



**THE ROLE OF THE CENTRAL BANK OF BARBADOS
IN THE FIELD OF STATISTICS ON
THE BARBADOS ECONOMY**

by

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1. Introduction

It cannot be gainsaid that statistics provides the tools of decision making in every field of society, be it agriculture, medicine, natural or social science. For instance, to achieve the ultimate goal of improving the general welfare of society, economists and other social scientists strive to understand how resources are allocated and distributed in a way that ensures a measure of equity. This requires knowledge and understanding of a wide range of information upon which most decisions of how resources are allocated and distributed are made.

Like most central banks, the Central Bank of Barbados has regulatory function in respect of the financial system and a legislative mandate to undertake continuous economic research. To this end, the Central Bank of Barbados has assembled and maintains, on a current basis, economic data with a primary focus on, financial, fiscal, foreign trade and real sector variables. The Barbados Statistical Service has the legal authority to collect statistics in Barbados but because of inadequate human and financial resources it has been unable to provide certain types of data and has even stopped disseminating some types of socio-economic data. The Bank therefore finds itself filling

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the breach by getting involved in the dissemination of not only banking and financial data but also non-financial and other socio-economic information.

The Bank is also a major user of statistics to the extent that it conducts research on all facets of the economy. In that regard, the Bank is constantly looking for avenues to improve data availability, coverage and quality. This article outlines the Bank's role in collecting, processing and disseminating socio-economic information in Barbados. The paper also touches on the main challenges the Bank faces and the procedures to deal with these challenges.

2. Data Collection and Processing

The Central Bank of Barbados collects and processes information from both primary and secondary sources. Most of the information on the operations of financial institutions is obtained as primary data from these institutions. These are collected through a set of schedules which detail the nature of the aggregates, how they are to be categorised and the periodicity required. The Bank publishes the consolidated information. Naturally the accuracy of the consolidated reports depends on the accuracy of the reports of individual banks. The integrity and consistency of the data so collected is verified by checking the weekly reports against the monthly reports which banks are also required to file with the Central Bank. Possible errors are usually resolved through telephone contacts with the banks concerned but when errors persist, they are dealt with through occasional meetings with the staff of institutions who have responsibility for filling out these forms.

Secondary data, as already processed data are usually collected monthly and quarterly from key Government Departments such as the Ministry of Finance and the Accountant General's Office. However, the bulk of secondary data reach us from the Barbados Statistical Services (BSS). The Bank's role in these types of data is generally that of a disseminator since much of the data is already processed. For instance the Central Bank now has responsibility for publishing regularly information on trade, tourism, prices and employment which were originally published by the BSS. This type of data also requires some processing since much of the information is recorded manually and then tabulated in the preferred formats before publication.

The processing of data has gone through a number of phases. Initially the source data were tabulated with calculators before typing. The typed data were stored on typewriters with electronic memory (e.g. IBM Mag Card) and then updated monthly before publication. With the acquisition of a Central Processing Terminal (CPT) in the early 1980s, which allowed data to be stored on large floppy disks, the production of the Bank's statistical publications was facilitated a great deal as the tedium of manually manipulating data was reduced [see Wood and Saunders (1997)].

The introduction of personal computers in the Bank in the late 1980s allowed a gradual shift from the manual processing of data to a fully automated process. Initially the data was processed on *Lotus 1-2-3 spreadsheets* whose printouts were used to update the required tables before publication. Since there were no direct links between the spreadsheets and the wordprocessing files used to produce the tables, the information from the spreadsheets was re-typed each period.

The acquisition of the Advanced Retrieval Econometric and Modelling System (AREMOS) software in the late 1980s allowed for a full system-wide database to be created. This database stores all the financial data collected by the Bank's Statistical Unit and it enables the tables in the Bank's publications to be updated, processed and printed without any re-keying. Data can be manipulated to generate aggregated monthly, quarterly and annual data as well as be grouped according to economic sectors, or in any format necessary for economic analysis. It is ultimately intended to have all economic and statistical data supplied to, as well as those created by the Bank, to be stored in the database from which users can tap directly for whatever analysis is required.

One main goal is to develop systems that would enable the database to be made available to all users in the Bank while ensuring data integrity and security. It is also planned to reduce data re-keying to the minimum by setting up a system of electronic data interface (EDI) that makes it possible to have data transferred electronically from external and internal suppliers into a data sub-directory. Already some commercial banks and Government departments supply data to the statistical section on diskettes.

3. Information Dissemination

The Bank disseminates its statistical information mainly through three publications. They are the monthly Economic and Financial Statistics (EFS), the Annual Statistical Digest (ASD) and the annual Balance of Payments (BOP) publication.

The quarterly Economic Review (ER) and the Bank's Annual Report (AR) are not purely statistical publications but are also good sources of information, carrying data that usually support the analytical orientation of these publications.

The EFS at present carries a total of sixty-five (65) tables of which forty-one (41) (63.1%) are tables on the financial sector, including four tables on assets and liabilities position of the monetary authorities, 10 (15%) on foreign trade, 9 (13.8%) on public finance and 5 (7.7%) on general statistics of the real sector. The ASD carries all the information in the EFS but provides data of longer periodicity (quarterly and annually) and longer time series of past data. It also carries basic macroeconomic data on other Caribbean Community (CARICOM) countries. Like the EFS, the ASD is dominated by information on the financial sector, although not as overwhelming as in the EFS. There are 64 (48.4%) tables in the financial sector, 19 (14.4%) each on government operations and general statistics on the real sector and 15 (11.4%) each on foreign trade and data on CARICOM countries.

As expected, the Balance of Payments publication contains detailed information on Barbados transactions with the rest of the world. This is based on primary data collected through annual surveys, managed entirely by the Central Bank. Since 1995, Barbados' balance of payments accounts have been cast according to the underlying principles of the fifth edition of IMF Balance of Payments Manual which provides for a greater degree of harmonization and integration between the balance of payments and the revised System of National Accounts (SNA).

The dissemination of information to the public through formal publications is supplemented with other instruments such as the press releases that accompany the Governor's quarterly press conference on the performance of the Barbados economy. The contents of the press releases are based on information from the Bank's *Economic Outlook*, an internal document which reports data on the short to medium term forecasts derived from the Bank's Quarterly Forecasting model.

In keeping with new trends in information technology, the Bank has set up a website which carries general information on the Bank's operations, along with recent updates on the Barbados economy. A voice menu system also gives the general public access to recorded information via the telephone.

The Bank's library plays a major role in the information dissemination scheme by stocking all of the Bank's publications, along with a good collection of regional and international statistics. From the past five years of so statistical publications from international organisations such as the IMF and the World Bank have been available on CD-ROMS. With Internet access in the Bank presently limited to Heads of Departments, the Library serves as the main outlet for receiving and sending data electronically for the rest of the Bank's staff. The Library also manages the Bank's website and is in the process of adding the management of the entire Bank's records to its functions.

4. Challenges

In the process of producing and disseminating economic information, the Central Bank of Barbados faces a number of challenges. Some of the key ones involve the problems of data quality

and timeliness and the process of finding ways to improve overall data coverage.

Data Quality and Timeliness

Monetary accounts are derived from fairly reliable sources but their quality may be affected by incorrect classification of accounts. The schedules on which commercial banks report information are detailed enough to help detect incidences of misclassification and by reconciling weekly with monthly data, the consistency of the monetary aggregates can be verified. Even so cases of misclassification comes up every now and then and dealing with them occupy a great deal of staff time which tend to cause delays that ultimately affect the timeliness of the Bank's information dissemination process.

For instance the Central Bank of Barbados aims to publish consolidated information on commercial banks with a maximum lag of two months. However, the Bank is sometimes forced to delay the publication of these accounts beyond two months where inaccuracies arising from misclassifications cannot be resolved quickly. Also, information from non-bank financial intermediaries usually appear with three to four months lags because of general tardiness of some of these institutions.

Data obtained from secondary sources are usually reported as submitted, although some undergo some processing before publication. They are revised only after revisions are made by the sources concerned.

Data Availability

The scope of information collected and disseminated in the Central Bank of a developing country tends to be more extensive than one may find in the corresponding bank from a developed country. For instance, national income estimates are usually the preserve of national statistical agencies such as Statistics Canada for Canada and the Office of National Statistics for the United Kingdom. Such specialised agencies ensure that reliable indicators are available for key economic and social variables.

In Barbados, the Statistical Services Department does not produce estimates of Gross Domestic Product (GDP) at constant prices. That task has fallen on the Central Bank but it is not structured to undertake properly designed surveys to produce all the requisite output and input indicators for the GDP estimates. The Bank faces a number of formidable challenges, constantly searching for reliable indicators, especially for the services sector and also looking for ways to appropriately account for structural changes in the economy.

There are areas like agriculture and manufacturing where volume indicators can easily serve as output indicators. In other areas like construction, wholesale and retail as well as business and other services, there are no volume indicators and consequently changes in input indicators are utilized to estimate real output. The challenge is to find output indicators that are not only high correlated with the output under consideration but which bear a stable relationship with that output.

At present, real GDP estimates for Barbados have the year 1974 as the base. Following international convention, it is the usual practice to rebase most time series every five to ten years in order to adequately capture the effects of structural and technological changes in an economy over time. Moreover, frequent rebasing ensures that the base year prices do remain relevant for the purpose of valuing current flows of goods and services. The Central Bank is unable to rebase real GDP from the 1974 base because of the unavailability of reliable estimates of any of the post - 1974 years that one could consider a year of relative economic stability.

The Bank is therefore collaborating with the BSS to expedite the necessary surveys that would allow 1994 to be used as the base year and to put mechanisms in place to have the base year changed every 5 to 10 years, as is the usual practice. The Bank is also collaborating with a private sector agency to initiate a quarterly survey of business intentions. The results should facilitate the production of a series of leading economic indicators which should help to improve GDP estimates and enhance the forecasting capabilities of the Bank.

5. Conclusion

The debate concerning the best possible division of efforts in information production and dissemination between Central Bank and other public agencies of national statistics is likely to continue for a while yet. As long as key information for monitoring the economic health of their countries are not available in the quality and periodicity required, central banks in developing countries would necessarily be involved in producing a great deal more information than would otherwise be deemed necessary. This paper has outlined the main procedures through which the

Central Bank of Barbados collects, processes and disseminates statistics on the Barbados economy. The challenge is to further develop systems and procedures that will enable the Bank to improve upon the standards of data coverage quality and timeliness.

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Central Bank of Barbados Publications:

Annual Report
Annual Statistical Report
Balance of Payments
Economic Outlook
Economic Review
Economic and Financial Statistics
Press Releases