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# Workshop on national accounts and financial statistics, June 2011

*Phil Briggs and Rochelle Barrow*

The Reserve Bank, in conjunction with Statistics New Zealand, held a workshop in June on New Zealand's national accounts and financial statistics. Discussions centered on potential improvements to the national accounts for New Zealand, measuring GDP, productivity and the government sector's activities, and improving financial statistics. Workshop participants supported the development of a full set of national accounts for New Zealand, including financial accounts, which measure changes in financial assets and liabilities, in order to improve understanding of issues related to saving and wealth. There was also support for household surveys that measure the distribution of assets and liabilities across the population. Work on improving the measurement of output and the productivity of services was seen as vital to maintaining accurate measures of real GDP.

## 1 Overview

On Monday 13 June 2011 a workshop entitled 'New Zealand's national accounts and financial statistics: the way forward' was held at the Reserve Bank. The Reserve Bank organised the workshop, with support from Statistics New Zealand. Section 2 of this article outlines some general issues and conclusions that arose from the workshop. Brief outlines of the workshop presentations are included below in section 3.

In organising the workshop, the Bank had been motivated by three recurring issues relating to New Zealand's national accounts and financial statistics. First, unlike many countries, including Australia, New Zealand currently lacks a complete set of national accounts – the accounts that cover a country's production, income and expenditure, and its stocks and flows of assets and liabilities. In particular, New Zealand does not currently have comprehensive financial accounts for each main sector of the economy, which describe the changes in financial assets and liabilities over time. Aside from providing a more complete picture of a country's wealth, financial accounts can be used to derive an alternative approach to measuring saving for each sector of the economy based on changes in financial assets and liabilities. This alternative measure of saving provides a cross-check on the existing saving calculation – the difference between income and expenditure – in the income and outlay account. The Reserve Bank was therefore keen for an open discussion about what was needed to fill this

gap and what work is currently under way to do so.

Second, despite considerable advances in recent years, the measurement of productivity in the New Zealand economy remains a significant challenge. An area of difficulty is the accurate measurement of the output of a range of service sector industries, including government services and business services. If output in these sectors is not reliably measured, then aggregate GDP and hence the measurement of productivity itself is likely to be found wanting. Keeping abreast of international best practice in this area and distilling the lessons for New Zealand is therefore extremely important.

The third issue relates to the growing need for a new class of statistics commonly referred to as 'macro-financial' statistics. Macro-financial statistics are those used to assess risks to a country's financial stability, including those that arise due to high levels of indebtedness, inadequate liquidity, under- or over-valued asset prices and so forth. In addition, macro-financial statistics can be used to assess current financial stability. While some of these needs are already met from existing statistics, there is a need for further development in this area. Many countries are continuing to expand their macro-financial datasets over time.

Reflecting the interest in these issues, the presentations at the workshop covered the present state of national accounts in New Zealand, how New Zealand's accounts compare with those for Australia, improving financial statistics, measuring

## Box 1

### The System of National Accounts

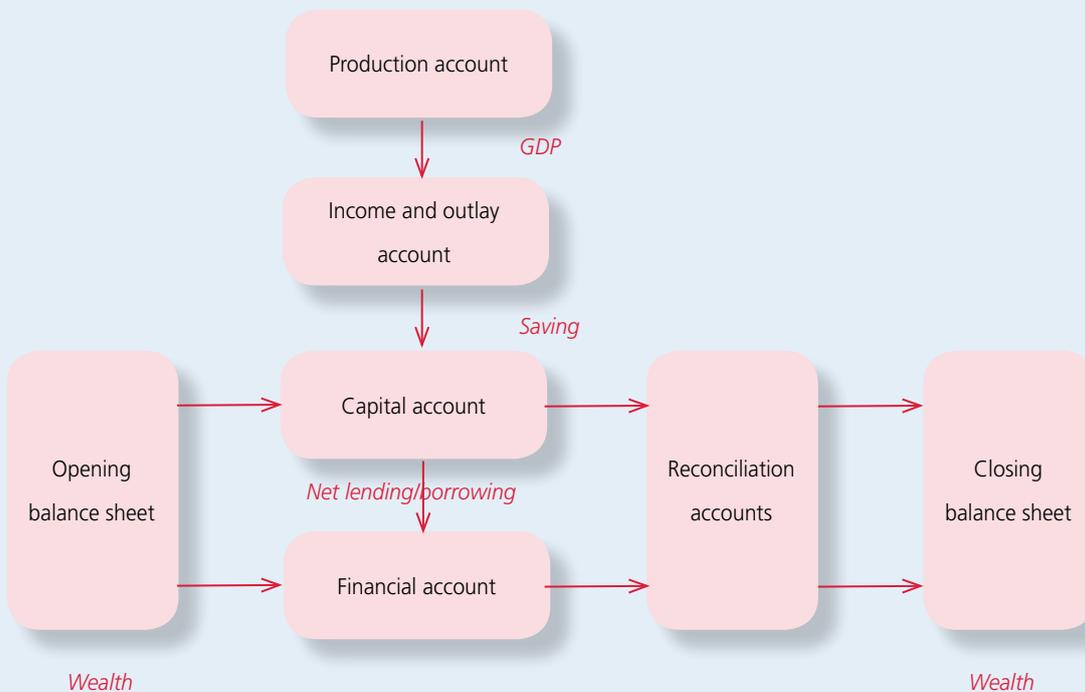
The internationally agreed System of National Accounts<sup>1</sup> consists of a set of inter-connected accounts, each of which reflect the major economic processes occurring in the economy within a given period of time, together with balance sheets that record the values of assets and liabilities at the beginning and end of the period.

Each account captures information on a particular economic process. These economic processes (production, income distribution, consumption, saving and investment) reflect the key economic flows. Each account is balanced by an item derived residually as the difference between the total supply and use of resources recorded in the two sides of the account. These balancing items are carried forward from one account to the next, thereby establishing important links between the economic processes.

The accounts include:

- A production account, which records the current value of goods and services produced and the costs associated with that production. A key item measured in the account is value-added or gross domestic product.
- An income and outlay account, which records the initial receipt of factor incomes and the subsequent redistributive flows not associated with production. Saving is the residual.
- A capital account, which records the net transactions in non-financial assets and shows whether this capital expenditure is financed from saving generated within the current period or from borrowing.
- A financial account, which records the changes in financial assets and liabilities that underlie the other current and capital transactions.

Figure 1  
The System of National Accounts



<sup>1</sup> See IMF (2007) 'The System of Macroeconomic Accounts Statistics – An Overview', Washington DC, available at <http://www.imf.org/external/pubs/ft/pam/pam56/pam56.pdf>

- A reconciliation account, which records changes in the values of assets and liabilities arising out of price changes and other revaluations.
- A balance sheet, which records the net worth, being the difference between the value of the stock of assets and liabilities.

The balancing items themselves are usually of considerable economic interest and analytical significance, such as value-added, saving and net lending. There is a strong link between the various accounts and the balance sheet for the economy or sector of the economy in question as all the changes that occur in assets and liabilities held by economic agents are recorded in one or other of the accounts. For example, the closing balance sheet will reflect the opening balance sheet adjusted to reflect the various transactions recorded across the sequence of accounts, along with revaluations of assets and liabilities via the reconciliation account.

GDP and productivity, and measuring the government sector's activities. The workshop was attended by around 60 people from commercial banks, academia, and economic consulting agencies, together with the Treasury, the Reserve Bank, and Statistics New Zealand.

## 2 Key Learnings and future initiatives

Workshop participants saw the most important issues as being those related to the measurement of indebtedness and productivity, although one participant also drew attention to the ongoing importance of climate change with respect to macroeconomic activity.

With respect to the indebtedness issue, there appeared to be a general consensus that New Zealand should have a full published set of national accounts. These would include, for each sector of the economy: production accounts, income and outlay accounts, capital accounts, financial accounts, reconciliation accounts and balance sheets (see box for a description).

Statistics New Zealand released updated institutional sector accounts in late 2010, which include production accounts, income and outlay accounts, and capital accounts. While workshop participants saw this as a welcome development, it was felt that the remaining accounts, including balance sheets, should also be developed for each sector. This view is in line with that of the Savings Working Group, which in its report of early 2011 recommended that the full sequence of accounts be prepared for each institutional sector.<sup>2</sup>

There was also a view at the workshop that having balance sheet data would enhance the monitoring of the financial position of various sectors, especially the non-financial corporate sector.

The workshop noted discussions earlier this year between Statistics New Zealand and the Reserve Bank where it had been agreed that Statistics New Zealand will take the lead on estimating the real components of balance sheets (i.e. buildings and equipment) with the Reserve Bank focusing on the financial accounts and the financial components of balance sheets (deposits, bonds, loans, etc). Alas, the Christchurch earthquake, and its impacts on Statistics New Zealand's operations, had precluded work on real assets from occurring.

However, the Reserve Bank is undertaking a feasibility study on the preparation of financial accounts and flow of funds statistics, and Reserve Bank staff reported on this work at the workshop. Flow of funds statistics show the financial links between sectors of the economy. In particular, for each type of financial instrument, they show the sector issuing the instrument (the sector with the debt) and the sector holding the financial instrument (the sector with the asset). Flow of funds statistics would show, at a sectoral level, 'who borrows from whom'. The Reserve Bank expects to report on the feasibility study in early 2012 and Statistics New Zealand is supporting the work as best it can, given difficulties created by the earthquakes.

<sup>2</sup> Savings Working Group (2011) 'Reducing vulnerabilities and barriers to growth and prosperity', available from: <http://www.treasury.govt.nz/publications/reviews-consultation/savingsworkinggroup>

Table 1

Availability of sectoral national accounts data

| Sector/account                    | Production account | Income and outlay account | Capital account | Financial account | Reconciliation accounts | Balance sheet       |
|-----------------------------------|--------------------|---------------------------|-----------------|-------------------|-------------------------|---------------------|
| Producer enterprises              | Available          | Available                 | Available       | Not available     | Not available           | Not available       |
| Financial intermediaries          | Available          | Available                 | Available       | Not available     | Not available           | Not available       |
| General government                | Available          | Available                 | Available       | Not available     | Not available           | Not available       |
| Not for profit serving households | Available          | Available                 | Available       | Not available     | Not available           | Not available       |
| Households                        | Available          | Available                 | Available       | Not available     | Not available           | Partially available |
| Rest of world                     | Not applicable     | Available                 | Available       | Available         | Available               | Available           |

Key

|                     |                     |
|---------------------|---------------------|
| Available           | Available           |
| Partially available | Partially available |
| Not available       | Not available       |
| Not applicable      | Not applicable      |

Financial accounts and flow of funds data would not only help to improve measures of saving, they would also show the exposure, in terms of debt, of each sector relative to other sectors. In the wake of the global financial crisis, international agencies like the IMF have stressed the importance of countries having data like this. This data also aids the development of financial soundness indicators, which were discussed at the workshop.

Another aspect of the indebtedness issue that was discussed was the need to measure the distribution of assets and liabilities across the population. Hence there was support for undertaking surveys like the survey of family income and employment (SoFIE), which collected data on households' assets and liabilities.

Moving on to the measurement of productivity, participants noted the growing share of services activity in GDP in most developed economies. Given the difficulty measuring service industries, it was acknowledged that as the share of services within the economy increases, measures of GDP can become

less accurate. Statistics New Zealand outlined the work it has been doing with respect to measuring services, including its work on the education sector. A significant problem is how to account for changes in the quality of services. In addition, some sectors, such as business services, are made up of hugely different sub-sectors. For example, business services include both cleaners and engineering consultants. Hence, some sectors have to be disaggregated into small sub-sectors and appropriate output indicators found for each of these sub-sectors. Statistics New Zealand described how they were keeping up with the work being done overseas on measuring services output, and especially with the work being done in the UK.

An issue that was touched upon at the workshop was the difference between the nominal measures of GDP in Australia and New Zealand. A presentation from the Australian Bureau of Statistics suggested that Australia's move to use the latest international guidelines for compiling national accounts, SNA08, meant that nominal GDP was

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estimated to be 5 percent higher than under the previous methodology. New Zealand is currently using the 1993 version of the SNA and is working to introduce some improvements to the compilation of nominal GDP prior to the adoption of SNA08. One of these is to allocate banks' service charges to industries. This is likely to have an upward impact on the measure of nominal GDP.

With regard to macro-financial statistics, the Reserve Bank noted that it is aiming to produce more publications on data methodology issues and is monitoring international developments closely. The Reserve Bank is also undertaking work to harmonise its current data collections. With respect to prudential public disclosure, the use of the IMF's financial soundness indicators are expected to aid understanding and international comparisons of data. New initiatives at the Reserve Bank are also expected to include establishing a security-by-security database covering the New Zealand capital market.

Overall, the workshop was a useful occasion to discuss statistical needs and possible future developments regarding macroeconomic and financial data.

### 3 Brief Outlines of the Presentations<sup>3</sup>

#### International directions and user needs,

*Jeff Cope, Statistics New Zealand*

Demands for macroeconomic statistics will change over time, but when demands exceed resources, priorities have to be set. The response to increasing statistical demands in New Zealand has generally been 'adequate', but factors such as globalisation, financial innovation and methodological changes continue to place pressures on the suppliers of statistics. International discussion is focusing on the ideal composition of a 'core' set of economic statistics. Reactions to the global financial crisis have so far included the development of additional business cycle indicators and improved structural data (such as sectoral balance sheets and flow of funds statistics). New measures are also needed

to complement GDP and provide more balanced indicators of welfare and the environmental balance. Key gaps in the New Zealand data include quarterly data on services and profits, and better data on saving, investment and wealth.

#### National accounts and financial statistics

*Rochelle Barrow, Reserve Bank of New Zealand*

The underlying international framework for macroeconomic statistics is the system of national accounts (SNA), New Zealand does not have a full set of SNA accounts by sector. Missing are financial accounts, reconciliation (or revaluation) accounts, and balance sheets (although the Reserve Bank produces a partial balance sheet for households). A full suite of sector accounts would deliver more consistent estimates of saving, and also data on financial flows, revaluations and wealth. These accounts would show how the financial sector is linked to the real, or productive, sector of the economy. They would play a part in maintaining international confidence in the state of the New Zealand economy and its operation. The Reserve Bank is working with Statistics New Zealand to assess the feasibility of producing sector financial accounts and flow of funds statistics, and is working on a security-by-security database for New Zealand's capital markets.

#### National accounts and financial statistics – an Australian perspective

*Ian Ewing, Australian Bureau of Statistics, presented by Jeff Cope*

By world standards, Australia has a rich set of macroeconomic statistics, with quarterly data on expenditure, income and production measures of GDP and a full set of sector accounts (other than balance sheets, which are produced annually). The ABS uses a contemporary methodology (SNA08), with bank service charges allocated to industries and adjustments made for the hidden economy. The benefits include the ability to model the impact of external shocks or government policy changes on the economy. The presentation also discussed an alternative measure of national income, which adjusts Gross Domestic Income for changes in net worth. This has been useful for tracking

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<sup>3</sup> Full presentations are available from: <http://www.rbnz.govt.nz/research/workshops/13jun2011/index.html>

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the impact of the global financial crisis on the Australian economy. The paper notes that of the G20 countries, all of the advanced economies have financial balance sheet data, while nearly all of the emerging economies do not. The presentation noted that users of financial accounts for Australia include the Commonwealth Treasury, the Reserve Bank and the commercial banks. Some criticisms of Australian macroeconomic statistics were also outlined along with some responses and planned developments.

### **Measurement issues and policy – the IIP, current account and saving**

*Stephen Toplis, Bank of New Zealand and member of Savings Working Group*

Data on New Zealand's negative net international investment position and persistent current account deficits indicate that New Zealand should aim to increase its level of national saving. A problem is how to increase household saving and government saving at the same time, given that they tend to move in opposite directions. Measures of government saving are probably fairly accurate, but there is a difficulty in separating private sector saving into its business and household components due to the retained earnings of closely held companies. Better data on the shape and form of household savings is needed. In recent years, the growth in household wealth has been driven by housing revaluations, and hence may be illusory or open to correction. Also, business saving has had too little attention. Better data is needed on returns to investment, especially for smaller businesses, since the saving issue is closely related to whether businesses are investing poorly or not. There is a need for better data on overseas assets and liabilities held by New Zealand individuals and small companies, and for better data on the housing market. The presentation touched on the recommendations of the Savings Working Group, which included a call for a full set of sectoral SNA accounts, and for a new longitudinal survey to replace SoFIE.

### **Flow of funds and financial accounts**

*Phil Briggs, Reserve Bank of New Zealand*

The first part of this presentation outlined the purpose of

SNA financial accounts and flow of funds statistics. For each sector of the economy, financial accounts show net transactions in various types of financial assets and liabilities. They can be used to derive an alternative measure of saving for each sector from that usually estimated from its income and outlay account, thereby providing cross-checks on how accurate these accounts are. The flow of funds approach extends financial accounts, linking changes in assets in a sector with changes in liabilities in other sectors, with one of these sectors designated as the 'rest of the world'. The second part of the presentation looked at inter-sectoral financial claims data in Australia and compared these with preliminary estimates for New Zealand. A sector has a financial claim on another sector if it has lent to the other sector, or if it holds equity in the other sector. In Australia, the household sector has a net claim on the financial corporate sector, while in New Zealand the financial corporate sector appears to have a net claim on the household sector. The difference is largely due to assets in pension funds. The third part of the presentation outlined a feasibility study currently being undertaken by the Reserve Bank of New Zealand on whether it would be possible to produce financial accounts and flow of funds statistics for New Zealand on a regular basis.

### **Successfully measuring New Zealand's economic performance**

*Rachael Millicich, Statistics New Zealand, and Jude Hughes, Statistics New Zealand*

Delivering statistics, including national accounts data, is becoming more complex, with social and environmental issues needing to be increasingly considered. The business of statistics involves delivering timely data of acceptable quality at low cost. The presentation reviewed progress since the review of macroeconomic statistics in 1991. The priority one developments recommended at that review have been delivered, along with most of the priority two developments. Priority two developments that have not been delivered include sectoral financial accounts and balance sheets, annual input-output studies, gross output indexes for quarterly GDP, and backdating of the quarterly

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expenditure measure of GDP to 1977. Statistics New Zealand considers the quality of New Zealand's macroeconomic data suite to be fit for purpose taking into account the datasets in other OECD countries. However, a gradual expansion of the dataset is expected over the planning horizon to 2020. This presentation also outlined the framework for analysing productivity and recent and current work on measuring the output of services.

### **Measuring government**

*John Janssen, The Treasury*

Statistics are required to measure the role and impact of government in the economy as well as its financial performance. A complete set of national accounts for the government sector (showing links to other sectors, and better measures of real outputs from the sector are highly desirable. Measuring financial performance is not straightforward, given that three accounting approaches are currently used: Generally Accepted Accounting Practice (GAAP), the System of National Accounts (SNA) and Government Finance Statistics (GFS). GFS is the approach recommended by the IMF, and in principle is in line with the SNA. Past attempts to reconcile the GAAP accounts with Statistics New Zealand's SNA accounts have proven challenging due to various factors. The Treasury and Statistics New Zealand are currently working together on producing a full set of GFS accounts and it appears likely that it will be easier to reconcile these GFS accounts with the SNA than to reconcile GAAP with the SNA.

### **Macro-financial statistics**

*David Hargreaves, Reserve Bank of New Zealand*

Macro-financial data is used for two basic functions. The first is assessing risks to financial stability, ie, assessing the risks of having problems with regard to credit or liquidity. This involves assessing the size of possible shocks to credit, and movements in asset prices. The second function involves using data to assess current financial stability. Such data includes, for example, series on equity prices and equity market volatility. Various data, which would have been very useful, were unavailable prior to, and during, the financial crisis. At the global level, the development of financial instruments (like CDOs, SIVs, and CDSs) had moved faster than financial statistics. However, most of these 'innovations' had not spread to New Zealand. During the crisis, the Reserve Bank's wide responsibilities meant that it had multiple sources of information on domestic and overseas economic conditions, bank and non-bank balance sheets, government finances and other financial market variables. Judgement was required in bringing this data together and making sense of it.