data on output, employment, investment, and productivity. Additional information from financial institutions and other sources is used to shed light on the corporate sector's financial position in the framework of the financial accounts. In many countries the first estimates of the national accounts data, including for the non-financial corporate sector, are now available on a quarterly basis. A major challenge remains to produce reliable data for financial accounts, including for the corporate sector.

Even though considerable efforts are being made to improve national accounts data, in terms of coverage and timeliness, the information that is published is backward-looking. Policy makers want to have more timely data as well as indicators of business sentiment that may be driving business decisions and conditions now or in the foreseeable future. For that reason statistical agencies have developed other tools that permit a closer monitoring of the non-financial corporate sector. In many countries central banks play an important role in this: of the monetary authorities that provided background information for the preparation of the workshop, almost two-thirds carry out a survey of the corporate sector of some kind. This includes the calculation of industrial production and producer price indices, the conduct of business confidence or sentiment surveys and the collection of corporate balance-sheet data.

Industrial production (IP) indices

These indices aim to measure the real output of particular sectors of the economy, such as manufacturing, mining, energy production or construction, as well as for the industrial sector as a whole. For this, information is gathered on output measured in physical production such as tons of steel or, if such output volume measures are not directly available, on nominal measures deflated by output price indicators. At the last resort, data on inputs to the respective production processes such as hours worked or electricity consumption are used. All this makes the compilation of IP indices a relatively labour intensive exercise.

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[1] Monetary and Economic Department of the Bank for International Settlements.

The Board of Governors of the Federal Reserve System compiles a monthly index of Industrial Production and Capacity Utilization. Industrial production is measured for individual industries and for the sector as a whole using weights derived from the respective industry's contribution to total value-added output of all industries. The first estimate of output for a month is published around the middle of the following month. It incorporates around 70% of the source data. The data are revised in the subsequent months: by the fourth month 97 % of the source data have been incorporated. The Federal Reserve uses its IP index, in combination of the Survey of Plant Capacity conducted by the US Census Bureau, to estimate monthly capacity utilisation rates. The latter are used by policy makers and market analysts to identify emerging supply chain bottlenecks in the economy, to forecast investment, and to evaluate potential inflationary or deflationary pressures.

Similar statistics are produced by the central bank in Chile for a wide range of sectors: manufacturing, wholesale and retail trade, mining, construction, electricity, water and gas, communications, transport, education, fisheries and health. Similarly, in India the central bank produces a survey of inventories, order books and capacity utilisation for the entire private manufacturing corporate sector. The central bank in Thailand produces a monthly survey on manufacturing, which is used to calculate a manufacturing production index and an index of capacity utilisation. It also carries out a survey of construction activity, which contributes to the compilation of a property price index.

As with the consumer price index (CPI), very few central banks are responsible for the compilation of the producer price index. One such exception is the central bank in Mexico, which also produces the national CPI.[2] This requires it to survey every month around 3,500 firms covering all the major sectors of the economy (including services, with the exception of financial services and retail activities).

Business sentiment/confidence surveys

In many countries central banks conduct regular surveys of business sentiment or confidence. This includes the central banks of Belgium, Canada, the Czech Republic, India, Israel, Italy, New Zealand, Norway, the Philippines, Poland, Portugal, Russia, Thailand and Turkey.

Business surveys have become a valuable asset to business cycle research. They provide insight to the nature of market disequilibria and they capture the formation of expectations in the private sector. Entrepreneurial behaviour is not necessarily stable over time so that forecasts – especially short-term – can be subject to considerable uncertainty when they are based on behavioural equations estimated with historical data, which, moreover, are available after a considerable time lag and are often subject to revisions after publication.

Surveys fill in the need for more timely indicators. Indeed, business surveys provide up-to-date qualitative indicators and can be used to gain insight into the economic climate before official national account or industrial production statistics are published. Business surveys also have the advantage of being flexible. In times of strong structural changes, weights given to individual questions can be re-assigned to correspond to the individual factors in accordance to the influence they exert at the moment. There is empirical evidence that the inclusion of information from business cycle surveys can improve economic forecasts.

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[2] The central bank of the People's Republic of China also produces a wholesale price index (see pages 92–98, IFC Bulletin 19).

Business surveys are generally carried out using a similar methodology. A short list of questions is posed to representatives of the business sector which they can answer by ticking off a simple box of choices. Some questions reflect current conditions whilst others would be more forward-looking. Variables would include sales, exports, price movements, or order books. The response choices are typically "expected to increase", "expected to remain unchanged" or "expected to decrease". These qualitative survey responses are then converted into a quantitative number by various methods, the two most common ones being "net balances" and "diffusion" indices.[3] In the case of net balances, the percentage of the respondents reporting a decrease in a particular variable are subtracted from the percentage reporing an increase. For a diffusion index the percentage of respondents for each category (up, same, down) are given a particular weight, typically 1.0, 0.5, and 0.0 and summed up.[4] Net balance indices are bounded within a range of +100 and –100 (0 indicating no change) whilsts diffusion indices range between 0 to 100 (50 meaning that on balance respondents expect no change). In principle the two measures reflect the same information, though it must be noted that implicitly the diffusion index counts one-half of the no-change responses as increasing (the net balance index does not use the information in the no-change category).[5]

One of the first business surveys conducted is the manufacturing institute for supply management (ISM) report on business in the United States, which has been issued since 1931. This receives broad attention as a leading indicator of the US economy and is calculated as a diffusion index. The Bank of Japan's Tankan survey is also an internationally well-known business survey. It is a net balance index. The business surveys conducted by the central banks of the european union (EU) are part of a EU wide business survey coordinated and published by Eurostat. The OECD has worked to promote international standards detailing best practices in the development of business tendency surveys. These guidelines were set out in 2003 by the OECD in Business Tendency Surveys: A Handbook. Its website brings together various other publications on business tendency surveys.

The information collected through the use of surveys is of great value to policy makers and analysts. The qualitative responses from business representatives provide a timely indication of private sector sentiment or confidence when quantitative data are not yet available. Over time business survey methodology has been refined and improved. In many cases the questions have been adapted so that the responses can be linked to a particular macroeconomic variable (eg production, exports, and investment). Moreover the leading property value of business sentiment/confidence indices have been studied so that it is better understood how they can provide early signals of the turning points in economic activity.[6] An example is the business confidence survey conducted by the National Bank of Belgium, which has turned into a leading indicator of the euro area business cycle.

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[3] The diffusion index referred here should not be confused with the so-called Stock-Watson diffusion index which uses dynamic factor models to capture co-movements across a large number of economic time series.

[4] A finer granularity of responses can also be provided, for instance substantially higher, higher, same, lower, and substantially lower. A net balance index would then take the total of the percentages of respondents answering substantially higher and higher and subtract the total of percentages of respondents answering lower and substantially lower. A diffusion index would weigh the responses 1.0, 0.75, 0.5, 0.25, and 0.0 respectively.

[5] A net difference of 0 could mean that 25% of respondents expect an increase, 50 % no change and 25% a decrease. It could also mean that expectations are polarised, ie 50% of respondents expect an increase and 50 % expect a decrease. Finally, it could also reflect the fact that 100% expect no change.

[6] Business surveys measure expected changes in economic activity, ie they reflect the second moment in the underlying variable. For instance, in periods of increasing activity a positive net balance index would indicate an expectation of an acceleration of activity. A zero balance would indicate a continuing increase and a negative balance a deceleration of activity.

Corporate balance sheet information

Apart from industrial production and producer price indices or business surveys, a number of central banks gather regular balance sheet information on the corporate sector. This includes the central banks of Germany, Greece, India, Russia, South Africa, Spain, and Thailand.

The information collected includes assets and liabilities of non-financial corporations, gross and net profits, cash flow, retained earnings, income and expenditure, dividend payments, non-residents' share in enterprise capital, sales figures, investments and disinvestments, number of employees, external trade, debt position and debt issuance, and demand for financing. This information is useful to obtain a picture of evolving trends in the financial position of the corporate sector. It also serves as input for the compilation of national and financial accounts, in particular to improve its frequency and timeliness (eg quarterly financial accounts). Finally, it is a complement to information available from other sources, such as bank lending surveys, on monetary and financial conditions in the economy.

Issues for discussion

1. Why are central banks involved in the compilation of industrial production, capacity utilisation and producer price indices? Do they have a comparative advantage over other national statistical agencies?
2. What caveats should be kept in mind when interpreting balance or diffusion indices of qualitative survey responses. Can meaning be attributed to the absolute level or change in the numbers?[7]
3. The quality and meaningfulness of business survey results depends on the voluntary collaboration of participants. Is the response rate taken into account when evaluating survey results?
4. Results from qualitative surveys can be obtained quickly and can be easily summarised. Are there additional areas in which these indices can potentially be used?
5. A number of central banks operate credit registers or corporate balance-sheet repositories. How is that providing them with information to monitor the financial position of the corporate sector? What is the value of corporate balance-sheet repositories in the countries where they are not kept by the central bank?

[7] On April 3, 2007 the Financial Times quoted the results of a recent Tankan survey by noting that "the diffusion index for big manufacturers, which subtracts pessimists from optimists, fell to 23 from 25 in the October to December period". At a meeting of senior central bank officials organised by the BIS in January 2007 the question was raised what the statistical properties are of the "up-and-down indices" of business sentiment.

Use and usefulness of business survey data – the National Bank of Belgium's case

Luc Dresse[1]

1. Why survey the non-financial corporate sector?

In many fields of the economic life, making good decisions depends crucially upon the availability of relevant information about the non financial corporate sector. At the firm level, additional investment or employment, as well as credit extended by the financial sector, are conditional on market demand and profitability prospects. At the macro level, economic and monetary policy decisions need to take account of the structural and conjunctural developments faced by the corporate sector. The national and financial accounts constitute a major source of information in that respect. Set according to well defined conventions, based on rich administrative and other quantitative statistics, they provide a comprehensive and consistent picture for all sectors of the economy in general, and for the various branches of the corporate sector in particular.

However, survey results are increasingly used to complement the official statistics. Specific surveys have been developed by private companies, by statistical bodies, and also by central banks, with a view to gaining knowledge on precise questions which are not captured by regular quantitative data, or to improving the timeliness of the data availability.

2. Business cycle and business surveys

Among those surveys, the so-called business sentiment or confidence surveys have a predominant position in the information set used in the monetary policy decision-making process. Obviously, a good perception, in real time, of the demand conditions prevailing in the economy is instrumental for assessing the degree of inflationary pressures. A significant number of central banks even maintain in house business surveys, as the National Bank of Belgium has done since 1954. Furthermore, a wide range of users, including individual firms, financial market participants and the general press, are interested in information on the business cycle position.

Business surveys and sentiment indicators are strange statistical animals in many respects. First, their aim is to monitor the economy's business cycle position and to capture entrepreneurs' expectations, i.e. two phenomena which cannot be directly observed and measured. Second, they are built on specific techniques, transforming simple qualitative answers by respondents into well behaved quantitative time series, the synthetic business indicators. Ultimately, those synthetic indicators have proved capable of providing useful information, suiting the needs of a wide range of users.

Following the Burns and Mitchell definition, business cycle movements are usually understood as "a type of fluctuation found in many economic variables". The fluctuations considered in this context are typically supposed to range between 1.5 and 8 years, that is excluding short-term volatility as well as long-term movements. Although complicated statistical approaches or pure expert judgment may be applied to extract the business cycle fluctuations from the data, it is common practice to use year-on-year GDP growth as a proxy.

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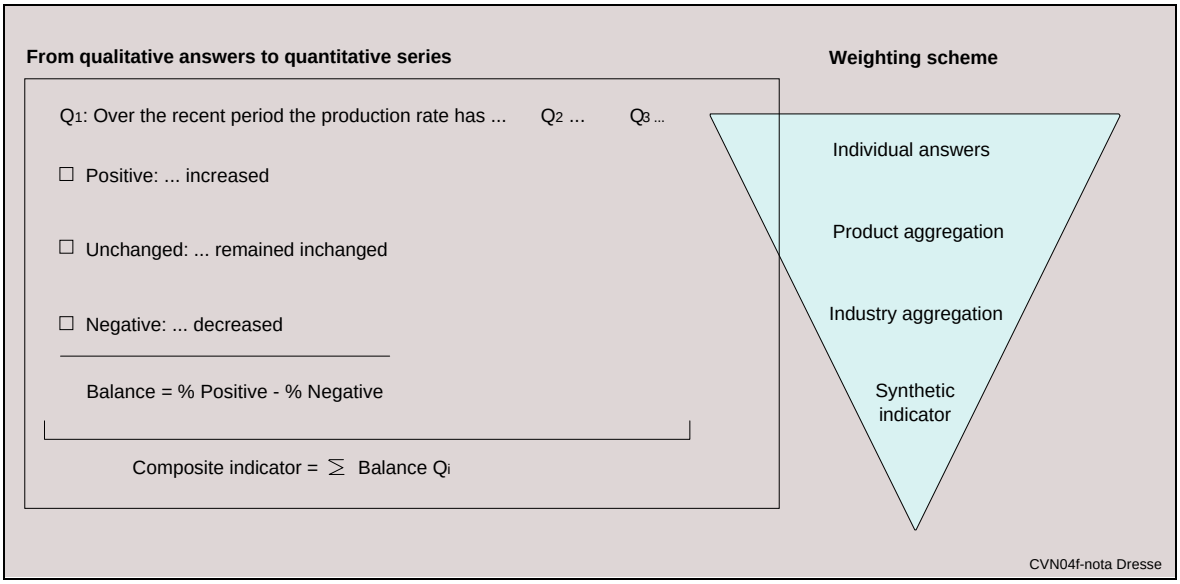
[1] Advisor to the Research Department at the National Bank of Belgium.

To capture these fluctuations, business survey questionnaires typically contain a limited number of questions pertaining to the entrepreneur's assessment of the current situation, his view on short term prospects and to the recent development in his firm's activity. In reply, the respondent is simply asked to choose from a limited number of options, i.e. whether the rhythm of production increased/remained unchanged/decreased, whether the order book position is regarded as good/neutral/bad, etc.

This simple set up offers numerous advantages, both for the respondent and for the compiler. On the surveyed companies' side, one person with an updated broad view on the state of affairs in the company can answer the questionnaire in a short space of time, without requiring specific quantitative reporting by the production, financial or marketing divisions. For the producer, simple questionnaires may be conducted regularly (on a monthly basis) and processed quickly, with limited resources. The simple methodology can easily be applied to different types of activity, such as industry, construction, trade, or business services. Due to the general nature of the questions, it can also be kept on for long period, without having to make changes in the statistical system.

Figure 1

Simplified production scheme for the business indicators



Although general methodological guidance is offered by the OECD and Eurostat – the latter actually imposing minimum requirements and calculating harmonised indicators for the member states –, practical implementation may differ from country to country. In particular, the various institutions in charge of business surveys have developed different methods of producing aggregate time series indicators from the qualitative basic information provided by the respondents. However, they follow the same general steps:

1. Condensing into one figure the participants' replies for a specific question. This can be done by taking the difference between the proportion of positive and negative answers (the so-called "net balance" approach), or by adding half of the neutral answers to the positive ones (the "diffusion-index" approach).
2. Aggregating, by means of a simple weighted average or by more sophisticated statistical methods (e.g. principal component analysis) the results over different questions, over different sub industries, to compute synthetic indicators for the economy.
3. Filtering the indicators to remove the noise, such as seasonal factors or short term volatility, in order to signal the business frequency movements. The final time-series may possibly be normalised or re-scaled.

3. Usefulness of National Bank of Belgium's indicators

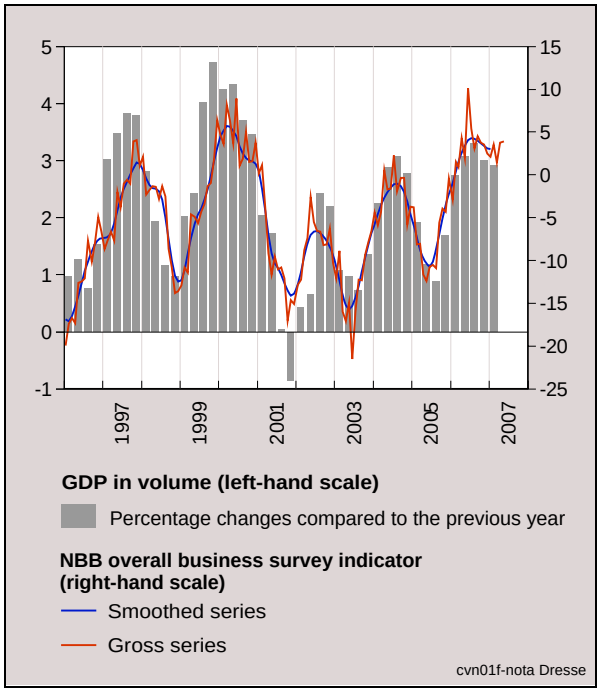
Using a fixed panel including more than 5 000 companies, the National Bank of Belgium has been conducting monthly business surveys in the manufacturing industry, construction and the trade sectors for more than 50 years; and, more recently, in the business-to-business service sector, too. It has developed its own synthetic indicators for the Belgian economy, which are used extensively in economic briefing, for short-term forecasting and for research. Some conclusions may be drawn from this accumulated experience:

– ***Regarding the production process***, reliable results heavily rely on the representativeness of the panel and the high response rate achieved month after month (between 90 and 95%). In particular, regular contacts with the sector organisations and with the participants are important to maintain the quality of the panel and to enhance the motivation to respond. Providing detailed feedback for the participants also helps in that respect. Obviously, the format of the survey is equally important to ensure continued participation: the questionnaire needs to be short, with a limited number of readily understandable and to-the-point questions, backed up by user-friendly transmission channels.

– ***Regarding the use of the survey indicators***, the success lies in the fact that they quickly provide a reliable picture of the Belgian economy's business cycle position. Notwithstanding the progress made to reduce the publication timelag for quarterly national accounts or for industrial production statistics, the business surveys are available within a few days. In addition, unlike most statistics, the survey results are not subject to revision. More importantly, the indicators' profile is closely related to the evolution of year-on-year GDP growth. The contemporaneous correlation reaches .8, and the short-term volatility – that is the noise which may jeopardise the extraction of business cycle movements – is limited. Depending on the users' needs, filters may be applied to minimise volatility, albeit at the expense of the timing of the data or of series revisions.

Figure 2

GDP growth and business indicator in Belgium



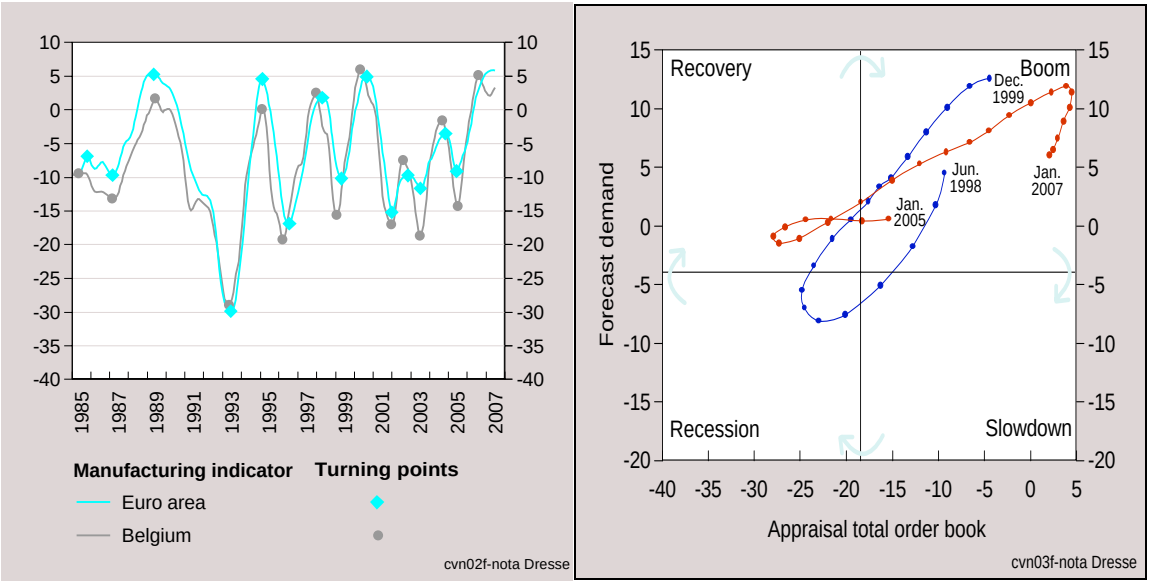
Sources: NAI, NBB.

These favourable characteristics justify the usefulness of the business indicators, for various purposes.

Firstly, business cycle indicators are used as a monitoring tool. They help to assess in real time whether the economic pace is accelerating or decelerating. In particular, they facilitate the detection of turning points in the business cycle. Given the strong international dimension in business cycles, it is worth noting that indicators built for one economy may contain valuable information for neighbouring or partner economies, as is the case with the NBB synthetic indicator for monitoring the euro area.

Figure 3

Uses of business indicators:
Turning point detection and expectations
vs. current situation assessment



Sources: EC, NBB.

Also, using leading or coincident properties of specific sub-indicators, it is possible to disentangle the current situation from expected developments, as illustrated in the business cycle clock. A typical business cycle would actually be characterised by successive phases of recovery, when expectations improve while the current situation is still subdued, followed by a boom (buoyant expectations and current situation), a slowdown (declining expectations) and a recession, both with low expectation levels and a weak current situation.

Survey indicators are also used to improve short-term forecasting, over periods of one to two quarters. Small-scale partial models are built to exploit the relationship between activity, employment, consumption or exports, on the one hand, and business indicators, on the other hand. In this context, the value of the latter lies mainly in their timeliness. Other economic indicators, such as turnover or industrial production statistics, have similar explanatory power to business survey indicators, but they are not available as quickly.

Over the past five years, new econometric models have been developed to estimate common factors in large datasets. In this context, survey indicators largely drive the business cycle factor which emerges from short-term statistics with a large scope. These techniques can be used to forecast key variables such as GDP or to build alternative tendency indicators.

4. Concluding remarks

To conclude, one can say that the business survey is an old but still a very successful story. Years of experience in a wide range of countries have proved how useful these surveys are. Although national statistical institutes have made remarkable improvements in delivering timely national accounts or production statistics, business indicators remain the leading tool available to monitor and assess short term economic developments and prospects in real time.

Business surveys are an effective way to collect informative data. General principles, drawn over long experience, are well-documented by international institutions. In practice, their implementation makes it possible to take account of peculiarities in the surveyed economy and specific users' preferences. The main recipe for success lies in a good understanding of the target population, in order to draw up appropriate and simple questionnaires and to attract a representative panel of respondents.

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The Bank of Canada's Business Outlook Survey

Thérèse Laflèche[1]

History and methodology

The Bank of Canada has always had informal discussions with businesses, associations, and provincial governments. In 1996, the Bank refocused its regional presence and, a year later, decided to initiate a more structured program of business consultations, which is now referred to as the Business Outlook Survey (BOS). In 2004, after 24 quarterly surveys, an assessment of the BOS was conducted and the results were found informative enough to be published on a regular basis.[2]

The BOS uses a quota sample. As opposed to a random sample, where firms are chosen randomly, a quota sample chooses firms according to certain characteristics – in this case, their size, the sector in which they operate, and the region where their head office is located – in order to be representative of the Canadian business population.[3] When a firm is unable to participate in the survey, for whatever reason, it must be replaced by a similar firm, i.e., one of the same size, in the same industry, and in the same region.

The sample is small. Each quarter, Bank representatives visit approximately 100 private business sector firms across Canada. The interviews are done in person by one or two Bank economists who meet with the chief financial officer or the president. Participation in the survey is voluntary and there is a confidentiality agreement. Four hundred firms are visited each year, and no firm is interviewed more than once a year. In this way, the company's time and resources are not overtaxed, and a broader base of industry contacts is established. Interviews are conducted over a four-week period and each interview takes between 30 minutes and one hour.

The questionnaire

The questionnaire covers five broad categories: business conditions over the past 12 months; the outlook for business activity over the next 12 months (including future sales, investment intentions in machinery and equipment (M&E), investment intentions for buildings, and the outlook for employment); pressures on production capacity; the outlook for wages, prices, and inflation; and the firm's financing requirements and conditions. The questions are more qualitative than quantitative.

For futures sales, wages, and prices, the firm is asked how growth is expected to evolve over the next 12 months, compared with the previous 12 months: at a faster pace, a slower pace, or at the same pace. The question is similar for investment intentions and employment, but is

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[1] Quebec Regional Office, Research Department, Bank of Canada.

[2] See Martin (2004) for a detailed analysis of the BOS results.

[3] There are five regions: Atlantic Provinces; Quebec; Ontario; Prairie Provinces, Nunavut, and Northwest Territories; and British Columbia and Yukon. The three sizes are: small (fewer than 100 employees), medium (between 100 and 500 employees), and large (more than 500 employees). Six sectors cover goods and services.

formulated in terms of level instead of growth. Two questions aim at evaluating capacity constraints – the ability of firms to meet an increase in demand (no difficulty, some difficulty, or significant difficulty) and the existence of labour shortages that restrict their ability to meet demand. In the case of inflation expectations, the horizon is two years and the respondent must choose from among four options determined by the central bank target (below 1 per cent, between 1 and 2 per cent, between 2 and 3 per cent, or over 3 per cent). Questions related to financing are backward looking; they deal with the evolution of the firm's financing requirements over the past three months, compared with the previous three months (higher, lower, or the same) and the change in credit conditions faced by the firm over the same period (tighter, easier, or unchanged).

In addition to the questions described above, the survey includes questions that provide more information on specific issues, such as the type of bottlenecks restraining the ability to meet demand. Supplementary questions can also be included to better understand a particular event. This was done, for instance, to evaluate the effect of the Canadian dollar's appreciation on Canadian firms. The survey can also explore special topics such as dollarization or the implications of environmental initiatives on firm output prices.

Information content

Some of the BOS results are quantitative. For instance, the survey provides percentages of firms that would experience some or significant difficulties in meeting an increase in demand, as well as the percentage of those facing labour shortages that restrict their ability to meet demand. Most of the results, however, are qualitative and must be transformed into quantitative information to be analyzed. This is done by calculating balances of opinion. A balance of opinion is defined as the difference between the percentage of firms expecting a given economic variable to be higher or to increase at a faster pace than in the previous year, and the percentage expecting the variable to be lower or to grow at a slower pace. The balance of opinion can vary between +100 and –100. A strong positive balance of opinion for future sales, for example, suggests acceleration in the trend growth rate over the next 12 months, compared with the previous 12 months.

To evaluate the information provided by the BOS, the results – quarterly data starting in the third quarter of 1997 – were compared with the corresponding economic variables. For instance, the balance of opinion on future sales growth was compared to the year-over-year change in the year-over-year growth rate of business sector GDP (which represents the momentum of this variable) by using simple correlations. A scale of assessment was established to evaluate the correlation coefficients.[4] The main results, presented in Table 1, are the following:

- Firms' predictions regarding the outlook for the next four quarters are closer to what occurs over the next two quarters.
- The question on production capacity (ability to meet demand) provides a proxy indicator for the Bank of Canada's current output-gap measure.
- Questions on input and output prices provide moderate signals, while the question on wages is a weak indicator.
- The outlook on business activity contains information about future growth and investment, but not much about future employment.
- The survey provides a good measure of inflation expectations.

[4] Strong: > 0.80; moderately strong: 0.80 to 0.60; moderate: 0.60 to 0.40; weak: 0.40 to 0.20; and insignificant: < 0.20.

Table 1

Correlations Between BOS Data and Corresponding Economic Variables

BOS Data	Economic Variable	Correlations 1997Q3–2007Q2
Business activity		
Past sales growth	Momentum of real business GDP	Moderately strong: *t* – 1 (0.66)
Future sales growth	Momentum of real business GDP	Moderate: *t* + 1 (0.50); *t* + 2 (0.50)
Investment in M&E	Growth of business investment in M&E	Weak: *t* + 1 (0.39)
Employment outlook	Growth of private sector employment	Insignificant
Wages, prices, and inflation		
Wage increase	Momentum of business sector compensation per hour	Moderate: *t* (0.40)
Input-price growth	Momentum of GDP deflator	Moderate: *t* + 1 (0.54)
Output-price growth	Momentum of GDP deflator	Moderate: *t* + 1 (0.54)
Inflation expectations	Total CPI inflation (2-year average)	Moderate: *t* (0.49)
Pressures on production capacity		
Ability to meet demand	Output gap (Bank of Canada measure)	Moderately strong: *t* (0.79)
Labour shortages	Output gap (Bank of Canada measure)	Weak: *t* (0.22)

Issues related to the methodology

This section focuses on a number of methodological issues: the use of a quota sample as opposed to a random sample, the refusal rate, and the sample design. A quota sample has advantages over a random sample. One is that a targeted response rate is always achieved for each subgroup of the population. Another advantage is, especially in the context of face-to-face interviews such as those of the BOS, that a survey based on a quota sample is less costly to conduct than one based on a random sample. The disadvantages, however, should be noted. First, a non-random sample has an unknown bias. Second, in the case of a quota sample, it is more difficult to estimate the accuracy of the results. While the margin of error for a result drawn from a random sample of 100 units is 10 per cent (16 per cent for the balances of opinion), the margin of error is unknown with a quota sample. A possible solution could lie in experimental measures of confidence intervals established by bootstrapping, which is currently being explored by economists in the Bank of Canada's Research Department.

The refusal rate is another important issue. As stated, when a firm is not available to participate in the survey, it must be replaced by a firm with the same characteristics in terms of size, sector, and region. Nevertheless, a refusal creates a potential bias, because the new respondent is not necessarily a perfect substitute for the one that has refused to participate in the survey. For example, a firm that has refused because it was too busy may present a better outlook than that of its replacement. The best way to deal with this problem is to prevent refusals. To do so, it is important to analyze the reasons behind the refusals to improve the way that firms are approached. It has been noticed, for instance, that the refusal rate is lower for large firms than for small and medium-sized firms. One explanation is that

larger firms have more resources available and are therefore more willing to participate in surveys. Another possibility is that larger firms have a better knowledge of the central bank, and of its roles, than a small or medium-sized firm. Consequently, improving the Bank of Canada's communications with small and medium-sized firms could result in fewer refusals.

The design of the BOS sample is not perfect. First, only 25 firms are visited in Ontario, and the province's share of GDP is 42 per cent. Second, the manufacturing sector is overrepresented. Third, distribution by firm size does not correspond to the true distribution of employment by firm size as estimated by Statistics Canada. However, the sample design does not appear to represent a serious problem. In fact, when the results are weighted to take into account true distribution by region, sector, and size, they do not change significantly.

Use of the BOS at the Bank of Canada

The BOS provides important information for the conduct of monetary policy. Compared with other sources of information, its value added are the timeliness of the survey data and their forward-looking nature. Moreover, the survey information can provide corroborating evidence on economic conditions. The survey can also be used to obtain information on economic concepts that are difficult to measure or observe. Finally, the use of open-ended questions and personal interviews can yield useful anecdotal evidence. It is a good vehicle to rapidly obtain information on current events such as the impact of the recent financial turmoil on business activities or the effect of rising energy costs on prices.

While the BOS represents an exceptional source of information, it is also an invaluable communication tool. Indeed, in carrying out the visits for the BOS, the regional economists not only increase the visibility of the central bank's regional presence, they also build a large network of contacts in the business community with whom they can exchange information.

Other Bank of Canada surveys

The Bank of Canada has used the expertise of the regional offices and their large network of business contacts to conduct other interesting surveys on special topics. As opposed to the BOS, which is quarterly, these surveys were not repeated. The first one, done in 1998, focused on the restructuring in the Canadian economy; the second, undertaken in 2002–03, examined the price-setting behaviour of Canadian companies. The results of these surveys were published in the *Bank of Canada Review* (see Kwan (2000) and Amirault, Kwan, and Wilkinson (2004)). A third survey is currently being conducted by the regional economists on the wage-setting behaviour of Canadian companies. Its results and main conclusions should be available before the end of 2009.

Conclusion

The Bank of Canada's Business Outlook Survey is a useful tool for the conduct of monetary policy. Of course, the survey data must be interpreted with caution, given the small sample size and a number of issues related to the survey methodology. The most important contribution of the BOS, however, goes beyond the data captured by the questionnaire: a broader understanding of business perceptions through confidential discussions with business representatives. Other business surveys conducted by the Bank of Canada have also proven useful in understanding macroeconomic phenomena from a microeconomic perspective.

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Business surveys and company accounts: implementation and use for monetary policy

Ahmet N. K p c [1]

The Business Tendency Survey (BTS) has been conducted in Turkey since December 1987. Starting from January 2007, BTS has been included in the Short-term Business Statistics of the Turkish Statistical Institute's (TURKSTAT) Official Statistics Program for 2007–2011, which was prepared in 2006. Currently, BTS has been conducted within the Joint Harmonized EU program of Business and Consumer Surveys.

Towards the achievement of the targets set in the Official Statistics Program, studies on harmonization of the BTS with the international standards and the improvements in the scope of the survey units were completed by the end of 2006. As a result, starting from January 2007, there have been significant modifications in the survey. These modifications included changes in questions, questionnaire forms and most importantly changes in wording. The extension in the scope of the survey units was another important modification.

The revision of the survey questions made in 2007, served two ends: Full harmonization with the EU "Industry Survey" and the simplification of the survey so as to reduce respondents' burden. In the earlier monthly surveys, there were 34 questions. 20 of them were similar to the questions of EU "Industry Survey".

Currently, we have two different survey forms. One of them is for the monthly survey and the other one is for the quarterly survey. The quarterly survey form, which has been sent to the respondents every three months since January 2007 in January, April, July and October, has 28 questions. The monthly survey form, however, comprises only 22 of these 28 questions.

The survey frame of the new BTS consists of the survey units of the monthly Manufacturing Industry Production Index with the base year 2005. The survey units of the Monthly Industrial Production Survey comprise all of the local units of the public sector enterprises' local units and the private enterprises' local units that generate at least 90 percent of the total production value of the private sector units with annual average number of 20 or more employees at four-digit sectors of NACE[2], Rev. 1.1.

In the new survey, sampling method is a fixed panel. 85 percent cut-off to the production value of the private sector units with 50 or more employees at 3-digit sectors and 85 percent cut-off to the production value of the public sector units at 3-digit sectors where the public sector generate at least 20 percent of the total production value. Whenever there are less than or equal to 10 public (private) units within a 3-digit sector, all of the public (private) units are included regardless of the cut-off criteria. Furthermore, if less than 10 units generate 85 percent of the production value, 90 percent cut-off is applied.

Survey units are the local units that are determined according to the cut-off criteria. However, enterprises with more than one local unit within the same three-digit sector can report for all of their activities in one survey form. Within this context, survey units comprise approximately 1600 local units and enterprises. They generate at least 80 percent of the production values

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[2] Nomenclature Generale des Activites Economique dans les Communautes Europeennes.

at 3-digit manufacturing sectors of NACE, Rev. 1.1. Unweighted response rate has been about 70–75 percent over January – September 2007.

There are also differences in weighting and classification between the two surveys. While there was no weighting in the former survey, two-step weighting is applied in the new one. And finally, compared to the previous ISIC classification, the new survey has been designed according to the NACE classification.

As for the sectoral breakdown of the participants, Compared to the new BTS, the percentage of the units operating in DA, DG and DM were higher in the former BTS, whereas the percentage of the units operating in DB and DI were lower. The percentage of the units operating in the other sectors were close to the percentages of those in the new BTS and 3.5 percent of the participants to former BTS were operating in nonmanufacturing sectors. From the participants of former BTS, 31.3 percent are comprised within the respondents of the new BTS.

The fieldwork period of the survey is between the 1st and 15th of the surveyed month and no respondents are contacted afterwards. First application of the survey in January 2007 was made via post and answering preferences of the respondents were asked. According to their preferences next survey was applied. Currently, 68.1 % of the participants use Internet.

Weighting is performed at two stages: First, answers received from the establishments are weighted with the average number of employees of the establishments in the previous year as provided by the respondents once a year, and totaled up to three-digit level classification of the business activities. For the transition from three-digit level to two-digit level, results are weighted with production values, while the transition from two-digit level to the manufacturing industry total, the weights are based on the value-added figures related to the overall Turkish economy. Production value weights utilized in 2007 at three-digit level have been calculated by using the production data provided by the establishments for the compilation of the Industrial Production Index in previous year. Value-added weights have been calculated by carrying the value-added proportions of the year 2000 forward into 2006, using the Manufacturing Industry Production Index (1997 = 100). All weights will be updated once a year by using the most recently released data on value-added figures and the annual Industrial Production Index for the previous year.

Net balance obtained by subtracting the percentage of negative answers from the percentage of positive answers is used in evaluation of the results. The assessment of the results reveals that breaks exist in the balances of some questions. Tali and Ç nar (2007) examine in detail the characteristics and possible reasons for the breaks.

Preliminary evaluations have indicated that; (i) the breaks are not only due to use of weighting; (ii) wording changes affected the results; (iii) conformity between the survey questions and with the reference series seems to indicate good performance; (iv) further observations and analysis are expected to provide more reliable evidence.

Finally, I would like to mention briefly on the use of BTS in monetary policy implementation. The results of the BTS are an important input in Monetary Policy Committee meetings. It provides an indicator for the assessment of the possible short-term developments in the key economic variables as well as helps understanding the sentiment of the business world. The results also supply input data to econometric models in addition to quantitative data for the purpose of designing economic policies.

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Reserve Bank of India surveys on corporate statistics

V.C. Augustine[1]

Evolution

The Reserve Bank of India (RBI) has been regularly conducting studies on the financial performance of private corporate business sector for the past five and half decades. The first regular study covering the years 1950 and 1951 was published in the RBI Bulletin in August 1954. The studies are undertaken with a view to capture the trends in important performance indicators like sales, income, value of production, profitability, saving, investment, borrowings etc. in the corporate sector. Each year, five studies on financial performance of various sub-sectors of private corporate sector are published in the RBI Bulletin for wider dissemination. The results of these studies are used extensively by the Bank for policy formulation. The RBI also prepares the estimates of saving and capital formation in the private corporate business sector for inclusion in the National Accounts Statistics. Corporate activity has undergone rapid changes over the years due to the policy decisions of the Government, amendments in company legislation and increasing exposure to globalization. Consistent with these changes, the coverage of the studies was enlarged from time to time by the inclusion of new companies as well as by revising the items included in the studies.

Selection of companies

The Corporate Sector in India consists of companies in both Public and Private sectors. They are required to be registered under the provisions of The Companies Act, 1956. The RBI studies cover companies in the private corporate sector only.

Companies are required to prepare their accounts annually and present the balance sheet and profit and loss account at an annual general meeting (AGM) of the members within six months of the date of closing of accounts. Companies prepare the annual accounts for their shareholders in the manner/format prescribed in the Schedule VI of the Companies Act, 1956.

The RBI studies on corporate statistics are carried out based on analysis of annual accounts of select companies. RBI adopts purposive (non-probability) sampling for the studies. The main criterion for the selection of companies is the size of their paid-up capital, as it is the only characteristic for which reliable information is available at the population level. The objective is to have maximum coverage, industry-wise, in terms of paid-up capital and to include as many representative units as possible from various industries subject to constraints of time and resources. The list of selected companies is revised constantly with a

[1] Assistant Adviser, Department of Statistics and Information Management, Reserve Bank of India and presented by him in the SEACEN - Irving Fisher - RBI Workshop on the “Use of Surveys by Central Banks” at Pune, India (2007). The views expressed in the paper are of the author and not necessarily of the institution to which he belongs.

view to improve the paid-up capital coverage and the representative character of the selected companies.

Issues in selection of sample companies and collection of their annual accounts

The Indian private corporate sector is very vast with over 700 thousand companies registered under the Companies Act, 1956. Updated information on current financial parameters of many of these companies is not readily available. The RBI maintains a database of companies consisting of information of about 30,000 companies and corresponds with them for procurement of balance sheets. For each year, on an average, accounts of about 12,000 companies are collected and their information is updated/added in the database. Companies in the construction/formative stage, defunct companies and those not operative for more than six months during the year as well as banking and insurance companies, companies functioning for non-profit motives, companies limited by guarantee, promotional/ developmental organizations, etc. are excluded from the studies. Only those companies whose annual accounts are available for three consecutive years are included in the sample.

Allocation of company codes: The RBI allots unique identification codes for all companies included in its database. This helps in processing the data, maintaining the database and preparing time-series data.

Selection of companies: Preference is given to companies included in the sample of the previous study. However, due to non-receipt/late receipt, many companies from the previous sample may be substituted with new companies. Generally, about 75 to 80 per cent companies are common to two successive studies. For new companies, preference is given for companies with high paid-up capital (PUC) and those belonging to selected industries so as to maximize the industry-wise PUC coverage. Small companies with PUC below Rupees 5 million are not included in the sample.

Industrial classification: Companies selected for the study are classified into various industries on the basis of latest year's major activity of the company. Industrial classification of companies is based on the National Industrial Classification (NIC).

Analysis of data and estimation methods

Analysis of data

The source of data for company finances studies is the audited annual accounts of companies. Data on assets/liabilities, income, expenditure and appropriation accounts are collected from annual accounts and posted in a self-balancing worksheet (standardized format). These are supplemented with information available in Directors' report, notes on accounts, statutory disclosures, etc. Data are captured in respect of about 300 variables. The RBI has developed a suitable methodology to standardize the accounts so as to ensure comparability between companies and over time.

In addition to data items, changes in the accounts during the year due to revaluation/ devaluation of assets and liabilities, changes in capital structure, effects of amalgamation, mergers and de-mergers, etc. are also captured. This information is used in standardization of accounts while computing performance indicators and in the preparation of sources and uses of funds statements.

Treatment of non-operating surplus/deficit: As mentioned earlier the RBI studies are also used for preparation of saving estimates for the private corporate sector. In order to arrive at the saving figures for the current year, it is necessary to exclude income and expenditure relating to earlier period as well as capital gains and losses. The RBI studies, therefore, classify such items under the head "non-operating surplus/deficit". This item is excluded while preparing savings for the current year.

Aggregation of data/preparation of Summary statements

Summary statements are prepared by year-wise aggregation of data of all companies at industry level and all industries level. These statements are examined for any inconsistencies at industry-level data between consecutive years. The companies causing such inconsistencies are identified and checked for possible errors. After finalizing the set of companies, final statements are generated and the study is prepared for publication. The regular studies are released as articles in RBI Bulletin for wider dissemination.

Issues in Aggregation of data

Date of closing of accounts: The reference period of the RBI studies is the fiscal year i.e. April 1 to March 31. In India, majority of the companies close their annual accounts as on March 31, coinciding with the fiscal year. However, some companies close their annual accounts on other dates like June 30, September 30, December 31, etc. In the RBI studies all companies closing their accounts any time during the year April 1 to March 31 are included and treated equally. While aggregating the data, the accounting period of all companies, irrespective of the date of closing of accounts, is uniformly taken as April 1 to March 31.

Annualisation: Generally companies close their annual accounts once a year covering 12-month period. However, some times companies prepare their accounts for period other than 12 months (varying from 6 months to 18 months) by extending or shortening their accounting year. In the case of companies, which either extended or shortened their accounting year, income, expenditure and appropriation account figures are annualized so as to ensure comparability between companies and over time period. However, the data in respect of balance sheet are retained as presented in the annual accounts of the companies.

Compilation of performance indicators

The RBI studies presents analysis of corporate performance based on performance indicators like growth rates, key financial ratios and sources and uses of funds statements.

While preparing the sources and uses of funds statements and growth rates based on consolidated data, care is taken to neutralize the effect of adjustments made by individual companies in their accounts like revaluation/devaluation of assets and liabilities, amalgamation, mergers and de-mergers, etc. However, such adjustments are not necessary in computing financial ratios.

For example:

Gross fixed assets formation	=	Gross fixed assets of current year (adjusted for revaluation/mergers etc.) – Gross fixed assets of previous year
Growth in Gross fixed assets	=	[{Gross fixed assets of current year (adjusted) – Gross fixed assets of previous year} ÷ Gross fixed assets of previous year] x 100

Time-series Analysis

The companies included in the RBI studies keeps changing from sample to sample. However, in each of the RBI studies, data are presented for three consecutive years for the same set of companies, enabling comparison of data. The number of common companies between two consecutive studies is generally in the range of 75 to 80 per cent, making the results fairly comparable across varying samples. The distribution of companies according to their PUC is highly skewed. Since the number of companies with high PUC is very small, it is generally possible to get accounts of most of the high PUC companies and include them in the sample for successive studies. This in turn helps in maintaining the consistency of results between consecutive studies. Also, since the coverage of the RBI studies is reasonably large (over 2000 companies), representing companies from various size classes and wide range of industries, the results are generally found comparable between samples. Moreover, unlike absolute numbers, the indicators like growth rates and financial ratios compiled based on large sample of companies are found to be consistent across varying samples and are fairly stable. Hence it is possible to build up time-series of growth rates and ratios even in the case of varying samples. Further, if the analysis is done based on results of common companies, the absolute figures also become comparable.

End use of data

The following five annual studies are regularly being published in the RBI Bulletin:

1. Finances of Large Public Limited Companies
2. Finances of Public Limited Companies
3. Finances of Private Limited Companies
4. Performance of Financial and Investment Companies
5. Finances of Foreign Direct Investment Companies

Besides annual publications, the RBI also brings out special publications on adhoc basis.

Estimates of Saving and Capital Formation in the Private Corporate Business Sector

The Company Finances data is also used for compiling the estimates of saving and capital formation in the private corporate business sector in India for inclusion in the National Account Statistics.

Gross Saving and Gross Capital Formation are computed as follows:

Gross saving = Retained profits – Non-operating surplus/deficit + Depreciation Provision

Gross capital formation = (1+2)

(1) Gross fixed assets formation

= Gross fixed assets (closing stock)
(Adjusted for revaluation during the year)
– Gross fixed assets (opening stock)

(2) Inventory formation

= Inventory stock (closing)
– Inventory stock (opening) (adjusted for price changes)

The sample estimates are blown-up using population paid-up capital (PUC) figures received from Ministry of Corporate Affairs to obtain the population estimates.

Population estimate = Sample estimate X Ratio of PUC of all companies to PUC of sample companies

RBI Studies on Quarterly Results

The Reserve Bank also conducts regular studies on performance of private corporate sector based on un-audited quarterly results of companies. Companies listed in stock exchanges publish their quarterly results as per provisions of their listing agreements with the exchange. The quarterly results provide data on select variables like sales, income, major heads of expenditure, and profits. These data are regularly collected and summary results prepared. The studies on corporate performance based on quarterly results are extensively used in policy formulation and evaluation of performance by the real sector. Two of these studies presenting performance of private corporate sector based on half-yearly results and annual results are also published in the RBI Bulletin, which serves as advance indicators on corporate performance. The selection of companies for these studies is again based on timely availability of results. It has been observed that the results of the quarterly studies are consistent with the regular RBI studies based on audited annual accounts. The quarterly studies, thus, bridges the information gap due to delay in finalization of the regular annual studies.

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Direct Reporting System: foreign direct investments of the business sector in Israel

Tsahi Frankovits[1]

1. Preface

The Direct Reporting System (hereafter "DRS" or "the system") was developed following the foreign currency liberalization program of the late 1990's is Israel. The main reason for developing this system was the need to monitor the business sector activities abroad as a substitution for the obligation imposed on Israelis to report and get approval for their FX transactions in the pre-liberalization era.

In recent years, the usage of the system has evolved to support the compilation of the country's IIP, BOP's financial accounts and other statistics. In this article, I will describe the DRS features in the following order:

In section 2, a general description of the system and the reporting entities' statistics is given. In section 3 I describe the cut of the tail method that we used to define the reporting population. Section 4 is dedicated to statistics that we currently compile from this data. Section 5 includes some concluding remarks.

2. General description of the system

The DRS is a system to collect data directly from companies, individuals and not-for-profit organizations, if:

- The annual revenue of the company is higher than 50 million US $ or,
- The value of assets invested abroad is higher than 20 million US $ or,
- Any company that issued tradable securities abroad.

The reporting entities use a highly secured web interface and should report (mostly) on a quarterly basis (up to 60 days after the last day of the quarter). The reported data can be classified as follows:

- Ownership composition (residency, holding percentage).
- Sales, export, import and profit.
- Assets and liabilities by type (financial and real).
- Stocks and flows in local and foreign currency, in Israel and abroad.
- Financial flows through bank accounts abroad.
- Capital and debt issuing abroad.
- Qualitative data such as geographic or economic sector classification.

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[1] Mr. Frankovits is the director of Information & Statistics Department in the Bank of Israel.

Currently the reporting population include over 450 companies, about 60 individuals, 30 not for profit organizations and 120 other companies that issued tradable securities abroad. They report using 9 different forms. This is about 3,500 forms that are reported to the Bank of Israel each year. The reporting population represents a significant portion of the economy as shown in table 1.

Table 1

Indicators for the share of the reporting entities in the economy

Sales/GDP	74%
Exports/Total Exports	60%
Direct Investments Abroad[1]	90%
Portfolio Investments Abroad[2]	36%
Inward Direct Investments	43%
Inward Portfolio Investments	83%

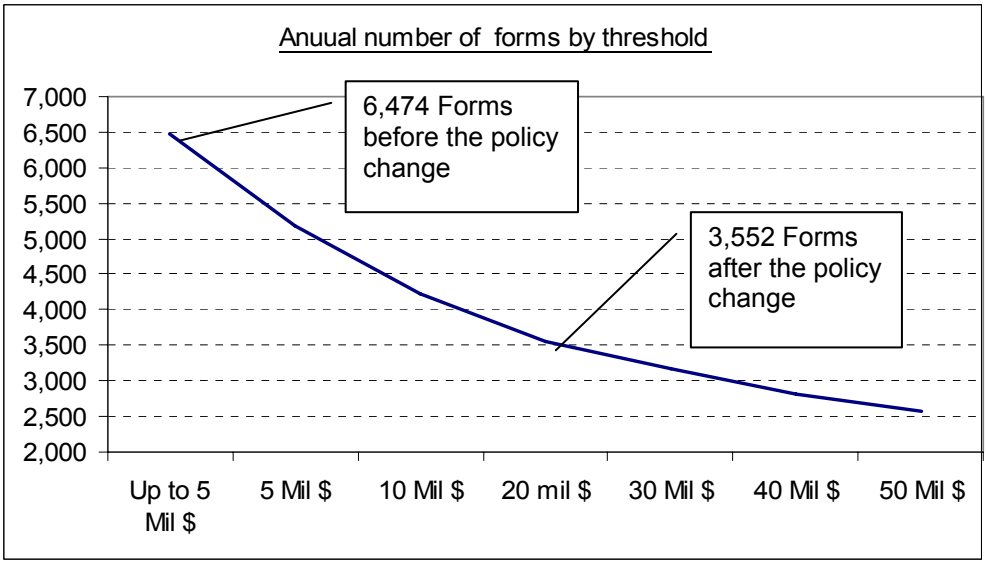
1 When looking for coverage ratio in setting the cut of the tail thresholds, this was the main indicator in focus.
2 Most of the portfolio investments abroad are attributed to the financial sectors in the country.

Based on 2007 figures.

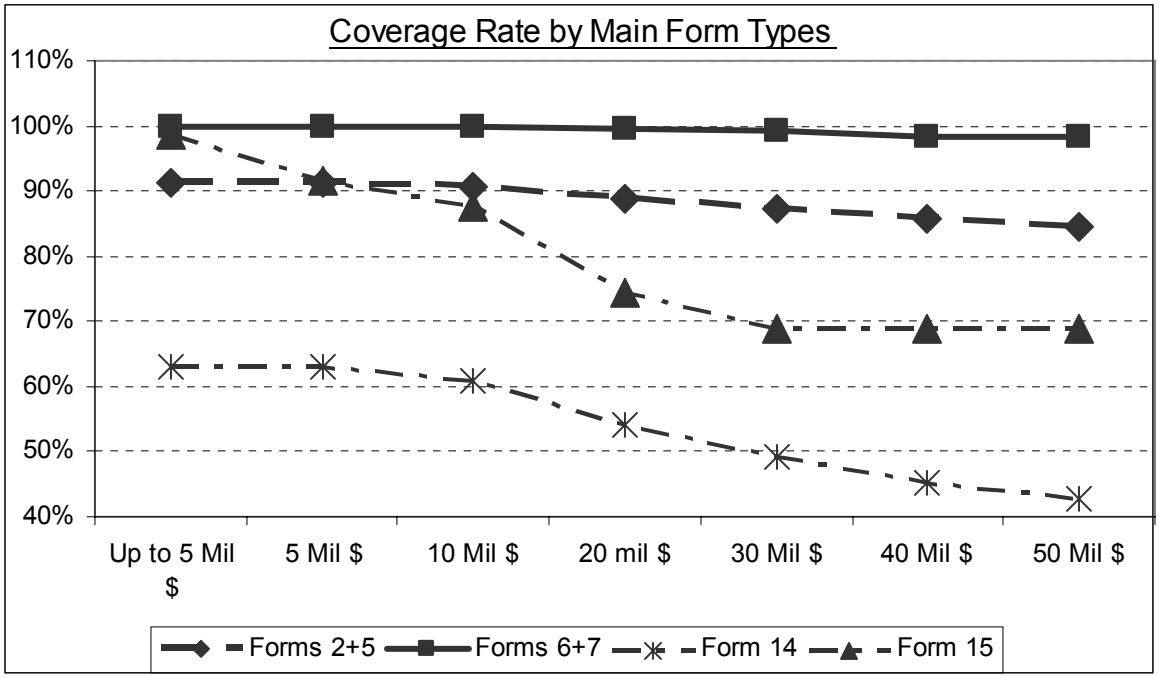
3. Setting the survey population

Until the year 2007, the reporting population included any entity (Businesses, Individuals and not for profit organization) that had more than 5 million $ in assets abroad. As a result, the annual number of forms that were reported to the Bank of Israel exceeded 6,500 forms.

Due to the need to reduce the amount of resources allocated to this assignment within the bank, together with the will to reduce the reporting burden, we started to look for the optimal point where we get maximum efficiency gains (measured by the reduction in FTEs allocated to this assignment), maximum reduction in reporting burden (measured by the reduction in the over whole number of reported forms) and minimum reduction in the coverage rate (measured by the reduction in percentage of direct investment statistics abroad). The results of this analysis are shown in the following graphs.



From an efficiency as well as reporting burden point of view, we have noticed that the best effect is being achieved around the 20 million $ threshold (there is almost a linear relation between the number of forms and the resource allocation within the bank). When checking for the coverage ratio, we realized that the representation of the statistical phenomenon is not significantly affected by this change as shown in the next graph:



Forms 2,5,6,7 are the most important forms from a statistical perspective.

With this decision we achieved a reduction of 4 FTE in the allocation of resources to this assignment.

4. Survey statistics

As of mid 2008, the reporting population to the DRS total investments in financial assets abroad were US $ 18.3 billion and their direct investment abroad summed up to about US $ 43.2 billion. These assets represent the majority of the countries assets abroad (the reduction in the portion of the investment in tradable securities is a result of the increase in the investments of institutional investors abroad in recent years) – see table 2.

Table 2

The reporting population share in total assets abroad

	Dec-05	Dec-06	Dec-07	Jun-08
Bank Deposits	78%	73%	72%	71%
Tradable Securities	60%	61%	51%	50%
Direct Investments	96%	95%	96%	93%

As part of the survey, the Bank of Israel asks for some real economic activities statistics. This data is helping us to link the financial and cross border statistics to the real activities of the reporting population. Table 3 shows some indicators that demonstrate the importance of these statistics due to their significant portion in the economy.

Table 3

The reporting population and 3 economic indicators

	2005	2006	2007	Jan–Jun 2008
% sales of Business Sector's GDP	79%	86%	85%	86%
% Export of Total Industrial Export	61%	67%	63%	61%
% Import Total Import of goods	61%	70%	63%	64%

Together with the compilation of national statistics, we also use the DRS statistics to calculate and estimate the business sector's FX positions. This statistics is very important because it represent the long term changes in the demand and the supply of the business sector for foreign currencies against the Israeli Shekel.

5. Concluding remarks

Direct reporting has proved to be a reliable and cost effective process to collect statistical data from the business sector in Israel. It also minimized the need to rely on commercial banks' reports which have shown a decline in quality and relevance over time.

Direct reporting also gives us a direct communication channels to the business sector. This may help when we need to get additional information such as in times of economic crisis.

Nevertheless, when using the threshold sampling method, we may lose coverage rate over time. To overcome this, we plan to use a business sector survey in cooperation with Israel's Central Bureau of Statistics. The main purpose will be to check our coverage rates and adjust the threshold accordingly.

Some remarks on business surveys in the National Bank of Poland

Piotr Boguszewski[1]

I. General motivation

This paper is not an exhaustive description of the system of business surveys in the National Bank of Poland. It is rather aimed at giving a general overview of motives, main premises, backgrounds and development of solutions implemented in this area by the Bank.

It could be taken for granted that information coming from the real sector of economy is an essential and integral part of the process of monetary policy making by central banks. Within very simplified and stylized approach to the monetary policy, treating it as an optimal control problem, one can say that these data are very helpful in identifying the current position of the economy and forecasting future movement of the system. There are many potential sources of such information. The traditional and probably most common solution to this problem is to rely on hard financial data; particularly obtained from corporate balance sheets and cost-benefits statements. Unfortunately, in practice it turns out that from the point of view of central banks needs, usefulness of some of these potential sources are a bit limited. Among others, the reason is that information central banks look for should meet specific criteria (listed below), which in many cases is difficult; especially for developing economies:

- timeliness – information should be available sufficiently before decision-making processes start up. Despite a big effort of national statistical offices and international statistical organisations toward shortening the period of financial data collection, both in developed and developing countries, data collection processes in this area remain relatively slow if standards and requirements of monetary policy are under consideration;
- comparability across time – time series techniques are very important and popular tool for analyzing and forecasting data used in monetary policy decisions. In the case of developing countries, in many instances, there is a lack of sufficiently long time series due to relatively short history of market economy in some of these states;
- comparability across space – in a global world national monetary policy should not be restricted to domestic problems and determinants. It means that a wide spectrum of international information are required by central banks (for example – see the evolution of a concept of the global output gap[2]). But without sufficient level of international comparability of these data the applicability of this approach is limited. In this context we should keep in mind the idea that in the contemporary world a lot of factors like inflation, fluctuations of exchange rates, some effects of globalization etc. tend to violate this principle of financial information comparability;
- reliability – in contemporary statistics financial data are collected from different sources, processed with different methods (seasonal adjustment, outlier removal etc.) and aggregated with a collection of deflators. One result is that data corrections

[1] The opinions expressed herein are those of the author and don't necessarily represent those of the National Bank of Poland.

[2] See: Borio, C., Filardo, A., Globalization and Inflation: New Cross-country evidence on the global determinants of domestic inflation, BIS Working Papers 227, May 2007.

are frequent in many statistical offices and in a lot of cases these changes are significant from the point of view of econometric modelling, forecasting etc. It should be noted that there is a long lasting and unfinished discussion among analysts regarding which releases of data – preliminary or final – are better in this respect. In some developing countries high inflation seems to be a serious problem, if reliability is what we strive to, due to the distortions it brings to financial statements.

The lack of comparability, unreliability or delays in some data used by central banks impair forecasting power of this information. From the point of view of monetary policy efficiency and effectiveness all these drawbacks are disadvantageous. In such circumstances qualitative data could be very useful (together with statistical offices efforts to solve problems we have mentioned above) in overcoming some of these weaknesses of financial data:

- in many cases surveys could be conducted and processed more quickly and therefore they provide users with leading information; it is worth mentioning that sometimes surveys give us coincident or even lagged indexes which are available earlier than analogous financial data. In such cases this index could be "leading" in comparison with financial one.
- in many instances, aggregation of qualitative data seems to be easier (if we abstract from – for example – cultural differences among social groups or nations influencing the way they answer the same questions)
- using survey data we are able to verify "hard" financial data and to find some inconsistencies in existing information
- surveys give us information about problems for which we have no financial (hard) information or limited availability of data; expectations, judgements, etc. belong to this category
- in contrast to financial information, surveys are usually more flexible; in many cases collecting new financial data is much more difficult and complicated than adding new question to a survey questionnaire

Bearing these in mind we can conclude that in central banks surveys are attractive and useful supplement of financial information.

II. Origins of the business surveys in the National Bank of Poland

In the National Bank of Poland business surveys started in 1995. At that time there were at least two reasons in favour of survey methodology: in Poland it was consecutive year of high inflation (aprox. 28 % y/y) and only the sixth year of transformation of the Polish economy. In such circumstances, for reasons described in the previous part, usefulness of pure financial data was limited. It remained true despite the fact that since 1993 NBP had access to relatively wide spectrum of financial data at disaggregated level. Hence, the decision about extending our interest to qualitative data was based on deep analysis of pros and cons of financial statements in that circumstances.

Coming to the origin of business surveys in NBP it is worth stressing that some measures and solutions adopted during that pioneering period exerted significant impact on our future methodology. One would like to point out to three issues. Firstly, we have to be aware that central banks usually have no (or limited) special entitlements to force enterprises to cooperate with them in the field of non-banking business statistics. It means that in many cases central bankers have to rely on voluntary declarations of enterprises to join such programmes. In NBP we decided to go along that way. That decision has turned out to be very fruitful and useful and it has been unchanged until now despite the fact that in this respect current formal regulations are more favourable for the Bank. The second problem is that in 1995, we realized that it would be difficult to collect representative sample if cooperation

is voluntary. Asking biggest firms to join the program seemed to be the practical remedy for that problem because it guaranteed stronger correlation between answers and overall performance of the economy dominated by such units. The third important factor was that until 1994 CSO collected financial data (cost-benefits statements) from nonfinancial enterprises on monthly basis. It explains why we started with yearly questionnaire rather than with business climate quarterly survey. At that time frequency of financial data and lags in collection periods were satisfactory as far as business climate diagnosis was under consideration. But it was time of deep and substantial changes in the Polish business sector explaining the strong demand for qualitative data from enterprises and aimed at covering vital aspects of their financial strategies, attitudes toward banking sector and so on. In consequence, the first questionnaire was mainly devoted to such problems like determinants of capital structure, perspectives of development, investment plans, solvency, threat of bankruptcy etc.

III. Rules

There are at least two reasons why rules are so important in the case of designing business survey techniques:

- if we want to adopt time series methodology to analyze our data the condition of intertemporal comparability of observations should be satisfied during a sufficiently long period of time; especially we should have time series of required length (20 observations – an equivalent of information collected during five years of quarterly surveys – seem to be an absolute minimum)
- relative stability of the sample in the case of panel techniques

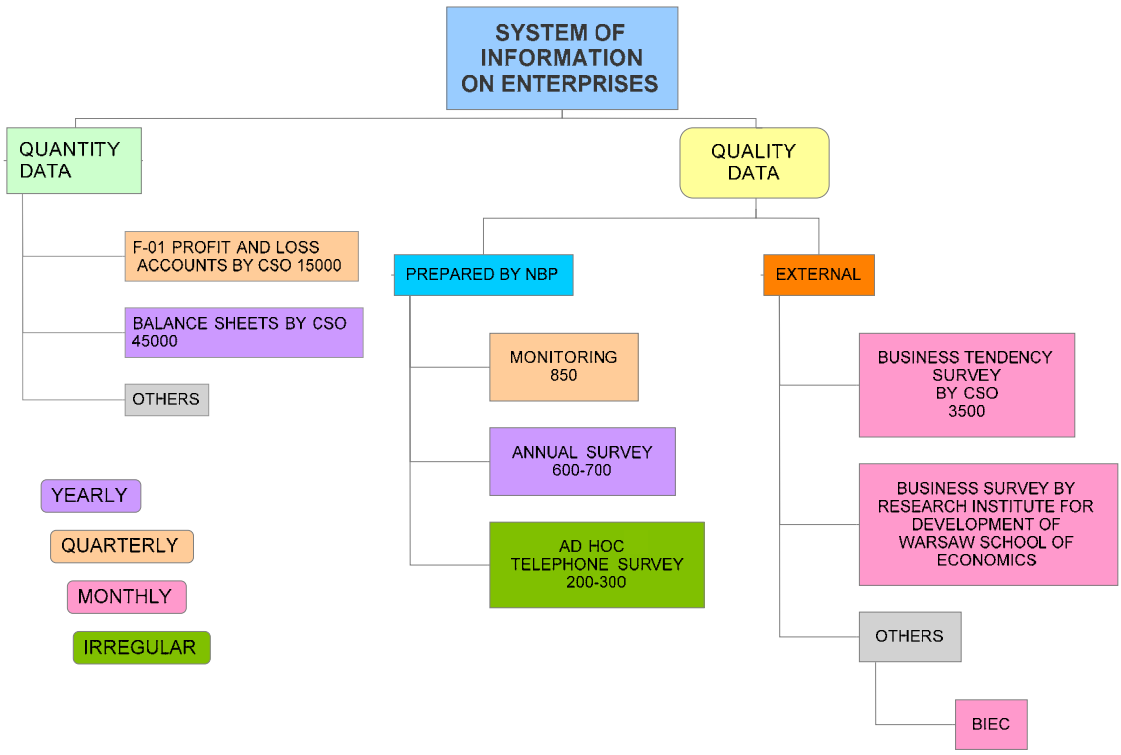
It is obvious that frequent changes in formulation of questions, unstable principles of cooperation with enterprises or unclear rules of panel selection are contrary to these requirements. Of course, we mustn't forget that such "stabilizing" approach has potential drawbacks and sometimes it could lead to some undesirable rigidities, persistencies, or in response patterns. In our methodology we try to take into account these threats; particularly by treating business surveys as an integral part of a wider system of business sector monitoring. Pinning down these ideas in the case of NBP following rules have been adopted from the beginning:

- **coherence and integrity**; surveys are designed as an integral part of the system of information on enterprises in NBP (see Diagram 1).
- **voluntary participation**; reasons for this option have been explained earlier but may need more examination. Such a solution is sometimes criticized. The main argument against it is that there is the risk that sample would be unrepresentative. These doubts are of course reasonable. But it seems that there is a simple and practical solution to this problem. On the one hand, bearing in mind the multidimensionality of the whole population of enterprises, it is obvious that it is very difficult to reproduce such complicated structure in the sample. In practice it means that this sample should be relatively large, which is usually unobtainable without strong effort, costs, favorable formal regulations etc. In the case of many countries these prerequisites are not satisfied. On the other hand, the main goal of such surveys is not the constructing representative sample per se, but in achieving a satisfactory result, reflecting the true state of the whole economy. Operationally it means that results of surveys should be well correlated with the set of the main macro variables. It is possible to meet this condition if the sample consists of sufficient number of biggest companies. It is especially true in the case of economies having a high level of concentration ratios. For example, in Poland the one hundred biggest investors account for more than 40% of total investment by enterprises in the population of medium and big firms.

- **convenience sample** is the next rule, closely related to the previous one. The importance of this rule is significant, especially in the context of loyalty of respondents and openness of the relations between pollsters and surveyed firms. It should be emphasized that nonrepresentativness of the sample is not the only factor influencing reliability of surveys. Non-cooperation by enterprises in financial distress is the second possible source of bias. Such behavior is not rare for firms in this situation; partly due to the reputational reasons, partly as a consequence of burdens and lack of time imposed on the staff due to an adverse financial situation. As a consequence, population of respondents is dominated by firms in good health, which means that the results would be too optimistic. This is probably independent on the techniques the sample is created, unless the participation is obligatory by law. But even in that case the frankness of answers could be limited. Good and long lasting relations between the surveyors and the surveyed seem to be a more efficient solution. With such a relationship, the barriers to communication are lowered and are more transparent. The process of communication between these two groups of partners is more natural and based on mutual trust.
- **primacy of supplementing over changing**; continuity and intertemporal comparability of results require conservative policy in respect of the scale of possible questionnaire modifications. In typical situation it is better to add new question (or in the last resort to redesign some points in the questionnaire) than to modify existing questions. The other consequence of this principle is that within questionnaires we have two groups of questions – repeatable, practically invariable over time and temporary, focusing on time-specific needs. The second kind of questions is predominant in annual surveys and, of course, is the essence of ad hoc surveys.
- **statistical confidentiality**; guaranteed anonymity of respondents and firms is the next pillar of mutual trust and necessary condition of cooperation between all sides involved in surveys.

Diagram 1

System of information on enterprises in the National Bank of Poland



Numbers represent the approximate size of investigated population.

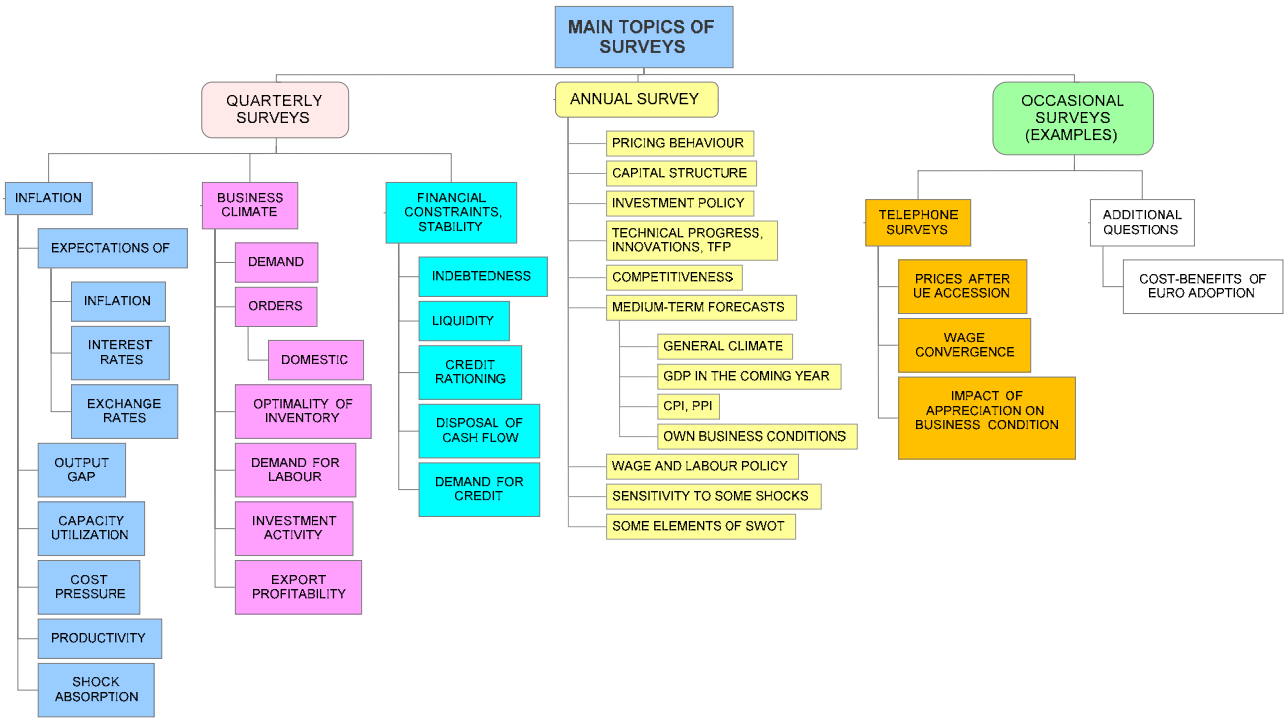
- **frequency of regular surveys not more than quarterly**; of many surveys conducted by statistical offices, the monthly frequency form is rather typical for this kind of studies. But in the light of our practice monthly frequency in some cases seems to be too high. There are at least two reasons for it. Firstly, it is probable that shocks are stored in the memory of respondents during such a short period of time. It means that a group of answers could be influenced more by these shocks than fundamental factors determining economical situation of firms. In the case of quarterly survey it is more likely that shocks are "integrated" in mind over time interval of sufficient length and may be less important or even disappear. The second argument against monthly frequency could be deduced from Weber law which states that the strength of perception is proportional to the logarithm of stimulus. In practice it means that two similar stimuli are undistinguishable by an observer. But it is difficult to assume that during one month changes in economic situation of firms are sufficiently substantial to be recognized.

Of course there is a one exception to this rule – ad hoc telephone surveys (see Diagram.1). Ex definitione they are aimed at capturing opinion of respondents on the impact of untypical events (shocks) on economical situation of enterprises.

- **holistic forward-looking approach**, this principle means that we try to cover in advance most important, from the point of view of the central bank mission, aspects of economic activity of enterprises. Consequently, we analyze in surveys relatively wide range of aspects of firms economic condition (see Diagram 2). It is evident from this Diagram, that among others the surveys are focused on inflation determinants and financial stability. While annual surveys lean toward medium and long-term aspects and mechanisms of problems to be examined, quarterly surveys are more concentrated on factors of short-time importance.

Diagram 2

Main topics of surveys – classification by frequency of surveys

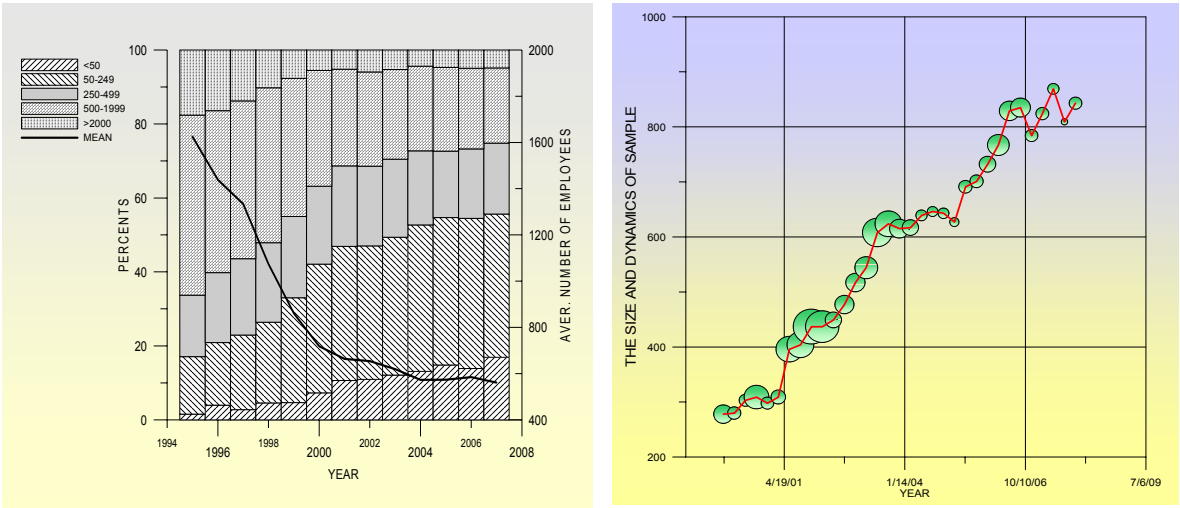


IV. The sample

In 1995 our first sample consisted of approximately 200 of the large and largest Polish enterprises (see right panel on the Fig.1); the reasons for such choice has been explained earlier. The size and the structure of the panel was relatively stable to the end of 1998. At the beginning of this century we decided to supplement our sample with strata of medium-sized enterprises. It resulted in significant drop of the mean value of employment in firms we study. After next few years we made a decision to speed up the process of sample building and to extend our sample by including smaller enterprises. There were some motives behind that decision but one seemed to be decisive. Namely, it is well-known fact that the SMEs sector is the biggest employer in the economy. It is a matter of the great importance for monetary policy because situation on the labour market is one of the fundamental determinants of inflation pressure.

All that decisions resulted in a growth of the sample we investigated and in changes of its structure. Now, aprox. 900 enterprises belong to the sample (see Fig.1 – right panel). Although the structure of our sample doesn't reflect the structure of the population of non-financial enterprises and it is still distorted toward bigger items, now the number of SMEs is almost sufficient from the point of view of methodological requirements for studying this sector.

Fig. 1



Structure (left figure) and size (red line) and dynamics (diameter of green bubbles) of the panel – right figure.

From the beginning of surveying, 16 regional branches of NBP have been actively involved in the process of data collection and other forms of collaboration with respondents. In this system regional branches are responsible for:

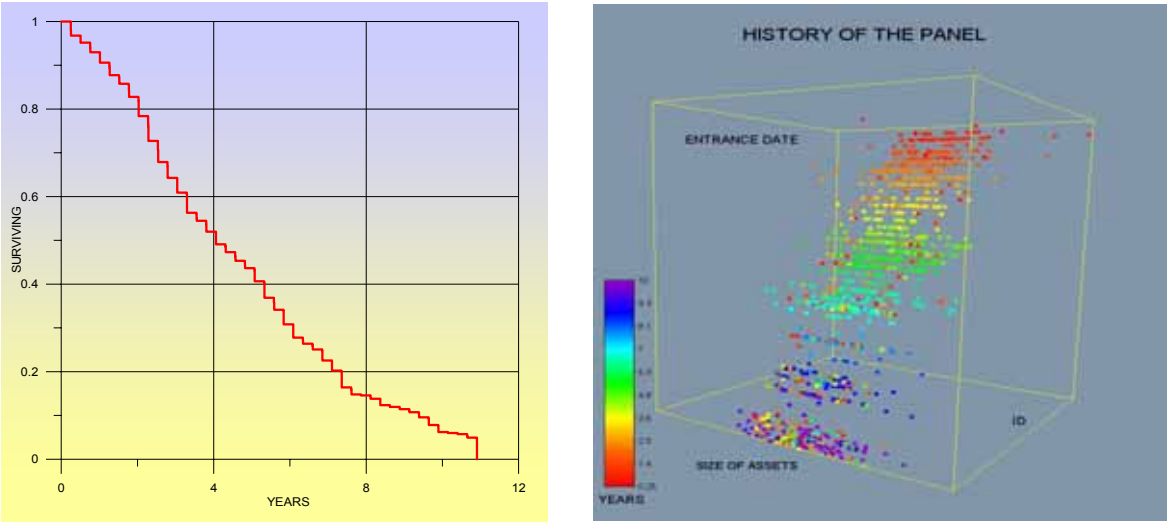
- surveying existing respondents
- interventions for probing or explanations if required by respondents
- recruitment new members of our sample
- maintaining open and trustful mutual relations between firms and branches
- correcting mistakes, explaining doubts etc. in the process of surveying

This system is to some extent similar to solutions applied by the Bank of England in this area. Of course there are significant differences, too. For example, one of the most important difference is that in the case of the National Bank of Poland the formula of interview conducting by regional agents within quarterly and annual surveys is more predetermined

and restricted to centrally administered questionnaire (one for all branches) and is conducted as a structured interview while the Bank of England seems to follow more individualistic and diversified approach – the scenario of a survey to a greater extent depends on a regional agent choice and dynamic interplay between agent and respondent during the time of surveying.

In practice the system based on active role played by regional branches turns out to perform well in the National Bank of Poland if at least two following criteria are considered: fidelity ratio and response rate.

Fig. 2

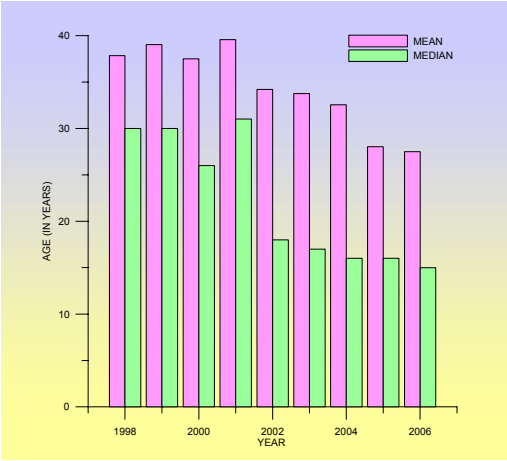


The Kaplan-Meier Survival Plot for the sample (left panel) and the three dimensional scatter plot of survival (in years) by size of the (log of) assets and entrance (to the sample) date – right panel.

The first thesis is well documented by the Fig.2 . The Kaplan-Meier plot suggests that more than half of the respondents surviving within the sample at least for 4 years. The steepness of the curve points out that there is one period of a bit higher risk of leaving the sample – after aprox. 2 years of cooperation. The second important information derived from this figure is that after seventh year of cooperation, firms seem to be more reluctant to abandon the sample and our cooperation becomes long-lasting. It is confirmed by scatter plot (right panel of Fig.2). It indicates that the first cohort of participants of our surveys (the cluster at the bottom of the cube) is dominated by violet and blue-coloured points what means that these enterprises are in the sample for more than nine, ten years. Additionally, it is worth noticing that we have long-lasting relationships with biggest companies. The consequence of significant share of bigger companies is, among other things, higher average age of members of our sample (see Fig. 3). But we should point out that both mean and median of the age decline over time; partly due to the changes in the structure of the panel (see Fig.1). Now we have more smaller and hence younger firms. This transformation is good from the point of view of studying some topics like, for example, the impact of accession to EU on entrepreneurship or some demographical problems of Polish enterprises in this context.

Fig. 3

Average age of respondents – mean and median



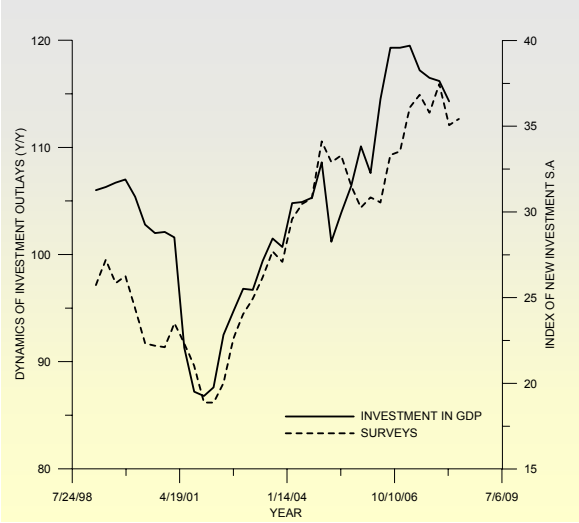
If we turn back to the problem of response rate our practice confirms it is high because new respondents acquisition is based on “face-to-face” formula. The system of direct contacts seems to be much more effective than solutions founded on mailing or anonymous telephone contacts. One can add that our strategy is effective not only at the stage of attracting new participants for surveys but it is influential over all time of cooperation between the central bank and respondents. For example, this is a good method for avoiding one of the most serious weakness of surveys – limited motivation or knowledge of respondents. In our direct approach we always try to contact proper persons responsible for problems we are interested in.

V. Quality

There is a wide spectrum of possible measures and criteria for determining survey quality. Here we limit ourselves to the two groups of indicators. Cross-correlations between business indicators and reference series belong to the first one. The second approach is based on predictive power of business indicators.

Fig. 4

**Index of new investment (quarterly surveys)
and real dynamics of investment outlays (Y/Y)**



In the light of data as far as the cross-correlations are considered it is evident that business indicators obtained from the quarterly surveys are at least moderately (> 0,5) correlated with reference macro variables. But it should be noticed that we have some outstanding indicators exhibiting correlation higher than 0,9 (for example, high correlation exists between the investment activity indicator and dynamics of investment outlays – see Fig. 4). In many cases these indicators are simultaneous with reference series in statistical sense. Bearing in mind lags in availability of financial series it means that indicators extracting from surveys are leading in informative sense.

Predictive power of indicators is an interesting topic, and here there are variety of methods to be used. But in the case of our surveys some of them are useless – due to relative short interval of the data in our hands which eliminates some more sophisticated tools (for example so called switching models). Traditional approach to this problem is based on examination of the role business indicators play in econometric models. Of course, one has to decide which class of models should be applied. We have opted for VAR (BVAR) models. Results seem to be mixed. On the one hand, some indexes turned out to be insignificant. But we have to keep in mind that sometimes it is not clear to which extent it could be attributed to the form and specification of models we estimated. On the other hand, we are able to detect leaders in this competition. Additionally, from the point of view of the central bank needs it is important that some of these indicators are essential for the job we do (index of expected inflation is a good example).

VI. Concluding remarks

Summing up, our experience on the field of business surveys is good and underscores the point that this methodology is useful for central banks. Results of the surveys are widely used both in decision-making processes and for communication purposes – they are quoted in the *Inflation Reports* and they are published as separate publications assessing current situation and perspectives of business climate in the Polish economy (http://www.nbp.pl/). This flexible approach confirms its applicability in the changing world of new and sometimes previously unknown challenges, too. Furthermore, one can expect that the future of this methodology within the Bank is promising. The length of time series we are able to collect on the basis of business surveys grow as time goes by. It means that we will be able to utilize more and more sophisticated statistical and econometrical tools for analyzing such data.

Session 4

Surveys for the compilation of external sector statistics

Background note:	Surveys for the compilation of external sector statistics Paul Van den Bergh, Bank for International Settlements
Case studies:	
Buenos Aires	Surveys for the compilation of external sector statistics: the experience of Banco de Portugal Paula Casimiro, Bank of Portugal
Vienna	New collection system in Belgium for Balance of Payments BoP 2006 – use of surveys and direct reporting for BoP Daniel Desie, National Bank of Belgium
Country presentations:	
Pune	Surveys for compilation of external sector statistics in India Narender Singh Rawat, Reserve Bank of India
	Overview on external data compilation Lui Kwee Ching, Central Bank of Malaysia
Buenos Aires	External sector surveys Erika Chaves Ramirez, Central Bank of Costa Rica
	Use of surveys to compile external statistics in the Central Bank of Chile Paulina Rodríguez, Central Bank of Chile
	Challenges in data compilation of foreign direct investment in a free capital flows country – the Uruguayan case Ana María Ibarra, Luis Ipar and Mariana Taboada, Central Bank of Uruguay
Vienna	Surveys as data sources for external sector statistics Endrita Xhaferaj, Bank of Albania
	Foreign direct investment statistics: the case of the Czech Republic Rudolf Olšovský, Czech National Bank
	Mobile phone traffic data and tourist services item in Balance of Payments Matjaž Jeran, Bank of Slovenia

Background note on surveys for the compilation of external sector statistics

Paul Van den Bergh[1]

External sector statistics are key economic indicators for central banks and monetary authorities. They shed light on the size and composition of a country's external trade in goods and services as well as its financial transactions with the rest of the world. They also provide information on the nation's international asset and liability position, including its external liqudity and debt. All these are crucial variables in order to assess current and prospective developments in exchange rates and the country's vulnerability to external shocks.

For all these reasons, it is not surprisingly that in many countries the central bank is responsible for the compilation of the external sector statistics, ie the balance of payments (current and financial accounts), the international investment position, and external debt statistics. Even where the central banks are not directly involved in the production of these statistics, they need to ensure that they are coherent and compatible with other statistics such as money and banking, national and financial accounts.

Innovation, deregulation and globalisation have resulted in a rapid growth, if not explosion, in cross-border economic and financial transactions in most countries around the world. This has posed a number of challenges to compilers and analysts of external statistics. Indeed, a number of high-profile discussions have taken place regarding the quality of external sector statistics, including the question of the asymmetry in global balance of payment statistics, the precise measurement of the external position of the United States and the lack of adequacy in external debt data for emerging market countries before the financial turmoil in the late 1990s.

A particular challenge has been posed by the relaxation of foreign exchange controls and the growing role of non-banks in international financial transactions. Indeed, as long as foreign exchange transactions require permission of some kind and as long as banks are the only institutions carrying out foreign exchange transactions for their own account and for that of their non-bank customers, a reporting system such as the International Transactions Reporting System (ITRS) is relatively easy to implement and maintain. As soon as foreign exchange controls are relaxed, however, or non-bank financial institution can start making cross-border payments, banks become more reluctant to continue to participate in such reporting systems, particularly if their international competitors are no longer subject to such requirements. Authorities obviously also do not want to see their domestic financial institutions at a competitive disadvantage. Even if reporting requirements are maintained, the quality of the reported data will gradually be reduced as banks will not voluntarily make best efforts to deliver quality information.

Over time other forms of data collection systems have been established, in particular the conduct of surveys. These were pioneered in the major Anglo-Saxon countries which were amongst the first to deregulate their external transactions (eg US, UK, Canada, Australia, New Zealand). Initially, surveys were introduced for the reporting of new types of

[1] Monetary and Economic Department of the Bank for International Settlements.

transactions (such as M&A, income, IT services, travel, remittances, cross-border portfolio investment). In its 5th BOP Manual (1993), the IMF started to encourage new collection and compilation techniques. Gradually the surveys have started to replace established reporting systems. More recently, the introduction of surveys has been used by statisticians to more effectively capture the details of more complex cross-border transactions related to the development of new and more complex financial instruments (eg derivatives, securitisation).

A particular development has been the creation of a Monetary Union in Europe. Indeed, as part of the deregulation of capital movements, the European Commission in 2001 decided to free intra EU transactions below a threshold of 12.500 euros from reporting requirements in order to reduce the cost of cross-border transfers to that of domestic transfers.[2] This put pressure on the European central banks to adapt their reporting systems.

Typology of reporting systems for external sector statistics

Given the gradual evolution from comprehensive reporting systems to the conduct of surveys of external transactions, different types of reporting schemes can currently be identified:

- full International Transactions Reporting Systems continue to be used in countries where foreign exchange controls remain in place, which have only recently removed such controls, or which have not had the possibility to adapt their reporting system;
- partial ITRS can be used, limited, for instance, to interest payments or portfolios transactions, or to capture only basic information such as name of the customer or the currency used, in order to populate a cross-border business register that can be used as a benchmark to update the survey population;
- general direct reporting by the largest companies above a certain threshold (eg in terms of specific cross-border financial transactions or export sales) which have to report all their international transactions, economic and financial – such a system can give more detailed and accurate results on several BOP items, including trade in services;
- specialised direct reports by selective sectors (such as insurance and transportation) that are not properly captured through ITRS, or by companies which have bank accounts abroad and which are asked to report the transactions settled through these accounts;
- ad-hoc reports by companies involved in direct investment transactions, which are identified in press reports or by some specialised commercial data providers;
- random panel surveys of travellers at the border, in ports, airports, rest areas on motorways or by mail/internet,
- surveys of companies being selected by sampling and stratification methods and whose results are extrapolated statistically – this can be used for specific transactions such as trade credits, but also as a substitute for ITRS as the main datasource for most of the BOP statistics;
- anecdotal surveys in countries having no institutional reporting system for cross-border business.

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[2] Discussions are ongoing on an increase in this threshold to 50.000 euros; some fear that this will significantly compromise the quality of the ITRS data in countries of the euro area that are still using this collection method.

These various reporting or survey procedures can be used in various combinations depending on national specificities and evolving requirements. In France, for instance, the central bank uses ITRS for transactions above a threshold, direct reporting for large companies, partial direct reporting for small and medium companies holding accounts abroad above a certain amount, sample surveys for trade credit, and panel interviews for inbound and outbound travel. In Lithuania, the central bank has recently implemented a monthly survey, the first in Europe, with a sample of companies, which are selected through a stratification method based on the information on the full population which is surveyed quarterly by the Statistics Office for the compilation of the quarterly BOP. Finally, in Bulgaria, the central bank uses only a traditional ITRS but is planning to move partly to a general direct reporting system, once a proper cross-border business register is set up on the basis of the information currently available in the ITRS.

The table in Annex 1 compares a number of main features of ITRS, which is de facto a full census reporting, and the conduct of surveys. ITRS has a number of advantages in terms of frequency and timeliness as well as its potential use in day-to-day monetary policy since it allows the monitoring of external transactions on a continuous basis, and also relies on a limited number of banks and is easily automated. When exchange controls are lifted, the quality of the data reported by banks and other reporters can, however, deteriorate quickly. Surveys are seen to be better adapted to monitor short-term changes in cross-border transaction than comprehensive compilation systems. Their drawback is that information is available with a longer time lag and may have less detailed breakdowns. Moreover, the operation of surveys for external sector statistics requires the existence of an up-to-date business register which identifies the firms involved in cross-border transactions. For this a full reporting system (such as ITRS) is required as a benchmark – at least occasionally in order to update the system.

The growing recourse to statistical surveys does not only imply a change in culture in statistical agencies responsible for external sector statistics, which are typically the central banks, but may also have cost implications. Surveys are less costly, for banks but also for reporting businesses and households. In addition, surveys can now be carried out via the Internet, thereby alleviating the burden of physically contacting the respondents (business travel survey for instance). The reduced volume of data resulting from sample surveys should also facilitate cost savings. These savings have to be balanced against the loss of accuracy inherent in sampling (currency/country breakdowns for instance). Moreover, costs of data compilers may increase, as some of the surveys (travel at the border for instance) may have to be outsourced to private polling companies.

Central banks and external sector statistics

Only 5 out of 37 central banks that have reported on their data compilation exercises in preparation of the workshop are not involved at all in the collection of external sector statistics (Argentina, Canada, Hong Kong, Norway and Australia). A similar number seem to be only involved to a limited extent (Denmark, Finland, Iceland, India, Italy[3], Turkey and the United States). More than two-thirds of the central banks are either responsible for the full BOP and IIP statistics or at least for the financial accounts of the BOP and the IIP (including external debt).

[3] In Italy a separate specialised organisation, called the Ufficio dei Cambi, compiles the balance-of-payment statistics. This organisation works in close cooperation with the central bank and there are plans to merge it formally with the central bank.

In terms of collection techniques used, ITRS or a variant of this method is used by the central bank in India, Israel, Latvia, Luxembourg, Macedonia, the Philippines, Portugal, Russia, Slovakia, Spain, and Thailand. Even in these countries, balance sheet data from banks or financial institutions are typically collected through a regular census or cut-off the tail reporting. Surveys are used to collect information on

- travel or tourism (Estonia, Germany, Greece, Italy, Mexico, Portugal, Russia,
- trade in services (Israel, the Philippines, Russia, Sweden),
- transfer payments (list countries: BIS, Data Bank Services),
- foreign direct investment (Austria, Chile, the Philippines, Sweden, Turkey),
- trade credit (Belgium, Chile, Czech Republic),
- corporate sector foreign assets and liabilities (India, the Philippines, Portugal, South Africa, Turkey),
- derivative transactions (Sweden), and,
- remittances (Israel).

It should be noted that the use of surveys varies significantly from country to country. From other material presented at IFC meetings, there seems to be a general trend towards an increased use of surveys in the compilation of external sector statistics. The extent to which surveys are used also depends on national contexts and on the institutional relationship and sharing of statistical competence between the statistical offices and the central banks.

Issues for discussion

1. What is the best way to update the reporting population in survey-based systems for external sector statistics? How is the population benchmark for this sector established?
2. What is the overall cost of a survey system in comparison with the ITRS?
3. Can survey-based systems improve the reliability, comprehensiveness and timeliness of external sector statistics?
4. What conditions need to be fulfilled in order to move away from a full reporting system (including ITRS) to a survey-based system for external sector statistics?

Annex 1:
A comparison between ITRS and surveys for BOP reporting systems

	Statistical surveys	ITRS
Use of external sector data for the day to day operation of monetary policy	No. The data are useful for the national accounts, but are not available timely enough to support monetary policy.	Yes. Timely reported cross-border transactions allow interpretation of their influence on the foreign exchange market.
Typical frequency of aggregate data availability	Quarterly	Monthly (but daily data also available).
Typical timeliness	2–3 months after the end of the quarter	1–2 months after the end of the month
Reporters	Mostly the corporate sector and the objective of quality and accuracy implies a large number of reporters. Also banks (stock data on respective asset and liabilities positions).	Mostly a limited number of banks
Degree of detail, accuracy	Standard components, with limited country and currency breakdown, but with more detailed economic information	Detailed country and currency breakdown based on customers' accounts at banks
Drawbacks	Requires an updated business register on cross-border transactions	Dependent on the correct coding by banks who may not have deep knowledge of their clients' (corporate) business, contrary to direct responses to surveys by companies. Lifting of foreign exchange controls may relax the reporting banks' commitment to provide quality data.
Costs	Reduced for banks, more on reporting businesses. Surveys involve fewer reporters, can be shorter and be conducted over the Internet.	Mostly for banks
Adaptation to changes in external transactions	Survey design (eg questions) can be adapted to track changes in external transactions	More difficult to change reporting requirments

Annex 2:
The move to surveys to estimate travel in the German BOP

Until the end of 2001, data on the receipts from and expenditure on foreign travel were collected by the central bank indirectly, using information from banks and credit card companies, supplemented by reports from tour operators on their cross-border transfers. Data was also used from some European partner countries on the buying and selling of domestic currency (DM) banknotes in their respective home markets.

With the introduction of the Euro this reporting system became obsolete and was replaced by a direct survey of households on their travel expenditure.

Advantages:

- The sample survey brought better coverage, resulting in an 11% increase in estimated expenditure.
- The seasonal pattern of spending is more pronounced than was previously apparent.
- While estimates of spending levels in EU countries did not change, it became clear that expenditure in countries outside the EU was 38% higher than previously estimated, including 13% higher spending in the US.
- additional information on type of travel (business or private), duration of the trip, transport used, etc, is now available.

Disadvantages:

- The survey results are available after five months at the earliest.
- Sampling error increased (less important destinations are rarely captured by the sample survey, so reliable extrapolation is not possible) Results are therefore published only for major destination countries and regions.

Source:
http://217.110.182.54/download/volkswirtschaft/mba/2003/200303_en_germanbalance.pdf.

Surveys for the compilation of external sector statistics: the experience of Banco de Portugal

Paula Casimiro[1]

Overall view of the Portuguese b.o.p. and i.i.p. compilation system

The Banco de Portugal (BdP) has been responsible for compiling and producing the Portuguese balance of payments statistics since 1963. This task is recognized by the Bank's Organic Law, Law No. 5/98 of 31 January 1998, which also empowers the Bank to require from any public or private body the direct supply of whatever information deems as necessary to its fulfillment. Further to the full liberalization of foreign exchange regulations, at the end of the 80's, a new collection and statistical production system was introduced in 1993 mainly based on an International Transactions Reporting System (ITRS), complemented with direct reporting from companies. In order to comply with the main international methodological recommendations regarding the balance of payments (b.o.p.) and international investment position (i.i.p.) statistics, the Portuguese statistical production system has evolved from a system mainly based on settlements, as it was first implemented in 1993, to a system based in the aggregation of a growing number of different data sources. This system has been running, and evolving, on a monthly basis since 1999.

Resident banks must report on a monthly basis all external transactions carried out on their own account or on behalf of their customers. In the case of transactions related to their customers, a threshold of €12,500 applies, below which banks may be exempted from reporting that transaction (exemption threshold) or they may report it without the statistical classification but identifying the client and country of counterpart (simplification threshold). The report is done, generally, on a transaction-by-transaction basis via a text file with a predefined format which is sent to the BdP through an electronic channel.

Direct reporters may be of two kinds: "partial" direct reporters, that only report foreign transactions settled through foreign bank accounts or through compensation/clearing accounts with non-resident counterparts, and general direct reporters, that report all of their foreign transactions including those settled by a resident bank (a special codification procedure is implemented to avoid double counting). Direct reporters also report monthly on a transaction-by-transaction basis and the BdP provides free-of-charge – and for optional use – an application for data collection purposes. Paper forms are available but companies are not encouraged to use them.

In 1999 additional data sources were introduced into the system. ITRS and direct reporting (DR) maintain their importance as the major data source in the case of some b.o.p. items and are an important data source for quality control for others. Next section briefly describes some of the most relevant data sources.

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Current and capital accounts

In the case of **goods**, b.o.p. statistics make use of the external trade statistics that are compiled by the National Statistical Institute (INE), complemented by ITRS (e.g. goods procured in ports by carriers). Since there are no barriers imposed on trade among European Union (EU) countries, the INE collects Intra-EU trade via a specific system of direct reporting, named Intrastat, whereas Extra-EU trade is collected from customs. For b.o.p. purposes, BdP receives monthly data at approximately t+40 days (for Intra-EU trade this is a first estimate which will be revised in subsequent months).

For **services** ITRS and DR are the main data sources for most of the items, with the exception of merchandise freight and insurance (cif/fob margin estimates) and travel. For **travel**, ITRS and DR are complemented with information collected from exchange offices, from the financial entities engaged in the issuance and processing of credit and debit cards and from tourism activity indicators (like overnight stays and income from hotel occupancy) published by the INE. Estimation is made for euro-denominated banknotes carried by travellers, since euro banknotes issued by any Central Bank of the European Monetary Union (EMU) are legal tender in Portugal and this flow is no longer captured by the ITRS system.

Because of this drawback, a working group (WG) was established by the BdP and the INE in February 2002 to study the implementation of border surveys for collecting data on travel. Following the work of the WG, cooperation protocols were established between the BdP, the INE, and the Tourism General Directorate, in May 2004 and two surveys were launched, both covering airports and road borders (in the Portuguese case, rail and sea borders are of lesser importance). The first survey, the Travel Border Survey (IMPF), started in May 2004 with the objective of estimating the total number of incoming and outgoing travellers crossing the Portuguese borders, whereas the second, the Travel Expenditure Survey (IGTI), started later (at the end of 2004) and aimed at estimating the total expenditure for incoming and outgoing travellers crossing the Portuguese borders. Both surveys are also essential for the characterisation of travellers and respective trips.

For BdP these surveys were important in the context of the compilation of the travel item in the b.o.p. statistics, since they complement the existing data sources, allow the collection of additional information (e.g. to distinguish between personal and business travel) and improve its geographical breakdown. Concerning the overall results, the 2005 and 2006 surveys confirm the estimates made by BdP. For example, in 2006, published figures for both travel receipts and expenditures are marginally larger than the results obtained from the border surveys: by 1.4%, in the case of receipts, and by 0.4%, in the case of expenditures. As for the geographical allocation, the list of major countries of origin (in the case of receipts) or destination (in the case of expenditure) is broadly the same, but within it the ranking of countries change.

In the case of **workers' remittances**, ITRS is the main data source for the credit side, whereas for the debit side it is complemented with data collected directly from several money transfer operators, like Western Union or Money Gram. This additional data source is also relevant for improving the geographical allocation for this item.

Financial account and related income

In the case of **direct investment (DI)**, BdP has been carrying out specific annual surveys since 1997. The main objective of these surveys is to collect data on direct investment end-of-period positions and related income. They are also used to collect additional variables like foreign affiliates' activity data – such as turnover, number of employees, value added, imports and exports – and they are an important complement to ITRS and DR. Due to

existing resources constraints, the lack of experience in conducting surveys directed at non-financial corporations and the timeliness and periodicity of the dissemination of statistics at that time, BdP decided to carry out the inward and outward surveys separately, in alternate years. The consistency and continuity of the time series was guaranteed by the request of information about the last two years in each questionnaire. For example, the first inward DI survey (QIDE) launched in 1997 covered both 1995 and 1996 data.

Another initial option concerned the link between the statistical concepts and definitions and the accounting books and rules of the companies to be surveyed. Whenever possible, namely in the case of the resident company data, we would indicate the relevant accounts to be used. Due to the existence of several accounting plans, this option made it necessary to develop three different forms: banks, insurance companies and non-financial corporations.

Aiming at reducing the response burden and speed up data collection, BdP developed and provided, free of charge, an application to be used on a voluntary basis. Although requiring the manual input of data, this tool can perform automatically some consistency checks, reducing the possibility of error and the need for further contacts, and generates an electronic file to be sent to the Bank. This latter facility releases human resources from the manual collection of data, indispensable in the case of paper forms, to its analysis and quality control. The usage of the application increased steadily over time, from a low of 25% up to 80%.

Direct investment surveys, as briefly described, haven't changed significantly since 1997, with one major exception concerning the sampling procedure. Until 2001, BdP ran a census on all resident direct investment companies. The initial register was built upon the exchange control database, including all direct investment transactions up to end-1992, complemented with information from the balance of payments collection system, implemented in 1993. Every year, this register is updated, taking into account the results of the last survey (for e.g., companies that have stated to have ended the DI relationship), the new DI companies identified in the b.o.p. collection system, data from the Central Balance Sheet Database and other sources like the stock exchange database or the specialized press. On average, DI surveys were addressed to approximately 2500 and 1300 companies, for inward and outward DI respectively. In 2002, it was decided to launch the outward direct investment survey only to a sample of enterprises which accounted for over 95% of the last surveyed stock plus over 95% of the new DI transactions and including all majority-owned enterprises or enterprises with majority-owned foreign affiliates. Banks and insurance companies continued to be fully surveyed. This change resulted in a significant decrease in the number of enterprises surveyed (over 50% in the case of inward DI and over 70% in the case of outward DI), which allowed a better quality control of the reported data, namely because it is possible to monitor more closely each individual survey and respondent. The overall coverage of DI flows/positions is not significantly damaged since grossing-up methods were then introduced to estimate the remaining 5%.

In 2005, both questionnaires started to be launched simultaneously in order to take into account users' need for more timely FDI data. In the former arrangement, each year the previous two years were surveyed, t–2 and t–1, and the final results were disseminated in February of t+1, along with other revisions to t–2 and t–1 b.o.p. and i.i.p. statistics. Especially in the case of t–2 final FDI statistics, this procedure meant that they would become available with a delay of 26 months.

Direct investment surveys have a first section concerning information on the resident company and as many annexes as the number of foreign investors/foreign affiliates. Collecting data on an investor-by-investor and affiliate-by-affiliate basis makes the questionnaires more robust to possible changes in the underlying methodology, allows for a more thorough quality control and gives the possibility to track investments over time.

In 2001, BdP implemented a new system for collecting data on securities' transactions and holdings – Securities Statistics Integrated System (SIET) – which is an integrated data

collection system that serves the needs of external statistics **(portfolio investment and related income)**, monetary and financial statistics and financial accounts. The system collects data for all types of securities except financial derivatives – shares and other equity and other short and long-term securities – mainly from the resident custodians – monetary financial institutions, brokers and dealers – who provide information on their account and on behalf of their customers. Other resident entities with securities held outside the resident financial sector must report these portfolios directly.

Monthly data on transactions and holdings is reported to the BdP electronically on a security-by-security and investor-by-investor basis. Individual securities are identified using the respective ISIN code. For securities with no ISIN code, reporters must provide some additional data: country and institutional sector of the issuer, type of security, currency of denomination and maturity. Resident investors are individually identified by their fiscal number, whereas for non-resident investors reporting agents provide information on their country of residency and institutional sector. Only data on households are aggregated under the ISO code of their country of residency. There is a simplification threshold of 500 million euros (applied to the monthly transactions and monthly outstanding amounts) below which reporting entities only provide information once a year and on a very simplified form. Finally, data is provided on both quantities and amounts traded or held. Transaction values and market values for positions are required. In the latter case, if there is no market price available, reporters can provide either the acquisition or the nominal value, indicating which one is being reported.

As for **financial derivatives**, data related to the monetary authority, general government and banking sectors are collected directly. In the case of banks, BdP implemented a specific monthly survey that collects not only data on their own account but also on transactions and end-of-period positions held on behalf of their customers (aggregated by institutional sector). Data is broken down by risk category (foreign exchange, single-currency interest rate, equity, commodities and other derivatives contracts) and by type of instrument (swaps, options, futures and other instruments) and it covers derivatives traded both in organized (stock exchange) or over-the-counter (OTC) markets.

For **other investment** several different data sources are used depending on the institutional sector. Therefore, data is collected from the Treasury (general government), BdP's Accounting and Reserves Management Departments (monetary authority) and money and banking statistics (other monetary financial institutions). In the case of the other sectors, data is largely collected from ITRS and DR and complemented with other statistical data available, like the BIS International Banking Statistics (deposits and loans of the non-MFI sector).

Within other investment, **trade credits** are estimated based on information on imports and exports of goods and services (excluding travel) and on the average number of days in receivables from non-residents and in accounts payable to non-residents. This information is collected through a joint BdP/INE quarterly survey to non-financial enterprises which covers the major exporters and importers. Quarterly estimates are further revised based on annual data obtained from the Simplified Corporate Information (SCI). Through the SCI companies submit once a year, electronically, detailed information of accounting, fiscal and statistical natures that they usually have to remit to the Ministry of Justice, the Ministry of Finance, the INE and the BdP. A protocol established between the BdP, INE, Ministry of Justice and Ministry of Finance allow these entities to access annual data for the whole population of enterprises, both financial and non-financial.

Finally, **reserve assets** are collected directly from BdP's Accounting and Reserves Management Departments.

The future of the Portuguese ITRS data collection system

The developing and deepening of the European integration poses some limitations and challenges to b.o.p. compilers. In 2004, the Regulation (CE) No. 2560/2001 of the European Parliament and the Council, concerning the cross-border payments in euro, imposed an exemption threshold of € 12,500 on the reporting of individual transactions carried out by banks on behalf of their customers. This threshold is expected to rise to € 50,000 in the beginning of 2009, implying a considerable loss of information in particular in the services account and, therefore, the need to find complementary sources to ITRS in this domain.

The studies carried out so far by the BdP showed that, in the Portuguese case, the population of enterprises involved in the import and export of services has a considerable concentration, with 16,5% of the enterprises being responsible for 90% of total services. Additionally, the diversity in the international trade in services is low: 91% of the exporters sell only one type of service, 80% of the importers purchase only one type of service and only 17% of the population are both exporters and importers. These characteristics, high concentration and low diversity, make direct reporting a better approach when compared to sample surveys. Consequently, in complement to ITRS, BdP is currently evaluating the change of the existing legal framework, namely making mandatory the figure of General Direct Reporter, as well as defining the criteria applicable in the selection of the most relevant enterprises in the context of external statistics.

In this regard, the major difficulty related to direct reporting, or sample survey, for b.o.p. is the high volatility of the relevant population. Although there is not an effective Business Register, BdP has, for the time being, a database with all entities involved in external transactions (built from ITRS and DR). In the future, there are possible ways to maintain and update this database on a yearly basis, such as asking the resident banks for the list of clients involved in foreign transactions or by the use of the Simplified Corporate Information.

Pros and cons of different compilation systems

Minimizing the response burden is one of the main objectives of modern statistical systems. The underlying idea is that it is possible to make better statistics with less effort and cost, for both the compilers and the respondents. Practical steps towards this objective are the optimization of samples, avoiding double questioning, promoting better coordination between offices in charge of data collection, increasing the use of administrative data, approximating (electronic) data collection templates of the respondents' registers (formats and concepts) or defining simplification / exemption thresholds.

The choice of data collection methods and sources is an important strategic decision as it will impact a large number of aspects, including IT architecture, response burden imposed, data availability and implementation and running costs. The selection of the actual reporting scheme will depend on national specificities, like the size of the targeted population, the reporting practice and the institutional sector (e.g. a collection system designed for banks may not bring good results in the case of households). This section briefly discusses some advantages and constraints related to different features of data compilation systems.

When implementing a statistical compilation system, decisions have to be made about some of its specific features: type of data to collect (administrative vs. statistical data), the level of detail (aggregated vs. transaction-by-transaction), type of information (both stocks and flows vs. deriving flows from stocks or vice versa), collection method (census vs. sample survey) and reporting channel (indirect vs. direct reporting).

In general, administrative data has low costs and allows the reuse of an existing dataset – either as a direct input for statistics or as a tool for data quality control. However, for the

compiler, possible drawbacks may exist in terms of its coverage (targeted population), timeliness, frequency and lack of harmonization with existing statistical classifications and definitions. On the contrary, data collected specifically for a given statistical purpose will ensure adequate coverage and frequency, as well as compliance with statistical methodologies and concepts, but will imply a limited use of the data and potentially larger data collection costs. For respondents, the use of administrative data lowers their response burden and avoids the need to be aware of statistical methodologies and concepts.

Collecting aggregated data has the advantages for the compiler of reduced implementation and maintenance costs, resulting in a relatively small amount of data to keep. However, it also has the risk of potential miscalculation or the use of non-generalized aggregation procedures by the different reporting entities and it carries greater difficulties in cross-checking the data and in reconciling flows and stocks. Also for respondents, aggregate reporting usually means greater reporting burden in terms of details and breakdowns to be reported, the need to keep and maintain (in every respondent's system) links between individual (business) records and aggregated (statistical) variables and the need to make adjustments in the reporting systems every time new or additional output requirements emerge.

On the other hand, transaction-by-transaction reporting ensures data accuracy and consistency, although meaning a shift of costs and work from the respondent to the compiler in terms of aggregation procedures and maintenance of individual transactions databases. The implementation of new requirements becomes more flexible and, in some cases, may not even imply the need to introduce changes in the respondents reporting systems. In the case of financial instruments, this type of system can be used to derive flows from high-frequency stock data, reducing the reporting burden for reporting agents and allowing for quality checks at a very detailed level. The reporting burden will also be reduced since the amount of detail (in terms of breakdowns) to be reported by respondents decreases. The main disadvantage of a transaction-by-transaction collection system is the higher cost of set up and maintenance.

Compared to sample surveys, census based data collection will guarantee full coverage of the population, with no need for estimation procedures or sampling techniques. However, it will also imply additional work for data control and a larger amount of data to store. For smaller respondents this will also impose uneven response burden.

Lastly, indirect settlement-based reporting (by resident banks) has the advantage of keeping the size of the reporting population relatively small while providing high-frequency timely data. It is easily adaptable to transaction-by-transaction reporting and carries fewer problems concerning double-counting. The main problems come from the existence of netting transactions between companies that prevent the collection of the gross figures and the need for complementary reporting (e.g. for settlements via accounts held abroad). Also pure stock statistics will have to be collected separately. Direct reporting can ensure the full reconciliation between flows and stocks and it is expected to provide better statistical classification. The major downside is the potentially large size of the reporting population (e.g. households). Also in the case of some specific sectors it may be difficult to receive timely and high-frequency data. The collection of individual transactions may be more difficult for sectors unfamiliar with this way of storing and reporting information and, finally, statistical principles and methodologies can differ from accounting principles used by a great number of respondents.

New collection system in Belgium for Balance of Payments BoP 2006 – use of surveys and direct reporting for BoP

Daniel Desie[1]

Context of the new system

Before explaining the context of the new system, I believe it would be useful to describe first our previous system.

Until 2006, balance of payments statistics were produced using information provided via a settlement based system.

The majority of the information (± 96% in value) was delivered to the National Bank of Belgium via the payments registered on a daily basis by the commercial credit institutions in Belgium. They acted as intermediaries and played an important role in information gathering coding the nature of the underlying transactions made by their clients.

Besides that, information was delivered (± 4% in value) by a small number of companies (± 2.500) which directly declared their cross-border payments to the National Bank of Belgium. These were mainly direct declarants or companies with operational accounts abroad, companies with current account relations with abroad or companies participating in netting systems.

The choices we made in our new approach were mainly determined by the objectives of information collection.

The main objectives in changing our system were, on the one hand, quality improvement of the statistics by directly appealing to the information sources and, on the other hand, the reduction of the general administrative burden for the economic actors by limiting the number of declarants.

The underlying reasons were the assessment that payments registrations were not a good proxy anymore due to the diverging link between payment and transaction (as an answer to the growing complexity of the economic reality), the assessment of more differentiation in codes for direct declarants than for banks, and the decrease in differentiation in codes for some big companies over time (funnel effect). Of course also the discussions about the threshold of declaration (€ 50.000) played an important role in the decision making. The current prospect for the year 2011/2012 of the eventual implementation of a sunset clause (no statistical burden anymore) fully reinforce the choice we made and is a factor that may urge using similar processes.

Approach and practical aspects

A new dedicated team started in 2002 building up the new system by analysing first the data from the payments register via calculation of concentration, use of weights and creation of

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related time series and drawing conclusions in targeting populations: high concentration and stability over the years for the major items in services, breakdown of various components of services necessary, aim at exhaustiveness for the financial sector with a well known number of companies, recognising that exhaustiveness was not possible for the non-financial companies.

For assessing investment components, the former annual direct investment survey was fully upgraded by increasing the frequency and by expanding the content (adding other investments components).

The existing staff of the BoP unit mainly focused on the system regarding the portfolio investment components as well as some methodological aspects.

Main features of the new system

We directly contact the information source by maintaining direct contact with the companies and we no longer use information via the intermediation of the credit institutions.

As the new system replaces the previous system, this constitutes an abandon of the settlement based system.

The quantitative and descriptive analysis made, allowed us to conclude that we could subdivide the questionnaires into parts according to the sectors or economic activities we approach.

Where possible, we make use of existing sources (for instance: for the component goods, the intrastat data and customs data are used as the basic information).

We take activity code and size into account that results in a selective approach as regards the content of the surveys and population of declarants. This means that we try to get the information when and where it is most relevant.

As for definition of the desired information we refer to the bookkeeping, based on transactions instead of payments.

Declarations are to be submitted only electronically and of course the whole system is based on a legal obligation.

Briefly stated, our system is a modular system with different methods of treatment, different target populations, different company selection methods, different surveys and different frequencies of reporting in one and the same survey. We no longer have an exhaustive and rather rigid system with uniform treatment based on accounting methods and with an easy management, but instead, a selective system with different treatment, based on statistical methods (sampling, estimations, extrapolations, ...) with a more complex management but also with a higher level of flexibility.

External sources

The modular approach is also made possible due to the availability of different external data sources.

For the targeting of populations we use the following databases:

– VAT database: ±565.000 companies, targeting the population of general declarants, transport, construction, commercial services.

– Foreign trade database (16.000 companies): intrastat and customs declarations used for general merchandise, return of goods, diamonds, precious metals. Where required, methodological corrections have to be made. This is more problematic for merchant trade, goods for processing, goods procured in ports, repairs on goods.

– Structural business survey (36.000 companies): additional questions are asked, such as “turnover abroad of which services with abroad” and “purchases of commodities, raw and auxiliary materials, services and varia, of which services with abroad”.

– Annual balance sheets database (270.000 companies): used for selection of population for direct investment surveys via threshold on own funds, total equity, fixed financial assets; also used for selection of population for other investment surveys via threshold on total assets/liabilities, total amount receivable at more than 1 year, total amount payable at more than 1 year; also used for selection of population for portfolio data collection with non-financial companies via threshold on shares and bonds.

– National account database (750.000 companies) with useful variables such as Class size, Sector (CIS), Category, Annual account Type,...

– KBO (crossroad database enterprises, 1.250.000 companies): central database hosted at Ministry of Economic Affairs of enterprises (natural and legal persons in private and public law with an unique enterprise number and basic identification data such as name, address, activities, legal form, legal status, ...).

– International payment files: monthly list from banks with identification of operators with payments abroad with number of transactions, without transaction code, currency, country, amount.

– Other sources: credit card users, Household survey, Private consumption survey, Public services sources, social security, ...).

Sections of the new system: services

Already since 2002 the data of intrastat declarations and custom (extrastat) declarations were integrated in the balance of payments statistics instead of the data from the settlements registration system. So there was no interruption in the data for goods transactions when we abandoned the settlement based system in 2006. For services (and transfers) the data collection was completely new and based on surveys.

The survey system is built up as a set of sub-surveys that classify specific transactions such as transport, construction and industrial installation, insurance, business trips and seminars, activities performed by non-resident employees, other services (post, telecom, information services, computer services, accounting, advertising and legal services, technical and scientific services, audio-visual and personal services, culture and leisure, financial services, ...) and transfers. Besides type (nature) of transaction , ISO 4217 currency code, ISO 3166 country code and value of purchases and/or sales are asked. Depending on importance (along VAT data or other criteria) a differentiation is made for frequency (monthly or quarterly and for some specific financial subsector populations annual declarations).

The declarations contain an administrative part with metadata about the declarant (identification and contact) and the declaration (type, date) besides the effective transactions.

Beside activity code, for some surveys a *VAT threshold* is used (survey F01DGS: big companies and survey F03AVS: audiovisual media); for tour operators (survey F02TRA) a *turnover threshold* is used; for insurance brokers (survey F02BRO) a *threshold on number of employees* is used.

The other surveys are based on a random sampling approach (survey F03TRP: transport, surveys F13CON and F23CON: construction, survey F03CMS: specific services).

For the coordination centres (survey F01CDC) and for the financial sector (survey F01PKI: credit institutions, survey F02INS: insurance companies, survey F02RIN: reinsurance companies, survey F02PSF: pension funds, survey F02OPC: mutual funds, survey F02STB: stock exchange companies, survey F02INV: investment funds) official exhaustive lists are used for company selection.

For each of these surveys only one specific target population is identified and each individual company can only be part of one single specific population to be surveyed.

Besides the surveys on services a survey on foreign debts and receivables (S03CCR) is organised via random sampling and a survey on merchanting (F03MER) is organised for a selective group of companies to obtain triangular trade.

Sections of the new system: direct and other investments

In the past the Bank already used an annual survey of **direct investments** (outstanding amounts).

The flows were collected via the settlements data collection system. For the new system, the survey on direct investments was fully adjusted at the level of contents and frequency and integrated in our web application.

Selection was made on criteria based on balance sheet items (total equity, total assets/liabilities, total financial fixed assets). According to importance the target population was divided in three groups: major declarants (111 companies), medium declarants (289 companies) and small declarants (3.397 companies). Selected companies continue to be required to submit a declaration.

The basic principle for direct investment is that data are asked for each non-resident counterpart (bilateral) with a computerised identification of counterparties based on group structure and participation percentage of each group company (survey GRPFDI).

The application determines the non-resident counterparties which are relevant for the surveys on foreign direct investment.

Four types of data are asked for: transactions/changes during the period (survey F13FDI), outstanding amounts (survey S13FDI), results (survey R13FDI) and economic variables about subsidiaries/branch offices (survey S13FAT), with a breakdown by currency, but with different frequencies:

major (monthly flows and quarterly stocks), ***medium*** (monthly flows and yearly stocks), ***small*** (yearly flows and stocks).

For ***other investments*** new surveys were created.

These surveys concern, besides companies that were selected for direct investment, some other companies selected, based on additional criteria of balance sheet items (total assets/liabilities, total amount receivable at more than 1 year, total amount payable at more than 1 year). Two types of information are asked: transactions during the period (survey F13FOI) and outstanding balances (survey S13FOI), with a breakdown by country and by currency.

As well as for other investment surveys, there is a differentiation in frequency.

Sections of the new system: securities

Also for securities a set of surveys is created with end-investors (survey S10PKI: credit institutions, survey S10INS and S10RIN: insurance companies, survey S10PSF: pension funds, survey S10OPC: mutual funds, survey S10STB: stock broking companies and survey S10SNF: other large non-financial companies), custodians (credit institutions and stock broking companies) and issuers (all-end investors, government, listed companies, issuers of commercial paper and bonds) as target population.

The holdings of the household sector and of the smaller enterprises are covered as far as they are entrusted to resident custodians.

The choice was made to ask for stock data on a security by security basis on a monthly or quarterly basis with derivation of flow data.

Information technology

Declarations must be submitted electronically only. We therefore developed an internet application for declaration called CSSR: Central Server for Statistical Reporting. All statistical declarations are required to be delivered via this portal site.

The supply of communication channels had to be sufficient large in order to make the accessibility of the system for declarants as big as possible.

The different possibilities we have foreseen are:

– manual input of data via the electronic web form.

– uploading of a CSV file in the web form

– sending of a file in XML format by e-mail to a specific e-mail address

– secure uploading via FTP of an XML-file.

This electronic approach improves the automated treatment of data.

Conclusion

Now after 1 year of production of the concerned macro economic statistics on the basis of data from the new collection system, we observe a continuity at aggregated level for services but a rupture on detailed component level. We already believe data are of a higher quality than those obtained via the settlement basis system. But we are still dealing with several problems to resolve.

It is important to keep good contacts with companies and to have a good check on delivered data.

After analysis of the incoming data we already made some adaptations on companies selection and on the content of the surveys in order to improve quality.

Our selection methods are also influenced by external circumstances such as the implementation of VAT-units by federal law (which results in the fact that we have no longer information on micro-economic level of companies), the change of NACE classification for selection of companies, the future implementation of BPM6 methodology, etc.

Surveys for compilation of external sector statistics in India

Narender Singh Rawat[1]

Prologue

With increasing globalization and developments, especially in trade, banking, financial and other sectors of economy, timely compilation of external sector statistics as per the international standards, has become extremely important from the point of monitoring and analysis of external sector vulnerability and taking appropriate informed decisions. Balance of Payments (BoP), External Debt, Foreign Investments (inflows), Non-resident Deposits and International Investment Position (IIP) are the major external sector statistics compiled and published by the Reserve Bank of India. The analytical framework, concepts, definitions, scope of data, accounting convention, nature of basic data sources, compilation practices, etc. are briefly summarized below for these external sector statistics. The various surveys being conducted by the Bank for collecting information, which are used to compile the external sector statistics, are mentioned along with these statistics.

I. Balance of payments

The BoP is a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy with the rest of the world. Transactions between residents and non-residents consist of those involving goods, services, and income; involving financial claims on and liabilities to the rest of the world; and those classified as transfers, involving offsetting entries to balance one-sided transactions. In India, BoP transactions are recorded in accordance with the guidelines in the fifth edition of IMF's Balance of Payments Manual (1993) [BPM5], with minor modifications to adapt to the specifics of the Indian situation.

The basic structure of the Balance of Payments (BOP) of India consists of:

- ***Current account:*** exports and imports of goods, services, income (both investment income and compensation of employees) and current transfers;
- ***Capital account:*** assets and liabilities on account of direct investment, portfolio investment, loans, banking capital and other capital;
- *Statistical discrepancy*; and
- *International reserves and IMF transactions*.

Data Sources: The data for compiling BoP statistics are received from the banking system as part of the Foreign Exchange Management Act (FEMA), 1999, and also through various returns and from other institutions like Director General of Commercial Intelligence and Statistics (DGCIS), the National Association of Software and Services Companies (NASSCOM), etc. Apart from this, Survey of Unclassified Receipts and Foreign Liabilities & Assets Survey are also used.

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Data Dissemination: At present, BoP statistics are published in two formats viz., standard presentation with broad heads and detailed presentation with break-up of broad heads. The standard presentation with broad heads is compiled in accordance with the methodology set out in BPM5 and is published every quarter with a lag of three months as per IMF's Special Data Dissemination Standards (SDDS) requirements. The disaggregated data on invisibles are finalized and published once the firm data on components become available. Invisibles are broadly classified under three heads viz., services, transfers and income. While services, comprise travel, transportation, insurance, government not included elsewhere (GNIE) and miscellaneous (i.e. other services); transfers constitute private transfers and official transfers and income includes investment income and compensation of employees.

Revisions Policy for India's Balance of Payments Data: India's BoP statistics are published as "preliminary", "partially revised" and "revised" data. Preliminary data are quarterly and are released with a lag of three months from the reference date (i.e., data for the quarter ending March 2004 are available at the end of June 2004). Preliminary data are subjected to some revisions during the year and partially revised data are released with lags of six months, nine months and twelve months from the reference date, alongside preliminary data for the relevant quarter(s). Partial revisions in the annual data are carried out with a lag of eighteen months from the reference date. Thereafter, the data are "frozen" and final revisions are incorporated in the revised data, which are released within a lag of twenty-four months from the reference date. Extraordinary revisions may be undertaken within this cycle in the event of methodological changes in respect of data collection and compilation procedures and/or significant changes indicated by data sources that cause structural shifts in the data series. These extraordinary revisions are documented at the time of release. Preliminary, partially revised and revised data are clearly identified in the text and tables.

II. External debt

The definition of gross external debt adopted by India is based on the definition provided in 1988 by the International Working Group on External Debt Statistics (IWGEDS), which was set up jointly by the Bank for International Settlements (BIS), IMF, the Organization for Economic Cooperation and Development (OECD) and the World Bank. According to the core definition of external debt given by the IWGEDS "gross external debt is the amount, at any given time, of disbursed and outstanding contractual liabilities of residents of a country to non-residents to repay principal, with or without interest, or to pay interest, with or without principal". The coverage of data is broadly consistent with the recommendations made in IMF's "External Debt Statistics – Guide for Compilers and Users", 1993. The external debt classification distinguishes between types of debtor/creditor, by maturity, i.e., long term and short term, by type of transactions, i.e., deposit or trade related and by element of concessionality.

The gross external debt of the country is classified under eight categories: (i) multilateral; (ii) bilateral; (iii) IMF; (iv) trade credits; (v) commercial borrowings; (vi) NRI deposits; (vii) rupee debt; and (viii) short-term debt of maturity up to one year. In contrast to the liabilities side of the international investment position (IIP), the external debt data do not include any financial liabilities arising from foreign direct investment (except loans obtained by FDI enterprises in India from their parent company abroad) and equity component of foreign portfolio investment.

At present various sources are used for obtaining information on various components of the external debt. The office of the Controller of Aid, Accounts and Audit Division, Ministry of Finance (MoF), Government of India (GoI) collects information on (i) multilateral and bilateral debt, excluding that part of multilateral/bilateral non-concessional debt to non-government

entities for which approval needs to be sought under the ECB route; (ii) bilateral component of trade credit.

The External Debt Management Unit (EDMU) of the Department of Economic Affairs, MoF, GoI, collects data on rupee debt and export credit component for defence purposes. Securities and Exchange Board of India (SEBI) is the source for data on FII investment in debt instruments. Information on all other components of debt, viz., commercial borrowings, NRI deposits and trade credits (both long and short term) is collected by the Reserve Bank of India through various returns.

External debt data are compiled and disseminated on original maturity basis and both in terms of US dollar and Indian rupees. The external debt figures are first compiled in terms of Indian rupees and then converted into US dollar at the spot exchange rate on the reference date. India's external debt data are disseminated under two broad heads namely, long-term and short-term. Long-term debt is classified into multilateral, bilateral, IMF, export credit, commercial borrowings, rupee debt and NRI deposits. Short-term debt comprises NRI deposits and trade related credits.

The Reserve Bank of India compiles and publishes quarterly data on India's external debt for quarters ending March and June and the Ministry of Finance, Government of India releases external debt data for quarters ending September and December. Further, India supplies the information on external debt as per the standard format prescribed under the Quarterly External Debt Database, jointly developed by the World Bank and the International Monetary Fund.

III. Foreign investment (inflows)

Foreign investment inflows can be broadly categorised as Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). *FDI* is the process whereby residents of one country (the home country) acquire ownership of assets for the purpose of controlling the production, distribution and other activities of a firm in another country (the host country). Following the IMF practice and in line with other country practices, India's foreign investment data is published under two broad heads, i.e., FDI and FPI. FDI inflows include reinvested earnings and other direct capital flows, besides equity capital. *Portfolio Investment* includes investment in equity securities and debt securities in the form of bonds and notes, money market instruments and other instruments such as American Depository Receipts / Global Depository Receipts (ADR/GDR) that usually denotes ownership of equity.

Foreign Investment data is compiled and presented in terms of US dollar. The basic source for obtaining information on various components of foreign investment remains the Reserve Bank of India. Following the methodology prescribed in BPM5, data on fresh inflows of foreign direct investment are being captured through reporting of these transactions by the companies who receive these funds. The companies, who receive the foreign investment, send these receipts with full details to the Reserve Bank, which are then consolidated and used for compilation of direct investment data. Amount raised by the corporate through issuances of ADRs/GDRs are reported to the Reserve Bank. It also separately obtains from the custodians on weekly basis details of actual inflows/outflows into the accounts of the FIIs. Data on reinvested earnings and other capital is captured through annual surveys on FDI companies. These different components are then, finally compiled and consolidated to obtain the data on aggregate foreign investment in India.

In India, foreign investment data are compiled on a monthly basis by the RBI, using an international transactions reporting system (ITRS) as the principal source of information. The foreign investment data is published on a monthly basis in the RBI Bulletin, which provides component-wise details of direct investment and portfolio investment.

IV. Non-resident deposits

An Indian Citizen residing outside India and a Foreign Citizen of Indian origin residing outside India for employment / carrying on business or vocation outside India or staying abroad under circumstances indicating an intention for an uncertain duration of stay abroad are defined as *Non-Resident Indians (NRIs)*. Persons posted in United Nations organizations and officials deputed abroad by Central/State Governments and public sector undertakings on temporary assignments are also treated as non-residents.

Foreign citizens of Indian origin are treated at par with NRIs for certain facilities under bank deposits and investments in India. *"A person of Indian origin"* means an individual (not being a citizen of Pakistan or Bangladesh or Sri Lanka), who at any time, held an Indian passport; or who or either of whose parents or whose grandparents were citizens of India by virtue of the Constitution of India or the Citizenship Act, 1955 (57 of 1955).

NRIs are allowed to open and maintain bank accounts in India under special deposit schemes – both rupee denominated and foreign currency denominated. Such deposits are termed NRI deposits. NRI deposits include deposits under Foreign Currency Non-resident (Banks) [FCNR(B)] and Non-resident (External) Rupee Account (NR(E)RA).

FCNR(B) deposits are designated in foreign currency. They are accepted in Pound Sterling, US Dollar, EURO, Japanese yen, Australian dollar and Canadian dollar. FCNR(B) deposits are accepted for the tenure of one year and above but less than two years, two years and above but less than three years and three years & above up to five years only. FCNR (B) deposits are compiled and disseminated in US dollar. For FCNR (B) deposits, conversion into a numeraire currency (US dollar) is done on the basis of average monthly exchange rate.

NR(E)RA, on the other hand, is a rupee denominated deposit schemes, where in NRIs can park their funds in both term deposits as well savings accounts. NRE deposits data are first compiled in terms of Indian rupees and then converted into US dollar. The stock data at the end of each month is calculated on the basis of end-period exchange rate for the respective month. For compilation of the monthly net flow figures, the average rupee–US dollar exchange rate for the month is used for conversion.

The basic source for obtaining information on various components of NRI deposits is the Reserve Bank of India. At present, the monthly outstanding balances under the existing Non-Resident Deposit schemes are compiled on the basis of fortnightly statement on external liabilities received by Reserve Bank of India (RBI) under Section 42(2) of the RBI Act. These data are supplemented by information received in the form of monthly statements submitted by ADs to the Reserve Bank for calculating the maturity structure and comparing the balances under various deposits.

The figures on NRI deposits are published in the Reserve Bank of India Bulletin on a monthly basis. It is also published every quarter in the table on Balance of Payments of the Bulletin.

V. International investment position

The conceptual framework of foreign investment position of a country was introduced in the form of International Investment Position (IIP) BPM5. The IIP is the balance sheet of the stock of external financial assets and liabilities of a country at the end of a specific period (quarter end or year end). As per BPM5(1993), international investments assets are broadly classified under five categories viz. direct investment, portfolio investment, financial derivatives, other investment and reserve assets where as international investment liabilities are classified under four categories viz. direct investment, portfolio investment, financial derivatives and other investment. Further, SDDS of IMF prescribes disseminating annual

data within two quarters after the end of the reference period. The SDDS encourages quarterly frequency and a one-quarter lag for publishing IIP statements.

The Reserve Bank started compiling IIP on annual (end-March) basis from 2002 onwards, as per SDDS of IMF. The annual IIP data of India for the period end March 1997 to end March 2002 was compiled and released on September 30, 2002 on RBI website. Since then, annual IIP of India, as on end March, is compiled and disseminated every year in conformity with the SDDS of IMF. With the gradual opening up of the Indian economy and increased globalization and considering the importance of IIP statistics, India has started compiling and publishing quarterly IIP from the quarter ended June 2006 onwards.

Surveys conducted for compilation of external sector statistics

The Department of Statistics and Information Management (DSIM) conducts the following surveys, which are used as inputs for compilation of external sector statistics:

A. Survey of Unclassified Receipts

B. Foreign Liabilities and Assets Survey

C. Coordinated Portfolio Investment Survey

The ***Survey of Unclassified Receipts*** is conducted for collecting the information from the banking sector in respect of invisible receipt transactions (other than exports) below Rs. 0.5 million. The basic objective of this survey is to estimate the distribution pattern of inward foreign exchange remittance transactions below Rs. 0.5 million. The AD branches are selected based on their volume, i.e., branches having total invisible receipt of Rs. 50 million and above from the individual transactions below the threshold limit (Rs. 0.5 million per transaction) during a year are selected for surveys, to be conducted in the year. Information is collected for two randomly selected dates in a fortnight. These random dates during a quarter are informed by the Reserve Bank to AD branches, who supply the information for a fortnight within 7 days from the end of the fortnight. Purpose, Country and Currency wise distributions are estimated based on the Quick Estimate figures (aggregate Value) for transactions below Rs. 0.5 million.

The ***Foreign Liabilities and Assets (FLA) Survey*** is conducted annually for Non-financial companies, Insurance companies (both life & non-life) and Mutual fund companies to collect the data on their foreign liabilities and assets in terms of direct investments, portfolio investments and other investments. The data collected is used for compiling assets of “Other Sectors” of IIP and also for reinvested earnings (inflow).

For FLA survey, purposive sampling technique is used to collect the data from non-financial companies whereas census is conducted to obtain the data from Insurance (both life & non-life) and Mutual fund companies. The response from insurance and mutual fund companies to FLA survey is cent percent, but the response from non-financial companies is not up to the satisfactory level. One of the reasons is that it is not mandatory for the companies to response to the survey as there is no statistical law in the country. Also sometimes, the data quality is poor due to conceptual misunderstanding by some of the companies.

For improving the data response and quality, DSIM conducts meetings and have regular interactions with the entities supplying the required information. Further, as an alternative to survey, the data items of the survey schedule have been incorporated in Foreign Collaborator General Purpose Reporting (FCGPR) form as a Part B. All Indian companies receiving foreign investments are required to submit FCGPR form under FEMA, 1999 and it has been made mandatory for them to submit the Part B (annual performance report), detailing the stock position of company’s external assets and liabilities as at end of the closing of books of the company. Similarly, to capture the foreign assets of an Indian company by investments abroad, a revised overseas direct investment information system (ODIIS) is being developed. Once these two systems get stabilized, the information on

foreign liabilities and assets of a company as end of their financial year (March) will be more reliable and accurate.

The ***Coordinated Portfolio Investment Survey (CPIS)*** was conducted first time in 1997 under the auspices of the IMF to improve upon the global asymmetries observed/reported in the BoP data, especially those in portfolio investments flows. There were 29 countries, which participated in CPIS in 1997. India started participating in CPIS since December 2004.

In India, CPIS is conducted on an annual basis (as at end-December) to improve the statistics of holding of portfolio investments assets in the form of equity, long-term and short-term debt securities and its geographical distribution. For compilation of CPIS statistics, purposive sampling technique is used to collect the data from banks and Non-financial companies whereas census is conducted to obtain the data from insurance (both life & non-life) and mutual fund companies. The response from banks, insurance and mutual fund companies to CPIS is 100 per cent, but the response from Non-financial companies is not up to the satisfactory level. One of the reasons for poor response is the absence of legal backing and also conceptual misunderstanding by some of the entities.

Epilogue

In India, conceptual aspects, definitions, scope of data, accounting convention, nature of basic data sources, etc., for most of the external sector statistics, are based on IMF's Balance of Payments Manual (5th Edition) and these statistics are compiled and disseminated as per the SDDS of IMF. *Use of survey is not a major data source* for compiling external sector statistics and for most of the statistics, it is based on the transactions reporting system. Although, survey of unclassified receipts, foreign liabilities and assets, coordinated portfolio investment survey, etc. are being used by the Reserve Bank for compiling for some of the items of the external sector statistics, but response is not up to the mark, especially from the non-financial corporate for FLA survey and CPIS. One major reason for non-response is not having a statistical law in the country and also conceptual misunderstanding by some of the entities.

Overview on external data compilation

Lui Kwee Ching[1]

I. Overview

1. The compilation of external data in Malaysia is managed by the Central Bank of Malaysia (BNM) and the Department of Statistics, Malaysia (DOSM). BNM is the official compiler of External Debt Statistics (EDS), Coordinated Portfolio Investment Statistics (CPIS) and Consolidated Banking Statistics (CBS), while DOSM is the official compiler of the Balance of Payments (BOP) Statistics and the International Investment Position (IIP).

2. Both agencies carry out their own roles and responsibilities within the legal confines where BNM collects the data under the Central Bank of Malaysia Act 1958 and DOSM collects the data under Statistics Act 1965. Nevertheless, both BNM and DOSM work closely to compile information on international transactions.

II. Sources and uses of external data

3. Data for the compilation of international transactions by BNM are sourced from compulsory reporting by all the banking institutions, resident companies that have been given exchange administration approval by the Foreign Exchange Administration Department of BNM as well as other government agencies. It is also supplemented from surveys on companies that have conducted financial transactions vis-à-vis non-residents.

4. On the other hand, DOSM sourced data from banking institutions, listed companies with equity holding by non-residents, companies that have obtained approval from the Malaysian Industrial Development Authority for foreign direct investment, data from other government agencies as well as supplementary data from BNM.

5. The compilation of external data encompasses economic entities with foreign assets and/or liabilities. In BNM, the data coverage includes the following:

   (a) Data of Cash BOP flows that are effected through the banking system. The data is submitted by the banking institutions through a customised application system residing at the banking institutions on a daily or monthly basis;

   (b) Data on international investment position is collected via ***quarterly surveys*** from the banking institutions and companies:

      (i) Data on external assets and liabilities of banking institutions;

      (ii) Data on external assets and liabilities of resident companies, which include credit facilities from non-residents, investment abroad and foreign investment in Malaysia; and

[1] Manager in the Statistical Services Department at Central Bank of Malaysia (Bank Negara Malaysia).

(iii) Data on portfolio investments reported by custodians, which include holding of Malaysian securities by non-residents and portfolio investments of residents abroad.

(c) Data on external assets and liabilities of offshore entities in Labuan, compiled by the Labuan Offshore Financial Services Authority on a quarterly basis. The consolidated data is then forwarded to BNM and subsequently uploaded into the system; and

(d) Data on the government sector, obtained from the administrative records of the Treasury Department of the Ministry of Finance and the Economic Planning Unit of the Prime Minister Department.

6. The external data compiled is then consolidated into various reports for surveillance, policy assessment and formulation, research and analysis, as well as dissemination to international organisations and other publications.

III. Survey of external assets and liabilities

Selection of survey respondents

7. The quarterly survey on resident companies, which covers more than 2,000 companies (both listed and unlisted) in Malaysia, has been conducted since 2005. Besides the banking institutions, the respondents were identified from companies with approvals for exchange administration, custodians of funds (companies act as custodian which hold or manage securities on behalf of investors), companies with foreign direct investment, companies with significant transactions effected through the banking system and news reported in the media as well as information provided by other sources. The selection criteria are reviewed quarterly to ensure the right survey respondents are included and the data collected are comprehensive and reflective of the economy.

Data submission

8. The selected respondents are required to submit the data within 20 days after the reference period via an integrated online system. As the same set of data is being used to generate various reports including EDS, BOP, IIP, CPIS and CBS (for banking institutions only), the respondents are required to submit very detailed data. For example, respondents are required to provide data on a profile-by-profile basis for each of the instrument. In particular, for the reporting of portfolio investment, it is on a security-by-security approach.

9. In view of the voluminous amount of data required for submission, most of the banking institutions prepare their source data in a standard interface file format and upload it to the customised application system residing at their premise. The data is transmitted to BNM at the end of the day via a secure network. The banking institutions are also given an option to key in the data directly to the system.

10. For the non-bank respondents, the data can be submitted through the web-based online application or by a pre-formatted template which upon completion, can be uploaded by the respondents at the website to transmit the report online.

11. The submission rate of this survey has been remarkable. At the close of survey, ie 2 months after the reporting period, all banking institutions submitted their data and the submission rate is over 90% for the non-bank respondents.

Handling of non-submission

12. Although the submission rate is not an issue for BNM, the non-submission of reports by existing companies may contribute to under-reporting of data. Hence, to avoid huge differences of the consolidated outstanding balance with the preceding reporting period, the position of such companies is rolled-over based on the last closing position.

Data quality

13. Various procedures on data quality checking have been implemented to ensure credible data are disseminated to the users. Besides incorporating validation checks into the application system, particular focus has been on the major companies in view of their significant contribution to the data. Among the measures taken include:

    (a) Incorporating validation rules into the application system to eliminate possible data discrepancies before submission to BNM. At BNM, the data received is validated to eliminate errors as well as to highlight possible errors made by the reporting entities;

    (b) Conducting verification checks against approval databases on loans extension to non-residents, loans obtained from non-residents and investment abroad to ensure data submitted is correct;

    (c) Conducting data trend analysis at macro and micro levels to identify outliers, especially the major companies; and

    (d) Assessing consistency of data against other external data sources such as financial reporting by the banking institutions, portfolio investment and other published financial indicators.

14. The following activities were also carried out to complement the above procedures to improve the data quality:

    (a) Scheduling regular meetings with the reporting entities to provide clarification on reporting requirements as well as addressing reporting issues;

    (b) Conducting customised training programmes on reporting requirements at strategic locations within the country as well as providing hands-on training sessions for the reporting entities to familiarise themselves with the functionality of the online reporting system; and

    (c) Conducting technical meetings with relevant officials from different departments/agencies before finalising and disseminating the data to identify possible data errors.

IV. Compilation challenges

15. The compilation of external data is very challenging considering the complex data requirements as well as difficulties in getting many data suppliers to provide data within the agreed timeline. In addition, the short reporting deadlines, limited time available for data quality checks as well as the constraint of available resources have also contributed to more demanding compilation jobs. At the moment, the survey of non-bank companies is being carried out by a team of 13 officers.

16. Amongst the challenges encountered during the compilation of data include:

    (a) Determining an appropriate survey frame that is comprehensive;

(b) Reporting by survey respondents using the similar valuation basis (ie market value);

(c) Enforcing timeliness of submission by survey respondents due to their workload and availability of resources;

(d) Meeting increasing data demands of users;

(e) Reconciling the external data between flows and stock position; and

(f) Dealing with complaints or feedback from resident companies on reporting burden in view of the many reports required to be submitted to BNM and other government agencies.

V. Latest update

17. In carrying out the roles and responsibilities, there is some duplication of work between BNM and DOSM as well as duplication of reporting by some companies that submit similar data to both agencies. Adding to the burden, the data compiled by both agencies differ mainly due to differences in survey frame and some misinterpretation of data requirements by the reporting entities. This has given rise to a tedious and time consuming process to reconcile the data every quarter.

18. Since 2006, both BNM and DOSM have been working together to address the issues highlighted above to streamline compilation effort and improve operational efficiency. On such effort, beginning from the first quarter of 2008, the Survey of International Investment Position has been jointly conducted by both agencies. At the same time, the Survey of External Assets and Liabilities conducted by BNM and Quarterly Survey of International Investment and Services conducted by DOSM previously have been discontinued.

19. The collaborative initiative by BNM and DOSM has successfully reduced the reporting burden for more than 2,000 companies. Furthermore, it has also shortened the time lag for the publication of the Annual IIP to six months instead of nine months.

External sector surveys

Erika Chaves Ramirez[1]

Main goal of the external sector surveys

To obtain accurate information for the annual and quarterly Balance of Payments and the International Investment Position by means of economic surveys, referring to the international transactions and balances carried out by the manufacture companies, as well as those providing special services, public sector, companies in the free trade zone and goods for export processing regimes.

Survey features

The sample includes five sub-groups of companies, both foreign and national owned capital, companies belonging to special export regimes such as Free Trade Zone and Goods for processing, special services and public sector. In order to take care of projecting the total transactions with the rest of the world, a high response rate is a key factor. Historically the quarterly survey closes with a high response rate.

Chart 1

Characteristics of the survey to national owned capital companies, foreign capital, Free Trade Zone and goods for processing

Range	Frequency/ Beginning date	Method Technique	Type of company	Criteria of Selection Participants	Included aspects
1. Balance of Payments Survey	Quarterly (2000) Annual (1980)	Sampling	National owned Capital Foreign owned Capital Free Trade Zone and goods for processing	According to the company size Imports-Exports #employees, Economy news, Numbers surveys Quarterly (n=181) Annual (n=326)	Credits and Debits for services and Income Assets Liabilities Earnings Equity capital Direct foreign investment

Source: Area of Economic Surveys.

[1] Central Bank of Costa Rica, Economic Division, Area of Economic Surveys.

Chart 2

Characteristics of the survey to companies of special services

Range	Frequency/ Beginning date	Method Technique	Type of company	Criteria of Selection Participants	Included aspects
2. Survey of Specific Services	Quarterly (2000) Annual (1980)	Sampling	• Airlines • Shipping liner • Ground transportation • Courier • TV-broadcast • College • Banks • Insurance companies • Software developing companies • Call centers • NGO's • Public sector	Size, # employees, trips, capacities, list of companies from different service chambers Quarterly (n=90) Annual (n=45)	• Transportation • Travel related services • Communica-tion • Financial services • Insurance services • Computer and information services • Other business, professional and technical services • Government services

Source: Area of Economic Surveys.

Chart 3

Characteristics of the survey to remittance companies, migrants and homes

Range	Frequency/ Beginning date	Method Technique	Type of company	Criteria of Selection Participants	Included aspects
3. Survey of Workers' Remittances 4. Investigation includes surveys to emigrants and immigrants[1]	Trimester (2001) Triennial (2003–2005–2008)	Sampling	Remittances companies Banks Immigrants Emigrants Homes	Size according to the amount of compromised remittances Quarterly (n=30) Annual (n=384)	It includes socioeconomic aspects related to the workers' remittances

[1] There is also a survey to emigrants through consulates.

Source: Area of Economic Surveys.

Methodological aspects

The quarterly and annual survey is carried out between April of year t and May of the year t+1.The first, second, third and fourth quarterly survey is asked for the first week of April, July, October and January respectively; It takes around 8 weeks from the date of request to receive, review and type the incoming information. On the other hand, the annual survey is requested on October for the companies of fiscal closing or in January for the companies of regular closing or what is the same end up on December.

The sample of the annual and quarterly survey conducted by the Area of Economic Surveys includes approximately 670 companies; of which 279 belong to special export regimes such as Free Trade Zone Goods for Processing, 130 special services, 125 companies of national owned capital and 134 of foreign owned capital.

The delivery is made via email to informants who have been part of previous samples; for the new companies, the form is delivered personally which is explained in an initial visit.

The survey tracking is made by calls, reminders via email and visits to the companies. The Area of Economic Surveys emphasizes in the personal and telephone communication with people in charge of providing the information, by means of explaining the importance of data, and make them realize its value, and to promote the use of numbers with statistical figures and in aggregate data. The information of each company is treated with total confidentiality.

Data collection it's made via e-mail, telephone, fax and visits to companies. Once the most of the answers have been received, the missing ones are estimated and the projecting charts displayed to the compiler of the Balance of Payments are prepared. Typing is revised on an individual and added basis. A document is prepared for each survey when done to summarize the results, and disclosed in the internal site of the BCCR.

Main contributions of the survey

- The survey of BOP is a fundamental input for the compilation of the BOP and the IIP.
- It provides information to the national accounts.
- It is a base for other economic surveys.
- It provides information for economic research.

Use of surveys to compile external statistics in the Central Bank of Chile

Paulina Rodríguez[1]

1. Introduction

This document presents a general description of the use of surveys by the Central Bank of Chile (CBC) to compile external statistics of balance of payments (BOP), international investment position (IIP) and external debt.

A mixed system is used to compile these statistics. This system combines indirect reporting (e.g., banks reporting data from third parties, usually known as International Transactional Reporting System (ITRS)), and direct reporting, such as surveys. The latter has increased its relevance due to new statistical requirements.

Currently, there are thirteen surveys managed by the CBC and a specific area has been created to centralize data collection. These surveys cover a wide range of topics, mainly related to the Import and Export of Services of Current Account, Financial Account and Income.

The next section presents the legal and institutional framework supporting data requirements. Section 3 describes the organization for data collection, sections 4 explains different data sources and characteristics of surveys used to compile main external statistics, while section 5 identifies challenges facing the CBC in the near future. Finally, some concluding remarks.

2. Legal and institutional framework

In its Basic Constitutional Act, The Central Bank of Chile is mandated to compile National Accounts, Balance of Payments (BOP), International Investment Position (IIP) and Monetary and Financial Statistics. Accordingly, the CBC is authorized to request information from public institutions.

The Basic Constitutional Act empowers the CBC to require statistical data regarding foreign exchange transactions from those players undertaking these transactions. This information is used to compile BOP, IIP and external debt figures. A detailed list of transactions that have to be reported to the CBC is available in the Compendium of Foreign Exchange Regulation (http://www.bcentral.cl). Also, there is a broad cooperation of the private sector with the CBC in regard to the provision of statistical data.

3. Organization

The organizational structure of the CBC has evolved during the past several years. One major improvement has been the creation of the Statistics Division, which has two main areas. One is in charge of collecting information from different sources, and the other compiles and elaborates on macroeconomic statistics such as national account and external statistics.

The mission to compile external accounts relies on the Department of Balance of Payments and External Debt. This department works in cooperation with two other departments: Data Base, and Statistic Information Collection, which are responsible for collecting data through

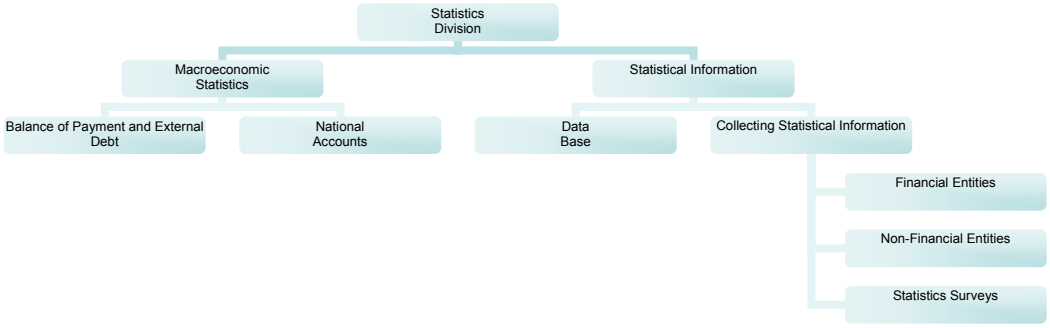
[1] Financial Analyst, Information Collection Department.

different means. The role of the Data Base Department is to collect and administer large volumes of electronically provided information; for instance, by the National Customs Service and the Internal Revenue Service. On the other hand, the Department of Statistic Information Collection captures and validates the data from the direct reporter before it is used by the compiling area. There are two main ways to collect this data: mandatory surveys under the CBC's legal right to require information on certain foreign exchange transactions, and voluntary surveys. The latter process requires close communication between the data providers and the CBC, for which the latter has defined three sub-groups in order to facilitate mutual interaction data verification.

The first sub-group is the financial sector, which deals with the financial entities of the economy such as banks, stockbrokers, underwriters, trustees and institutional investors. The second corresponds to the non-financial sector, which deals with reporting entities from other sectors of the economy. Finally, there is a surveys sub-group, which is in charge of selecting the samples, updating directories and receiving voluntary surveys.

Figure 1

Organizational chart

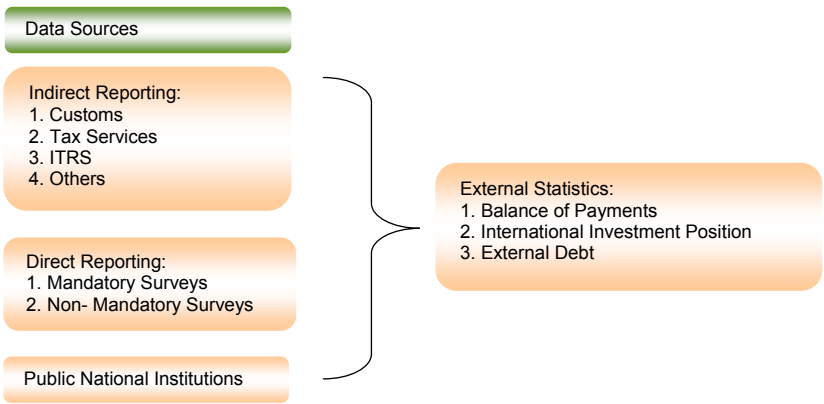


4. Use of surveys to compile external statistics: BOP, IIP and external debt

There are two complementary sources for collecting information of external statistics: indirect and direct reporting. Examples of indirect reporting sources are: data from the National Customs, the Internal Revenue Service, and the International Transactional Reporting System. For direct reporting, the CBC uses surveys. Both sources complement each other. In addition, domestic public institutions are required to provide their data directly to the CBC.

Figure 2

Data sources of external statistics



As was previously mentioned, two types of surveys are used to compile information to prepare external statistics. In both cases, the information is used for current and financial accounts of the BOP and also for the IIP. In the case of the current account, the surveys are used to gather information about services such as insurance, sea and air transportation, audiovisual and related services. On the other hand, the financial account surveys have the purpose of obtaining information about assets such as direct and portfolio investment, liabilities such as portfolio investment in equities and commercial trade credits.

There are a total of thirteen surveys managed by the CBC. The sampling process used is mainly a minimum percentage of coverage (cut of the tail) which varies between 70% and 80%, although in some specific cases a census is used. The number of reporting entities is close to 2,200 companies from a total relevant estimated universe of 200,000 firms (companies that have undertaken some kind of international transaction), the periodicity of the surveys is set depending on the use that the data will have. Hence, it can be monthly, quarterly and annually. In table 1 there is a list with the main characteristics of these surveys.

Finally, it is worth mentioning that there are agreements between the CBC and the National Statistics Bureau, National Customs Service and the National Tourism Service, under which these institutions must undertake some surveys.

5. Main challenges

In order to improve its data collection process, the CBC is working on a range of statistical areas.

One of the biggest concerns is data quality. To improve it, the CBC is providing feedback to data providers, building capacity and reducing the burden for respondents, and constantly assessing costs and benefits of new data requirements.

A second improvement related with data reporting is the future implementation in Chile of the International Financing Reporting System (IFRS) and the use of Extensible Business Reporting Language (XBRL) as a communication language for financial information by the Superintendency of Securities and Insurance. The first group of firms is scheduled to start reporting through these applications in 2009. In this regard, a multifunctional task force has been established in the CBC in order to be prepared for the arrival of this new data.

Another challenge is to increase coordination with public national institutions (e.g., National Statistics Bureau; National Customs Service; Internal Revenue Service; Superintendencies of Banks, of Securities and Insurance, and of Pension Fund Administrators (AFPs). An example of this coordination exercise is the joint work with the National Statistics Bureau to develop a single and updated national directory of firms.

Finally, new statistics requirements always pose new challenges. In the short term, they are related to information useful for financial stability analysis (lack of standard reporting of balance sheets by small and medium firms and information on the household sector; International investment position and flows). Need for further breakdowns (by sector, currency, liquidity, counterparts) and access to micro data for detailed analysis Also, there is a need for improving national remittances statistics.

6. Final remarks

The Central Bank of Chile is continually working to improve its entire data collection systems, and provide strong support to the areas in charge. In the specific case of external statistics, a combined system to collect data is used. This is based as much in indirect reporting as in

direct reporting. However, in the past few years, data quality issues and new statistical requirements have increased the use of surveys as a method to collect information. Currently, some of these surveys are undertaken directly by the CBC, while some are run by other institutions. In addition, the burden on respondents is closely monitored by data collectors, as well as the use of any new request of information.

Nevertheless, some important challenges must be addressed as the arrival of ITRS and XBRL next year, and strengthening links with public institutions.

Table 1

List of surveys managed by the CBC

Component	Survey	Characteristic		
		N° Reporting Entities	**Sampling**	**Periodicity**
Current Account	Telecommunications Service	32	Cut of tail	Annual
	Mail and courier	20	Cut of tail	Annual
	Sports activities	10	Cut of tail	Biennial
	International organizations and embassies	15	Census	Annual
	Export of professional services	188	Cut of tail	Biennial
	Import of audiovisual and related services	70	Cut of tail	Biennial
	Use of intellectual property	155	Cut of tail	Annual
	Direct insurance and reinsurance	50	Census	Quarterly
	Sea and air transport	68	Census	Quarterly
Financial Account and Income	Trade credits	1300	Cut of tail	Quarterly
	Direct, portfolio and other Investments Abroad	350	Census and Cut of tail Depending of the institution	Monthly Quarterly Annual Depending of the institution
	Direct investments from abroad	391	Cut of tail	Annual
	Trustees	4	Census	Annual

Challenges in data compilation of foreign direct investment in a free capital flows country – the Uruguayan case

Ana María Ibarra[1], Luis Ipar[2] and Mariana Taboada[3]

Uruguay foreign capital flows compilation is subject to limiting factors coming up from financial movements economy policy guidelines, and basically from its liberal tradition regarding participants' privacy concerning these movements. The absence of specific records of Foreign Direct Investment firms (FDI), as well as the lack of an international transactions reporting system (ITRS) in the country, sets difficulties to the flows estimation and FDI balances, either for its compilation from the Balance of Payments or for the International Investment Position statistics. The main objective of this paper is to explain, under the above conditions, the best possible methodology to compile and process the information used in the estimation of such financial movements.

The correct estimate of these flows turns out to be significant because of the strong capital entries in the last few years, adding up to U$S 879 million – according to preliminary figures for 2007-. This figure represents 4% of Uruguay's Gross Domestic Product (GDP). This underscores the importance of the fact that the implementation of economic policies must be based on reliable and accurate statistics, which need to be continuously evaluated to analyse how robust these statistics are to represent the reality they try to measure and explain.

In Uruguay, the Central Bank (CBU) is responsible for inflows and balances estimation related to FDI. The legal framework provided by its Charter as well as by the National Statistics System (National Institute of Statistics and Census) enables the use of enterprise surveys as a compilation strategy, because there is a lack of administrative records and specific exchange records. The aforementioned legal framework ensures confidentiality protecting the information by means of statistical secrecy rules.

To calculate both the inflows and the FDI balances, information is collected from the four main areas where non residents typically invest: (a) Real Estate, (b) Non Financial Firms, (c) Financial Institutions, (d) Land Investment. Enterprise surveys are the primary source of information to compile FDI statistics, followed by balance sheets of financial sector and by some administrative records. These records derive from granted building authorizations in the main area receiving real state direct investment -Punta del Este beach and resort Area-. Land sales transactions by residents to non residents are recorded from National Institute of Colonization records (NIC).

The following chart summarizes the type of information used in the different areas considered for FDI calculation:

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[1] Financial Programming Department Head at the Central Bank of Uruguay.

[2] International Consultant – Balance of Payments and International Investment Position Responsible at the Central Bank of Uruguay.

[3] Economic Analyst at the Central Bank of Uruguay.

Chart 1

Summary of areas analysed and sources of information

Areas	Source of information		
	Type of information	**Organization**	**Information analysed**
Real Estate Holding Companies	Administrative records. Interviews.	Municipal Government of Maldonado. Construction companies. Real State Holding Companies.	Square metres authorized. Average value of square metres % of NR in the total sales.
Financial Institutions	Balances sheets	Financial institutions with foreign capital share	Income Statements. Financial Condition Statements.
Non Financial Companies	Surveys	Non Financial Companies	Specific survey
Land	Administrative records	National Institute of Colonization	Sales – hectares and value – between resident and non resident.

Uruguay does not use information provided by counterparty countries to compile FDI information, owing to possible methodological asymmetries that could cause duplications by the use of different techniques to collect such information. In regard to this matter, the country has decided to follow the Coordinated Survey on Direct Investment which will be carried out under the sponsorship of the International Monetary Fund (IMF) and which hopes to overcome these limitations.

The real estate investment calculation methodology takes into consideration the quantity of square meters yearly authorized to the construction of new residences – in Punta del Este – by the Municipal Government of Maldonado, prorated according to the works execution schedule so as to determine the actual supply of new real estate property every year. This supply of square meters is valued according to market prices taking as base an average value obtained in a study carried out among the main construction companies and real estate holding companies in 2004 updated with qualitative information from the main real estate operators.

A percentage is applied to the sum obtained. This percentage was also established by the aforementioned study about the participation of non residents in the total sale of new properties.[4] As of 2001, an additional 10% is added as a means to estimate the value of household furnishing of the new properties.

To compile FDI in Non Financial firms, the Central Bank of Uruguay carries out enterprise surveys directly. The total number of companies surveyed is considered and no expansion data method is applied due to the heterogeneous nature of the different firms and the

[4] Periodical adjustments have been made on non residents' ownership percentages according to observed variations, generally related to comparative advantages in relation to Argentina, country from which most investors come from. Adjustments have also been done based on press information on real estate market trends, so for some sectors the participation of non residents needs to be adjusted.

particular aspect of FDI inflows. Besides, the coverage of large companies is considered near universal. Within the FDI inflow, a calculation is applied to estimate capital contributions, profit reinvestments (calculated as the accrual profit minus the profit remittance transferred abroad by the FDI companies), and the net transactions between the parent company and subsidiaries or branches. The following debt instruments are used: Financial Loans, Commercial Credits and Debt Securities.

Reinvested profits are treated as FDI inflows, using the balance sheets (income statements and financial condition statements) as a source of information which financial companies with foreign capital participation submit to the Superintendence of Financial Intermediation Institutions.

As there has been a significant growth in foreign investment in land since 2003, as of that year such assets are regarded as direct investment, based on the information provided by the NIC records. The NIC maintains the records for all purchases of lands of more than 1000 hectares and these records provide a detailed description of each transaction, including information concerning the persons' residences, except for limited liability companies. It also provides information on area, value and location of each sale. An estimation of Working Capital within the foreign investment is added to the total sum of land sales among residents and non residents, based on the land productivity conditions in accordance with the property location.

In summary, Uruguay FDI statistics are robust enough. They provide wide firms coverage. Supported by the strong legal framework, response rate for the surveys conducted by the BCU is close to a hundred percent. Statistical secrecy norms ensure complete confidentiality and enable BCU to impose fines. A continual new FDI investors identification procedure is applied at the compilation, allowing an updated enterprises directory. Particularly, since 2003 there have been continual improvements, incorporating land to real state estimations, extending the use of administrative records, including an additional proceeding to the firms involved in tax benefits granted by the Investment and Promotion Law, and updating the enterprise surveys with information on balance sheet variations, disaggregated according to its origin: (a) current transactions; (b) exchange variations or (c) changes on prices all in the case of stocks or other securities or bond owned or owed by the company.

The implementation of a closed (ITRS) should enable a better compilation auxiliary, providing faster and automatic information to make statistics controls easier. Notwithstanding, this system shows some disadvantages: (a) it only measures cash transactions (but many FDI are not cash, e.g. re-invested profit or capital participating in the form of machinery or debts between companies) (b) the concept of direct investment is difficult be explain in a general form for banking operations; and (c) the transactions using the national currency (pesos) or through non resident banks are difficult to measure, although this difficulty can be overcome by a suitable compilation procedure.

Surveys as data sources for external sector statistics

Endrita Xhaferaj[1]

1. Introduction

Albanian balance of payments statistics are compiled by the Balance of Payments Division of the Department of Statistics of the BOA. The data have been published since 1992. Since then, the coverage, detail, and sources have gradually been improved. The data are published quarterly about two months after the end of the referenced quarter. While data are published quarterly, the compilation system is partly from monthly data sources, namely bank reporting and trade data. There are a few items that are only collected in quarterly supplementary surveys, but monthly data could be produced by extrapolation and interpolation methods for the relatively few quarterly items, if required for policy reasons.

In practice, the problems of inadequate legal authority for the BoA to collect data from direct reporting, have been sidestepped by conducting supplementary surveys in coolaboration with the National Statistics Institute (INSTAT). These surveys cover travel, remittances, foreign direct investment, and foreign trade. INSTAT has survey expertise and adequate legal authority to undertake the surveys.

2. Travel services

The Albanian tourism now responds to the continuous demand for its growth and it has the adequate potential to attract visitors from other world regions as well. The Balance of Payments Division compiles revenues and expenditure of travel services. The assessments are made based on surveys conducted starting from year 1999 in co-operation with INSTAT. The survey is compiled and sponsored by the Bank of Albania while the onsite interviewing is carried out by the INSTAT on quarterly basis.

2.1 Main concepts

- "Travel" covers primarily the goods and services acquired from a country by travellers during visits of less than one year to that country.
- A traveller is an individual staying for less than one year in a country of which he or she is not a resident for any purpose. The one-year guideline does not apply to students or to patients receiving health care, who remain residents of their country of origin. They are considered travellers and their expenditure is included in travel services.
- An excursionist is a temporary visitor staying less than 24 hours.
- Travel services are broken down into business travel and personal travel. Business travel covers the acquisition of goods and services by business travellers, who are

[1] Senior Economist in the Statistics Department at the Bank of Albania.

going abroad for all types of business activities, such as carrier crew stopping off or laying over, government employees on official travel, employees of international organizations on official business, and employees doing work for enterprises that are not resident in the economies in which the work occurs. They may visit a country for sales campaigns, market exploration, commercial negotiations, missions, meetings, production or installation work, or other business purposes on behalf of an enterprise resident in another country.

- Personal travel covers goods and services acquired by travellers going abroad for purposes other than business, such as holidays, participation in recreational and cultural activities, visits with friends and relations, pilgrimage, and education and health-related purposes.
- Travel services are broken down according to the type of expenditure:
  - Expenditure on goods,
  - Expenditure on accommodation and food and beverage serving services;
  - And all other travel expenditure.
- The most common goods and services entered under travel are lodging, food, beverages, entertainment and transportation within the economy visited (all of which are consumed in the supplying economy) and gifts, souvenirs and other articles purchased for travellers' own uses and which may be taken out of the country visited.

2.2 Purpose of the survey

The primary purpose of this survey is to collect information on the duration of stay and the expenditure of resident and non-resident travellers during their travels in and out of Albania.

The survey relates to the characteristics of each interviewed category, with the travel purpose, the country of origin for non-residents visiting Albania and the destination for residents traveling abroad, etc.

2.3 Methodology

Defining the sample

The survey is conducted on quarterly basis, with a sample volume of 1000 people per quarter. The selection of border checkpoints where the interviewing is made is based on the quarterly data made available by the Ministry of Internal Affairs. The data includes the number of entries and exits of Albanian and foreign tourists in the territory of the Republic of Albania. It is worth noting that not all border checkpoints are included in the survey. It covers those border checkpoints where there is a large movement of travellers. The survey covers two groups of travellers: resident travellers who return from their travel abroad, and non-residents who leave Albania. Resident travellers include residents of Albanian or foreign nationality who return from their travel abroad. The breakdown of non-residents of Albanian (Albanian emigrants) and foreign nationality is also applied in the category of non-resident travellers. In addition, these two main categories also distinguish between excursionists.

Instrument used to collect the information

Based on the abovementioned categories, the Statistics Department has compiled two questionnaires, one in Albanian and one in English. Both questionnaires have seven questions, four qualitative and three quantitative questions.

(a) Traveller's identification

(b) Country of residence

(c) Purpose of visit

(d) Place of accommodation

(e) Duration of stay

(f) Expenditure carried out during the travel

(g) Gifts or free services received during the travel

On-site interviewing

1000 people are interviewed every quarter. They are resident travellers interviewed while they return from abroad and non-resident travellers while they leave Albania. The interviewing is done by interviewers recruited by the INSTAT, who have been instructed by the Statistics Department specialists.

Information processing

The data entry and processing is made by the Statistics Department. The data entry is made according to the border checkpoints and to the category of travellers. Prior to the data processing, the extreme values are removed and the average daily expenditure is converted into the euro. After the data processing we obtain the average duration of stay of a business or personal traveller for each border checkpoint. In addition, we measure the average expenditure of each business or personal traveller. These estimating coefficients are measured for the six categories of travellers: residents of Albanian and foreign nationality, non-residents of Albanian (emigrants) or foreign nationality and resident and non-resident excursionists.

The survey results are used for estimating the tourism expenditure and income in the balance of payments

The results obtained from the category of non-residents are used to estimate the income from tourism (credit), while those obtained from the category of residents are used to estimate the expenditure (debit). In the balance of payments, tourist income and expenditure are broken down into "business" and "personal". It is for this reason that the results related to the duration of stay and the daily expenditure are applied separately. The following formula is used to estimate the credit and debit for tourism.

Export (Tourism services) = Average no. of NR* (duration of stay)* average (daily expenditure)

Import (Tourism services) = Average no. of R* (duration of stay)* average (daily expenditure)

Where: NR – refers to non-residents and R – refers to residents.

3. Remittances statistics

The importance of workers' remittances in the Albanian economy is among the highest for any country. It is estimated that, approximately, a million Albanian nationals reside abroad or around one-third of the size of Albania's resident population of approximately 3 million. As a result of the large number of nonresident Albanian nationals sending money home, remittances are a major driver of the economy and particular attention needs to be paid to their measurement.

3.1 Methodology on remittances for BOP compilation

Some remittances are sent through the banks or Western Union and so are captured in the bank reporting system. However, anecdotally and from information on cash flows, a high proportion of remittances occurs through informal channels and in cash. To include these remittances workers' remittances credits outside the bank reporting system in the balance of payments statistics, a method that uses a residual formula, based on the supply and use of money outside the banking system. Effectively, the value of trade and travel identified but not funded through the banking system is attributed to remittances. Of the remainder of foreign exchange cash outside the banking system, 90 percent is assumed to be derived from remittances and 10 percent by compensation of employees. The method is based on a model of the supply and demand for foreign exchange outside the banking system. As a result of this method, the transactions outside the banking system are in balance and do not contribute to net errors and omissions. It should be noted that it is not assumed that the recipients of remittances directly fund the imports; rather, the process is that the remittances are converted to lek to purchase local goods and services and the foreign exchange is acquired by importers through the foreign exchange bureaus.

This method has many limitations and weaknesses, the main one being that given the large scale of Albania's informal economy, unaccounted inflows may be either money remitted by migrants abroad or any other type of flow coming from informal economic activities.

3.2 Survey on household

A new, source of information on remittances is the household survey. The first survey was conducted by the Bank of Albania and carried out by national statistical office (INSTAT) during November 2006, covering remittances received by households during the calendar year 2005. INSTAT constructed the sampling frame and collected the information through face-to-face interviews methods,. The sample includes the Albanian households that receive remittances, having at least one member who has migrated. To construct the sample frame, INSTAT used the LSMS (Living Standards Measurement Study) 2002 results. The 2002 LSMS in Albania was conducted and managed by the World Bank. Using its results, INSTAT calculated the number of households to be surveyed, 1033 households.

Since the first quarter of 2007, this household survey is being conducted on a quarterly basis.

The questionnaire was designed and later improved by the Bank of Albania. A primary consideration in designing the questionnaire used to elicit information from beneficiary households is the inclusion of both quantitative and qualitative data. The questionnaire has 23 questions structured under 5 main categories to collect information on: (i) households' composition and geographical location; (ii) households' income; (iii) remittances and savings in Albania; (iv) savings and investment attitudes of beneficiary households; and (v) others.

The information is collected through the face-to face interviewing method. The interviewer has to visit a household more than once in order to complete the interview, in those cases where the information could not be collected at the first visit.

The field working team was selected by INSTAT and made-up of interviewers with previously experience in such a survey in the framework of the LSMS. The interviewers were also trained. In addition, they know the places were the survey was conducted since they had experience in the LSMS. Furthermore, the fieldwork had a direct supervision, appointed by INSTAT, to ensure the good quality of the information.

According to the first survey, 26 percent of resident households received remittances from abroad. Most recipients lived in urban areas, and average receipts varied significantly between cities and regions. The vast majority of remittances were received through informal channels rather than through banks and Money Transfer Operators. The first survey also

showed that remittances have become a critical source of income for households, reaching 33 percent of disposable income of an average recipient family and almost 40 percent in rural areas. Remittances are mostly used for imported consumer goods, services, and for the purchase or construction of houses. A very small share is saved or invested in businesses, mainly in agricultural sector.

Subsequent quarters showed similar results. The sample frame is constant, so the survey delivers relatively stable estimates for remittance receipts. However, they appear too low compared to other sources of information.

3.3 Weakness of the survey and further improvements

Some of the reasons behind the fact that the household survey results are underestimated can be that the respondents may not wish to disclose the full amount of their income, including the part accounted by remittances.

Also, many Albanians live or work abroad illegally. In some cases, their activities are related to the informal sector in Albania. The family may not wish to acknowledge their receipts if they know the nature of their relatives' work situation and income.

The LSMS results are to be reviewed with regard to the information it contains on remittances since many Albanian families have re-united abroad, leading to a changing demography of nonresident Albanians, from single workers sending money home to families with no immediate plans to return.

Taking all this into consideration, household survey data are not yet able to replace the residual estimation method for obtaining the official estimates of remittances. Before household survey data are adopted as the primary data source, a longer time series of survey data should be established and the survey results require further validation and adjustment for underreporting or remittance receipts by households.

4. Foreign direct investment statistics

For balance of payment purposes direct investment capital comprises investments involving nonresident investors' equity of ten per cent or more in a company in the Albania. Direct investment enterprises are required to register with the national legal authorities, but there are limited official data on foreign direct investment in Albania. Flows of foreign direct investments, shown in BoP statistics, represent a rough estimation based on data reported from different state agencies for corresponding business fields that they are covering; only data on equity capital are reported.

Apart from the priority of drafting an institutional framework to encourage the foreign investments in Albania, their accurate measurement is a necessity. Even more so, for the calculation of the stock data needed for the compilation of the International Investment Position (IIP) of Albania, recently started. Therefore, the Bank of Albania in collaboration with the Statistics Institute organizes annual surveys in the enterprises with foreign capital participation.

Up to now there have been four annual surveys on FDI, the next one to be conducted during July 2008 concerning financial year 2007. The quality of the surveys' results have been improving from one survey to the other.

The form used in the survey has been revised on the basis of the results of the previous surveys. The actual form is reasonably user-friendly and the rising response rate confirms this. The form identifies opening and closing positions, transactions, and other changes as well as instruments.

The questionnaire contains two main sections. The information requested in the first session consists of specifications and identifications elements of the enterprise, such as economic sector, number of employees, the percentage of foreign equity, origin country of inward FDI etc.

The second session contains financial information, obtained from main financial statements as balance sheet, the statement of income and expenditures and committed investment during the fiscal year. These financial statements give information of current fiscal year and of previous fiscal year. Enterprises that do not keep a balance sheet can give in specific area general information regarding their financial outcome.

4.1 Calculation of FDI stock and data coverage

The calculation of Foreign Direct Investment Stock in Albania is comprised the following components:

- the share (contribution) in subscribed enterprise equity of foreign investor (in shares or in kind)
- the share in enterprise reserves of foreign investor (legally obliged reserves as well as other reserves held by the enterprise)
- the share in retained earnings (or loss) from previous year and reinvested of foreign investor.
- the share in current year earnings or loss of foreign investor.

The sample survey is selected from the population of foreign equity enterprise in Albania that results from the business register of INSTAT, as foreign or joint venture enterprises, settled everywhere in Albania. With the results from the surveys we are constructing a database of foreign investment enterprises, which is updated and cleared from closing enterprises.

4.2 Limitations and improvements

The sample survey has still to be revised in order to cover all the population, and adjustments and estimations are to be made for the non surveyed enterprises.

This issue can be solved with the collaboration of INSTAT and BoA with the new entity established in Albania: the National Registration Center, which will function as a one stop shop for the registration of the enterprises, reducing to one day the time required to register new businesses, and combining all registration steps-including tax registration-in a single procedure.

Persistent efforts have been made to reduce the timelines of conducting the survey. The 2008 survey is to be undertaken in July rather than in October after the referenced period, as in previous years.

The survey provides useful data for the revision of financial account items. Therefore, the decision of the BoP division at the BOA is to continue to compile preliminary financial account data from bank reports and to rely on the investment survey for revisions to the financial account and for compilation of the IIP.

Foreign direct investment statistics: the case of the Czech Republic

Rudolf Olšovský[1]

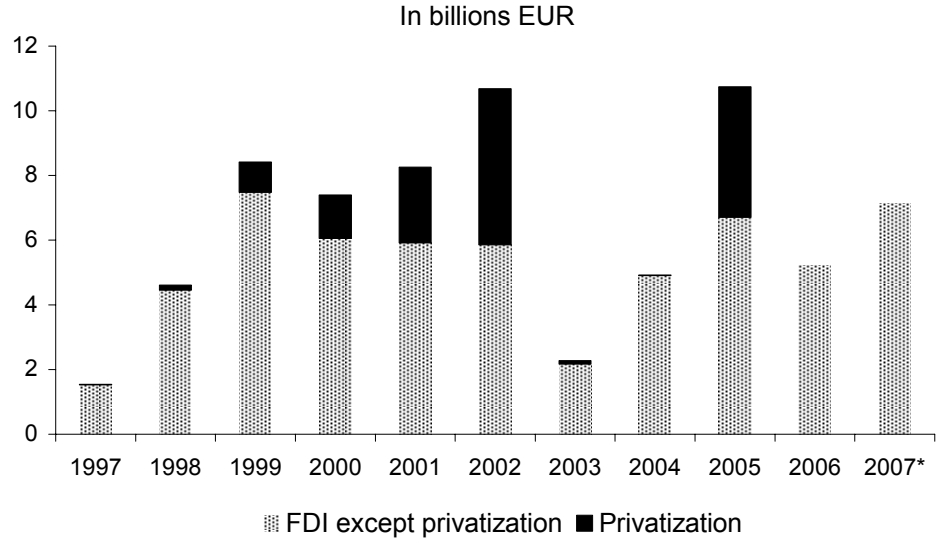
Legislation framework

The legislative framework for the collection of data on foreign direct investment from companies is given by the Foreign Exchange Act 219/1995. The Act on the Czech National Bank 6/1993 allows data to be collected from financial institutions. The Czech National Bank (CNB) and the Czech Statistical Office (CZSO) can exchange individual data thanks to an amendment to the Act on the Czech National Bank passed in 2006. The National Statistical Law of the Czech Republic was amended in the same way. The structure of the data handed over to or received from the Statistical Office is covered by several agreements between the relevant (statistical) divisions. This is helpful with regard to quality for the compilation of statistics and in terms of reducing the statistical burden on respondents.

Data sources

Various data sources are used for the compilation of the FDI statistics. The most important sources are yearly surveys of inward and outward FDI statistics and the reporting obligation for cross-border FDI transactions for non-bank companies. The yearly survey contains detailed information on ownership structure, balance sheet items, including dividends payable and paid, and basic information on economic activities. In the past two decades, the income of the National Property Fund from abroad due to the privatisation process was an important source for the FDI statistics. This national institution, originally established by the Czech government in the early 1990s, was merged with the Ministry of Finance in 2006. The significant impact of privatisation income on FDI flows in some years is visible in the following graph.

FDI inflow to the Czech Republic



Note: * preliminary data.

[1] Balance of Payments Division at the Czech National Bank.

Direct investors register

The foreign direct investment register is maintained by the Czech National Bank. The register contains data on inward and outward direct investors and covers approximately 6,000 units, the most important players in the Czech economy. The data source for FDI statistics on financial institutions is a database maintained by the departments responsible for supervision of financial market institutions, which became an integral part of the Czech National Bank in April 2006. The register is updated based mainly on information from ongoing system reporting and on outputs obtained from a commercial provider derived from the business register.

Data collection system

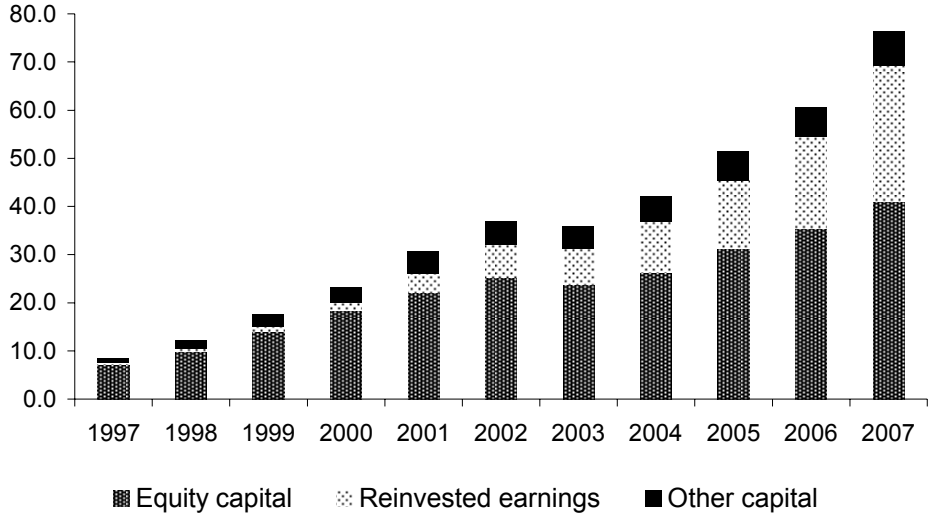
A survey-based data collection system (ongoing reporting obligation) on flows was established in 1995. The first survey-based system on stocks was organised in 1997. A new Foreign Exchange Act was adopted in 1995 with a clear road map for the liberalisation of capital movements on the financial account. An ongoing system for the regulation and monitoring of capital flows was created in the 1990s. The liberalisation of capital movements was completed at the beginning of the new millennium before the accession of the Czech Republic to the European Union in May 2004. A threshold of 1 million CZK (equivalent to 40,000 EUR) for the reporting obligation has been in place since January 2004.

Components of FDI stock and flows

The components of the FDI stocks and flows statistics follow the requirements of the IMF Balance of Payments Manual, (5th edition) and the OECD Benchmark Definition of Foreign Direct Investment (3rd edition). For the presentation of stocks data, equity capital is valued on the basis of own funds at book value, and since 2005 the shares of foreign-owned companies quoted on the Prague Stock Exchange are also presented on the basis of market prices. The main composition of stock is equity capital, reinvested earnings (all types of reserves, and the net value of non-distributed profits and losses) and other capital based on the directional principle (inter-company loans within a group, and loans extended and received).

FDI liability position of the Czech Republic

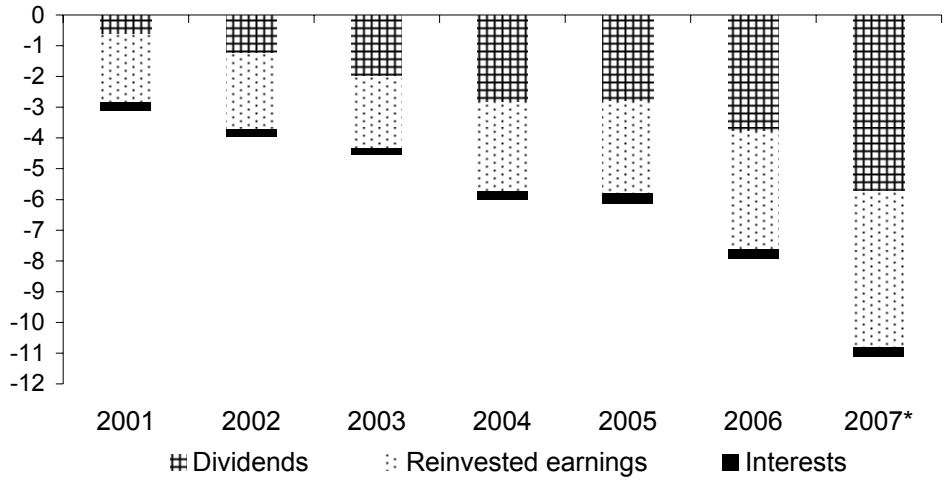
In billions EUR



In accordance with the life-cycle theory of investment, the investment balance is becoming significantly affected by the decisions of foreign direct investors. At the beginning of the cycle, investment inflows had an impact on the trade balance deficit due to investment imports. After the successful establishment of new production facilities, the Czech Republic's export-oriented capacities gradually increased. On the one hand, the trade balance switched from deficit to surplus in 2004. On the other hand, foreign firms started to create profits and pay dividends abroad or to reinvest earnings in the domestic economy. This is the main reason for the deterioration of the Czech Republic's income balance deficit.

Inward FDI income balance

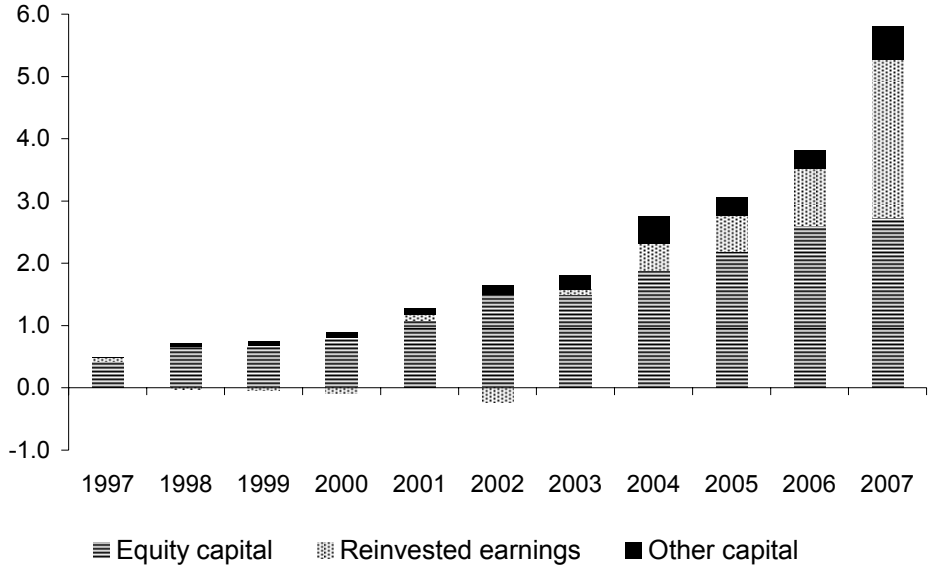
In billions EUR



Foreign direct investment outflows have also become a visible part of the international investment position over last two or three years, due to several acquisitions mainly in electricity supply utilities abroad.

FDI assets position of the Czech Republic

In billions EUR



Foreign affiliates statistics

A by-product of the yearly FDI surveys is the Foreign Affiliates Statistics (FATS) for variables requested by Eurostat (turnover, number of employees, value added, export and import of goods and services). The CNB and the CZSO have agreed to collaborate to meet the new requirements based on EU Regulation 716/2007 on FATS. The Czech National Bank will be responsible for outward FATS and the Czech Statistical Office for inward FATS.

Data dissemination

FDI flows and stocks are disseminated monthly and quarterly as a sub-item of the balance of payments statistics and international investment position. A detailed geographical and economic activity breakdown is available quarterly for flows and annually for stocks. Detailed statistics and annual reports on foreign direct investment are available on the Czech National Bank website at http://www.cnb.cz/en/statistics/bop_stat/fdi/index.html.

Mobile phone traffic data and tourist services item in Balance of Payments

Matjaž Jeran[1]

"Hard" and "soft" items of Balance of Payments

The Balance of Payments consists of many items. The goods (export and import) can be registered at the country borders and can be cross checked with customs or accounting documents.

Some items of the Balance of Payments (e.g. services) do not have that "hard evidence" and are measured by indirect measurements of financial or other flows. One such area is tourism, where estimates of the consumption of the individual tourists can be done using indirect statistics of number of tourists and their consumption depending on statistical data that a country can collect.

Slovenia has controlled its borders and international payments since the declaration of its independence. The border police and customs officers were used also to provide statistical data on border traffic. When Slovenia entered the European Union and the Schengen area, first the customs officers and then police officers were removed from the borders of the countries in the EU and statistical data were to be collected only by automatic mechanisms. There are Slovenian Police and customs officers currently only at the EU border traffic control with Croatia.

The majority of tourists come to Slovenia by road. The following automatic or register based statistics are used to get indirect data on tourism in the country:

- Automatic counters of cars on the road border crossings managed by the Enterprise for country roads (Družba za državne ceste – DDC)
- Statistics obtained from the register of temporary stays from the police database where the number of registrations and the number of night stays are obtained from the suppliers of tourist facilities
- Inquiries about spending habits of tourists in Slovenia done by the Statistical office of Republic of the Slovenia (SURS) collected every three years
- Monthly statistics of mobile phone traffic obtained from the mobile phone operators through the Post and Electronic Communications Agency of the Republic of Slovenia (APEK)

Each of the data sources has some limitations.

- The automatic counter on the road can distinguish a car from a lorry or a bus, but it cannot distinguish domestic from a foreign vehicle. These devices cannot be used to count people in a vehicle. The number of cars can only be used to get an estimated number of passengers. To get the total number of passengers entering or exiting the country, other means of traffic (train, plane, ship) must be also accounted for.

[1] Bank of Slovenia – Banka Slovenije. The text represents only personal opinion of the author and is in no way binding for the Bank of Slovenia.

- The registration of temporary stays is generally quite an accurate way of counting tourists that stay in Slovenia for at least one night or more. The register does not include some minor share of those that evade tourist taxes, campers on the parking areas and in remote places etc. The register is not capable of detecting tourists that only pass through Slovenia in a single day.
- Inquiries about tourist spending are quite expensive and varying patterns depending on the tourist locations and time of the year.

Mobile phone traffic as a source for tourist services

Getting mobile phone traffic data also poses some problems and limitations.

- It is supposed that the customer of a phone operator is a resident of the same country as the operator. It is common practice that a person who stays in a foreign country for a longer time buys a prepaid temporary phone number of a guest operator instead of using more expensive roaming services. This temporary new residential prepaid phone subscriber reduces international phone traffic data. Lowering international prices would probably change customers' reluctance to use services abroad more often.
- Mobile phone signals of operators of several countries are covered in the border areas. The persons in these areas can use the cheapest operator for them of any country of origin regardless on which territory they are located. The phone traffic data from border areas are not completely synchronised with the people migrating from and to the country border.
- It is important to arrange collection of mobile phone traffic statistics that is compliant with the personal data protection law, law of communications, lawful rights of the central bank and does not disclose telephone operator's business data too widely. The personal data protection law and law of telecommunications in Slovenia strictly prohibit disclosure of any data that would allow tracing person's location and behaviour. Any detail from a telephone exchange is a legally bound secret with very limited exemptions. The central bank does not have a right to get any data from the phone traffic of the operators. The bank can only get some access to financial data of the companies.

The solution suitable for the Balance of Payments, was to get a monthly sum of distinct person's daily traffic activities aggregated by countries. The mobile phones operators compute the sums from their accounting data.

The data from the phone operators are gathered by the Post and electronic communications agency (APEK). The agency then computes sums aggregated by countries and sends the totals to the central bank.

This mechanism of data transfers protects disclosure of any personal details outside the mobile operator and also any phone operator business data outside the Post and electronic communications agency (APEK).

The general idea is to use the mobile phone data to estimate number of persons outside of their country of origin per daily basis. Any phone activity of a particular person within a particular date is registered as a fact that the person is located in that country on that date. For example: A member of an international conference from Slovenia is visiting Austria for three days in the middle of the month. He makes one SMS and receives two phone calls on the first day, later he makes one call on the second day. His phone traffic is registered as one person on the first day and one person of the second day making a total of two "person days" of Slovenians in Austria for that month. If a Belgian travels to Slovenia for a day and

makes ten phone calls, his mobile traffic is registered as one “person day” of a Belgian in Slovenia.

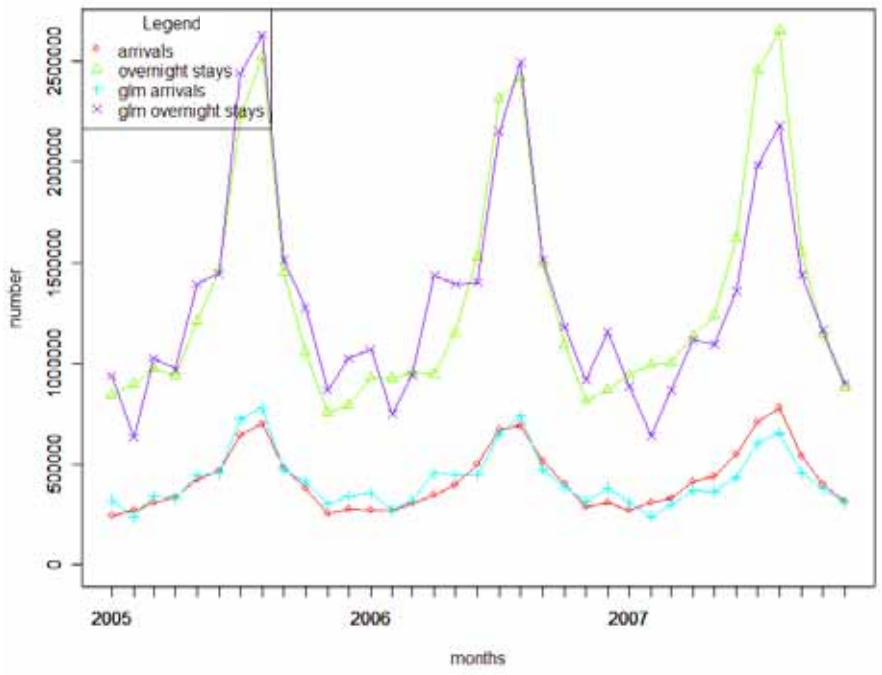
As shown in the example, the collected mobile phone traffic data consist of those from non-residents visiting Slovenia and also residents of Slovenia abroad. The central bank uses the mobile phone data of non-residents visiting Slovenia to get an estimate of the night stays in Slovenia by using a suitable statistical models. A generalized linear model (glm) with different parameters is used for Slovenia as a whole and also by tourists from different countries.

Mobile phone traffic from and to Slovenia

Amount of mobile phone communication depends on gender, age, cultural aspects and operator’s pricelist. The international mobile phone prices usually increase with the distance from the county of origin. Generally the domestic prices are lowest, followed by the prices for neighbour countries. The prices for the countries outside of Europe are generally most expensive.

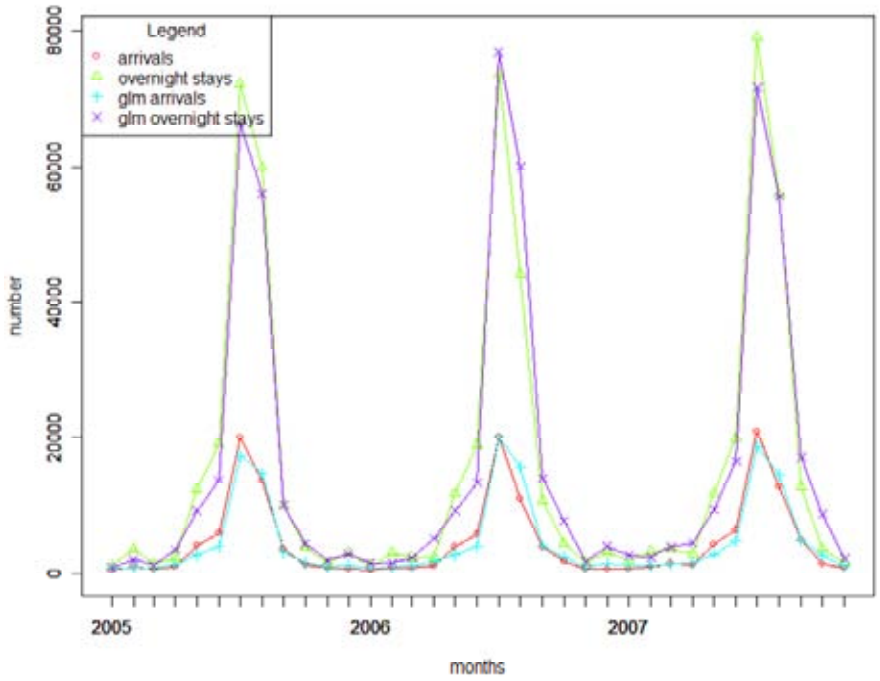
Slovenia is a small country which can be crossed by car in a single day, and is surrounded by larger countries: Italy, Austria, Hungary and Croatia. Tourists from these neighbouring countries commonly visit Slovenia for just one day. In addition, people from nearby regions such as southern Germany (eg Bavaria) pass through the country on their way to the Adriatic coast in Croatia. While in Slovenia, these travellers generally use their mobile phones as if they were in their home country. As a result, foreign phone traffic increases but there is no increase in overnight stays in Slovenia. This adds noise to the supposedly linear relationship between mobile phone traffic and tourist data.

Comparison of tourism and mobile hosting in Slovenia



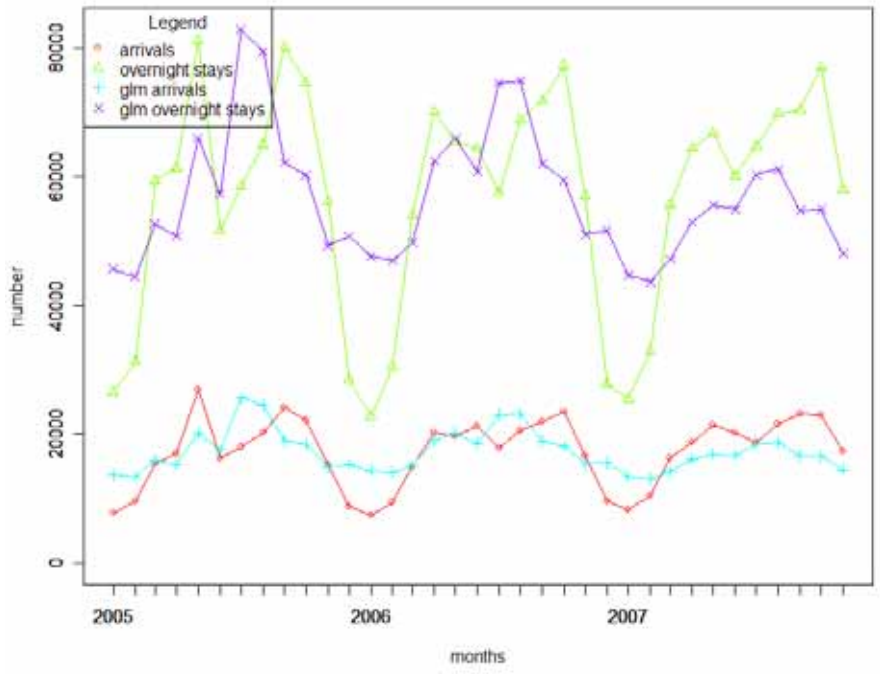
The best fit of the glm and number of stays is achieved for non-neighbour European countries such as the Netherlands. We surmise that the tourists from these countries cannot come to Slovenia without being registered their night stay.

Tourism and mobile hosting in Slovenia for NL



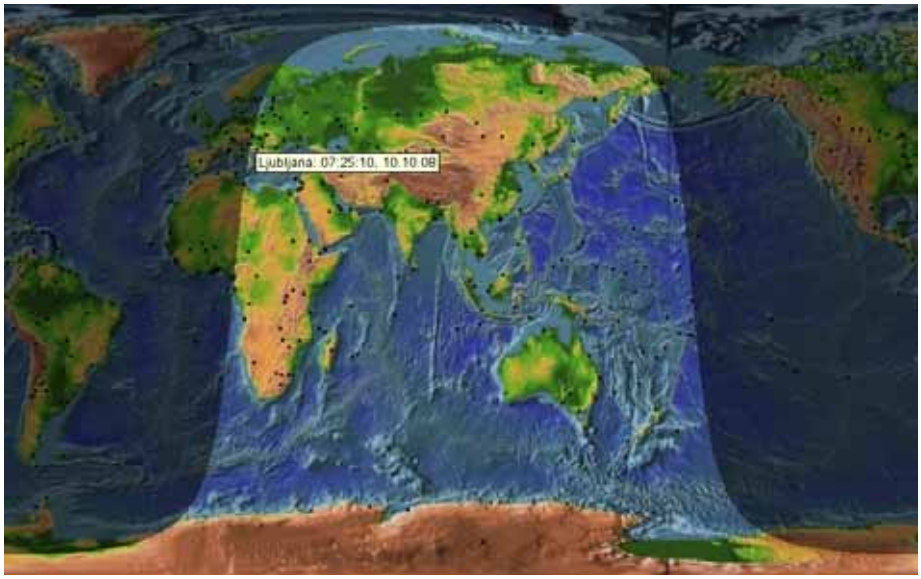
The fit achieved for all neighbour countries and Germany is less good. This can be accounted for by “noise” from one day trips and crossing of Slovenia to Croatia. The worst fit within Europe is achieved for undeveloped European countries, presumably reflecting less use of mobile communication because of relatively high prices.

Tourism and mobile hosting in Slovenia for AT



The worst fit of all countries is achieved for overseas countries, specially the ones with undeveloped mobile phone market penetration and/or problems with distant time zones.

Logically, there are smaller numbers of tourists from distant locations, high prices of communication, possible lack of triband phones and small time slots when phone calls are possible without waking up one of the partners in communication across the globe.



The phone traffic data of the residents of Slovenia abroad and the number of stays of tourists from Slovenia abroad can be obtained from statistical offices of some countries e.g. Croatia. These data can be used to calibrate the generalized linear model to estimate number of stays in the countries from which these data cannot be obtained. So mobile phone traffic can be used to break down the tourist expenses by countries.

The final item of tourist services in the Balance of Payments is obtained by multiplying the number of tourists by their spending. The accuracy of the product depends on the accuracy of their number and accurate knowledge of spending habits.

A three year periodic questionnaire for foreign tourists determines spending habits by gender, age, nationality, profession, living area, type of tourist resort in Slovenia, time spent in Slovenia, means of travel, use of mobile phones and internet facilities and about their opinion on tourism in Slovenia.

We are now considering implementation of the mobile phone traffic model to estimate the number of people on one day trips and in transfer across Slovenia. The details are still in development.

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Session 5

Surveys of monetary and financial conditions

Background note:	Surveys of monetary and financial conditions Kerry Wood and Paul Van den Bergh, Bank for International Settlements
Case studies:	
Pune/Vienna	The use of a survey for the compilation of the Austrian contribution to the harmonised interest rate statistics for the euro area Alois Klein, Aurel Schubert and Gunther Swoboda, Austrian National Bank
Buenos Aires	The Federal Reserve's Senior Loan Officer Opinion Survey Gretchen Weinbach, Board of Governors of the Federal Reserve System
Country presentations:	
Pune	Survey of ownership of deposits with scheduled commercial banks in India – evolution, methodology and issues Deepak Mathur, Reserve Bank of India
	Direct Investment survey in Indonesia Minot Purwahono and Siti Muarofah, Bank Indonesia
Buenos Aires	Monetary indicators surveys Beatriz Biasone, Central Bank of Argentina
Vienna	Central Bank of Bosnia and Herzegovina Statistics of monetary and financial sector; Survey on banks' loans by purpose Amir Hadziomeragic and Vidosav Pantic, Central Bank of Bosnia and Herzegovina

Background note on surveys of monetary and financial conditions

Kerry Wood and Paul Van den Bergh[1]

All central banks, even those with limited statistical data collection activities, collect a minimum of key data related to monetary and financial conditions including on interest and exchange rates, financial institutions' balance sheets, and payment and settlement systems. In countries where central banks collect a vast array of statistics, monetary and financial conditions data are the most numerous and extensive. This reflects the fact that information in this area is of key importance to central banks in the conduct of monetary policy and the promotion of financial stability. It also reflects the operational or regulatory role that central banks play, for instance with respect to payment and settlement systems or bank supervision.

Central banks have traditionally been able to collect information on monetary and financial conditions through censuses, ie full reporting by banks, which were the most important, if not the sole, financial intermediaries which they regulated (some central banks in emerging market countries may continue to be in this somewhat privileged situation). This has changed as banking supervision has moved to independent supervisory authorities, exchange controls have been liberalised, non-bank financial intermediaries have become more important and financial markets have become more diversified and complex. In some instances, where the supervisory role of the central banks has been shifted to another agency, special arrangements under acts of parliament have been set up so that statistics reported by financial institutions to the supervisory agency are forwarded to the central bank. Even so, the development of new types of financial institutions, instruments and markets have generated new data requirements for central banks. New types of data collection techniques have therefore been adopted, including cut-off-tail reporting as well as fixed and random sampling. The new techniques allow central banks to interpolate monetary and financial conditions from samples to a broader population.

Despite this trend towards the use of surveys, censuses remain the main method central banks use to collect statistics on monetary and financial conditions — around 50 per cent of central bank collections. Cut-off-tail reporting is used in around 10 per cent and sample surveys in around 30 per cent of data collections. Unlike external sector statistics, different types of monetary and financial conditions data tend to be collected mostly with one method. For example, censuses are mainly used to collect data on balance sheets, debt securities, while sample surveys are primarily used to collect data on market interest rates, credit standards, and new financial instruments.

Data collected by central banks surveys on monetary and financial conditions

In general, monetary and financial conditions data are used to assess domestic macroeconomic conditions and help guide the formulation of monetary and financial stability policy. They are also an input into research. Central banks also have international obligations

[1] Monetary and Economic Department of the Bank for International Settlements.

to comply with data requirements for bodies such as the Bank for International Settlements (BIS) and the International Monetary Fund (IMF). These statistics are also published by central banks due to ongoing interest from financial institutions, academia, and the general public.

More specifically, there are around 10 main types of data on monetary and financial conditions that are collected by central banks:

- *Interest rates.* These include lending and deposit rates of banks (most of which are collected through a full reporting by these institutions), as well as representative interest rates in money and capital markets (most of these are collected through sampling). In some cases data are also collected on expectations of interest rates.
- *Exchange rates.* This includes nominal bilateral exchange rates (spot and forward), nominal and real effective exchange rates, and, in some cases, expectations of exchange rates.
- *Bank balance sheets.* The most important data in this area are the balance sheet and income statements that banks regularly file with their supervisor. These include data on assets (total and risk-weighted assets, claims on residents and non-residents, non-performing loans and provisions, impaired assets), liabilities (including tier 1 and tier 2 capital, liabilities to non-residents), and income and loss (pre- and after-tax income, interest and non-interest income and expenses, and pre- and after-tax profits). These data are typically provided with various breakdowns (eg claims on and liabilities to non-residents or to other financial institutions), so that they can be used to construct monetary and credit aggregates and serve as input for the financial account statistics. Some of these data are used to report aggregate data to the BIS International Banking Statistics or the IMF Financial Soundness Indicators.
- *Balance sheet data of other financial institutions.* This includes data on insurance companies, pension funds, investment funds and hedge funds.
- *Credit standards, terms and conditions.* Apart from bank balance sheets and interest rates, many central banks also carry out so-called bank lending surveys in order to identify determinants and expectations about credit supply and demand and their effect on credit conditions for households and businesses. This information is often collected through sample surveys and is usually qualitative (most questions in these surveys tend to be backward-looking).
- *Debt securities.* With the growth of capital markets, central banks have become more interested in monitoring developments in this area, in particular for debt securities. Key data are aggregate amounts outstanding, gross issuance, redemptions and cancellations, sector of the issuer, type of security, maturity, and interest rate type. In some cases, including the ECB and Euro area central banks, security-by-security databases are being set up (ie census). Good securities data are needed for compiling money and banking statistics, the flow-of-funds and statistics on the balance of payments and International Investment Position (and external debt).
- *Turnover and amounts outstanding in foreign exchange and derivatives markets.* In many countries foreign exchange markets have grown rapidly and data are collected on spot, forward and swap transactions. Good data on exchange-traded and over-the-counter transactions in futures and options for financial instruments are also becoming important. In some countries these data are collected regularly as a contribution to the BIS statistics in this area.
- *Payments and settlements.* These data include information on the number and value of accounts held with banks and non-banks, number of institutions offering payment

services, electronic (e-)money institutions, number of cards issued, card function (such as cash, payment, e-money), number of ATM and POS terminals, the number and value of transactions (cash, cheque, credit and debit cards), large-scale and retail payment system transactions, instructions handled by trading platforms, clearing houses and securities settlements systems, and number of participants in these systems. Central banks also collect information and statistical data from other infrastructures such as stock exchanges, electronic trading platforms, clearing organisations, netting schemes and collateral arrangements.

- *Housing.* Developments in real estate markets have started to be monitored more closely in recent years. Some central banks collect information on prices and rents for houses and apartments, vacancy rates, selected data on mortgages, transaction prices on houses, and characteristics of houses, such as location, size, quality, and proximity to schools and public transport in order to construct house price indices (Greece, Ireland and Poland). Central banks are also interested in housing finance developments, in particular the development of new mortgage instruments and credit risk transfer mechanisms involving mortgage loans (eg mortgage-backed securities, mortgage bonds).
- *Various other surveys.* These include various data collections on the characteristics of financial products such as credit card and mortgage loan features (eg annual and special fees, introductory and ongoing interest rates, applicable periods, rewards on purchases, revolving facilities, offset account balances, and flexible repayment periods and amounts). Some central banks also carry out surveys to monitor new financial instruments such as new loan commitments and drawdowns (Argentina, Hong Kong, and Estonia) or new deposits (South Korea). Surveys can also be used, as in the case of the Federal Reserve (1998) to understand banks' behaviour in the interbank money market and large-value payment system.

Methodological guides

Some of the more common financial statistics, such as exchange rates and interest rates are simple enough not to require international standards. For most other data, there are agreed international standards with user guides to assist compilers report data. This has been important for transparency and international comparability.

The main methodological guide used to compile financial statistics is the IMF Monetary and Financial Statistics Manual (MFSM 2000). This provides central banks with a broad guide on how to define and classify a range of statistics including monetary gold and SDRs, currency and deposits, debt securities, loans, shares and other equity, insurance technical reserves, derivatives, other accounts receivable and payable, and other financial instruments. There is also a framework for the construction of monetary, credit and debt statistics. The nature, uses and structure of the flow of funds is outlined. The MFSM 2000 also provides a guide on accounting issues such as valuation methods, timing of recording, amounts outstanding, flows, consolidation, and netting.

The various documents of the Basel Committee on Banking Supervision (eg Basel II) are becoming an important guide for the compilation of prudential supervision statistics. These, as well as the BIS methodology for cross-border banking statistics, have been used to develop the IMF Compilation Guide for Financial Soundness Indicators, which provides guidelines on the calculation of aggregate balance sheet data for the banking sector.

The BIS Committee on Payments and Settlements has agreed with the ECB on the definitions and coverage of payment and settlement statistics. These are published in the BIS Red Book. However, there remains notable differences in the treatment of data in

Europe. The differences in methodology are even greater for data reported by the United States and Japan. So far, few central banks outside the EU and G10 regularly publish data on payment and settlement systems.

With regard to securities statistics, there is no agreed international framework for the compilation of data apart from the general methodology of the national and financial accounts. Most national securities statistics focus on the issue(r)s of securities, that is on the liabilities side of the different sectors in the economy. Little information is available on the holdings of securities. Work underway at the BIS to facilitate a stylised framework for securities statistics suggests that most countries report data either on a "location of issue" or "residency of issuer" approach. A better documentation of the national data would go a long way in allowing to combine national data on domestic securities markets with the BIS data on international securities issues.

With respect to housing prices, there are no agreed international standards, which results in wide disparities across national definitions, let alone international statistics. Central banks and national statistical agencies calculate a range of measures including hedonic, median, repeat sales price index, and simple index. There are differences in reference dates, such as the time of settlement, contract exchange, or final approval of loan. Some measures adjust for compositional change. The IMF compilation guide for Financial Soundness Indicators provides an overview of various methodologies and makes a number of recommendations.

Examples of recent data collection exercises with respect to monetary and financial conditions

Central banks' current and planned data collection exercises to monitor monetary and financial conditions reflect their varied policy interests and data needs. In some cases specific exercises have been carried out or are planned to fill information gaps in particular areas, in other cases they are designed to analyse and issues of topical interest. The following are some examples of recent data collections in individual countries:

- India completed an ad hoc census of non-deposit-taking non-bank financial institutions in 2006. This collection gave access to key balance sheet items in order to build a database for policy purposes.
- Also last year, Russia started new collections on pension funds and insurance companies to gather data on assets and liabilities by instrument and credit and debtor sectors.
- Chile is planning to survey issues concerning bank notes and coins, focusing on the availability of notes, note security features, and the acceptance of notes by the public.
- In 2007, Slovakia has commenced a quarterly survey of consumer credit, leasing, and factoring companies to gather data on key balance sheet items.
- In 2006, Macedonia started a new quarterly bank lending survey to gain insight into factors affecting the supply and demand of credit to and from the household and business sectors, and expectations in the next quarter. A survey of financial institutions is also planned in 2009 to gather financial accounts statistics.
- Last year, Australia conducted a survey looking at surcharges in credit transaction.
- In 2007, Australia and Norway are planning surveys to examine costs of different payment instruments.

- Australia conducted a one-off bank survey in 2006 on foreign exchange settlement practices. Such surveys are occasionally organised through the Committee on Payment and Settlement Systems.
- In 2006, Austria started a monthly survey on government deposits held with resident and non-resident banks, and on loan conditions.
- Poland started a quarterly survey on housing prices and rents and characteristics of dwellings in 2006.
- Some central bank are considering the conduct of surveys of hedge funds and their activity.

Issues for discussion

- What issues do central banks confront when sampling non-regulated financial institutions? What special arrangements are required, for instance with respect to agreements with the respective regulators/supervisors of these firms? What are the implications for money and credit aggregates, financial accounts, and flow of funds statistics?
- Can cut-off-tail sampling be readily applied where there are a large number of financial institutions with small balance sheets? What are the costs and benefits?
- Do central banks have a comparative advantage over national statistical agencies at surveying financial conditions? While central banks may be more familiar with coverage and conceptual issues, would national statistical agencies be better at survey design and conduct?
- How will continuing financial innovation and deregulation affect sample design for monitoring monetary and financial conditions? What issues need to be considered, such as the balance between accuracy and reporting burden, the need to adequately sample new players that may be hesitant to reply to surveys (eg hedge funds)?
- How useful are surveys with qualitative responses, such as those in bank lending surveys, compared to quantitative data? Can surveys of market sentiment yield additional information to that contained in asset prices (eg yield curve, futures and options prices, risk premia, implied volatility measures, implied probabilities of default, spreads on credit derivatives)?
- Are response rates for surveys on monetary and financial conditions affected by cycles in interest rates or risk appetite/aversion? For example, does the response rate decline as interest rates increase or risk appetite decreases, and vice versa?

The use of a survey for the compilation of the Austrian contribution to the harmonised interest rate statistics for the euro area

Alois Klein[1], Aurel Schubert[2] and Gunther Swoboda[3]

1. Introduction

Interest rates in general and the retail interest rates of financial intermediaries in particular play a central (economic policy) role in a modern economy. The availability of information on interest rates helps the central bank to observe and analyze the transmission of interest rate policy and the effects it has on wide parts of the economy and the people, i.e. the monetary policy transmission mechanism. Retail bank interest rates are an important signal that borrowers and depositors receive about the central bank's intentions and actions, where they "feel" monetary policy taking place. When these interest rates change, borrowers and depositors adjust their economic behavior accordingly. By the end of 2003, after five years of Economic and Monetary Union (EMU), the Eurosystem succeeded in implementing a harmonized ECB interest rate statistical framework which gives a very broad overview of the interest rates applied by the financial intermediaries to deposits and loans. This constitutes an important milestone in the Eurosystem's supply of information.

2. Analytical significance of euro area-wide interest rate statistics

The role of bank interest rates depends directly on the significance of the banking sector as a financial intermediary in the economy. The financial markets of the euro area countries are strongly bank-based systems. Traditionally, banks have played a major role in Europe even if this role varies in degree in each country. Austria is among the countries where banks' intermediation role continues to be significant.[4]

Article 105 of the Treaty on European Union stipulates that the primary objective of the European System of Central Banks (ESCB) – and thus of the Eurosystem – shall be to maintain price stability in the euro area. Without prejudice to the objective of price stability, the ESCB, and the Eurosystem, shall support the general economic policies in the Community. Furthermore, the ESCB – like every central bank – shall assume special responsibility with regard to financial stability. In accordance with Article 105 (5) of the Treaty on European Union, the ESCB shall also contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.

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1 Deputy head of the monetary and supervisory statistics department at the Austrian National Bank.

2 Director of the statistics department at the Austrian National Bank.

3 Senior Expert at the Austrian National Bank.

4 ECB (2002), Report on Financial Structures.

In order to fulfill the mandate of maintaining price stability, the Eurosystem has devised a monetary policy strategy which is based on two pillars. The first pillar focuses on analyzing the development of the monetary aggregate (the broadly defined money stock M3) and the second pillar on observing and assessing a very wide array of economic indicators that may suggest inflationary risks. Apart from real activity indicators (e.g. GDP, consumption growth, investment growth), this wide array also includes price and cost indicators and, in addition to exchange rates, financial market indicators, in particular various interest rates.

While money market rates (EONIA and EURIBOR) and capital market returns were reported during the first five years of EMU, no retail bank interest rates for the euro area were collected on a harmonized basis in all Member States. The information available in this respect, which was also published regularly in the ECB Monthly Bulletins (Table 3.4 – Retail bank interest rates), related to national interest rates aggregated into standard categories but compiled in different ways (basis of reference: new business and/or outstanding amounts, type of data: nominal or effective interest rates, and compilation method: sampling approach or census). The catalogue of indicators within the framework of this short-term approach comprised ten indicators.[5] The European Central Bank (ECB) explicitly stressed in a footnote to these statistics that these nonharmonized indicators were suitable for analysis purposes only to a limited extent. Although these indicators were useful in identifying trends, they had only little informative value as to retail interest rate levels in the euro area and neither were they sufficiently differentiated to meet the analytical requirements of the single monetary policy. Therefore, they were only of limited use for illustrating the transmission of the ECB's interest rate policy signals to bank customers or for analyzing financial stability.

Retail bank interest rates, however, play an important transmission role in the pass-through of the central bank's monetary policy impulses via the so-called interest rate channel. A quicker and fuller pass-through of central bank interest rates via money market and capital market interest rates to retail bank interest rates strengthens monetary policy transmission via this channel.[6] Central bank decisions have a direct impact on the money market and may thus feed through to interest rates. The effects of changes in money market interest rates on capital market interest rates and, subsequently, on retail bank interest rates are not subject to the direct influence of the central bank and may last longer and be of varying degrees. Yet it is especially these interest rates that have the strongest impact on the consumption and investment decisions of households and enterprises and thus on the real economy. Bank decisions on interest rates on deposits and loans, however, also affect financial sector profitability and thus financial stability. This, too, may have effects on the real economy.[7] Chart 1 shows the development of the ECB main refinancing rate together with the development of the 12-months-EURIBOR and the retail interest rates for deposits and loans vis-á-vis private households and nonfinancial corporations.

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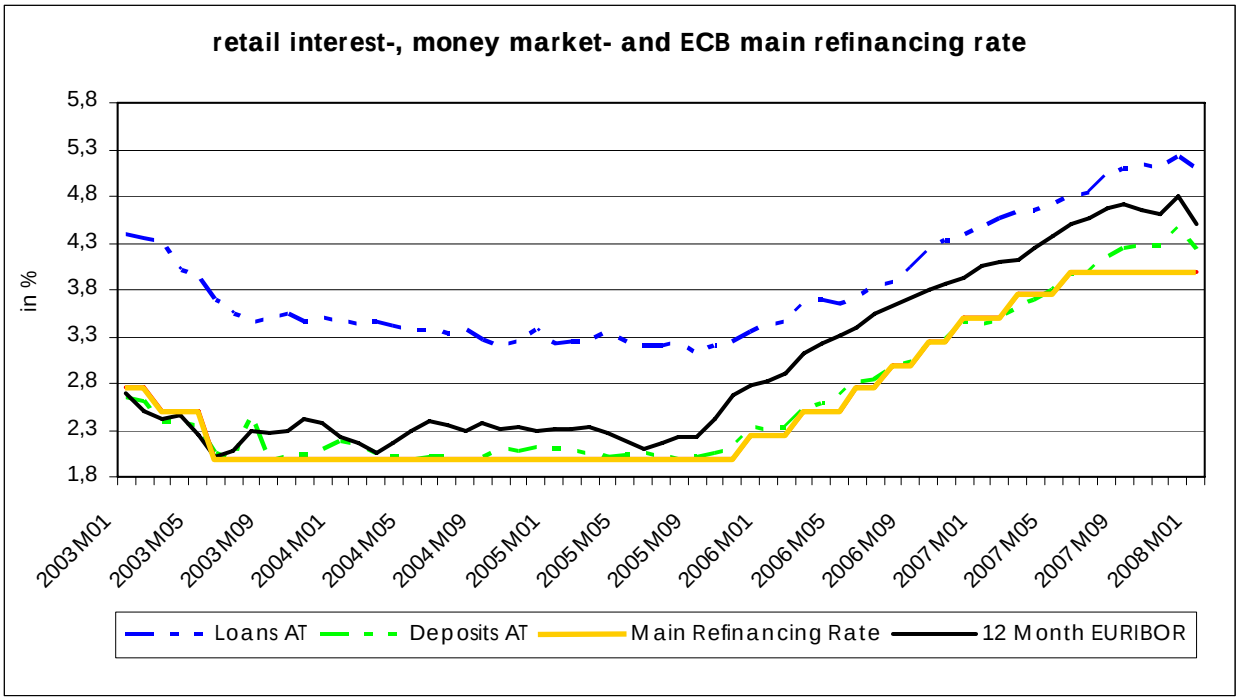
[5] The indicators comprised interest rates on overnight deposits, deposits with an agreed maturity of up to 1 year, over 1 and up to 2 years and over 2 years, deposits redeemable at notice of up to 3 months and over 3 months, loans to enterprises with an agreed maturity of 1 year and over 1 year and loans to households for consumption and loans to households for house purchase.

[6] For an empirical analysis of the pass-through of monetary policy impulses in the euro area on the retail bank interest rates, see De Bondt (2002).

[7] De Bondt (2002) differentiates between a short-term and a long-term pass-through of interest rate changes. Her empirical findings suggest that euro area banks pass on interest rates in the short term (one month) to a maximum degree of 50%, but in the longer run to a degree of up to 100%. According to banks' calculations, the pass-through process has significantly quickened since the start of EMU.

Chart 1

Development of retail vs. key interest rates



Interest rate changes are driving forces for portfolio shifts. With declining interest rates, for example, the opportunity cost of holding cash and very short-term, low-return deposits will fall; as a consequence, investors shift their portfolios, which, in turn, may have repercussions on the monetary aggregates.

Another issue of interest from an economic policy, but also from an analytical point of view, refers to the effects of the business cycle on retail interest rates charged by banks. Especially the impact of the cyclical position on the risk premia charged for loans is of importance, i.e. to what extent will they rise when the economy slows down and how fast and to what extent will banks reduce them when the economy recovers. Normally, banks raise and cut risk premia procyclically, and therefore these moves can counteract the changes in central bank interest rates.

Changes in bank interest rates always go hand in hand with distributive effects. Interest rate cuts will ease the burden for borrowers, generating positive income effects. Broken down by sectors, this applies mainly to the corporate sector and the general government sector, which are both net debtors by tradition. On the other hand, interest rate cuts mean negative changes in income for depositors. This affects in particular the household sector, which is normally the group of biggest net creditors in an economy.[8] The new interest rate statistics allow to estimate such income effects, especially by taking into account outstanding amounts.

In addition to the undisputed relevance of euro area-wide interest rate statistics, national data play an important role in assessing the effects of monetary policy. As long as the integration of the national financial markets in the euro area has not been achieved in full, considerable regional differences in the interest rates on deposits and loans will persist. Together with

[8] For the latest results on the financial wealth of households and enterprises in Austria, see Andreasch/ Schubert/Wimmer (2003).

regional differences in inflation rates, the effects of the ECB interest rates on the real economy may vary significantly among Member States. For these differences, too, the interest rate statistics now available provide a reliable basis for analysis.

Differences in national interest rates for comparable products in an environment of completely liberalized cross-border capital flows are also an indicator of a lack of market integration, whereas an increasing convergence of interest rates may suggest increasing integration.

Finally, the levels of and changes in the interest margins between deposits and lending rates as well as the interest spreads compared to alternative investment instruments provide important information to the institutions involved in prudential supervision as regards bank profitability, the sustainability of bank profits and the degree of competitive pressure. Conclusions about banks' competitive situation can also be drawn from shifts in their product policies in terms of amounts of new business. Thus, the euro area central banks are able to observe structural developments in the banking and financial system more closely and to better analyze and carry out their financial stability tasks.

3. outline of the scheme and national implementation

3.1 Statutory basis

On the basis of its powers as laid down in the ECB statistics regulation,[9] the ECB adopted a regulation containing the essential outlines and details of this reporting obligation, which was directly addressed to the potential reporting agents in the euro area. Regulation (EC) No 63/2002 of the ECB concerning statistics on interest rates applied by MFIs to deposits and loans vis-à-vis households and nonfinancial corporations (ECB/2001/18) thus constitutes the central supranational statutory basis for the interest rate statistics.

In line with the principle embodied in Article 5.2 of the Statute of the ESCB and the ECB, according to which the NCBs of the euro area are to collect the necessary statistical information to the extent possible, the individual countries have adapted their national reporting systems on the basis of the ECB regulation on interest rate statistics and have adopted reporting guidelines for the interest rate statistics. The reporting framework for the Austrian interest rate statistics is based, from a national point of view, on the separately prepared reporting obligations for interest rate statistics established by the OeNB pursuant to Article 44 (1) Federal Act on the Oesterreichische Nationalbank and based on ECB Regulation 2001/18.[10]

3.2 Subject of reporting

The new interest rate statistics show the interest rates applied by MFIs in Austria to euro-denominated deposits and loans vis-à-vis households and nonfinancial corporations resident in EMU Member States,[11] covering both interest rates relating to new business and to the stock of all deposits and loans. Since foreign currency loans play a major role in the domestic

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[9] See Regulation (EC) No 2533/98 of the Council of 23 November 1998 concerning the collection of statistical information by the ECB.

[10] See the reporting instructions and reporting form for the ECB interest rate statistics at http://www.oenb.at/de/stat_melders/melderservice/bankenstatistik/meldebestimmungen_bankenstatistik.jsp (in German).

[11] Households and nonfinancial corporations cover all nonfinancial sectors other than public households (general government) as defined by the European System of Accounts (ESA 1995).

market, in Austria interest rates for this business line are also collected, albeit only relating to new business.

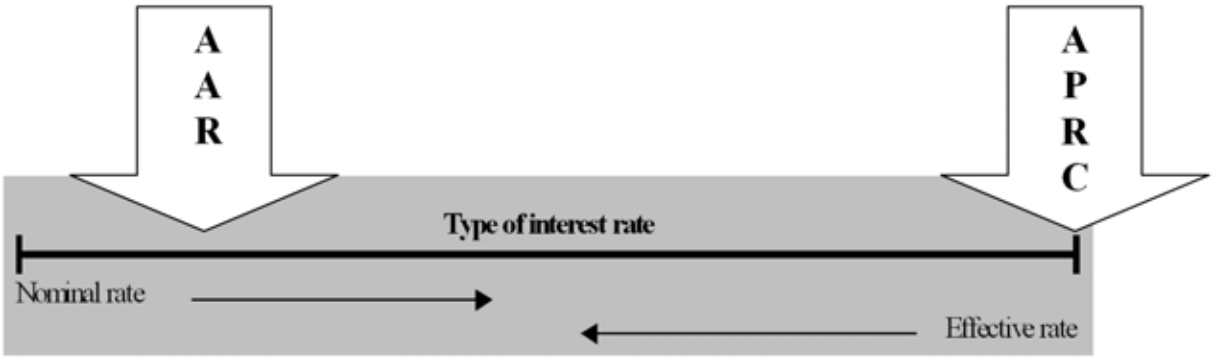
3.3 Type of interest rate

The following two types of interest rates form the basis for the harmonized interest rate statistics in the euro area:

- the annualized agreed rate (AAR)
- the annual percentage rate of charge (APRC)

Chart 2

Classification of interest rate types (AAR, APRC)



In the bandwidth between nominal interest rate and effective rate, the AAR represents an interest rate that is very close to the nominal interest rate, while the APRC is, in fact, a typical effective interest rate.

3.3.1 Annualized Agreed Rate (AAR)

As a general rule, the reporting agents are required to provide the annualized agreed rate for both new business and the stock of all deposits and loans. It contains only interest payments on deposits and loans, but no other charges that may apply (for inquiries, administration, preparation of the documents, etc.). This interest rate is agreed between the reporting agent and the customer for a deposit or loan, converted to an annual basis and quoted in percentages per annum. In the event of intrayear interest payments on deposits and loans the agreed rate shall be annualized by means of the following formula:

$$AAR = (1 + r_{ag} / n)^{n} - 1.$$

with

AAR as the annualized agreed rate;

r_{ag} as the agreed interest rate per annum;

n as the number of interest capitalizations per year (e. g. n = 2 for semiannual interest capitalizations).

In principle, the reported interest rates on customers' deposits or loans are to reflect the interest received or paid by the reporting agent; in other words, interest rate components that are borne by third parties must not be included in the calculation of the interest rate to be reported. For example, subsidies granted for deposits under building and loan contracts must not be taken into account when determining the interest payment, since they do not represent costs for the reporting agent.

3.3.2 Annual Percentage Rate of Charge (APRC)

In addition to annualized agreed rates, the reporting agents are required to provide for new business in respect of consumer credit and loans to households for house purchases the annual percentage rate of charge (APRC) as defined in Article 1(2)(e) of the Consumer Credit Directive.[12] The annual percentage rate of charge is calculated on the basis of the following mathematical equation, as defined in Article 33 Austrian Banking Act, which reflects the national implementation of the above-mentioned EU Directive:

$$\sum_{K=1}^{K=m} \frac{A_K}{(1+i)^{t_K}} = \sum_{K'=1}^{K'=m'} \frac{A'_{K'}}{(1+i)^{t_{K'}}} .$$

with:

i as the APRC (including fees)

A_K as the amount of loan disbursement

$A'_{K'}$ as the amount of interest payments, repayments and payments of charges

t_K as the interval between the date of the first loan disbursement and subsequent disbursements

$t_{K'}$ as the interval between the date of the first loan disbursement and the dates of interest payments, repayments and payments of charges

The annual percentage rate of charge covers the total costs of a loan to the consumer. These total costs comprise an interest rate component and a component of other (related) charges (fees, commissions, etc.).

3.4 Business coverage, time reference point

3.4.1 Interest rates on new business

The interest rates on new business include all new deposit and loan contracts concluded or agreed within a reference month.

They comprise:

- All financial contracts, terms and conditions that specify for the first time the interest rate of the deposit or loan;
- All new negotiations of existing deposits and loans (this includes parts of the contract not referring to the interest rate).

According to this definition, new business does not include:

- Prolongations of existing deposit or loan contracts that are carried out automatically, i.e. without the customer's active involvement;
- Changes in floating interest rates on account of automatic interest rate adjustments (agreed in advance) performed by the reporting agent;
- A change from fixed to floating interest rates or vice versa which has been agreed at the start of the contract.

[12] Directive 87/102/EEC of 22 December 1986 for the approximation of the laws, regulations and administrative provisions of the Member States concerning consumer credit as amended by Directive 98/7/EC of the European Parliament and of the Council of 16 February 1998.

3.4.2 Interest rates on outstanding amounts

The reporting scheme for interest rates on outstanding amounts referring to deposits and loans is based on a snapshot observation. Basically, all deposits and loans outstanding on the last day of the month are included in the calculation of the interest rate to be reported. Bad loans and loans for debt restructuring at interest rates below market conditions must not be taken into account.

3.4.3 Special provision for specific new business categories with regard to weightings

It should be specially emphasized that for reasons of simplifying the definition and methodology, for specific categories of deposits and loans the definition of new business applies to the outstanding amounts at a certain point in time at the end of the reporting period. This means the outstanding amounts at the end of the month must be used for calculating the average interest rates of new business in the following categories (see also section 5.6):

- overnight deposits placed by households and nonfinancial corporations;
- deposits redeemable at notice held by households; and
- bank overdrafts vis-à-vis households and nonfinancial corporations.

This approach was chosen against the background of the problem of applying the definition of new business to these categories. Since these categories are often subject to fluctuations in the outstanding amounts, it would have meant a disproportionately great effort for the reporting agents – apart from technical uncertainties – to capture amounts of new business within the meaning of the general definition of new business.

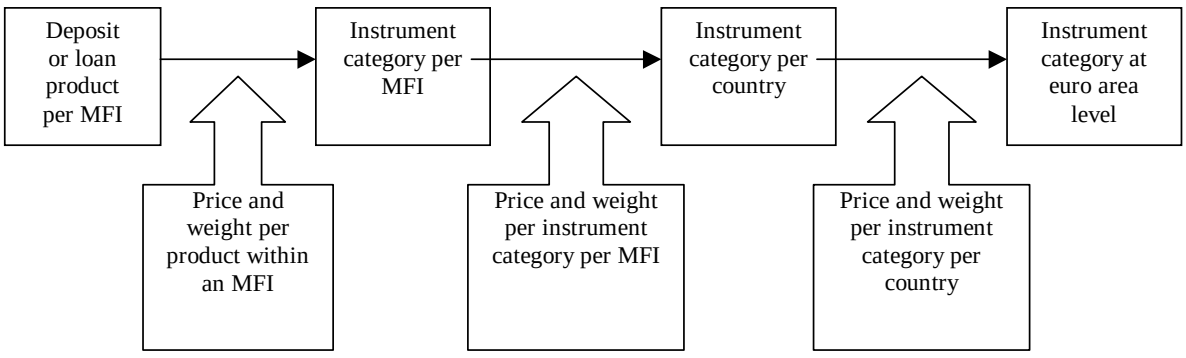
3.5 Methodology

3.5.1 Capital-(volume)-weighting of interest rates

An essential element of the new interest rate statistics is the weighting of interest rates according to the volume in the course of calculating the average interest rates on deposits and loans to be reported. Both at the level of the reporting agents and in calculating the average interest rates for Austria and the euro area the underlying amounts (new business, stock of all deposits and loans) of an interest category are used for weighting.

Chart 3

Principle of volume weighting in calculating average interest rates



While the weighted average interest rates on outstanding amounts referring to loans and deposits may be taken in full from the existing MFI balance sheet statistics, the amounts of new business must be also reported by the reporting agents.

3.6 Instrument categories

For consistency reasons the classification criteria followed, to the extent possible, the definitions applying to the harmonized MFI balance sheet statistics, in particular as far as the classification of economic sectors and product categories according to the requirements of the European System of Accounts (ESA 1995) is concerned.

The interest rates must be reported broken down by several criteria:

- by product category (deposits, loans);
- by economic sector (households including nonprofit institutions and nonfinancial corporations);
- by maturity (overnight deposits, deposits redeemable at notice, deposits with agreed maturity; loans are broken down by initial rate fixation);
- by amount (only for loans to nonfinancial corporations [up to EUR 1 million or over EUR 1 million]); and
- by purpose (bank overdrafts, consumer credit, loans for house purchases and for other purposes).

Additional remarks, details:

- For all categories the respective annualized agreed rate must be reported; in addition, for consumer credit and loans for house purchases the annual percentage rate of charge (APRC) must be reported (for definitions, see section 5.3).
- The initial period of fixation of the interest rate is defined as a predetermined period of time at the start of a contract during which the value of the interest rate cannot change. If after an initial period of fixation the interest rate automatically changes to a floating rate (as agreed in advance), this change is not included in the interest rates on new business. New lending business without any interest rate fixation (floating rates) is captured in the category of up to one year initial rate fixation.
- Bank overdrafts are generally defined as debit balances on current accounts, including in particular advances on current account. All bank overdrafts are captured independently of whether they are within or beyond the limit agreed between the reporting agent and the customer. Penalties on overdrafts in excess of the agreed limits are covered by the annualized agreed rate only if they are an interest rate component.

Altogether, the harmonized reporting scheme to be complied with by all NCBs in the euro area comprises 45 interest rate indicators (14 for interest rates on outstanding amounts and 31 for interest rates on new business). As parts of the amounts needed for weighting may be taken from the MFI balance sheet statistics, the reporting agents are required to report only the amounts for a total of 27 categories.

In addition to the harmonized indicators for the euro area interest rate statistics, the Austrian reporting scheme, however, comprises the following eight categories (interest rates and amounts of new business) because of their special importance:

- loans to households and nonfinancial corporations denominated in U.S. dollars, Swiss francs, Japanese yen and pound sterling; and
- savings deposits with agreed maturity held by households (four maturity bands).

3.7 Reporting population

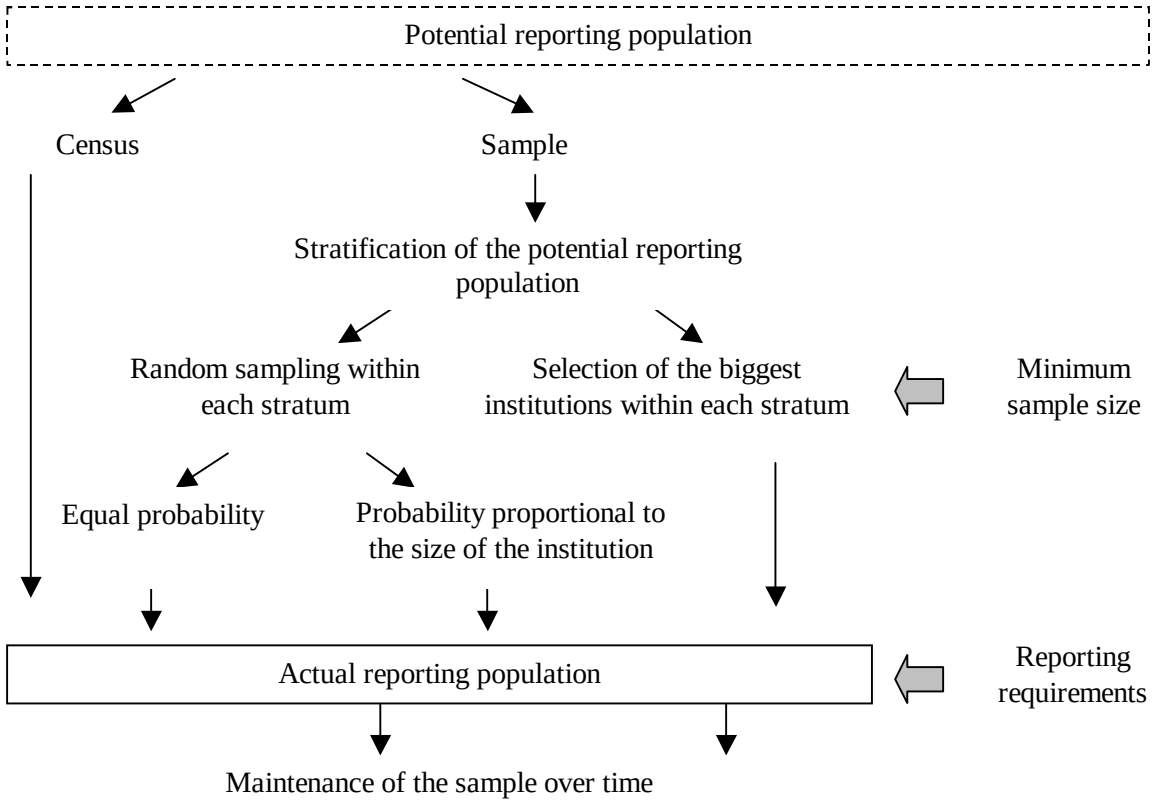
3.7.1 Possible collection methods for interest rate statistics

Unlike volume statistics, price statistics are suitable for applying alternative collection methods, allowing to derive sufficiently stable overall results already from the reports of a subpopulation.

Therefore, the ECB regulation provides not only for a census but also for a sample survey to compile the interest rate statistics. In a sample survey only a selection of the credit institutions in the potential reporting population is asked to report, which considerably reduces the banking sector's reporting burden as well as the NCBs' processing effort.

Chart 4

Decision tree for defining the collection method for the interest rate statistics



In order to ensure that the national samples are representative in terms of interest rates and amounts of new business to be reported, the ECB regulation laid down minimum requirements for a number of criteria for the use of the sampling approach:

- Stratification of the institutions into homogeneous strata[13] to reduce sampling error;
- Selection of institutions (random sampling or selection of the largest institutions);
- Minimum sample size (the maximum random error for interest rates on new business on average over all instrument categories does not exceed 10 basis points at a confidence level of 90%);

[13] The strata shall be defined such that the intrastratum variance of the interest rates is lower than the extrastratum variance (Huygens theorem).

- In the absence of such data the sample size may be assumed to be sufficiently large if it covers at least 30% of the potential reporting population (but no more than 100 institutions) or if at least 75% of the relevant stock of deposits and loans are covered by the sample; and
- The sample must be updated at intervals of at most two years.

The variables to be estimated by means of the sample are the interest rates on and the amounts of new business as well as the interest rates on outstanding amounts. In the case of the interest rates, the volume-weighted average interest rate determined on the basis of the individual strata serves as the direct estimator for the interest rates on deposits and loans to be reported to the ECB.

A different approach must be used for the amounts of new business, as these data are quantitative data. In this case the amounts are extrapolated per stratum according to the share of the reporting agents of this stratum in the overall stock of deposits or loans of this stratum.

3.7.2 Selection of reporting agents for the Austrian interest rate statistics

In light of the great number of credit institutions in Austria, with a very large proportion of relatively small banks, it was decided – in line with the core principle of these statistics, i.e. the weighting of amounts to derive average interest rates – to apply a representative sampling approach for selecting the reporting agents. Moreover, this variant seems to be the most cost-efficient approach to produce the required results also from an overall economic perspective.

Accordingly, the actual task was to identify a suitable stratified sample for the collection of data for the harmonized interest rate statistics against the background of the following factors and considerations with regard to the sampling method:

- At a total of about 820 MFIs, the smallest 500 institutions represent only 5% of total assets, whereas the largest 10 institutions represent far more than 50%.
- Some 700 MFIs belong to one of the three decentralized banking sectors (Raiffeisen, Volksbank and savings banks), whose business and customer structures are quite similar.
- Inclusion only of institutions that also report statistical balance sheet data (contribution to the ECB consolidated balance sheet) (about 370 MFIs[14]) because these data are required for volume weighting of specific interest rate indicators.
- Because of considerable implementation costs, the stability of the sample should be guaranteed. Particularly for smaller institutions the relative implementation and operating costs are very high.

As the previous interest rate statistics[15] were not suitable to serve as calculation basis for stratification, in particular due to the small number of reporting agents, regulatory statistical data of the quarterly report under the Austrian Banking Act were used alternatively. The major advantage of these data was that they were widely available to all Austrian credit

[14] Pursuant to ECB Regulation 2001/13, the "tail" principle is used for collecting the base data for the consolidated balance sheet of the Austrian MFIs. This means that the data collection must comprise at least 95% of all MFIs, in terms of total assets. Accordingly, the number of reporting agents contributing to the ECB consolidated balance sheet is only just below 370 of more than 800 MFIs.

[15] Collection period from 1995 until mid-2003.

institutions. From the data of the quarterly report, implied interest rates[16] on loans and deposits were calculated on a highly aggregated basis per individual institution. These interest rates provided the basis for model calculations to identify, to the optimum extent, the number of strata and the reporting agents per stratum.

As stipulated by the regulation, each NCB that chooses the sampling approach identifies at least one stratification criterion to ensure that the sample of credit institutions and other institutions is representative of the participating Member State and the sampling error small. In simulations the most suitable stratification criterion for the sample chosen in Austria turned out to be the "credit institution sector."[17] However, certain additional adjustments had to be made in order to meet all quality standards stipulated in the ECB regulation. For instance, the sectors joint stock banks and special purpose banks were pooled, and the central institutions and large banks (like savings banks in provincial capitals) from the multi-tier sectors were added. The latter were removed from the multi-tier sectors, for their business spectrum deviated significantly from that of a great number of small institutions in these sectors.

Thus, the sampling scheme applied at the start of the MIR statistics in January 2003 was based on five strata. The first bigger review of our sample after two years showed that the banks, which are mainly acting in the border region with Germany had a disturbing influence on the interest rates in some of the strata. As a consequence we introduced a sixth stratum which includes all banks that are especially engaged in other euro area countries except Austria (defined as banks which make more than 50 % of their total deposits and/or loans (min. 100 Mio Euro) in the euro-area with customers outside Austria). The following table shows the detail of the scheme:

Table 1

Details on the stratified sample of the Austrian interest rate statistics

As per December 31, 2007		Number of banks; total reporting population	Number of banks; sample	Coverage[1]
Stratum 1	Joint stock banks, special purpose banks and other large banks	133	54	76 to 100%
Stratum 2	Savings banks[2]	49	15	38 to 69%
Stratum 3	Raiffeisen credit cooperatives[2]	552	18	9 to 12%
Stratum 4	Volksbank credit cooperatives[2]	66	13	29 to 84%
Stratum 5	Building and loan associations	4	4	100%
Stratum 6	Banks which are especially engaged in other euro area countries	5	5	100%
	Total	809	109	

[1] Coverage bandwidth referring to outstanding amounts of deposits and loans in the individual instrument categories. [2] Excluding large banks that are included in the stratum of joint stock banks, special purpose banks and other large banks.

[16] Interest rates on outstanding amounts as implicit rates referring to the average of a period are calculated as quotients, with the numerator as the accumulated flow of interest during the reference period, i.e. the accrued interest payable on deposits and receivable on loans, and the denominator as the average period stock.

[17] According to the established classification of the Austrian credit institutions into seven major sectors (joint stock banks, savings banks, state mortgage banks, Raiffeisen credit cooperatives, Volksbank credit cooperatives, building and loan associations, special purpose banks).

The largest stratum in terms of volume is the stratum of “joint stock banks, special purpose banks and other large banks.” As this stratum turned out to be the least homogeneous by comparison, most reporting agents were chosen from this stratum, which produced a very high coverage relating to the stock of all deposits and loans.

As only banks that report the monetary statistics were to report the interest rate statistics and, moreover, the new reporting scheme would impose a very high relative cost burden on small MFIs, the largest institutions within a stratum were selected from the individual strata as actual reporting agents. Since the multi-tier sectors are highly homogeneous (as illustrated by low variances in these strata but also by the comparison of the calculated average implied interest rates on loans and deposits of the sample with the actual overall average of the stratum), a relatively small number of banks was sufficient to obtain a representative picture of these strata.

From the potential reporting population in Austria, the OeNB eventually selected 88 institutions as reporting agents. After two years the number of reported agents was extended to 102 and two years later to 109. The coverage achieved by means of this sample is on average about 77% in terms of the relevant deposits and about 82% in terms of the relevant loans.

To sum up the sample which was chosen for MIR statistics keeps down reporting costs for MFIs by excluding the majority of the potential reporting population. At the same time the sample design has proven its reliability by providing stable figures for more than five years.

The Federal Reserve's Senior Loan Officer Opinion Survey

Gretchen Weinbach[1]

Overview

The Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices is a useful source of information about conditions in U.S. bank credit markets. The survey was designed to allow Fed staff to monitor credit standards on and terms of business and household borrowing from banks over time, to monitor changes in demand for loans, and to gather insights into specific developments in credit markets, as needed. The results of the survey are reported to the public and also to the Board of Governors and the Federal Open Market Committee. In what follows, I review the purpose of the survey; the scope of the survey, including some specifics on sample selection methodology; and uses of the survey data.

Purpose of the survey

The Federal Reserve initiated the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) in 1964. The survey is used to monitor credit supply and demand conditions at banks, aid the interpretation of quantitative data on balance sheet flows, help build a more complete picture of bank credit conditions and their impact on the macroeconomy, and gain insight into important developments in U.S. loan and credit markets. Moreover, it aids the understanding of complex bank lending practices that have evolved over time, especially at the largest banks, and provides information on special topics that are of particular interest.

Since its inception, the SLOOS content and respondent panels have been revised periodically to accommodate changes in lending practices and to keep the survey as rich as possible. Every three years, the collection of SLOOS data is reviewed, as is the case with other data collected by the Fed: Collection of the survey data is justified in a formal process that includes scrutiny from Fed staff as well as a 90-day public comment period. The original survey was conducted at 120 domestic banks and consisted of 22 standard questions. Subsequent revisions to the survey included: Provision to include special questions in each survey and a reduction in respondent count by half in 1981; enlargement of the respondent panel to include large U.S. branches and agencies of foreign banks in 1990; and expansion of the foreign bank panel in 1994.

Survey scope

The survey covers two groups of commercial banks operating in the United States: domestic banks and foreign banks. The domestic banks are generally large U.S. commercial banks; the foreign bank panel is comprised of selected branches and agencies of foreign banks that operate in the U.S. Banks' participation in the survey is voluntary. The Fed is authorized to

[1] Adviser, Division of Monetary Affairs, Board of Governors of the Federal Reserve System.

conduct the survey up to six times each year. However, the survey is typically conducted four times a year, once each quarter, timed so that its results are available for the January/February, April/May, August, and October/November meetings of the FOMC. Occasionally a special survey is conducted, such as in March 2001 when U.S. economic growth was deteriorating and in September 1998 during the global financial market turbulence. Most survey questions are the same over time. Special survey questions are developed by staff at the Federal Reserve Board using a collaborative process and keeping an eye on respondent burden.

Survey administration. The survey is distributed by the twelve Federal Reserve Banks. Survey questions are emailed to staff at each Federal Reserve Bank, who, in turn, email the questions to each respondent bank located in their District. Respondent banks are asked to complete the survey within two weeks. Responses may be sent by email, FAX, or reported by telephone to Federal Reserve Bank staff; Reserve Bank staff often follow up with respondents by phone. Federal Reserve Bank staff email the responses to the Federal Reserve Board on a flow basis. Some informal validity edits are performed by staff at the Reserve Banks and at the Board, any issues are resolved by having Reserve Bank staff contact respondents, and then the survey responses are stored in a database.

Survey questions. 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 the form of asking banks to use a five-point scale to rate how lending conditions and demand for several broad categories of loans have changed over the past three months. For example, a scale of 1 (tightened considerably) to 5 (eased considerably) is used to rate changes in each of several credit terms. Banks are typically asked to use a similar five-point scale to rate the importance of several possible reasons for change. Quantitative questions are occasionally included. In that case, difficulty and quantitative content are minimized to the extent possible, with approximate values or estimates sought, usually in terms of percentages rather than dollar amounts. As would be expected with this sort of voluntary survey, a respondent may decline to answer a particular question if doing so would entail excessive research or a burdensome data review. Nonetheless, overall response rates have been quite high; only rarely do respondents decline to answer a particular question. The individual bank information provided by each respondent is treated as confidential.

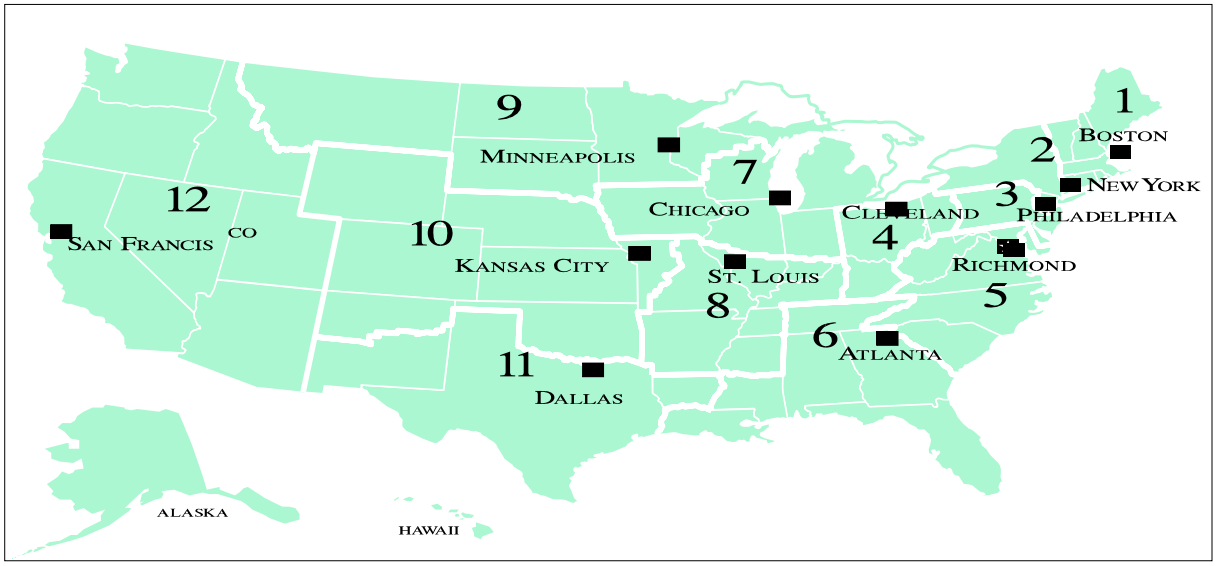
The survey of domestic banks currently contains about 15 standard questions. Standard questions are repeated in each survey in order to gauge responses over time. These questions cover the major categories of lending to businesses and households: commercial and industrial (C&I) loans; commercial real estate loans; residential real estate loans; and consumer loans. The survey of foreign banks contains the standard questions relating to business lending (foreign banks are not typically engaged in retail lending).

Each survey also contains several special questions tailored to issues of the day (the survey of foreign banks includes the special questions as appropriate). The special questions touch on a wide variety of topics. Over the past year, special questions have included: changes in banks' lending policies on backup lines of credit for commercial paper programs and prime nonconforming residential mortgage loans; banks' involvement in, and their assessment of the outlook for, the syndicated loan market; effects of the reforms to U.S. bankruptcy law that took effect in fall 2005 on banks' balance sheets and loan performance; and expected changes in asset quality over the coming year.

Sample selection

The Fed is authorized to survey up to 60 domestically chartered commercial banks and up to 24 U.S. branches and agencies of foreign banks. The Fed employs a non-probability or non-random sampling technique in sample selection. To ensure adequate geographic coverage, the panels are distributed as evenly as possible across the twelve Federal Reserve Districts (see map) while balancing the need to keep respondents heavily weighted toward very large banks.

Map of the Federal Reserve Districts



Very large banks are important because they are leaders in developing and practicing new banking techniques. Given the limited authorized panel sizes, selecting the largest banks also provides greatest coverage of aggregate industry assets. The panels also include large and medium-sized banks in order to allow for greater diversity of responses and to provide broader coverage of the banking system as a whole.

Domestic bank panel. There are currently about 7,300 domestically chartered commercial banks in the U.S. In selecting domestic banks for the SLOOS, three constraints are imposed:

- ***Size:*** Eliminate banks from consideration that have less than $3 billion in domestic assets or a ratio of C&I loans to total loans of less than 5 percent.
- ***Geographic diversity:*** Include no more than 8 and no less than 2 respondents from each of the twelve Federal Reserve Districts. Mergers sometimes cause violations of this constraint that are not immediately rectified.
- ***Mutual independence:*** With some exceptions, eliminate a bank from consideration if it is a subsidiary of a bank holding company that is already represented in the panel (because its responses would likely not be independent of those of the related bank already providing responses).

The domestic bank SLOOS panel currently accounts for about 60 percent of aggregate industry assets and 65 percent of aggregate C&I loans at all domestic banks.

Foreign bank panel. There are currently about 260 branches and agencies of foreign banks in the U.S. In selecting foreign banks for the SLOOS, two constraints are imposed:

- ***Size:*** Select the largest, ranked by total domestic assets, but exclude an institution if the dollar amount of C&I loans on its books is small.
- ***Geographic diversity:*** Consider the location of the parent bank in order to keep the panel representative of all foreign banks' countries of origin.

The foreign bank SLOOS panel currently accounts for about 60 percent of total industry assets and nearly 70 percent of C&I loans at all foreign banks in the U.S.

Uses of the survey data

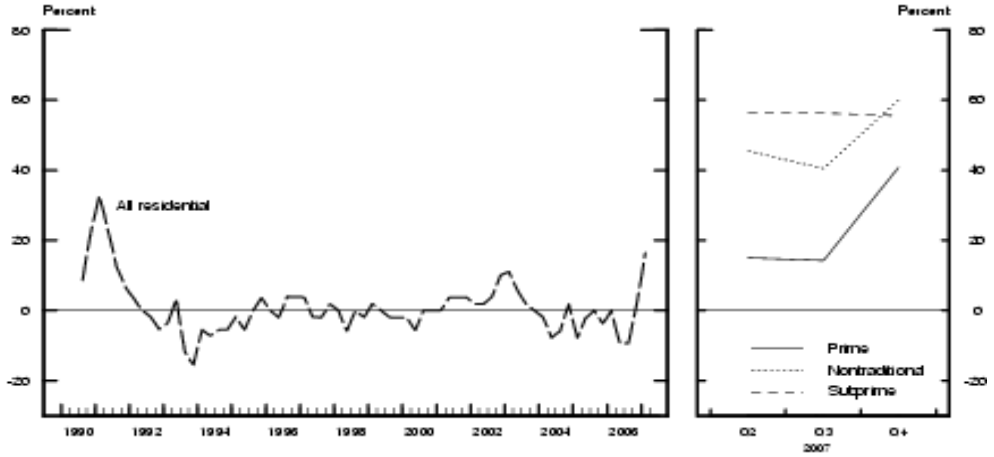
The survey data have been useful for monitoring credit conditions at banks over time. From the survey results, Board staff tabulate and summarize aggregate responses in report form.

These reports review the survey results and present graphs of time series of net responses to many of the standard questions. Survey results are used by Fed policymakers to help form a complete picture of U.S. macroeconomic and financial market conditions. Survey results are reported in staff meetings, to the Board of Governors in briefings, to the FOMC in Greenbooks and Bluebooks, and to the public on the Board's web site (www.federalreserve.gov). The financial press also regularly reports on the survey results, based on the information provided on the Board's web site. Finally, highlights of the survey results appear regularly in the Board's semi-annual *Monetary Policy Report to the Congress* and annually in a *Federal Reserve Bulletin* article on bank profits and balance sheet developments, each produced by Board staff.

Example of survey results. In the latest survey, which generally reflected changes in credit conditions in the third quarter of 2007, significant net fractions of domestic banks reported tighter standards on prime, nontraditional, and subprime residential mortgages. In addition, about half of the respondents, on net, indicated that demand had weakened for each of these three types of residential mortgages.

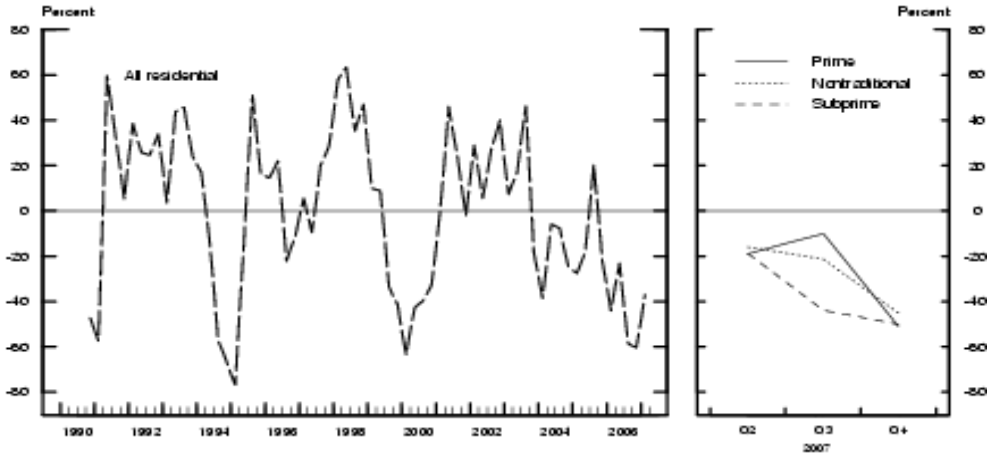
Measures of supply and demand for residential mortgage loans

Net percentage of domestic respondents
tightening standards for residental mortgage loans



Note: For data starting in 2007:Q2, changes in standards for prime, nontraditional, and subprime mortgage loans are reported separately.

Net percentage of domestic respondents reporting
stronger demand for residential mortgage loans



Note: For data starting in 2007:Q2, changes in demand for prime, nontraditional, and subprime mortgage loans are reported separately.

Survey of ownership of deposits with scheduled commercial banks in India – evolution, methodology and issues

Deepak Mathur[1]

The Reserve Bank of India has been conducting the survey of ownership of deposits with scheduled commercial banks to obtain the composition and ownership pattern of bank deposits. The estimates arrived at through this survey are an important source of information on the changes in profile and structural shifts in composition and ownership pattern of deposits. The periodicity, coverage, methodology, etc. of the survey has, over time, undergone modifications to meet the data requirements emerging out of the changes taking place in the economic and banking environment of the country as also keeping in view the data availability. The section I of the paper traces the evolution of the survey, particularly from the 1970s, i.e., from the period after nationalization of 14 major commercial banks in July 1969. The section II discusses the changes in methodology, specifically the changes in sampling design adopted for the survey. The important issues and challenges faced in the conduct of the survey are discussed in concluding section III.

I. Evolution of the survey

The evolution of the survey can be broadly divided into three phases – period up to 1972, 1973 to 1988 and 1990 and onwards, broadly coinciding with pre-nationalisation period, the period immediately after nationalisation and the recent period. The post-nationaliastion era witnessed massive branch expansion and also opening of branches by banks in hitherto un-banked rural and semi-urban areas, and deposit mobilsation from wider sections of population thus requiring continuous modifications in the survey to keep pace with the changes taking place in the banking sector.

Phase I: The survey of ownership of deposits was conducted by the Banking division of Reserve Bank's Economic Department by calling for an annual return from head offices of banks. It was designed principally for analytical purposes. The data for the period 1951 onwards are available in the "Statistical Tables relating to Banks in India". The first such data were included in the 1965 issue of the publication. An article covering data from 1961 to 1971 was published in September 1973 issue of the Reserve Bank of India Bulletin. The scope and periodicity of the survey as also the classification of data collected underwent changes between 1961 and 1971. These pertained to reference date, coverage of scheduled and non-scheduled banks based on the size of their deposits, and also changes in proforma of the survey and ownership classes. Further, data on maturity classification of fixed deposits was introduced from March 1967.

The system had several limitations. For example, the banks did not obtain full particulars of account holder in respect to fixed deposit accounts and as such reporting on ownership

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pattern of fixed deposits suffered. Another major shortcoming of the system of reporting by head offices was that regional variables in ownership pattern could not be estimated. Further, frequency distribution of deposit accounts according to their size was not available.

Phase II: The Reserve Bank of India (RBI) constituted the Committee on Banking Statistics in April 1972 under chairmanship of Mr. A Raman, Director, Credit Planning Cell, RBI and the Committee included as members, officials from RBI and commercial banks. The committee examined the issue of systematizing the reporting of banking data to ensure the availability of fairly comprehensive information with minimum time lag. It submitted its report to RBI in August 1972. Although, major concern of the committee related to reporting of detailed data on bank credit, it recommended a system named Basic Statistical Return (BSR) system for reporting by banks, which covered different aspects of credit, deposits, employment and investments of the banks. The committee recommended introduction of BSR-2 return with six monthly periodicity for branch level information on employment and deposits (according to type of deposits) for submission by all the branches. It recommended introduction of a return on ownership of deposits (BSR-4) to provide pattern of ownership of deposits, comparable in nature to the data on sectoral flow of credit. Further, it also recommended to obtain branch level data to bring out regional variables in deposits, which could not be done based on returns submitted by head offices of banks. The committee deliberated on the issue of collecting account-wise information as such data were called for in respect of credit accounts. However, mainly due to very large number of deposit accounts and difficulties expressed by bankers, BSR-4 was recommended as a consolidated return to be submitted by branches. The periodicity of the return was recommended to be once in two years, as the extent of annual variations in ownership pattern of deposits was considered insignificant. The return called for data on deposits (classified in to current, savings and fixed deposits) according to economic sector/sub-sectors, which owned them, and also on maturity classification of fixed deposits (as per original maturity). The major sectors were Government sector, Corporate sector-Non-financial, Corporate sector-Financial, Other institutions and Individuals (including Hindu undivided families).

The survey with March 1976 as the reference date, collected branch-wise data, in contrast to bank-wise returns submitted by head offices of banks for the 1971 survey. Besides, State-wise and population group wise regional data, the survey also used “old” and “new” office classification, based on date of opening of office (“new” signifying offices opened after nationalization of major banks). The deposit category “others” to cover miscellaneous deposits like staff security deposits, margin deposits and staff Provident fund deposits was introduced in the 1976 survey (but subsequently merged in current and fixed deposits due to very low share). The surveys for 1978 and 1980 were conducted on a sample basis, while the 1982 survey covered all the offices of commercial banks. The surveys for 1984, 1986 and 1988 were again conducted on a sample basis. Further, while the Regional Rural Banks were covered in 1976 and 1978 surveys, they were excluded from 1980, 1982, 1984, 1986 and 1988 surveys, as their share in deposits of all commercial banks was very small. Although, the coverage of economic sectors has undergone changes periodically, a significant change related to inclusion of inter-bank deposits from 1984 survey onwards.

Phase III: The BSR system underwent revisions effective March 1990 and consequently there were certain changes in the survey of ownership of deposits. The periodicity of the survey was modified to annual (as on March 31) from biennial earlier, and collection of information on maturity pattern was discontinued (as this information was to be collected through BSR-2 return on deposits and employment, from all branches). Further, the Regional Rural Banks were included in the survey. The survey has since then been conducted on a sample basis.

Current survey: The survey with March 31, 2007 as reference date is the latest completed survey and the results of the March 2008 survey are expected to be released during the third quarter of 2009. The deposits are classified into Current deposits, Savings deposits and Term deposits while the major economic sectors according to which ownership is to be

classified are Government sector, Private corporate sector, Financial sector, Household sector and Foreign sector.

II. Methodology

The survey is currently conducted on a regular annual basis. The basic data for the survey flows from the branches of scheduled commercial banks that are selected in the sample for survey. The format for the BSR-4 return, together with guidelines for filling-in the same are provided to the head/controlling offices of the banks along with a list of branches selected for the particular year's survey. They in turn arrange to have the returns duly completed by the branches and after preliminary scrutiny submit the same to RBI. The data collected through the return are extracted by the branches from their system. Software developed for the purpose of data entry, is provided to the banks. Further, the banks unable to use the data-entry software for certain reasons, submit data either in any other acceptable electronic form, like Excel spreadsheet, or submit paper returns.

The data so received are processed at RBI using the software developed in-house. The data are edited by putting them through rigorous computer programs to check their consistency, validity and integrity and wherever required, necessary corrections are carried out. The processing is done generally in batches, which are prepared bank-group wise. The tabulations as per pre-decided tabulation plan are generated thereafter. The SAS software is used for major part of data processing and generation of tabulations. An article presenting salient results of the survey is published in the Reserve Bank of India Bulletin and select summary data are included in "Statistical Tables relating to Banks in India".

The sampling design adopted for the survey has undergone periodic revisions. The distribution of aggregate deposits of scheduled commercial banks is highly skewed with a few bigger bank branches having major share of deposits and a large number of smaller bank branches sharing a small portion of deposits. For example, data for the quarter ended December 2008 shows that top 17.4 per cent of 77,750 reporting offices of banks accounted for 72.9 per cent of the aggregate deposits of scheduled commercial banks, while bottom 39.4 per cent of reporting offices held mere 4.3 per cent deposits. Further, different States/Union territories and each bank group and population group also possess distinct characteristics and heterogeneity. Therefore, in spite of changes in the design, the sampling techniques followed over the years were stratified sampling, using State/union territory, population group, bank group and deposits size of branches as criteria for stratification. The population groups are (i) rural, (ii) semi-urban, (iii) urban and (iv) metropolitan and the bank groups, are (i) State Bank of India and its Associates; (ii) Nationalised Banks; (iii) Regional Rural Banks, (iv) Other Indian Scheduled Commercial Banks and (v) Foreign Banks. Brief description of the sampling design adopted for the surveys since March 1984 survey is presented below:

March 1984 survey used a stratified unistage sampling design, where bank branches constituted the sampling unit. Population group-wise strata were formed for each State/Union Territory and branches having deposits above a cut-off point were selected with certainty. Such cut-off limits were determined individually for each stratum. The remaining branches of each stratum were further stratified based on major banks/group of banks. Samples in different proportions (e.g., 10 per cent for rural population group) were selected from each ultimate stratum by systematic sampling with varying probabilities, where probabilities of selection were based on aggregate deposits of the branch (as available from quarterly return on aggregate deposits and gross bank credit).

The 1986 survey also used stratified sampling design and strata were formed based on population groups and major banks/group of banks. Branches having deposits above a cut-off point were selected with certainty; cut-off points were determined separately for each population group. Linear systematic sampling was used to draw the sample from the

remaining branches and samples in different proportions (e.g., 5 per cent for rural population group) were selected from each stratum.

The 1988 survey used a stratified sampling design, and while the top branches (in terms of their total outstanding deposits) were selected with certainty from each stratum formed as State/Union territory X Population group X Bank group, the sample from remaining branches was selected by adopting circular systematic sampling.

For the 1990 survey, the sampling strategy was to select top branches (in terms of their total outstanding deposits) and the remaining branches were grouped into State/Union territory x population group x deposit size strata and a 10 per cent sample was selected from each stratum through circular systematic sampling. For the three subsequent annual surveys (1991, 1992 and 1993), the design was same as the one used for 1990 survey, except that besides State/Union territory, population group and deposit size, one more criteria, viz., bank group was also used for stratification.

The sampling procedure applied for annual surveys from 1994 to 2003, was to select with certainty, the select top branches (in terms of their total outstanding deposits) as also all the branches of such small union territories that had 10 or fewer branches. Remaining branches were selected using circular systematic sampling after arranging the branches in the descending order of deposits. The sample size was kept at 6000 up from 2000 while for the surveys during 2001–2003, the sample size was increased to 10,000.

For the 2004 survey, a stratified sampling design was used, wherein based on State/Union Territory, population group of the centre where bank branch was located, and bank group, all branches of the scheduled commercial banks (SCBs) in the country were classified into 379 basic strata. Re-introduction of State/Union Territory as stratification criteria was considered necessary to obtain valid estimates at State/Union Territory level. Similarly, the population groups included an additional group covering four major metropolitan centers for which separate estimates are generated in the survey. All branches in small basic strata were selected with certainty. In the remaining basic strata, each stratum was further stratified into 2 or 3 sub-strata taking into account the range in total deposits of the branches in the strata and number of deposit accounts. For this purpose, threshold values were determined for each basic-stratum taking into account above two characteristics. In such basic strata, Size Class Strata (SCS) were formed as per descending order of deposits. The branches having aggregate deposits greater than threshold value-I were included under SCS-I. The SCS-II covered branches having aggregate deposits between threshold value-I and threshold value-II and the SCS-III included all branches having aggregate deposits up to the threshold-value-II. Thus, 912 Size Class Strata (ultimate strata) were formed. The branches under SCS-I were included in the sample with certainty. In SCS-II and SCS-III of each basic stratum, sample branches were selected by circular systematic sampling after arranging the branches within the SCS in descending order of their aggregate deposits, subject to selecting a minimum of 2 branches from each SCS. The sample size in the case of SCS-II varied from about 20 to 50 per cent of branches (depending upon the total size of SCS). If the number of units (branches) exceeded 200, 15 per cent of branches were drawn as sampling units. In the case of SCS-III, 10 per cent sample was selected. Based on the above, 9,933 branches were selected for the survey. In all, 2,292 bank branches were selected with certainty. Out of the remaining universe of 63,778 bank branches, 7,641 branches were selected using above sampling design from sub-strata SCS-II and SCS-III.

A Stratified sampling design is being used for selection of branches of banks since 2005 survey. The branch-wise data on aggregate deposits outstanding as on March 31 of the survey year based on quarterly BSR-7 return, was used for construction of the sampling frame for 2005, 2006 and 2008 surveys, while such data or as on last Friday of December 2006 of has been used for 2007 survey. The choice of reference period (March or previous December) for frame construction has relative merits, as use of March data ensures that as reference date for frame and for survey are same, the issues of subsequent closure of branches or

opening of new branches do not arise. On the other end, the lag in getting March data, results in delay in launching of the survey. All the branches of the SCBs in the country are first stratified into basic strata based on State/Union Territory, population group of the centre where bank branch is located, and bank group. Thereafter, each stratum is sub-stratified into 3 size classes based on deposits outstanding (up to Rs. 25 crore, Rs. 25 crore to Rs. 100 crore and Rs. 100 crore and above) to form the ultimate strata. The branches in the "Rs. 100 crore and above" strata are selected with certainty, while 10 per cent and 15 per cent sample, with a minimum of 3 branches in each stratum, are selected from the "up to Rs. 25 crore" and "Rs. 25 crore to Rs. 100 crore" strata, respectively, using Simple Random Sampling (SRS). The sample thus selected consisted of 10,154 branches in 2005, 10,431 branches in 2006 and 11,431 branches for the 2007 survey. The sample for the March 2008 survey consisted of 13,512 branches.

III. Issues

The survey has been conducted by the Reserve Bank of India for over 5 decades in some form or the other and has stabilized. The results are regularly used for estimation of household sector saving as also for compilation of flow of fund account of the economy. As regards other sectors, the survey data are useful in crosschecking of data on their assets as bank deposits available from their annual accounts and other records. A number of policy makers and researchers also look ahead to the survey results for their data requirements. However, a number of issues, mainly relating to collection of data have been surfacing, time and again, while conducting the survey.

- Availability of data was an issue in the initial years of the survey. Although, the banks were able to correctly classify deposit type (current, savings and term deposits), difficulties arose in respect of ownership of term deposits, as the banks did not obtain occupation/profession of deposit holders belonging to individuals' category. Further, still in some cases the banks do not properly capture such details and consequently classify large amounts under "others – not classified elsewhere" category, particularly for household sector deposits. To take care of this mis-reporting, banks are constantly advised to take adequate precautions and care as also to sensitize their staff on the importance of these data.
- The survey is conducted on a sample basis and thus keeps the reporting burden on banks to the minimum. The return form is kept simple and thus easy to comprehend and complete at branch level.
- The "fixed" sample method (where set of sampled branches are surveyed for more than one year) is administratively convenient (both for Reserve Bank and responding banks) as well as results in better data quality. However, it suffers from putting regular workload on such sampled branches as also due to closure/conversion of bank branches or changes over time in "top" branches (in terms of deposits). Hence, "dynamic" sample, where branches are selected for each survey independent of previous surveys, has been in use for the survey. In dynamic sample, the same branch may not be selected every year, so it does not create any regular workload for the branch.
- As branch level deposit data (total and according to deposit type) are available from other sources, it is observed that data reported by some branches in different returns are not consistent. Further, in some cases data reporting unit (Rupees thousand) is not uniformly followed or the figures under totals/sub-totals differ from the sum of constituent items.

- At times, non response occurs as a few branches included in the sample get closed or merged with other branches or converted to non-administratively independent offices, subsequent to launch of the survey.
- Like some other regular surveys, this survey also suffers from delayed response and incomplete response by banks. This is tackled through continuous monitoring and follow-up by the department, both at central office level and through its regional offices. Regular interactions are held with bankers. As non-response, particularly nil response from small strata, causes problems at estimation stage, concerted efforts are made to ensure adequate response from such critical strata. These strata, generally relate to remote and less developed sparsely populated regions.
- The Bank makes efforts to ensure that data related issues are minimized for timely receipt of quality data. These include providing detailed instructions together with the blank return, developing and forwarding Data-entry software to the banks (the software requires only a PC and DOS as operating system and is user friendly) and conducting workshops for the benefit of the bank officials, etc.

Direct Investment survey in Indonesia

Minot Purwahono[1] and Siti Muarofah[2]

A. Background

Direct Investment (DI) is one of the most important factors for the growth of Indonesian economy. The long-term nature of DI as well as its direct impact on the real sector, make it more favorable than portfolio investment. It becomes more important given the declining trend of official foreign aids and a limited government budget. Direct investment from private sector institutions is expected to have a bigger role in the economy.

Regarding the statistics, the important role of DI drives the urgency to make available comprehensive, reliable, accurate and timely DI data and information. DI data in Indonesia, at present, consists of DI from Balance of Payment (BOP) side and DI from administrative side (compiled by the Board of Investment).

As BOP compiler, Bank Indonesia (BI) conducted semi-annual survey on DI, starting from 2002, to collect DI inward and DI outward data, on quarterly basis. The data was collected from the survey mainly to support BOP and International Investment Survey (IIP) construction. BI publishes BOP every quarter of the current reporting year and IIP every year (on September).

B. Concept and definitions

Direct investment (DI) in Indonesia refers to non residents' investments in Indonesian enterprises, while DI abroad refers to Indonesian investments in enterprises abroad. DI comprises of the initial transaction between the two entities (the transaction of acquiring ordinary shares of the enterprises of at least 10%) and all subsequent transactions not only between direct investment enterprise and direct investor but also between direct investment enterprises and all enterprises related to the direct investor (branch, subsidiary, and associate).

C. Scope and coverage

DI data on Indonesia's BOP and IIP covers all the components of FDI data required under the international guidelines for BOP and IIP compilation (The Fifth Edition of The Balance of Payments Manual/BPM5).

The DI-Survey collects transaction and position data of:

(i) Liabilities to and claims on non residents (direct investors and direct investment enterprises) in the form of equity capital

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[1] Economist at Balance of Payment Department, Bank Indonesia Head Office, up to April 2008, now Senior Analyst at Bank Indonesia Semarang Office, Central Java.

[2] Economist at Balance of Payment Department, Bank Indonesia Head Office.

(ii) Liabilities to and claims on non residents (direct investors and direct investment enterprises) in the form of other capital. Since 2007 report, data on liabilities to non residents (direct investors and direct investment enterprises) in the form of other capital is not covered in the survey any more, but obtained from BI external debt reporting system (SIUL).

(iii) Reinvested earnings (RE) of the reporting enterprises, and RE of the direct investment enterprises of the reporting enterprises.

D. Respondents

The respondents are selected based on purposive sampling method. The survey covers more than 800 resident enterprises, including banks, Non Bank Financial Institutions/NBFIs and non financial companies. These samples are derived from the list of the BI International Transaction Reporting System (ITRS) and the BI external debt reporting system.

Respondents of Non Financial Companies

They are selected from the companies with the total assets/turnover of more than Rp. 100 billions (equivalent USD 10 millions). Representation of each economic sector is considered on the basis of the administrative investment data (2001–2003) from the Investment Coordinating Board report.

Respondents of Financial Companies

The sample covers banks (state banks, foreign banks, and joint venture banks) and non bank financial institutions/NBFI (insurance, financing and securities companies).

E. Data collection

The survey is conducted on a semi annual basis. The reporting year survey is conducted for the previous year data, e.g. 2007 survey collect 2006 data, with 6 months lag. The forms are sent via postal mail/email. Respondent submission data is collected through postal mail/email. In the survey in Semester I 2008, response rate was about 50%, an increase from the average response rate from previous surveys (40%).

F. Survey strategy

1. Setting pilot questionnaire

   The pilot questionnaire is made based on the FDI Survey guideline. In order to reduce respondent burden, the questionnaire is designed by eliminating data that can be obtained from other sources like external debt reporting system and international transaction reporting system (ITRS).

2. Pilot survey (for limited samples)

   The pilot survey is held as a preliminary survey before a final survey is sendt to all respondents. The pilot questionnaire is discussed with selected respondents to get their feedbacks. The feedback is used to evaluate the effectiveness of the questionnaire.

3. Finalize Questionnaire

   Set the final form based on pilot survey and its evaluation.

4. Disseminate information and tutorials to all respondent candidates (class session and one-to-one tutorial for respondents needing special assistance)

   The purpose of the tutorial is to provide a clear understanding about concept and definition of each item in the questionnaire. All respondent candidates are assisted to fill the survey form in order to get the accurate data and information.

5. Maintain continuous communication with respondents

   BI provides Account Officers (AO's) to monitor by phone the progress of survey, whether the questionnaires are received by the respondents and also to assist the respondents who have difficulties in completing the questionnaire. The AO's maintain the communication with respondents during the survey period.

6. Report the survey result to the respondents and provide incentives such as a gift

   In order to increase the response rate of survey, BI provides gift to respondents who complete and send back the questionnaires. At the end of survey, BI sends a brief report of DI analysis based on survey's findings.

7. Maintain the good relationship with the respondents

   BI maintains good relationship with the respondents, i.e. provide assistance to the companies who need data and information relating to economic and monetary statistics.

G. Survey problems

1. Absence of a directory of Direct Investor (DI) and Direct Investment Enterprises (DIE)

   The population of DI and DIE in Indonesia is unknown. This problem causes difficulties in determining the appropriate size of sample.

2. Low response rate

   The impact of this problem is that the data and information collected from the survey is less accurate. This problem is mainly due to the respondents' lack of concern with regard to data/statistics, respondents' lack of understanding of FDI concepts and definitions, and respondents' burden.

3. No clear identification of indirect investment of DI and DIE

   This problem is due to the lack of respondents understanding of the framework of FDI relationship, included the concept of affiliated/sister companies. On the other hand, complete data and information regarding Indonesia FDI companies and their affiliates is not available.

4. Inconsistency of reported data

   Besides reporting data through FDI surveys, some respondents also report the same data to the external debt system and ITRS. In some cases, their reported data are inconsistent. It is believed that this is due to the lack of understanding of the reporters.

H. Survey challenges

1. Develop a business register (cooperation with The National Statistics)

Investment Coordinating Board, the National Statistics (NSO) and BI are trying to develop a business register containing a list of all companies in Indonesia. This business register will be used to update FDI survey list.

2. Integrating the External Debt Reporting System and International Transaction Reporting System (ITRS)

   BI has started a multi year work-program to integrate external debt reporting, ITRS reporting, and other surveys in order to acquire more reliable, comprehensive and accurate data, to lessen the respondent's burden and also to increase the response rate.

3. Develop direct reporting

   Direct reporting system is used to get data directly from the companies. At present, companies report positions and transactions which are not settled through domestic banks. All transactions settled through domestic banks are reported by domestic banks. With direct reporting, all data are expected to be reported directly by the company, so that the reported data will be more accurate and comprehensive.

Monetary indicators surveys

Beatriz Biasone[1]

Introduction

The Central Bank of Argentina, through its Statistics Department, carries out several monetary indicators surveys. Some data has been collected since 1953. These surveys are independent from the monthly balance sheet observance that all credit institutions fulfill regularly for the Financial Institutions Surveillance.

Monetary surveys give more dynamic information, than the balance sheet observance because of their higher frequency (daily) and their more exhaustive breakdowns.

Objective

The main purpose in having such monetary indicators, most of them on a daily basis, is to monitor market conditions, help monetary policy formulation and also assist in surveillance.

This information is extensively used by different Central Bank departments, specialized audiences (eg analysts, researchers or policymakers) and the general public (citizens, journalists, students). It is available with five days' lag for daily information, one month and a half for monthly regimes and one month and a half for quarterly data.

The Central Bank of Argentina survey system

In Argentina, all entities included in Financial Institutions Law (N° 21.526) are required to provide this information. There are currently 85 financial institutions divided into 12 public banks, 56 private banks (national and foreign capital owned), 15 financial companies and 2 credit institutions, reporting regularly to the Central Bank, through the monetary survey system named SISCEN in Spanish (Centralized System of Informative Requirements).

The SISCEN system is organized into 16 regimes, standardized in a matrix format which ensures the electronic transmission and the logical consistency of the data submitted.

The information transmitted is subjected to a lot of automatic checks and error messages are automatically generated and sent to the corresponding institution. Missing data is also asked for in a daily and automated way. These mechanical tests are supported by analyst staff from the Statistics Department, who keep in touch by email or phone with the responsible contact persons in each financial institution. After the information is validated, it is published on the Central Bank web site. It is also compiled in the monthly publication of the Statistical Bulletin, available in paper format and on the web page.

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[1] Main General Manager of Monetary Programming at the Central Bank of Argentina.

Table 1

Different monetary indicators are surveyed through the SISCEN[1]

Surveys fulfilled by all financial institutions	Frequency
Deposits and main liabilities of the financial system	Daily
Main assets of the financial system	Daily
Interest rates on loans granted to local financial institutions (call money)	Daily
Interest rates on loans granted to local financial institutions by foreign financial institutions	Daily
Interest rates on loans granted to the non financial private sector	Monthly
Interest rates on deposits	Monthly
Turnover velocity for deposits	Monthly
Information on the holders and debtors of loans and deposits	Monthly
Financing based on activity	Quarterly
Information on deposit segments	Quarterly
Banking loans and deposits based on political geographical areas	Quarterly
Surveys fulfilled by financial institutions with head office or branches located in Buenos Aires city or Greater Buenos Aires	**Frequency**
Interest rates on loans granted to the non financial private sector	Daily
Interest rates on deposits	Daily
BAIBOR – Buenos Aires interbank offered rate	Daily
Interest rates on loans granted to prime companies	Daily

[1] For more information see http://www.bcra.gov.ar/pdfs/estadistica/bolmetin.pdf.

Each survey collects numerous relevant characteristics, which are accurately codified, such as the type of loan or deposit, stocks and flows, maturities, local and foreign currency operations and holder and debtor sector. The latter, depending on the survey, could be: non financial public sector, financial sector, individuals, financial service enterprises, other enterprises, foreign residents)

The matrix format and the codified data collected through the surveys allows to regroup the information and show a wide range of outputs focused on different objectives.

The importance of having daily information

Having daily information on monetary indicators has been crucial in some periods of Argentine history. Nowadays, it allows a constant surveillance of market conditions supporting a better monitoring for monetary policy. It is also important in terms of seasonal factors that would be lost with monthly averages and can be detected through the daily collection. Besides, daily data enhance, complement and support normative innovation and normative changes.

Census and surveys

In Argentina there is a strong regionalism which has associated different behaviors between Buenos Aires and the rest of the country. The banking density level of individuals varies among small or big cities. Provincial banks commonly cater for the public sector (they are mostly provinces' financial agents and have a lot of public employees among their clients). Many banks cater for specific productive sectors (primary sector, industry) and for particular corporations (multinational, small and medium enterprises). These extensive differences across the country justify the collection of information from all types of financial institutions, in order to capture the wide variety of characteristics associated with different practices within the financial system.

However, while Buenos Aires and Greater Buenos Aires provide good coverage for some topics, surveys are used for others, because of data opportunity and because of operational problems, particularly when entities in small towns have to compile and process interest rate information.

What have we learnt?

The fluent and not necessary so formal contact with information providers improves data quality and survey fulfillment. A precise methodology and guidelines to provide background on the information process are essential. They ensure data consistency and coherence and also give transparent rules for information and operational requirements. The extensive data collected through the SISCEN allows to implement routine checks confronting information from different surveys, which is very helpful for improving data quality. Finally, compiling gross data provides versatility to produce different outputs which can be seen as new information.

Central Bank of Bosnia and Herzegovina
Statistics of monetary and financial sector;
Survey on banks' loans by purpose[1]

Amir Hadziomeragic[2] and Vidosav Pantic[3]

In 2005 the Central Bank of Bosnia and Herzegovina (CBBH) started the surveillance of commercial banks' loans to households (HHs) in order to explain credit expansion and the main purposes of such loans in Bosnia and Herzegovina (BiH).

The survey sample comprises 8 out of 32 banks that extend 70–80% of loans to HHs. All banks surveyed respond regularly.

Survey results show that more than 70% of loans covered by the survey was reported to be extended for general consumption purposes, in line with the widely accepted opinion that HHs prefer taking out loans with less complicated procedures (in terms of collaterals, mortgages, supporting documentation, etc.).

However, a very large part of loans reported to be intended for general consumption purpose seems to have been actually used for other purposes, which may indicate that HHs have been trading off complicated documentation procedures against less convenient interest rates, usually choosing the latter.

Further analysis of the survey results shows that if general purpose loans were to be excluded, more than one half (58% loans disbursed in 2007) of loans to HHs would be related to housing (see categories P1, P2 and P3in Table 1), which is line with the ongoing boom in the real estate market in BiH.

Survey results also indicate that HHs (or their guarantors) are good re-payers, as the ratio Repayments/Disbursements is fairly high (ie.72% in 2007). CBBH experts also concluded that the market for bank loans is highly concentrated, as the eight biggest banks hold three quarters of outstanding loans stocks in BiH, to HHs as well as to NFIs, according to commercial banks balance sheets.

Generally speaking, the *Survey on banks loans by purpose* has only partially met expectations so far since it provides no info on the actual purpose of loans that HHs reported to be used for the purpose of general consumption. Therefore the results of the Survey are not being disseminated yet.

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[1] The CBBH approve that the IFC may publish the presentation "Survey on banks' loans by purpose" that was prepared by Mr Hadziomeragic and Mr Pantic, based on results of the "Survey on banks' loans by purpose" conducted by CBBH's Monetary and Financial Sector Statistics Section (provided by Ms Snezana Janjic, Coordinatior of the Monetary and Financial Statistics Section) in the IFC Buletin 30. For further contacts concerning this Survey please contact Mr. Hadziomeragic and for other Monetary Statistics issues (compilation practice, publishable data or surveys conducted) please either address Mr Hadziomeragic (ahadziomeragic@cbbh.ba), Ms Janjic (sjanjic@cbbh.ba) or Ms Cosic (ncosic@cbbh.ba).

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Table 1

Results of the survey on banks' loans by purpose for 2007

Flows, in KM thousands

Loans to HH	Disbursements		Repayments	
P1. for building or purchase of new housing units	Amount in KM mil	Share in%	Amount in KM mil	Share in%
P2. for purchase of the current housing units	91.237	3,4	42.047	2,3
P3. for repairing the current housing units	241.692	9,1	128.327	7,0
P4. or purchase of cars	49.428	1,9	36.153	2,0
P5. for business	23.441	0,9	29.183	1,6
P6. Credit cards	190.941	7,2	100.942	5,5
P7. for other purposes (consumers' general-purpose loans)	58.696	2,2	57.472	3,1
Total loans of polled banks	2.009.603	75,4	1.446.786	78,6

Note: In 2007H1 P6 were not reported separately, but included in P7.

Source: CBBH; Monetary statistics.

Table 2

Results of the survey on banks' loans by purpose for 2007

Positions, in KM thousands

Loans to HH	Stocks at12/31/06		Stocks at 6/30/07		Stocks at12/31/07	
	Amount in KM mil	Share in%	Amount in KM mil	Share in%	Amount in KM mil	Share in%
P1. for building or purchase of new housing units	241	7,0	258	6,6	290	6,7
P2. for purchase of the current housing units	392	11,4	449	11,5	505	11,7
P3. for repairing the current housing units	210	6,1	214	5,5	223	5,2
P4. or purchase of cars	63	1,8	62	1,6	57	1,3
P5. for business	116	3,4	157	4,0	206	4,8
P6. Credit cards	. . .	. . .	73	1,9	74	1,7
P7. for other purposes (consumers' general-purpose loans)	2.418	70,3	2.678	68,8	2.953	68,5
Total loans of polled banks	3.440	100	3.891	100	4.309	100

Note: On December 31, 2006 aggregate P6 were not reported separately, but included in P7.

Source: CBBH; Monetary statistics.

Session 6

International surveys

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

Carlos Sánchez Muñoz and Panagiota Tzamourani, European Central Bank

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

Carlos Sánchez Muñoz and Panagiota Tzamourani[1]

1. Introduction

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

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

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

2. Why a Eurosystem micro-level survey?

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

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

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

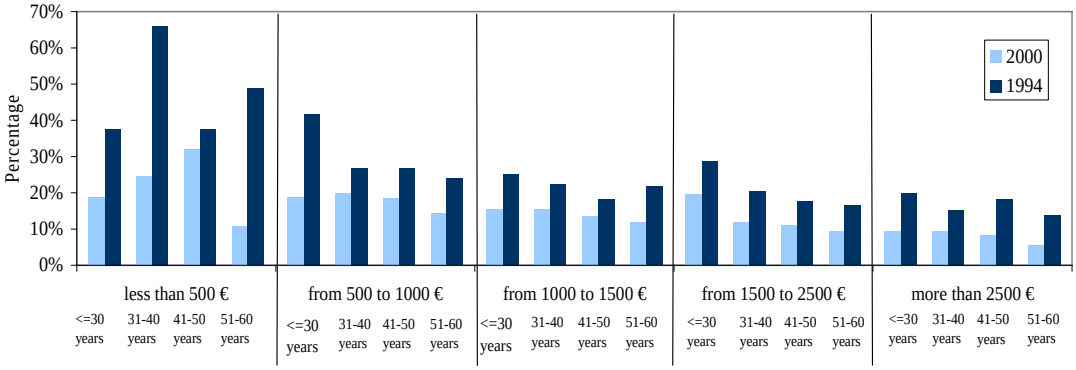
indebted households accumulating further debt or to new households having access to credit, with potentially very different consequences for financial vulnerability. Indeed, the US subprime crisis has demonstrated that a relatively small fraction of households (in this case the ones that are highly indebted)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

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

Chart 1

Average debt burden by categories of income and age

1994 vs. 2000



Source: Farinha (2003).

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

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

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

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

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

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

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

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

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

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

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4 Survey of Financial Characteristics of Consumers.

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

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

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

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

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

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

4. Challenges of the HFCS

4.1 Challenges common for household surveys on income and wealth

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

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

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

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

4.2 Particular challenges posed by the international nature of the HFCS

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

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

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

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

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

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

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

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

(a) Sampling design aspects

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

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

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

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

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

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

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

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

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

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

(b) Survey frequency

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

(c) Interview mode

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

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

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

(d) Panel vs. cross-section

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

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

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

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

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

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

(e) Data editing and imputation

Data editing

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

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

Imputation

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

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

(f) Final outcome codes

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

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

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

6. Conclusions and next steps

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

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

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

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

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Session 7

Surveys of economics forecasts

Case study:

Buenos Aires

Market Expectations Survey (REM) Central Bank of Argentina
Francisco Gismondi, Central Bank of Argentina

Summary: “A Bayesian method of forecast averaging for models known only by their historic outputs: an application to the BCRA’s REM.”
Pedro Elosegui, Francisco Lepone and George McCandless, Central Bank of Argentina

Country presentation:

Buenos Aires

The Economic Expectations Survey (EES) of the Central Bank of Chile
Macarena García A., Central Bank of Chile

Quarterly surveys of economic expectations in Colombia
Héctor Zárate, Bank of the Republic (Colombia)

Market Expectations Survey (REM)
Central Bank of Argentina

Francisco Gismondi[1]

Expectations regarding the development of macroeconomic variables play a fundamental role in the consumption and investment decisions of economic agents and in the handling of monetary policy by Central Banks. Because such expectations are not directly observable, they must be evaluated implicitly via financial asset prices, or they must be determined by means of surveys directed at economists, investors and consumers, among others.

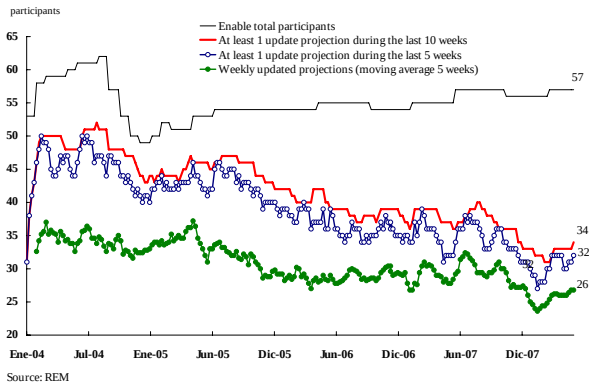
In this area, in January 2004 the Central Bank of Argentina (BCRA) launched its Market Expectations Survey (REM), to be able to count of the widest possible range of information for its monetary policy management, determine and communicate the market consensus, and provide the general public with a macroeconomic framework of reference. The REM consists of a continuous poll that surveys forecasts made by economists and domestic and international economists on a set of variables that reflect the current macroeconomic and financial situation.

The indicators surveyed have been specifically selected to summarize and determine short and medium-term macroeconomic and financial performance. For short-term monitoring, two-month forecasts are surveyed, while for a medium-term scenario, quarterly and annual projections are surveyed (two quarters/two years). Variables are classified according to the sector of the economy they describe: four price variables, seven economic activity variables, three external sector variables, two public finance variables and nine monetary and financial indicators.

Participation in the REM is entirely voluntary, and is open to all those institutions that provide robust estimates on a regular basis and offer recognized experience in the monitoring of the local context (such as commercial and investment banks, brokers, economic consultants, foundations, study centers, universities, etc.). Although the number of active participants has declined since the survey first began,[2] the selection now includes those respondents that update their forecasts with greater frequency, so that the representative nature of the data has not been affected (see Charts Nos. 1 and 2).

Chart 1

Level of participation



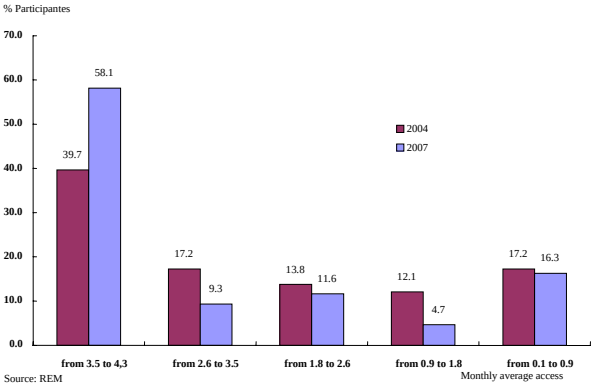
Source: REM

[1] Senior Manager of Short-term Macroeconomic Issues at the Central Bank of Argentina.

[2] Participants who recorded at least one forecast in any of the last ten weeks.

Chart 2

Monthly average access



Source: REM

The gathering of the forecasts takes place on a special secure Internet site created by the Central Bank for the purpose. Respondents gain access to this portal with a user name assigned to them by the Bank and a password chosen by each participant. The survey administrators are at no time aware of participant passwords, and they do not have write access to the original databases with the individual forecasts. The information is handled by an IT application that calculates all the statistical aggregates and rankings automatically, to ensure the transparency of the information.

Participants use this site to upload their forecasts (from Mondays to Wednesdays, 24 hours a day, every week), updating their contact details and making queries (results, rankings, series). Respondents can enter the site as often as they like during the loading period to inform new forecasts or modify those loaded previously. On Wednesday at midnight the loading window is closed and the data valid at that moment is registered.

If a participant does not update a variable forecast for any period during the week, account will be taken of the last variable reported in previous periods for the purpose of calculating the statistical aggregates and the rankings, as long as that participant has posted at least one forecast in the past ten weeks. This means that in order to preserve the quality of the statistical annexes, if a participant does not enter estimates for a period of ten consecutive weeks, it is presumed that its estimates are out-of-date, and that they have therefore lost validity.

As the individual estimates possess commercial and reputational value for the respondents, and bearing in mind that publication of individual forecasts could lead to a bias towards the central values of each distribution, the Central Bank preserves and guarantees the confidentiality of the data submitted by each participant. To ensure reserve in relation to this data, statistical aggregates are published, and only those directly responsible for the administration of the system have access to the individual forecasts. In addition, participants are given the opportunity to enter into a Confidentiality Agreement at the time of joining the survey.

With the aim of generating the correct incentives, a ranking is published for each of the variables surveyed that lists participants according to the deviation of their forecasts compared with actual results for the different variables. The existence of these rankings, together with the commitment not to publish individual forecasts, encourages constant forecast updating and limits bias towards the central values of the distribution. These rankings are published monthly on the Central Bank's public Internet site, as from the sixth month following the implementation of the Survey. In addition, those taking part benefit from other incentives, such as early access to results, a monthly report exclusively prepared for REM respondents containing additional information, and access to statistical series.

As to policy on publication, REM participants are provided a monthly document with detailed information on the distribution and evolution of forecasts. On the same day that the National Institute for Statistics and Census (INDEC) publishes the Consumer Price Index for Greater Buenos Aires (IPC GBA), the main results are published on the Central Bank's Internet page for the information of the general public.

The Central Bank has in the past made changes to the methodology to adapt the survey to the existing macroeconomic context and comply with technical requirements. New variables have been added to the survey, endowing it with greater flexibility. A further methodological review is being prepared that will again increase the number of variables and will make new statistical aggregates available to all participants.

Recently the Economic Research sector of the Central Bank published a working paper with the Bayesian averages calculation methodology for the REM forecasts, as a way of obtaining aggregate information with greater weight being granted to those participants with fewer historical errors. Such Bayesian averages are better predictors of real data than medians and averages, and are quicker to reflect any change in expectation trends. An analysis is currently being carried out as to whether the Macroeconomic Analysis sector should release these Bayesian forecast averages in addition to the statistics already being published on a regular basis, an indication of the coordination that exists between the various areas of the Institution, which would also improve the quality of the information generated by the REM. The document can be accessed via the following link: http://www.bcra.gov.ar/pdfs/investigaciones/REMBayesiano.pdf.

Summary: "A Bayesian method of forecast averaging for models known only by their historic outputs: an application to the BCRA's REM."[1]

Pedro Elosegui[2], Francisco Lepone[3] and George McCandless[4]

Similar to other Central Banks, the BCRA periodically publishes a Relevamiento de Expectativas de Mercado (REM) which summarizes short and medium term macroeconomic forecasts and projections of the group of economic analysts and consultants who volunteer to participate in the program. In part to protect the confidential nature of the forecasts that the analysts provide to the central bank, only a few principal statistics of the forecast sample are published. These statistics can provide the public and the central bank authorities with relevant information on the professional consensus of the process of important macroeconomic variables. This information can be useful for making decisions on monetary and economic policy as well as for private individuals making their own business and consumption decisions.

The short and medium term variables that are surveyed by the REM can be grouped in five categories: price indices, financial and monetary variables, indicators of economic activity, international trade and exchange rates, and the central government's budget. The short-term forecasts are taken every month and involve projections one and two months ahead. The medium term variables are quarterly or yearly, again with forecasts for two periods. Nominal GDP and the CPI are also published as end of the year forecasts. The internet page of the BCRA publishes the principal statistics of the sample, including the means, medians, and standard deviations for each variable. In addition, the BCRA periodically publishes the names for the firms that produced the three top forecasts in each category.

The present summary introduced a methodology developed to calculate a Bayesian average of the forecasts of the REM. Such a forecast would complement the information already provided to the public. In particular, the calculation of a Bayesian average would permit weighting the various forecasts based on the history of the underlying models and their relative forecasting success. The object is to have a weighted forecast that should be able to predict better than the median, which is currently used.

Crucial to the potential success of a Bayesian averaging methodology is the assumption that some forecasting firms have better underlying models than others. If this assumption holds, an averaging method that puts higher weights on the predictions of those forecasters who have done best in the past will be able to produce a better aggregate forecast.

The problem is how to determine these weights. We do not have access to the models, the participants in the REM only provide the BCRA with their predictions. In addition, the maximum amount of observations is relatively small, less than 30 data points and the sample is not balanced (although balanced subsets exist and can be extracted from the data).

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1 Working Paper 2006-7 - BCRA. Available at www.bcra.gov.ar.

2 Deputy Head of the Economic Research Department at the Central Bank of Argentina; pelosegui@bcra.gov.ar.

3 Economic Research Department of the Central Bank of Argentina.

4 Economic Research Department of the Central Bank of Argentina.

Bayesian techniques provide a method for using the data to calculate weights for the aggregate forecast and, potentially, for using additional (prior) information for finding those weights. Also, a correction factor has been developed to solve the missing observation problem.

The methodology assume that the forecast errors have a likelihood with a normal distribution of zero mean. The variance of this normal distribution is important in determining how much each firm contributes to the aggregate forecast. If the variance is too low then only one firm is selected; if, however, the variance is too large, then the method effectively amounts to taking the simple average of all firms. The value for the variance of this likelihood function is chosen so as to minimize the in-sample aggregate forecast error.

This paper broadly describes the details of the methodology, while the correction factor and the matlab code is available upon request. It also includes an application that illustrates the benefits of the Bayesian averaging method, relying on a generated data set of simple artificial predictions. This in turn used to compare the Bayesian method with five other methods usually employed to combine forecasts. The other methods used are simple average of all models, simple average of the top five models, the direct choice of the best model, the median of the forecasts distribution and a "method of pooling" average.

In the example, while simple arithmetic and min-variance forecasts have errors of ~8.8% and ~10.8% respectively, the Bayesian forecast is exact. Also, in order to compare the relative efficiency of the six methods, a test using ten thousand independent forecasting exercises was performed. The results showed that 71.1% of the cases the Bayesian averaging method gave the best forecast, the best model method ranked first 11.6% of the times, the min-variance averaging was first 5.4% of the times, the top 5 arithmetic averaging 4.9% of the times, the median method 4.0% of the times, and the simple arithmetic averaging the remaining 3.0%.

The implementation of the method on real data sets taken from REM was done taking the forecast series of one and two month ahead monthly inflation from February 2004 to March 2006. It should be noted that the history of forecasts is relatively short, between 26 and 27 data points. The total number of participants is formally 65, but only a fraction of them has consistently participated in all the periods (21 for one-month-ahead monthly inflation and 12 for two-month-ahead monthly inflation). The method, as discussed above, assumes a complete set of data. For incomplete samples some technicalities arise that make the computation of Bayesian weights more cumbersome, since a correction factor is needed. Analyzing results corresponding to complete samples, it is found that in all cases but one, Bayesian averaging gives the best answer to the inflation realized two months later. But what is more remarkable, Bayesian averaging proves to be very good at identifying a change in trend. As can be seen in the table below, the November-2005 and February-2006 periods illustrate this ability. In the first case, general expectations were well bellow (~0.5%) the realized value (~1.2%), but the Bayesian forecast gave a value of 1.0%. In the second case, the opposite happened: expectations were above the realized value and the Bayesian methodology partially corrected the misperception.

Survey/month	real-value	Bayesian avg	Median	Arithmetic avg
Oct-2005	0.8%	0.75%	0.7%	0.69%
Nov-2005	1.2%	1.0%	0.5%	0.583%
Dec-2005	1.1%	0.95%	0.95%	0.95%
Jan-2006	1.3%	1.285%	1.35%	1.275%
Feb-2006	0.4%	0.8%	1.0%	1.03%
March-2006	1.2%	1.208%	1.25%	1.208%

In conclusion, this method produces a forecast that is statistically superior to five other commonly used methods of producing aggregate forecasts. Bayesian averaging is a general methodology that can be applied for the purpose of averageing different forecasting methods. Its application to the to the BCRA's REM data set its been quite interesting, in the sense that, even with the short sample, the Bayesian aggregate forecasts dominate the median and arithmetic average. Since the method is able to pick out those REM forecasters who seem to have the best underlying models, it is clearly superior at capturing turning points. Given these desirable features the BCRA is planning to apply the methodology as an additional statistic to the ones currently published.

The Economic Expectations Survey (EES) of the Central Bank of Chile

Macarena García A.[1]

I. Introduction

The Organic Law of the Central Bank of Chile (CBC) establishes two objectives: "to pursue the stability of the currency and the normal functioning of domestic and external payments." The CBC's concern for price stability has translated into the application of an inflation targeting monetary approach. Even though since 1990 the CBC has implemented explicit inflation targets, since 2001 the target is to maintain the annual inflation of the consumer price index (CPI) at 3%. Operationally, the CBC conducts its monetary policy so as to keep expected inflation at 3% in a two years horizon. This commitment gives direction to economic agents' expectations and makes the center of the target range the nominal anchor of the economy. In this context, information about short- and medium-term inflation expected by economic agents is fundamental for the execution and effectiveness of monetary policy, requiring tools for constant monitoring. The Economic Expectations Survey (EES) is one of such tools, and has been carried out every month since February 2000. In this note, I tried to describe the principal characteristics and challenges of the EES, that has been arisen during these years.

II. EES characteristics

Some characteristics are:

The EES is a monthly survey of selected academics, consultants, and executives or advisors from financial institutions and corporations, mostly domestic (55). The selection criteria of the sample is market participation or influence. Although the survey participation is voluntary, nearly 68% of the sample population responds. The names of the participants are not disclosed. Survey questions deal with expected value of some macroeconomic variables at specific horizons. These macroeconomic variables are: inflation, the monetary policy rate, the five-year nominal and real interest rate of CBC notes, the bilateral exchange rate, monthly economic activity, and quarterly and annual GDP. Only the median and the deciles 1 and 9 are uploaded onto the Bank's website the day after the survey is closed.

The results of the EES are used in many different ways by the CBC, especially in those issues related to Monetary Policy. Some of the uses include: comparing inflation and GDP projections with other market expectations in order to measure the market climate; to identify whether the private inflation expectations are anchored or not; to study the accuracy and stability of the inflation forecasts for Chile;[2] and the derivation of the Monetary Policy Rate (MPR) path expected by the market. The graph below shows the MPR path deduced from the market expectations of May 2009.

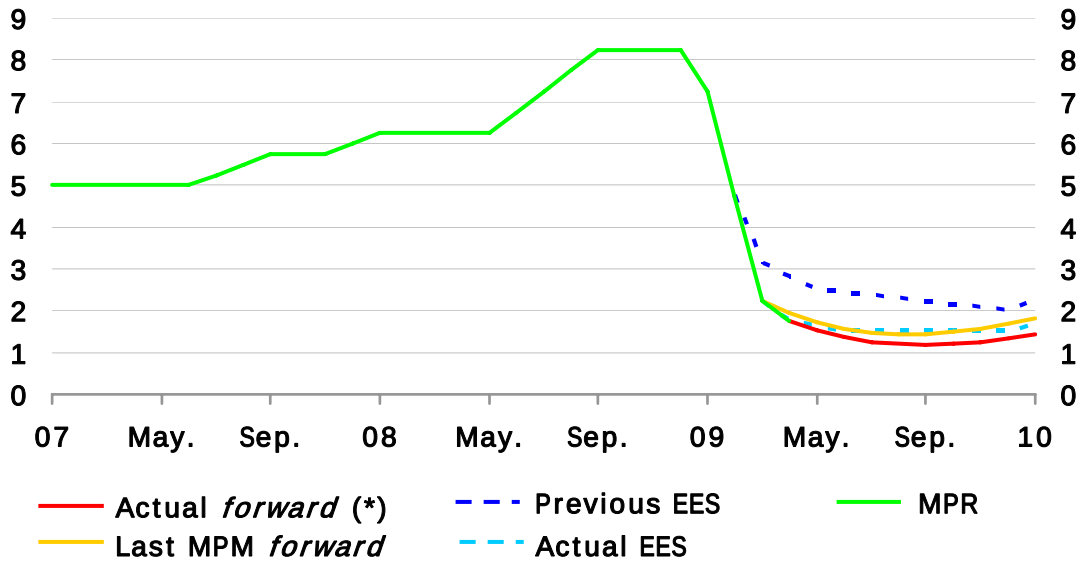
---

[1] Senior Economist, Macroeconomic Analysis Area at the Central Bank of Chile.

[2] One of these studies is Pincheira, Pablo and Álvaro García. "En Búsqueda de un Buen Benchmark Predictivo". Working papers, Central Bank of Chile. April 2009.

Market monetary policy rate expectations in May 2009

Percentage



Source: Central Bank of Chile.

III. Challenges

Throughout the years, several issues relating with the EES's performance have arisen, including:

a) The definition of the survey's objective, like projecting inflation or just measuring the economic climate.

b) The criteria for participants' selection in order to generate a representative sample. Also the periodicity of the sample renewal is an important issue.

c) The forecasting ability of the information contained in the survey, or any other information that can be extracted.

d) The macroeconomic consistency of the participants' projections and their over- or under-reaction to different shocks.

e) The methodology used in the processing, regarding efficient use of time and output maximization.

f) The correct outputs, adequate to CBC needs and comparable for international uses (median, average, standard deviation, probabilities, etc.).

g) Ways to avoid abstention, due to the inexistence of enforcement tools in order to guarantee private respondents to send information.

h) Degree of understanding of the questions, which determines the quality of the answers.

i) The definition of the appropriate publication strategy. This means disclosure of each answer, with or without the identities.

In order to solve these issues, international experiences are very relevant because they have answered some of these questions. But one must keep in mind that the idiosyncrasy of each country is determinant in addressing these challenges.

IV. Conclusion

The main conclusion at the workshop was, in my opinion, the common challenges that the different surveys have across countries. So, every discussion than can be made, that includes different experiences will be very helpful in ensuring a better survey, and, ultimately, a better macroeconomic policy.

Quarterly surveys of economic expectations in Colombia

Héctor Zárate[1]

1. Introduction

The objective of the survey of economic expectations is to ascertain firms' perceptions of current and expected developments, over the very short term, for the main macroeconomic variables of the Colombian economy. This information gives the decision maker signals about the future level of those variables, which in turn could suggest modifications in the economic policy. The surveys seek to know the formation mechanism of expectations of economic agents and help to identify the transmission channels of monetary policy. Additionally from this brief introduction, in this note we briefly describe the main methodological issues of the survey and portray some of the results.

Contents of the survey: The questionnaire is divided into five categories explained below:

- **Prices and wage expectations:** in this section we are seeking to get a measure of the reliability, among economic agents, of the annual inflation target set by the central bank board. We also ask for annual inflation expectations over three, six, nine and twelve month horizons. Finally, the firm´s expectation of wage rises is investigated.
- **Monetary and credit conditions:** the questions in this section designed to find out about the perception of liquidity and credit availability that the economic agents have at the survey´s time. Moreover, the expected evolution of liquidity and credit for the coming six months is addressed.
- **Interest rates and devaluation:** in this section we ask about the expected level of the interest rate and the exchange rate, three, six and twelve months ahead. The benchmark interest rate used as a reference is the 90-day-DTF[2] and for the exchange rate the benchmark is the peso-dollar rate. Range intervals for both variables should be set by the respondents.
- **Economic activity and employment:** In this section, the economic agents answer questions about their expectations for GDP growth for both the current and next year. They also inform us about the plans to change the firm´s staffing levels for the coming six and twelve months.
- **Survey control questions:** we ask for information related to the reliability of the survey and the respondent´s identification.

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[1] This paper is a summary of the presentation at the IFC workshop "Statistics at the central bank", Buenos Aires, December 2007. This note is mainly based on an internal Newsletter at the central bank "Reportes del Emisor" 13, 2000. However, the views expressed in this paper are solely those of the author and he is responsible for any remaining errors. Correspondence author: hzaratso@banrep.gov.co. Head of Statistics section at Economic Studies of the Banco de la República and titular professor at Statistics Department at Universidad Nacional de Colombia.

[2] The DTF rate is a deposit rate offered by banks to their clients on their 90-day CDs.

Sectors of the economy surveyed: six economic sectors were chosen according to their importance for economic activity.

- Industry and mining
- Financial intermediation
- Major retailers
- Transport and communications
- Academics and economic consultants
- Trade unions

2. Sampling basis

The survey has been carried out by the Banco de la República since the first quarter of 2000.[3] The questionnaire combines both qualitative and quantitative questions that help the administrator of the survey to guarantee its coherence and allow the identification of additional variables. Below we point out some issues of the sampling design.

- Target population: senior-level corporate executives from businesses in each sector of the economy selected.
- Geographical coverage: it is formed by the country's principal cities: Bogotá, Barranquilla, Cali and Medellín.
- Survey dates: The questionnaire is applied on the beginning of January, April, July and October.
- The survey is conducted through an independent probability sample for each economic sector. Thus, the simple random sampling without replacement was implemented.[4] However, some firms are forced into the sample and the budget constraint will determine the limit of the sample size. The response rate has been close to 70% and a sample of 81 firms has been aimed at through the whole period.
- The population frame is formed by sampling frames constructed on the basis of information from chamber of commerce registers, administrative registers and firms' supervisory returns.
- Data collection: After the release of the macroeconomic variables by official authorities, the questionnaire, which contains all the available information, is launched for various ways: web page, email, fax or if necessary face to face contact. The recollection, data processing and publication last 25 days.
- Results and historical file are displayed on the web address: http://www.banrep.gov.co/informes-economicos/ine_enc_inf.htm#2. A quarterly publication with the survey's results is distributed among the respondents and the public at large. Moreover, a detailed presentation of the results is included in the

[3] This survey replaced a former expectations survey conducted from 1997. There were major changes that improved the sample coverage and the type of questions.

[4] Under simple random sampling, the sample mean of a variable and the sample proportion in a sector are unbiased estimators of the population mean of the variable and of the population proportion in the sector.

Inflation Report prepared by the Programming and Inflation Department of the Economic Studies Division of the Bank.

- Sample size: there are respondents from 140 firms. The sample size distribution is presented in Table 1.

3. What can be learn from the surveys

In the appendix, Figure 1 shows the observed inflation path and the associated expectations over different time horizons. The vertical line indicates the month in which the survey was realized. According to this figure, expected inflation rates for the coming six, nine and twelve months were lower than the rate actually observed. Thus, the survey conducted in September 2007 indicated that from September 2008 economic agents were expecting an annual inflation rate of around 4.9%, in a range of [4.7–5.2]. On the other hand, Figure 2 reveals the evolution of observed inflation, its expected values and the targets set by monetary authorities. Horizontal segments correspond to the annual inflation interval target. According to the survey, economic agents perceived that December inflation would be above the target. Figure 3 displays the time series of the benchmark interest rate, the DTF and its expected values. As can be seen, economic agents expecting an increase in the interest rate that followed the trend started in July 2006. So, the interest rate for the coming six, nine and twelve months was expected to be close to 8.7%. Figure 4 presents the expected GDP growth for the years 2007 and 2008. Expected economic growth was 6.5% for 2007, in an interval of [6.0%–6.8%] and 5.9% (within [5.5–6.4]) for 2008. This estimation is similar to the one observed in the former period.

4. Conclusion

In this essay we described the methodological issues of the quarterly survey of economic expectations realized by the Colombian Central Bank. We described its thematic coverage and explained the sampling design implemented. Finally, we sketched, as a way of illustration, some of the output assembled from the survey's data.

Appendix

Table 1

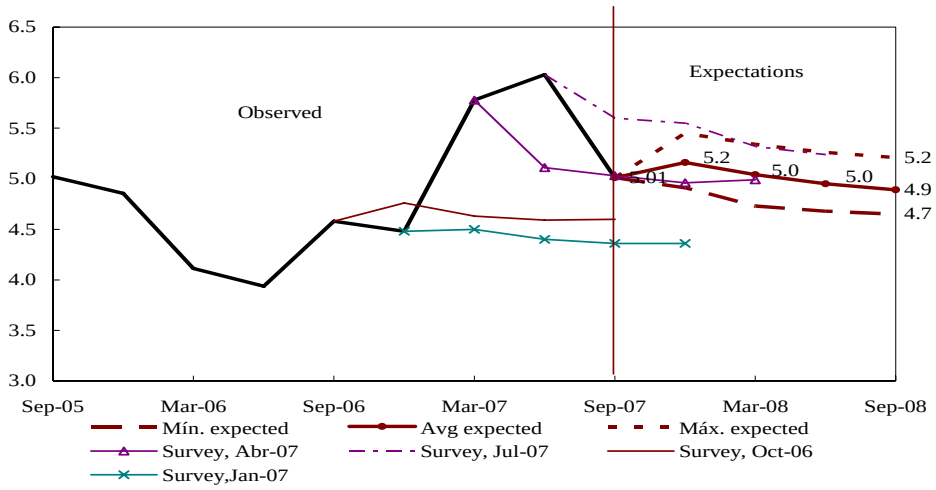
Distribution of the sample size according to the sector

Sectors	Size
Industry	57
Financial Intermediation	18
Major Retailers	7
Transport and Communications	32
Academic and Consultants	16
Trade Unions	10
Total	140

Figure 1

Observed inflation and expectations (three, six, nine and twelve months)

Annual inflation

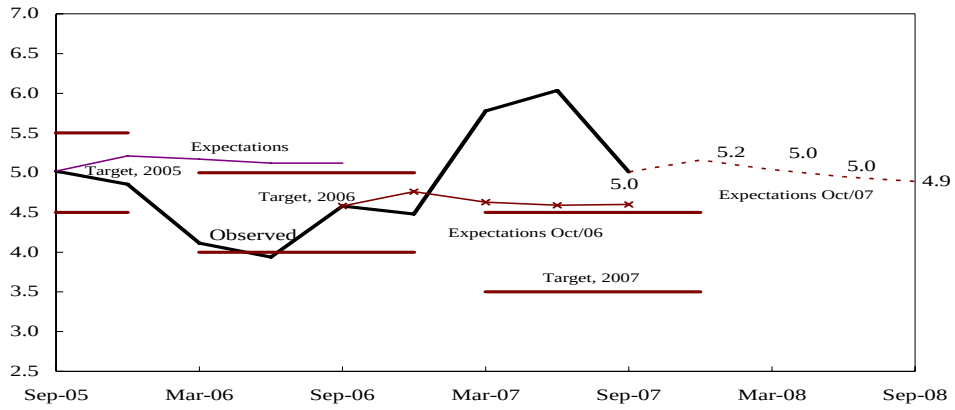


Source: Banco de la República.

Figure 2

Inflation, target and expectations

Annual inflation

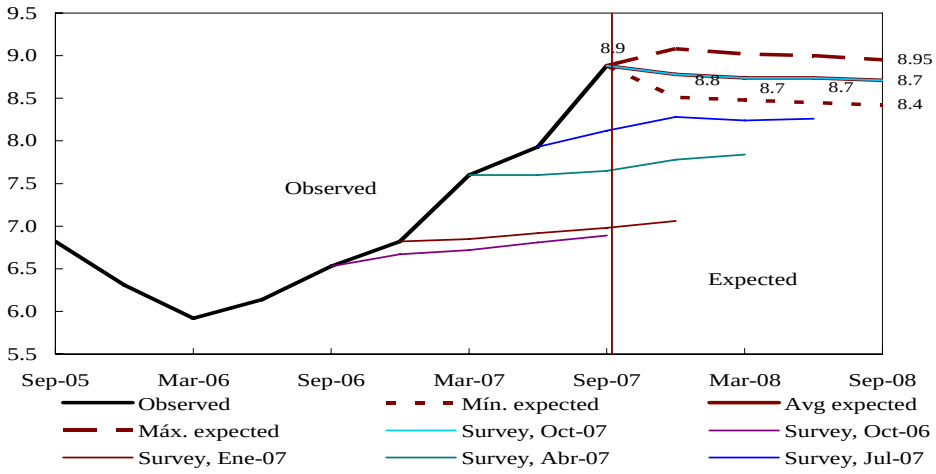


Source: Banco de la República.

Figure 3

Interest rate (FDT) observed, expected and intervals

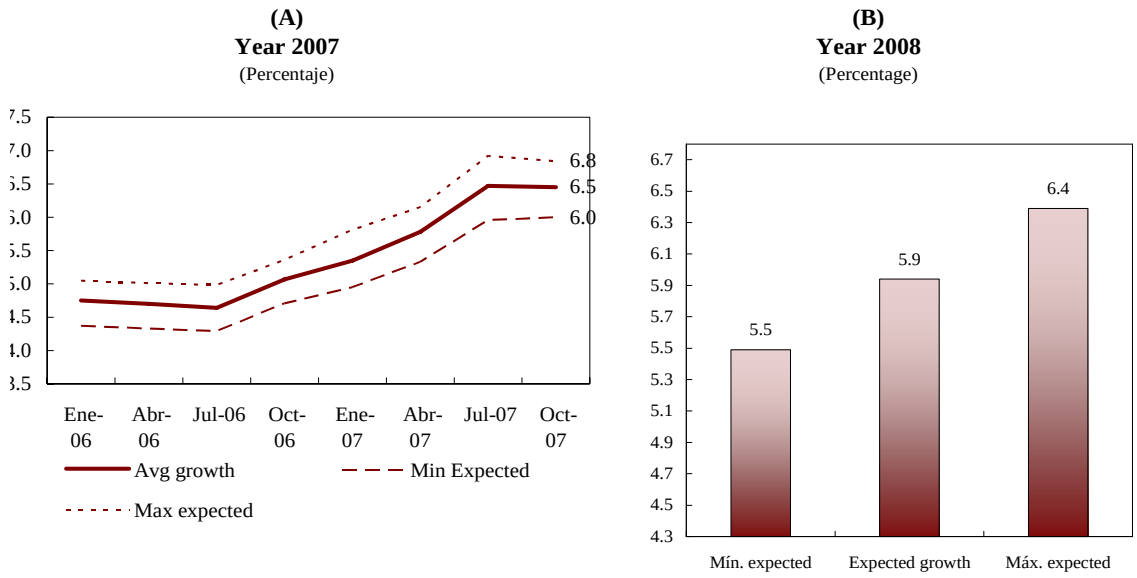
Annual effective



Source: Banco de la República.

Figure 4

Economic growth



Source: Banco de la República.

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SEACEN-Irving Fisher-RBI Workshop on
The use of surveys by central banks
Pune, India, 27–30 June 2007

Programme

Wednesday, 27 June 2007

Opening session

Welcome remarks by Executive Director of the SEACEN Centre

Remarks by Chairman of the Irving Fisher Committee on Central Bank Statistics and by the BIS

Opening address by guest of honour, Reserve Bank of India

Session 1: Overview of central bank data collection practices

General introduction:

Paul Van den Bergh and Chatwaruth Musigchai

- Recent trends in data collection exercises by central banks
- Advantages and disadvantages of different methods
- Roles of surveys: when and how often to carry out surveys

Case study:

Experience of the Reserve Bank of India in statistical data collection, including the use of surveys

Session 2: Surveys of consumers/households

General introduction:

- Consumers/households expectations on inflation and other macroeconomic variables, consumer confidence
- Financial position of the household sector, financing availability

Case study:

Giovanni D'Alessio, Banca d'Italia

Country presentations:

India, Nepal, Philippines

Thursday, 28 June 2007

Session 3: Business surveys

General introduction:

- Use of surveys to obtain data on business confidence, expected output and price developments, financial positions, inventories
- Specifics of business survey techniques (eg diffusion indices)

Case study:

Luc Dresse, National Bank of Belgium

Country presentations:

India, Thailand, Republic of Korea, China (Taiwan)

Session 4: Surveys for the compilation of external sector statistics

General introduction:

- Survey on Balance of Payments (BOP) statistics, eg foreign direct investment, international trade in services, portfolio investment
- International Investment Position (IIP) and external debt position
- Shift from International Transactions Reporting System (ITRS) toward surveys in collecting BOP data

Case study:

Julien Valentino, Banque de France

Country presentations:

India, Malaysia, Thailand, Sri Lanka

Friday, 29 June 2007

Session 5: International surveys

General introduction:

- Coordinated Portfolio Investment Survey (CPIS)
- CGFS survey of stress testing by banks
- The BIS Triennial Survey of Foreign Exchange and Derivatives Markets

Presentations:

BIS

Country presentations:

New Zealand, Philippines

Session 6: Surveys of monetary and financial conditions

- Market expectations/conditions
- Development of financial instruments or market practices
- Loan/credit conditions, risk management instruments used in corporations
- Money market variables, including representative interest rates

Case study:

Gunther Swoboda, Oesterreichische Nationalbank

Country presentations:

India, New Zealand , Indonesia

Session 7: Panel discussion on operational and organisational challenges in conducting surveys

- Expertise required to carry out surveys
- In-house vs. outsourced services
- Transparency vs. discretion in conducting surveys
- Response burdens and how to deal with non-response
- Cooperation with national statistical agencies and communication of survey results

Closing session

Remarks by Executive Director of the SEACEN Centre and representative of the Irving Fisher Committee on Central Bank Statistics/BIS

CEMLA-Irving Fisher-BCRA Workshop on The use of surveys by central banks

Buenos Aires, 11–13 December 2007

Programme

Tuesday, 11 December 2007

Opening session

Welcome remarks by Executive Director of CEMLA

Remarks by representative of the Irving Fisher Committee on Central Bank Statistics/BIS

Opening address by guest of honour, Banco Central de la República Argentina

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Case study:

Ernesto Villanueva, Banco de España

Country presentations:

Enrique Montes Uribe, Banco de la República (Banco central de Colombia)
Chatwaruth Musigchai, Bank of Thailand
Dafne Vales (Ms), Banco Central de la Republica Dominicana

Wednesday,12 December 2007

Session 3: Business surveys

General introduction:

- Use of surveys to obtain data on business confidence, expected output and price developments, financial positions, inventories
- Specifics of business survey techniques (eg diffusion indices)

Case study:

Thérèse Laflèche, Bank of Canada

Country presentations:

Israel Valenzuela Cuesi, Banco de Guatemala
Vicente Castañón Ibarra, Banco de Mexico

Session 4: Surveys for the compilation of external sector statistics

General introduction:

- Survey on Balance of Payments (BOP) statistics, eg foreign direct investment, international trade in services, portfolio investment
- International Investment Position (IIP) and external debt position
- Shift from International Transactions Reporting System (ITRS) toward surveys in collecting BOP data

Case study:

Paula Casimiro (Ms), Banco de Portugal

Country presentations:

Fernando Lemos, Banco Central do Brasil
Erika Chaves (Ms), Banco Central de Costa Rica
Luis Agurcia, Banco Central de Honduras
Paulina Rodriguez and Alvaro Nash, Banco Central de Chile
Ana Maria Ibarra, Central Bank of Uruguay
Roxana Loyola de Hidalgo (Ms), Banco Central de Reserva de El Salvador
Nano Luis Silva, Banco Central de Bolivia

Thursday, 13 December 2007

Session 5: Surveys of monetary and financial conditions

General introduction:

- Market expectations/conditions
- Development of financial instruments or market practices
- Loan/credit conditions, risk management instruments used in corporations
- Money market variables, including representative interest rates

Case study:

Gretchen Weinbach (Ms), Board of the Federal Reserve System

Country presentations:

Beatriz Biasone (Ms), Banco Central de la Republica Argentina
Miguel Delfiner, Banco Central de la Republica Argentina
BIS

Session 6: Surveys of economic forecasts

Case study:

Francisco Gismondi and Pedro Elosegui, Banco Central de la Republica Argentina

Country presentations:

Macarena Garcia (Ms), Banco Central de Chile
Hector Zarate Solano, Banco de la República (Banco central de Colombia)
Haydee Fernandez (Ms), Banco Central de Bolivia

Session 7: Panel discussion on operational and organisational challenges in conducting surveys

- Expertise required to carry out surveys
- In-house vs. outsourced services
- Transparency vs. discretion in conducting surveys
- Response burdens and how to deal with non-response
- Cooperation with national statistical agencies and communication of survey results

Closing session

Remarks by Executive Director of CEMLA and representative of the Irving Fisher Committee on Central Bank Statistics/BIS

Irving Fisher Committee-Oesterreichische Nationalbank Workshop on The use of surveys by central banks

Joint Vienna Institute, Vienna 18–20 March 2008

Programme

Tuesday, 18 March 2008

Opening session

Opening remarks by Christian Dembiermont, Head of Data Bank Services, BIS, and representative of the Irving Fisher Committee on Central Bank Statistics

Opening address by Aurel Schubert, Director, Statistics Department, Oesterreichische Nationalbank

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Country presentations:

Armenia, Austria, Thailand

Wednesday, 19 March 2008

Session 3: Business surveys

General introduction:

- Use of surveys to obtain data on business confidence, expected output and price developments, financial positions, inventories
- Specifics of business survey techniques (eg diffusion indices)

Case study:

Ahmet Kipici, Central Bank of Turkey

Country presentations:

Israel, Poland

Session 4: Surveys for the compilation of external sector statistics

General introduction:

- Survey on Balance of Payments (BOP) statistics, eg foreign direct investment, international trade in services, portfolio investment
- International Investment Position (IIP) and external debt position
- Shift from International Transactions Reporting System (ITRS) toward surveys in collecting BOP data

Case study:

Daniel Desie, National Bank of Belgium

Country presentations:

Albania, Czech Republic, Estonia, Slovenia

Thursday, 20 March 2008

Session 5: Surveys of monetary and financial conditions

General introduction:

- Market expectations/conditions
- Development of financial instruments or market practices
- Loan/credit conditions, risk management instruments used in corporations
- Money market variables, including representative interest rates

Case study:

Gunther Swoboda, Oesterreichische Nationalbank

Country presentation:

Bosnia-Herzegovina

Session 6: International surveys

General introduction:

- Overview of various international surveys (eg CPIS, BIS, OECD)
- Challenges for coordinators of international surveys and for participating national statistical agencies

Case study:

Carlos Sanchez Muñoz, European Central Bank

Session 7: Panel discussion on operational and organisational challenges in conducting surveys

- Expertise required to carry out surveys
- In-house vs. outsourced services
- Transparency vs. discretion in conducting surveys
- Response burdens and how to deal with non-response
- Cooperation with national statistical agencies and communication of survey results

Closing session

Remarks by representative of the Irving Fisher Committee on Central Bank Statistics/BIS and Oesterreichische Nationalbank

Annex:
Pune workshop participants

Cambodia	**National Bank of Cambodia** Pel Sarath Souk Mann
India	**Reserve Bank of India** C L Agarwal S N S Tyagi N S Rawat V C Augustine Deepak Mathur Satyananda Sahoo
Indonesia	**Bank Indonesia** Minot Purwahono Nurcahyo Heru Prasetyo
Korea	**The Bank of Korea** Phil-ho Jo
Malaysia	**Central Bank of Malaysia** Lui Kwee Ching (Mrs) Irni Jasmina Ibrahim (Ms) Mohd Zaed Mohd Nazir Ainikhairina Jabit (Ms)
Nepal	**Central Bank of Nepal** Pradeep Raj Poudyal Matrika Prasad Poudel
New Zealand	**Reserve Bank of New Zealand** Rochelle Barrow (Ms)
Papua New Guinea	**Bank of Papua New Guinea** Jacob Marambini
Philippines	**Bangko Sentral ng Pilipinas** Remedios C Banaag (Ms) Rosalina M Del Rosario (Ms)
Sri Lanka	**Central Bank of Sri Lanka** Y C Weerasinghe W M Wijekoon
China (Taiwan)	**Central Bank of the Republic of China (Taiwan)** Huey-Mei Tsay (Ms)
Thailand	**Bank of Thailand** Sakol Thana-Anekcharoen Damrong Dhitithanapak
Vietnam	**State Bank of Vietnam** Ha Thu Glang (Ms)

Speakers	**Bank of Thailand** Chatwarut Musigchai
	Bank for International Settlements Paul Van den Bergh
	Banca d'Italia Giovanni D'Alessio
	National Bank of Belgium Luc Dresse
	Banque de France Julien Velentino
	Oesterreichische Nationalbank Gunther Swoboda
IFC/BIS Officials	**Bank for International Settlements** Paul Van den Bergh Christian Dembiermont
SEACEN Officials	**SEACEN** A G Karunsena
	SEACEN Kanaengnid T Quah (Mrs)

Annex:
Buenos Aires workshop participants

Argentina	**Central Bank of Argentina** Ivana Termansen (Ms) Ricardo Martínez Beatriz Biasone (Mrs) Laura Cuccaro (Ms) Francisco Eduardo Gismondi Claudia Lippi (Ms) Mariana Diaz (Ms) Diego de Brito Ferra Gabriel Ghigliazza Diego Crochi Valentín García Gastón Repetto Andreas Denes Ricardo Dinelson Pedro Elosegui
Aruba	**Central Bank of Aruba** Evarina X D Koolman-Hart (Mrs)
Bolivia	**Central Bank of Bolivia** Nano Luis Silva Colque Haideé Eliana Fernández Quevedo (Mrs)
Brazil	**Central Bank of Brazil** Fernando Lemos
Canada	**Bank of Canada** Thérèse Laflèche (Ms)
Chile	**Central Bank of Chile** Álvaro Nash Macarena García Aspillaga (Mrs) Paulina Rodríguez (Mrs)
Colombia	**Bank of the Republic (Colombia)** Héctor Zarate Solano Enrique Montes Uribe
Costa Rica	**Central Bank of Costa Rica** Erika Cháves Ramírez (Ms)
El Salvador	**Central Reserve Bank of El Salvador** Roxana Noyola de Hidalgo (Ms)
Guatemala	**Bank of Guatemala** Israel Valenzuela Cuesi
Honduras	**Central Bank of Honduras** Luis Agurcia

Mexico	**Bank of Mexico** Vicente Castañón
	Centro de Estudios Monetarios Latinoamericanos René Maldonado Kenneth Coates
Peru	**Central Reserve Bank of Peru** Teresa Lamas Pérez (Ms)
Portugal	**Bank of Portugal** Paula Casimiro (Ms)
Dominican Republic	**Central Bank of the Dominican Republic** Dafneliana Vales Cepeda de Delgado (Mrs)
Spain	**Bank of Spain** Ernesto Villanueva
Switzerland	**Bank for International Settlements** Christian Dembiermont Paul Van den Bergh
Thailand	**Bank of Thailand** Chatwaruth Musigchai
United States	**Board of Governors of the Federal Reserve System** Gretchen Weinbach (Ms)
Uruguay	**Central Bank of Uruguay** Ana María Ibarra (Mrs)

Annex:
Vienna workshop participants

Albania	**Bank of Albania** Endrita Xhaferaj (Ms)
Armenia	**Central Bank of Armenia** Martin Galstyan Vahe Movsisyan
Austria	**Oesterreichische Nationalbank** Aurel Schubert Gunther Swoboda Karin Wagner (Ms)
Azerbaijan	**National Bank of Azerbaijan** Samir Nasirov
Belgium	**National Bank of Belgium** Daniel Desie
Bosnia and Herzegovina	**Central Bank of Bosnia and Herzegovina** Vidosav Pantic
Bulgaria	**Bulgarian National Bank** Mila Todorova (Ms)
Croatia	**Croatian National Bank** Alen Skudar
Cyprus	**Central Bank of Cyprus** Evangelia Christodoulou (Ms) George Mardas
Czech Republic	**Czech National Bank** Ivan Matalik Rudolf Olsovsky
Estonia	**Bank of Estonia** Andres Kerge
European Union	**European Central Bank** Carlos Sánchez Muñoz
Hungary	**Magyar Nemzeti Bank** Zsuzsanna Sisakne Fekete (Ms)
Israel	**Bank of Israel** Tsahi Frankovits
Italy	**Bank of Italy** Giovanni D'Alessio

Latvia	**Bank of Latvia** Janis Lapins
Lithuania	**Bank of Lithuania** Zilvinas Kalinauskas
Macedonia	**National Bank of the Republic of Macedonia** Maja Andreevska (Ms)
Malta	**Central Bank of Malta** Mirko Mallia
Moldova	**National Bank of Moldova** Corneliu Melnic Marina Soloviova (Mrs)
Poland	**National Bank of Poland** Piotr Boguszewski
Romania	**National Bank of Romania** Ligia Stela Marcuta (Mrs)
Russia	**Central Bank of the Russian Federation** Sergei Shcherbakov
Serbia	**National Bank of Serbia** Mihailo Nikolic
Slovakia	**National Bank of Slovakia** Martina Mydlov (Mrs)
Slovenia	**Bank of Slovenia** Snjezana Del Fabro Delevic (Ms) Matjaz Jeran
Thailand	**Bank of Thailand** Chatwaruth James Musigchai
Turkey	**Central Bank of the Republic of Turkey** Ahmet Nuri Kipici
Ukraine	**National Bank of Ukraine** Tetiana V Kataieva
Switzerland	**Bank for International Settlements** Christian Dembiermont Madeleine Op't Hof (Ms) Herbert Pönisch