

Session 1

Overview of central bank data collection practices

Background note: Data collection techniques by central banks: trends and issues
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Case study: Surveys conducted by Reserve Bank of India
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Background note on data collection techniques by central banks: trends and issues

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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 regard to 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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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

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,

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.

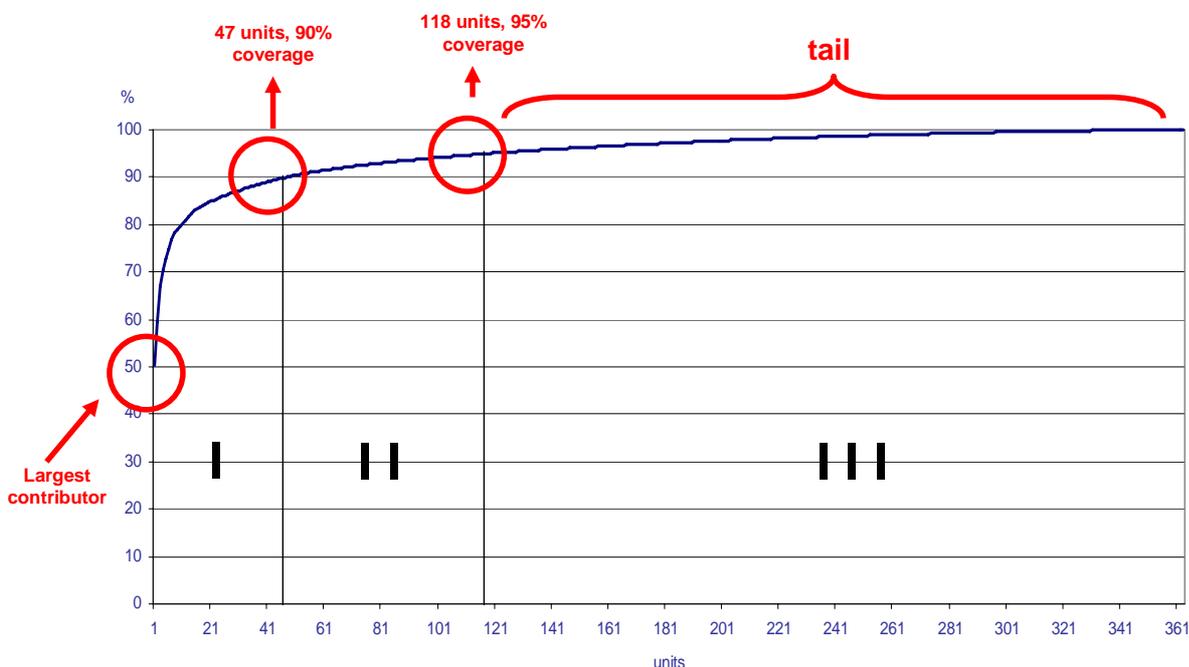
¹⁰ Under this technique, survey conductor most knowledgeable on the subject of the study selects elements of the population that he/she feels are most representative of the population. Used primarily when there is a limited number of people that have expertise in the area being researched. For example: 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: (i) 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 be moving toward non-census data collection approaches. Full census reveals several disadvantages such as high reporting burden to respondents, costly to compile 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

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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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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-fourth 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.