

Economic Administrative Data Availability and Extraction: the Experience of the Bank of Papua New Guinea

*Gae Kauzi**

Introduction

In addition to the collection of monetary and financial data from commercial banks and financial institutions that the Bank of Papua New Guinea (BPNG) compiles for the analysis of monetary analysis, BPNG also carries out surveys that are not conventionally within the domain of central banks. This is necessary because statistics on the real sector are either not available on a timely basis. Economic administrative data captured in these surveys are processed and analyzed to: tell a story about how the Papua New Guinea (PNG) economy is faring, in respect to a particular economic variable, in a concerned period; and to aid policy decision making of the Bank.

The surveys include the: Business Liaison Survey; Employment Survey; and Retail Price Survey. Each of these surveys and the administrative data involved are discussed in turn in this paper.

Business Liaison Survey (BLS)

Purpose

The purpose of the survey is for the Central Bank to have an indication of what is happening in the real sector in terms of business activity, and ultimately the economy at large. The survey is a source of quantitative data on business (economic) activity in PNG, available at the regional and industrial level. It is a vital source for Gross Domestic Product (GDP) computation and an integral input into the formulation of fiscal and monetary policy.

A survey questionnaire, designed by the Bank, is used to capture some economic administrative data, including the value of company sales (operating income), investment income, extraordinary income, price and volume changes, opening and closing stock, wages and salaries, interest payments, depreciation, and others. Each question is designed to capture an element of value-added out method of GDP. (See questionnaire in the appendix). The questionnaire is modified appropriately to have questions that suit each industry. Initially, the completion of the survey questionnaire by companies was done on a voluntary basis, based on goodwill and trust between the Central Bank and the private sector companies. Later on, the survey came under the Statistical Services Act (Chapter No. 386), whereby all businesses receiving the questionnaire are required by law to provide the requested by specified due date.

* Manager, Research Department, Bank of Papua New Guinea

A guide that contains definitions of terms/concepts and explanation on what each question is about is provided for the companies to use in answering the questions so that the appropriate figures are given and there is consistency in answers for all the responsive companies. The guide also helps the Bank staff in the conduct of interviews and quality check of the figures in the questionnaire.

Process Involved in Compilation

The BLS is carried on a quarterly and yearly basis. It asks a sample of around 500 companies representing 10 of the 12 the industries (by NSO standard industry classification) in the private sector to report their sales, income, cost of wages, interest rate cost, and other related items. In the final analysis it is the sales numbers reported in monetary (kina) terms that are especially used by the Bank. To help ensure that the data quality is good and reflect the actual status of company performance, and the answers are consistent with the general state of an industry or the economy or there may be region specific factors, the Bank carries out half yearly field visits for large companies and yearly field visits for all the companies whereby the graduate staff of both Economics and Research Departments visit the companies in the various urban centres and a two-way interview process is carried out. The Bank staff ask the company representative (usually an accountant) to explain their answers or seek clarifications if something is not clear or does not make sense. The company representative on the other hand asks the Bank officer questions or discusses certain constraints to business, or about the economy in general. This interview is conducted with or without the completed survey questionnaire. If the company has yet to complete the questionnaire, the Bank officer can still visit the company and remind it of the importance of the survey and check on when it might be ready, and discuss business conditions of the company or in general so that when the survey questionnaire is received later, the answers can be appreciated better or queried against what the company representative had said. Often, the questionnaire is completed when the visit is made so the visit is one way of securing a response and increasing the response rate. In a few cases, companies refuse to either complete the questionnaire or to be interviewed but can complete the questionnaire.

There are two parts to the questionnaire, the first about the realized quarter or year and the second on business expectations of the company. The answers for the first part reveals how well the company performed, and therefore the industry, the region and the economy (in aggregate) for a concerned quarter or year, and the answers for the second part indicates how the company expects to perform in the next one year period, therefore the industry. The expectations part helps the Bank in its assessment for the future, especially in its GDP projections for monetary policy formulation.

From the survey form, each company's answer/s is/are inputted into its slot in the database spreadsheet by industry and region. If a company operates in more than one region and is involved in more than one industry, the inputted data would reflect this. Each industry summation of sales of all the companies in that industry and each region summation of sales of all companies operating in that region are then derived. The growth in sales in percentage terms for each industry and each region is then derived when comparing the sales figures for the concerned quarter with the previous quarter or year or corresponding quarter for seasonal comparison to see if there is an increase or decline in sales for each industry and each region. This gives an indication on business sales for each industry. An indication of real activity can be inferred when accounting for price changes, to deduce whether the increase is a price effect or volume effect or both. A response rate of 80 percent or more is aimed at before an analysis of the figures is carried out.

To ensure that the comparisons of two quarters or two years are in order, the sample of companies that responded must be the same for both quarters and years. If a company responded in quarter 1 but did not respond in quarter 2 or the other way around, it is excluded from the sample.

Staff Capability

Staff in the Economic Analysis Unit of the Research Department are trained to record each completed survey questionnaire when it is received, enter the answers into the company's slot in the database spreadsheet and get back to the company concerned if a figure does not make sense. Data may be questioned if they are blank when there had been previous data, they are the wrong sign (e.g., negative profits), if they do not add up properly (e.g., total revenues minus total costs does not equal profits), or if the data appears out of line with historical trends (e.g., sales increased by a factor of 10, when it had previously been stable). Data are aggregated by industry and region and whole economy to attain a growth rate, and ultimately the analysis of the data is used to say something about the industry and region and the economy as a whole. A regular update on the response rate is done. As a rule of thumb, an 80 percent or better response rate is aimed at before a full analysis is made for the Quarterly Economic Bulletin (QEB).

Sample selection

For both the Business Liaison Survey and the Employment survey, the companies are selected using the existing company register, the white pages, and a registry available from the Investment Promotion Authority. BPNG attempts to survey all of the large companies in the economy, based on both employment and revenues, and a random selection of small companies, while aiming for a representative sample for each region and industry and maintaining a sample size around 500 companies. It recognizes that this could introduce some bias into the survey results towards larger

companies; however, it has attempted to balance the cost of sampling small companies with the benefit of arriving at a representative sample. The company sample is reviewed periodically, most recently in 2001 and 2006.

Employment Survey

Unlike in most economies where an unemployment index is calculated to show a trend in unemployment, in PNG an employment index is calculated to give an indication of a trend in employment growth. Given that PNG has a dual economy of the urban formal economy and the rural subsistence economy, where formal employment in terms of hire of labour for a payment of wage takes in the formal sector while in the rural economy people own land and are 'self-employed', it would be very difficult to talk about unemployment rate for the rural population. So instead, an employment index is constructed for the formal private sector.

The employment survey covers the same sample of companies in the private sector that is surveyed in the BLS. The survey asks the companies to simply report the number of employees they employ in a quarter. Just like in the BLS, the answers are given by industry and region of the country. The answers are inputted into the database spread under each company. Each company is categorized into industry and region. The numbers of employees are then aggregated by industry, by region and the private sector as a whole. Percentage changes between quarters are derived for each industry, region and the private sector to give an indication of the performance in employment. As done for the BLS, the comparative samples for the quarters must be the same, that is- the total number of companies that responded in quarter 2 must be the same as those in quarter 1, for the calculation to be made so that we are comparing orange with orange and not orange with apple.

Retail Price Index (RPI)

The Bank also carries out a monthly survey of nine major shops (supermarkets) in Port Moresby. The survey form asks the shops to state their monthly prices of the common grocery items that are included in the Consumer Price Index (CPI) of the National Statistical Office (NSO). The retail price figures are entered on the form through the means of bar codes. These are then sent to the Bank. In addition, the Research Departments receives from the National Statistical Office the weekly prices of the main fresh fruit and vegetables that are included in the CPI basket, and the monthly fuel prices from the Internal Consumer and Competition Commission (ICCC).

The Economic Analysis Unit staff follow up with any of the supermarkets that does not respond in time. Upon receipt of the information, the figures are entered for each consumer item by

supermarket in the database spreadsheet. If there is a high volatility (big changes) in the price of an item, the concerned supermarket is contacted to verify the figures and provide reason for the change. Rarely is it found that the erratic change was due to misreporting. In most cases, verifications and good economic reasons are given. There are various worksheets for the above three different price information., Price growth rates per item and shop are calculated and aggregated into one worksheet. The item weights correspond to the weights in the CPI basket, while the weights for the shops are based on sales data from the Business Liaison Survey. Percentage price changes can be worked for each item, groups of like items and for the overall index between months for Port Moresby.

The purpose of this survey is for the Bank to have a more timely and regular information and indication of price changes of consumer items to aid its monthly monetary policy decision making as the CPI is released by NSO on quarterly basis. Although the information is for Port Moresby only, it is found that there is a strong correlation between the RPI and the CPI (which is for the major urban centres in the country); hence the Bank is comfortable in using the monthly changes in RPI as a good guide to consumer price changes in the economy for monetary policy decisions.

The RPI does not replace the CPI nor is it published by the Bank, it is for internal use only. The Bank is careful on this because its mandated monetary policy objective is price stability and conflict of interest must be avoided.

Dissemination of the Analysis of the Surveys

The findings of the quarterly and annual BLS and the quarterly employment index are reported in the Quarterly Economic Bulletin (QEB) of the Bank of PNG. The QEB informs the public about monetary and financial developments in a quarter, and the BLS and employment index portray what is happening in the real sector for a particular quarter of the year and for a year. These information and analysis are also used in the Bank's six monthly monetary policy statements. The analysis of the RPI is not published in the QEB but is used for the monthly announcement of the monetary policy signaling interest rate, the Kina Facility Rate (KFR).

BPNG efforts do not replace the National Statistical Office as the official source of GDP and CPI. The Treasury Department through the annual budget documents is viewed as the official source of GDP projection for the medium term at the most. Both institutions have embedded in their figures on GDP some results (if not the specifics then the general trend for industries) of the Business Liaison Survey. All in all, there is a three way process of dialogue between NSO, Treasury and BPNG helping each other out in so far as the economic statistics covered in this paper are concerned.

References

Bank of PNG, Various Internal Working Documents, Port Moresby