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Editorial Committee

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Editor's note

This issue of the *Bulletin* reflects something of the diversity of the Reserve Bank's responsibilities and interests.

The question of how best to handle bank failures has been thrown into stark relief again by the financial crises of the last few years. Each bank failure differs, but in many cases authorities want to be able to keep a failed bank functional, while being appropriately wary of the costs and risks associated with government recapitalisations. In our lead article, Ian Woolford and Kevin Hoskin explain the Open Bank Resolution (OBR) model that the Reserve Bank has been developing. OBR is designed to provide a credible option that would enable the core functions of a failed bank to be maintained, while ensuring that as far as possible the costs and risks of a bank failure are borne by the shareholders and creditors. For the OBR option to be able to be used, banks' operating systems must have the capability to freeze a portion of funds in customers' accounts whilst providing immediate access to the remaining portion. The Reserve Bank is requiring all registered banks with retail funding of over \$1 billion to pre-position their internal systems in this way.

In our second article, Christie Smith summarises the policy forum, *New Zealand's macroeconomic imbalances – causes and remedies*, organised by the Treasury, the Reserve Bank, and Victoria University earlier this year. The well-attended two-day conference was intended to try to shed fresh light on issues such as New Zealand's heavy net dependence on foreign debt and equity and its persistent relatively high real interest rates, and to pose the question of what, if any, policy framework changes might improve these outcomes, and, in turn, lift New Zealand's longer-term growth prospects.

The issuance of physical currency (notes and coins) is one of the Reserve Bank's core responsibilities. Kristin Flavall outlines recent developments in the currency area, including data on demand for currency and on the incidence of counterfeiting. Despite continuing technological advances, the public's holdings of physical currency have risen by 27 percent over the last five years. The article also reports on some interesting survey results, which shed light on the way in which New Zealanders use notes and coins, and indicate that people are generally happy with the quality of the currency.

What happens in the housing market matters to the Reserve Bank in a number of ways. Big swings in house prices, of the sort seen in the last decade, can exaggerate fluctuations in the overall economy, by influencing households' perceptions of wealth. And housing represents the largest chunk of the collateral against which banks have lent on. We reproduce here the Reserve Bank's recent submission to the Productivity Commission, which is undertaking an inquiry into housing affordability. In that submission, we encouraged the Commission to focus on changes that would mean that the supply of new housing was more responsive to the inevitable fluctuations in demand, leaving New Zealand less exposed to large swings in house prices.

Finally, Phil Briggs and Rochelle Barrow report on a workshop hosted by the Reserve Bank earlier in the year on New Zealand's macroeconomic and financial statistics, which involved both users and producers of statistics. The workshop highlighted significant areas where New Zealand's data could usefully be improved over the medium term, to enrich the quality of analysis and of policy making in New Zealand.

Michael Reddell

For the Editorial Committee



ARTICLES

A primer on Open Bank Resolution

Kevin Hoskin and Ian Woolford¹

The Reserve Bank supervises registered banks with the objective of promoting the maintenance of a sound and efficient financial system and avoiding significant damage to the financial system from the failure of a bank. While the Reserve Bank designs its prudential supervision to reduce the risk of banking failure, bank failures remain possible. It is therefore essential that there are robust processes in place to manage bank failures to minimise the costs and disruption to the financial system and the wider economy, whilst minimising the cost to the taxpayer of doing so. This article outlines the work that the Reserve Bank has been doing to implement its Open Bank Resolution (OBR) policy to meet these objectives, and explains how the policy would affect different parties were it necessary to use it in practice.

1 Introduction

The global financial crisis has highlighted the enormous fiscal cost governments can incur in providing financial support for troubled banks. A major challenge for policy-makers is how to limit the disruption of a bank failure on the economy whilst minimising the overall cost to the taxpayer. At the same time, it is important that resolution options do not erode market disciplines on bank creditors to act prudently in their dealings with the bank. The Reserve Bank first began considering options for responding to a bank failure following the 1997 Asian financial crisis. This work led to the development of the Open Bank Resolution (OBR) and other supporting policies.² OBR is a tool that would enable the failure of a large bank to be managed without many of the disruptions and stresses to the banking system and economy that would be caused by allowing conventional failure regimes (ie, liquidation) to operate.

This article provides an outline of the OBR policy and its implications for stakeholders.

2 Implications of a bank failure

Businesses can fail for a variety of reasons. Indeed, in a well-functioning economy, normal competitive pressures will lead to the demise of less efficient or effective firms over time. While the failure of any firm will be disruptive for its direct

stakeholders, in most instances it does not create significant problems for the wider economy, with the failed firm simply passing into liquidation or being acquired by a stronger rival.

However, a bank failure can have more wide-reaching implications for the economy than the failure of most other firms, particularly if the bank is large. In any modern economy, banks are a conduit for numerous financial contracts that must be honoured and renewed over time to enable the economy to function properly. A bank failure can cause major upheaval for significant numbers of individuals and businesses if they suddenly find themselves unable to access their funds, make payments, or draw on their existing credit lines. In the event that the bank was subject to a standard liquidation process, it could be many months or years before any remaining value in the business could be released to depositors and other creditors. In the interim, the bank's closure would most likely be extremely disruptive for the economy.

In principle, liquidation of a major bank could be avoided if the failing bank was acquired by a rival institution or new entrant. Whilst there have been examples of large financial institutions acquiring rivals, one large bank may be unable or unwilling to rescue another without public support, particularly given that a failure is more likely to occur during times of wider market distress. Acquisition may be particularly problematic in the case of New Zealand, where the banking sector is dominated by a small number of relatively large institutions.

The primary objective of OBR is to ensure the continuation of the core banking functions of the distressed bank – in a

¹ The authors are grateful to Toby Fiennes, Ian Harrison, Bernard Hodgetts, Michael Reddell and Grant Spencer for valuable comments.

² The OBR (then referred to as Bank Creditor Recapitalisation) was described in detail in a paper by Harrison *et al* (2007).

manner that limits the cost to the taxpayer – until its future can be resolved. In the absence of viable alternative solutions there will be strong pressure on governments to provide ‘bail-outs’ to distressed banks, which can result in large fiscal costs and can create an expectation of public support. The resulting ‘moral hazard’ can damage incentives on bank management to operate in a prudent manner, and reduce the incentive for creditors and depositors to scrutinise their bank’s affairs. OBR helps to address these concerns in that it improves the ‘resolvability’ of banks, making it possible to impose losses on owners and creditors. Furthermore, it is consistent with wider international efforts to develop effective failure resolution frameworks.³

3 The OBR policy

The Reserve Bank’s OBR policy is an important part of the toolkit for responding to a bank failure in New Zealand. It is designed to allow a distressed bank to be open for business on the day after the bank is placed under statutory management. Compared to other failure resolution processes, this has the advantage of allowing customers to gain access to most of their account balances and to other banking services without material disruption. It would also have the benefit of enabling the bank to continue to operate while an appropriate long-term solution is identified. This, in turn, would help to preserve the remaining value of the bank relative to a situation where it was forced to close its doors (as may be expected in a liquidation or receivership).

A bank may be placed into statutory management on the advice of the Minister of Finance following a recommendation of the Reserve Bank. This reflects the reality that placing a bank into statutory management deprives the owners of control of their business. Moreover, while the OBR is a Reserve Bank policy, bank failures often involve risk to the taxpayer and their resolution – of whatever shape or form – tends to take on a ‘whole-of-government’ dimension. The reasons for making such a recommendation are prescribed in the Reserve Bank of New Zealand Act and include a bank

being insolvent, or being operated in an imprudent manner, or that its circumstances pose a threat to the soundness of the system. Once the decision has been taken to put a bank into statutory management, the primary objectives of OBR are to:

- Ensure that, as far as possible, any losses are ultimately borne by the bank’s shareholders and creditors consistent with the legal obligations they entered into.
- Provide a mechanism to enable the bank’s customers (individuals and businesses) to continue to have access to most of their deposits (and to other banking facilities like transactions facilities) so as to reduce the disruption to the economy that would otherwise occur.
- Enable the core of the bank to be kept as intact as possible to minimise disruption to the payments system and wider banking system.
- Ensure that an urgent desire to avoid economic disruption does not dictate how the important matter of loss allocation is determined; ie, to ensure the government is not forced to bail out the bank simply because there are no acceptable alternatives.
- Preserve any remaining franchise value in the business to maximise the exit options.

Under OBR, shareholders are the first to bear the bank’s losses, followed by its subordinated debt holders. If there are any remaining losses, these are then allocated to the bank’s unsecured creditors, including its depositors. A proportion of each unsecured creditor’s funds would be frozen (and therefore inaccessible) based on a conservative assessment of the potential for losses by the failed bank. This estimate would include a suitable buffer to allow for the inevitable uncertainty around the final size of any loss. The frozen funds would be available to the statutory manager to apply against the bank’s losses. Once the initial frozen proportion had been determined, no further funds would be frozen even if the bank’s financial position was to deteriorate further.

An important advantage of OBR over some other resolution options is that customers would be able to access the unfrozen portion of their funds immediately after the bank

³ See, for example, the BIS report on ‘Resolution Policies and Frameworks’ www.bis.org/publ/bcbs200.htm The Reserve Bank’s OBR policy is broadly consistent with the recommendations contained in this report.

was placed in statutory management. In practical terms, the unfrozen funds would be available from the start of the following banking day. The unfrozen portion of funds would be supported by a government guarantee. This support would be expected to significantly reduce incentives on customers to withdraw all of their remaining funds, but there would be no restrictions on them doing so. The Reserve Bank would provide liquidity support to ensure that the affected bank could meet customer demands for funds.

In addition to gaining access to the unfrozen portion of their funds, the intention under OBR would be to ensure that existing customers continue to have access to other banking services, such as the ability to make payments. This might also include ongoing access to their existing credit facilities. However, the statutory manager (possibly on the direction of the Reserve Bank) would need to reach decisions about the terms and conditions under which new deposits would be accepted and any credit facilities were supplied. These decisions would take into account the likely impact on the economy, the effect on the bank's future prospects, and any additional fiscal risk for the Crown.

An essential requirement to be able to implement an OBR is that the banks' operating systems have the capability to freeze a portion of funds in customers' accounts whilst providing immediate (ie, next day) access to the remaining portion. The Reserve Bank is requiring all registered banks with retail funding of over \$1 billion to pre-position their internal systems to be able to give effect to the policy.⁴

Significant work has been undertaken in recent years to ensure that the structures of financial institutions in New Zealand and key payment systems are consistent with the implementation of OBR. Reserve Bank policies such as outsourcing, local incorporation and governance – while important in their own right – were designed to be consistent with the implementation of the OBR.⁵ In particular, these policies were designed to help ensure that the New Zealand subsidiary of an overseas parent bank would have the stand-

alone functional capability to remain open for business even if the parent itself was closed.

The key elements of the OBR process are presented in figure 1 in stylised form overleaf.

The OBR itself does not resolve the future of the bank or allocate final losses. Rather, it is a mechanism that ensures ongoing liquidity for creditors whilst the government determines the appropriate exit strategy. In this regard, it is likely to be materially less disruptive than liquidation or receivership would be. Furthermore, the process of freezing and releasing portions of creditors' claims has no impact on the ranking of creditors that would apply in a conventional liquidation. The impact on each class of creditor is discussed in detail below.

4 The OBR and stakeholders

This section discusses the implications for various groups of stakeholders once a bank that is subject to the OBR process reopens for business. Figure 2, overleaf, provides a stylised representation of the bank's balance sheet after the initial assessment of losses has been undertaken and a proportion of creditors' claims have been frozen.

The following sections provide more detail on the impact on each stakeholder and an explanation for the reasons for their respective treatments.

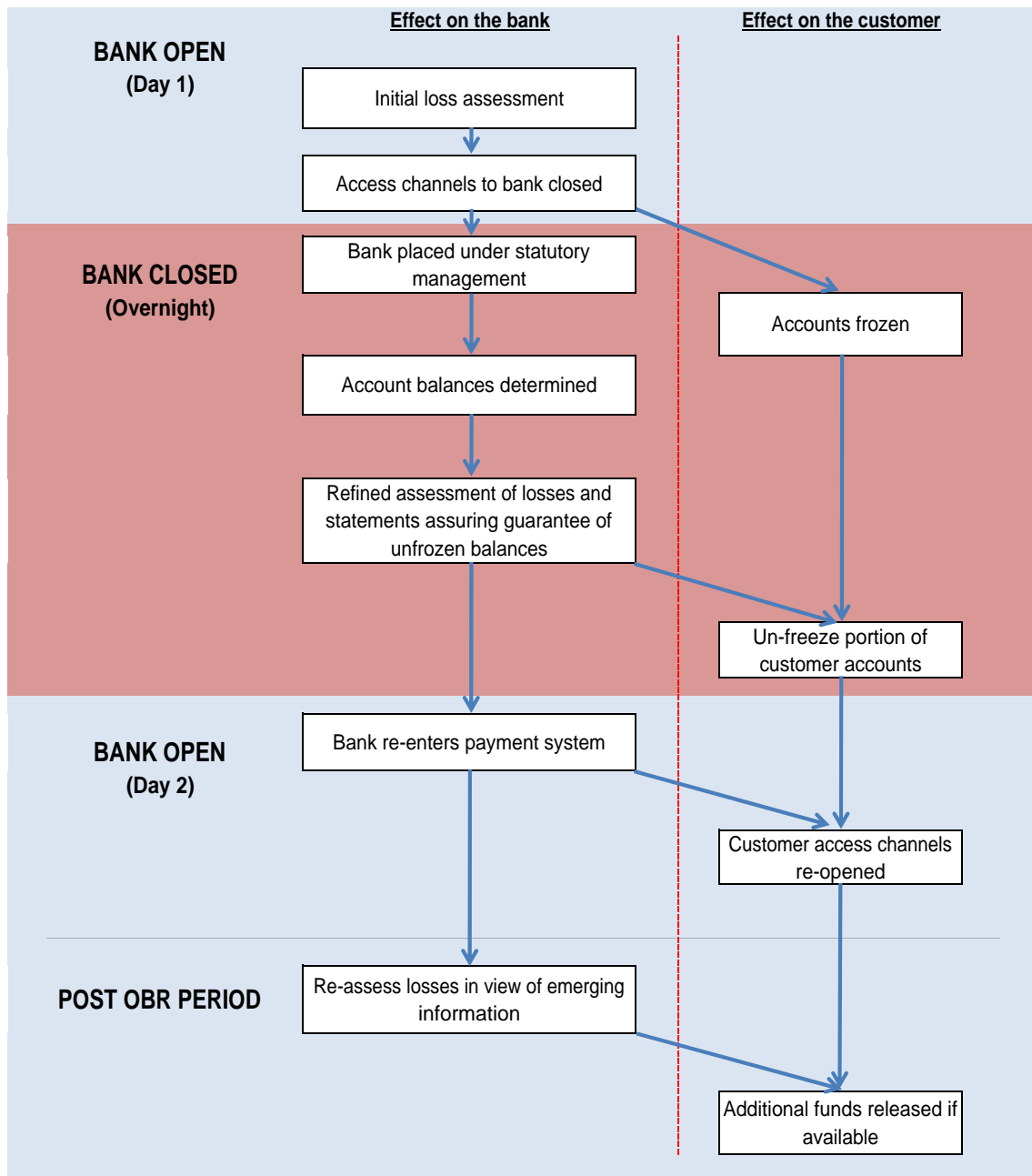
Bank owners and shareholders

One of the advantages of the OBR is that it reduces the moral hazard that is created when there is an implicit assumption that public support will be provided to troubled banks. This can mean that the owners, shareholders (and creditors) enjoy the full benefits of good performance, while not necessarily bearing the full consequences of poor performance. As a result, it can generate incentives for excessive risk taking, with negative consequences for the financial stability of the wider economy, especially where shareholders assume or believe that should things go wrong public funds will be used to 'bail them out'. This is sometimes referred to as 'privatising the gains and socialising the losses'.

⁴ See <http://www.rbnz.govt.nz/finstab/banking/4335146.pdf>

⁵ See Chetwin (2006) 'The Reserve Bank's local incorporation policy', 69(4) *Reserve Bank of New Zealand Bulletin*, and RBNZ 'Outsourcing policy' <http://www.rbnz.govt.nz/finstab/banking/regulation/bs11.pdf>

Figure 1
Stylised example of the OBR



The OBR is designed to ensure that owners and shareholders bear the first loss in the event that the bank fails. There will have been opportunities for the existing owners and shareholders to provide additional capital or other support to the bank before the decision is taken to activate the OBR policy. In effect, the activation of OBR means that the existing owners of the bank have become unwilling or unable to support the bank themselves, or obtain support from a third party without public assistance. Without such assistance, the bank could be expected to fail. As a result,

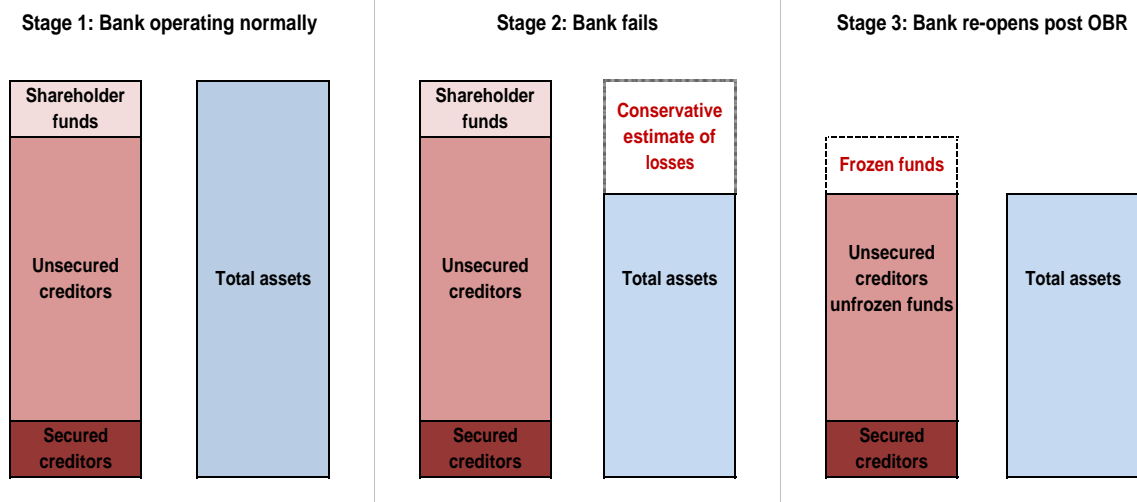
it is expected that their economic interest in the institution is fully extinguished at the point the bank enters the OBR process.

Subordinated creditors

OBR is not intended to alter the ranking of stakeholders relative to a conventional liquidation. Accordingly, any creditors of the bank that are legally subordinated (ie, a claim that ranks after all other claims in the event the bank fails) should expect to have their claim extinguished before

Figure 2

Initial impact of OBR process



any losses are incurred by the rest of the bank's creditors. Subordinated creditors would retain a residual interest only in the event other creditors were able to be fully repaid with a surplus available.

Unsecured creditors

Unsecured creditors include a wide range of individuals and entities. At one end of the spectrum, there are large international financial institutions that invest in debt issued by the bank (commonly referred to as wholesale funding). At the other end of the spectrum, are customers with cheque and savings accounts, and term deposits.

Whilst there are differences between different classes of unsecured creditors, they all have the same legal claim on the bank. Each has freely invested in a private institution and has enjoyed a return on that investment whilst accepting the risks associated with the investment. Under the OBR, it is expected that all unsecured creditors would be treated equally with the same proportion of claims remaining frozen for all depositors and creditors. The only difference in treatment will be the speed with which each class of investor is able to access the unfrozen portion of their claim.

The pre-positioning of customer accounts (such as transaction and savings accounts) means that they would have access to a significant proportion of their funds the day after the bank fails. This, in turn, would reduce the social and economic costs of failure. Holders of term deposits would be expected to have access to the unfrozen portion

of their funds upon maturity.

It is important to note that while the OBR has not been designed to pre-position the same functionality for wholesale funding, holders of the bank's unsecured wholesale debt will face the same proportion of losses as other customers. Wholesale investors are usually large institutions, and can generally be considered to be much better placed than retail customers to manage a delay in accessing the good portion of their claim, and as such the costs of requiring pre-positioning for these investors are not considered to be justified.

Secured and preferred creditors

Secured creditors include those with a legal priority over the bank's assets. The OBR process should have no impact on the ranking of creditors. Secured creditors would look to their security in the first instance to meet their claims on the bank.

Government and taxpayers

The OBR is designed to ensure that depositors have on-going access to banking services and as much of their cash as possible. For this objective to be met, other parties in the financial system must be able to transact with the bank with confidence upon its reopening. To ensure that this confidence is maintained, it is essential that the assessed good portion of all funds, and any new obligations entered

into by the statutory manager, are backed by a government guarantee for the period in which the bank remains under statutory management.

These factors combined mean that the government (and by extension taxpayers), are bearing the risk that the initial assessment of losses is not sufficiently conservative. Public funding would therefore be required to make up any shortfall in meeting the guaranteed portion of depositors' funds. For this reason, the initial assessment of the proportion of funds that needs to be frozen to cover losses will be conservative to give comfort that there is sufficient headroom over estimated losses.

Exiting OBR

OBR is not designed to determine how the bank failure should ultimately be resolved, but to create time for a full analysis of the appropriate course of action to be determined. While the initial portion of the creditors' claims that are frozen puts a ceiling on their final losses, their actual losses may be less than this if it turns out that the estimate of the losses was too conservative. Once the affairs of the bank have become more certain, the statutory manager has the capacity to return a portion of the frozen monies to depositors. Therefore, creditors could well regain access to much of their frozen funds once the bank's losses are determined.

Ultimately, the resolution of the bank will fund the unfrozen liabilities. This may be achieved through a number of means, including:

- liquidation and sale of assets;
- takeover by another bank or repurchase by parent group; or
- restructure for continued operation as a stand-alone bank.

The final exit strategy would be determined on a number of factors, with market conditions, the viability of the entity, and other commercial factors playing an important role in the final decision.

5 Conclusion

While rare, bank failures can happen, and can be enormously costly and disruptive. The global financial crisis has renewed the focus on finding resolution mechanisms to deal with failed banks that do not involve heavy recourse to the taxpayer (ie, taxpayer-funded bail-outs). The OBR policy is an important component in the toolkit of resolution options, and one that is in keeping with international developments.

The OBR has several noteworthy features, including:

- facilitating the resolution of the bank without material recourse to the taxpayer;
- strengthening incentives on bank management and creditors to operate in a prudent manner, thereby reducing the probability of failure;
- providing a way to minimise the disruption that would occur to customers and the wider economy from the closure of a bank; and
- providing customers with continued access to most of their funds (the unfrozen portion), supported by a government guarantee.

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Conference summary: New Zealand's macroeconomic imbalances – causes and remedies

Christie Smith

This article reports on a policy forum sponsored by the New Zealand Treasury, the Reserve Bank of New Zealand, and Victoria University of Wellington on New Zealand's macroeconomic imbalances. Chief among these imbalances is New Zealand's large stock of net foreign liabilities, but there are also recurrent concerns about high domestic interest rates, the high exchange rate, and about New Zealand's relatively poor growth performance. The forum highlighted that both private and public sectors contribute to imbalances, and canvassed a wide array of policies that might help reduce the vulnerabilities that these imbalances entail. Such policies include directly improving the government's net saving, and using policies to influence private sector saving and investment behaviour.

1 Introduction

On 23-24 June 2011, the New Zealand Treasury, in conjunction with the Reserve Bank of New Zealand and Victoria University of Wellington, hosted a conference titled 'New Zealand's macroeconomic imbalances – causes and remedies'. The conference was attended by a broad spectrum of policy-makers, journalists, academics, and other economists.

Three eminent macroeconomists, Prof. Craig Burnside of Duke University, Prof. Sebastian Edwards of the University of California-Los Angeles, and Prof. Philip Lane of Trinity College Dublin, were commissioned to present papers investigating the causes of, and remedies for, New Zealand's macroeconomic imbalances. Supporting presentations were given by Dr Peter Jarrett of the Organisation for Economic Cooperation and Development (OECD), Prof. Prasanna Gai of the University of Auckland, and Anne-Marie Brook of the New Zealand Treasury. The papers and comments by discussants are available at <http://www.treasury.govt.nz/publications/research-policy/conferences-workshops/macroeconomicimbalances>.

The conference focused on two objectives: i) to identify the reasons for macroeconomic and financial imbalances in New Zealand and the vulnerabilities that arise from these imbalances, and ii) to identify policies and policy frameworks that could unwind or manage the imbalances, or improve cyclical performance. The wider context included trying to understand how macroeconomic imbalances might have influenced longer-run growth outcomes in New Zealand.

This article briefly describes the macroeconomic imbalances

in section 2 and covers further insights from the conference about the sources of the imbalances in section 3. Section 4 then summarises the speakers' policy prescriptions to reduce macroeconomic vulnerabilities and improve cyclical and long-run macroeconomic outcomes. Concluding remarks are presented in section 5.

2 What macroeconomic imbalances?

For most of the last 60 years, New Zealand has run large annual current account deficits.¹ Current account deficits imply that the public and private sectors of New Zealand have collectively been investing more than they have been saving, and hence have been borrowing from foreigners, or selling assets, to meet the shortfall. New Zealand's current account deficits have been quite sizable relative to income (gross domestic product, GDP). These current account deficits have cumulated into a large net foreign liability position.²

Relative to most other developed countries, New Zealand has a large stock of net foreign liabilities. The net stock of liabilities is now primarily a private sector phenomenon; over time, the private sector in New Zealand has been investing more than it saves. Figure 1 depicts the current account

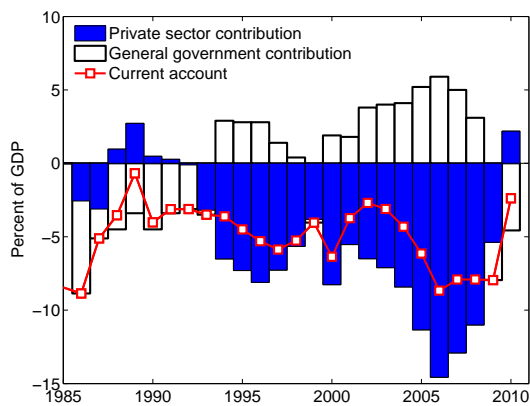
¹ Since 1951, New Zealand has had just seven annual current account surpluses, the last of which was in 1973.

² Steenkamp (2010) provides a cross-country perspective on New Zealand's macroeconomic imbalances, while André (2011) provides a New Zealand-specific analysis.

and illustrates the public and private sector contributions to the current account balance. The general government contribution is approximated using the net change in government borrowing/lending and the household contribution is computed as the difference between the current account balance and the government contribution.

It is important to note that New Zealand's private sector investment as a share of gross domestic product has not been particularly high relative to other countries. The investment-saving imbalance thus reflects low private saving rather than high rates of investment. Data on private households show that New Zealand household saving (as a proportion of disposable income) has been very low – possibly even negative – for an extended period of time.

Figure 1
Current account and fiscal deficits



Source: OECD, Statistics NZ; author's calculations

Policy-makers worry about macroeconomic imbalances because they may hamper New Zealanders' ability to consume goods and services in some 'states of the world'. If foreigners were no longer willing to lend to New Zealanders or if income failed to eventuate as originally expected, then New Zealand households would have to materially alter their consumption patterns to pay off their debts as they fell due. Funding problems such as these would result in a painful period of economic adjustment as some goods and services were no longer demanded, requiring labour and capital to be reallocated from one activity to another. Such adjustment is not seamless and may result, for example, in elevated levels of unemployment. The welfare or consumption consequences of rises in unemployment fall particularly heavily on those people who lose their jobs, which is one

reason why there are social welfare systems to share the burden across society as a whole.

The cross-country picture is reversed when we focus on the public sector – the New Zealand government currently has a comparatively low level of net indebtedness relative to most other governments. However, there has been substantial variation in the level of New Zealand's fiscal deficits over the last two decades and hence large changes in public indebtedness (again, see figure 1). The New Zealand government ran fiscal deficits between 1978-79 and 1993-94 and annual surpluses from 1994-95 until the beginning of the global financial crisis (GFC). Over the last decade, net core crown debt relative to GDP declined until 2007-08 (see figure 1.21, 2011 Budget Economic and Fiscal Update), but has since increased. The Treasury's latest forecast is for net debt to peak below 35 percent of GDP and for the government to return to surplus in 2014-15.

Although New Zealand public debt is quite low relative to GDP, foreign investor sentiment is still important for the New Zealand government's ability to fund its activities. Non-residents currently hold almost 60 percent of New Zealand government securities (bonds and bills). Even though the outstanding stock of public debt is relatively small and the average maturity of the outstanding debt has lengthened, this debt still makes the New Zealand government vulnerable to external funding shocks that affect foreigners' willingness to lend or invest in New Zealand.

The bulk of New Zealand's private sector liabilities are in the form of debt, and most of this debt is mediated through the banking system.³ New Zealand banks fund a substantial portion of their lending by borrowing foreign currency from international wholesale markets. The banks then hedge the foreign exchange risk associated with borrowing in foreign currency and lending in New Zealand dollars (NZD). As a result, New Zealanders' liabilities are effectively in the form of NZD loans and their NZD value is not directly vulnerable to changes in the exchange rate. Given that there has been substantial variation in the level of the NZD since it was first floated in 1985, it is unsurprising that New Zealand financial institutions (and the ultimate New Zealand borrowers) want

³ See Philip Lane's paper for a cross-country perspective on debt levels.

to have (effective) NZD liabilities rather than foreign currency ones.

The contribution of (the level of) the exchange rate to macroeconomic imbalances remains a point of controversy. In recent years the NZD has attained cyclical highs, and is considered by a number of commentators to be overvalued, contributing to low growth in the tradable goods sector. Commentators on the other side of the debate note that commodity prices and the terms of trade are also near historical highs.

As we finish this section, it is worth highlighting one further, related issue – why are New Zealand income levels now so much lower than those of other developed countries? One possible area of concern is that New Zealand real interest rates have been higher than those observed overseas, and these high rates of interest may have discouraged investment and hence capital growth. High interest rates may reflect concerns about New Zealand's creditworthiness, and its ability to repay the large stock of external debt, or may simply arise out of sustained high domestic demand for credit. Connections between growth and macroeconomic imbalances are revisited later in this article.

3 What did we learn about New Zealand's macroeconomic imbalances?

Sebastian Edwards opened the conference by characterising an 'unofficial-official' narrative of New Zealand's recent macroeconomic experience. This narrative was based on his discussions with government officials and others during a visit to New Zealand in early 2011. Edwards' unofficial-official narrative emphasised loose fiscal policy during the middle of the last decade, resulting in tight monetary policy to curb inflationary pressure. In this narrative, high domestic interest rates prompted a capital inflow, causing the exchange rate to appreciate and remain high for an extended period of time. The capital inflows, intermediated by the banking system, contributed to increased house prices. The counterparts of the capital inflows were current account deficits, which expanded New Zealand's net foreign liabilities.

Edwards' characterisation of the unofficial–official story returns us to the growth/macro-imbalance nexus mentioned at the end of the previous section. Some commentators suggest that the high exchange rate has reduced New Zealand's growth performance by placing downward pressure on tradable goods sector activity relative to the non-tradables sector. Although virtually all goods and services embody both tradable and non-tradable inputs (Obstfeld and Rogoff, 1997, pp. 202-3), firms participating in exporting generally have higher productivity. In Edwards' words "[t]his means, then, that the sectors with the fastest rate of innovation and efficiency gains are stagnating. This, in turn, has implications for growth and well being."

Edwards' paper does not make explicit the inefficiency or distortion that might cause private sector investors to focus too heavily in the production of non-tradables goods and services – given that productivity in the tradables sector is thought to be higher on average, presumably offering higher returns. There are at least two links in this chain. Is the exchange rate mis-priced or overvalued? (If so, why?) And are firms misallocating resources – producing too many non-tradable goods and not enough tradables – in response to the level of the exchange rate? Economists conventionally think of decision-makers as making decisions to maximise their own welfare. In this particular instance, are there reasons to think that the private benefits and costs that decision-makers face diverge from the social benefits and costs, causing inefficient resource allocations? (If so, what are those reasons?)

Edwards performed an empirical cross-country analysis of exchange rates for small commodity-exporting economies. This analysis enabled him to examine the responsiveness of the exchange rate to interest rates (one part of the policy mix) and commodity prices (an important driver of the exchange rate). Broadly speaking, Edwards found that the exchange rates of the commodity countries in his analysis responded to similar forces, suggesting that the behaviour of New Zealand's exchange rate is in some sense fairly normal.

Edwards' empirical model of the exchange rate indicated that New Zealand's trade-weighted real exchange rate would depreciate by 8 percent if the differential between New Zealand and US interest rates declined to a level equivalent

to the average Australian-US differential. However, his empirical analysis did not identify what measures, or how large a change in fiscal policy would be required to sustainably reduce New Zealand interest rates.

Edwards was not, however, entirely convinced that the high real exchange rate caused the relative reduction in tradable activity. Edwards provided a disaggregated index of competitiveness to illustrate that inefficiencies in the non-tradables sector may also play an important role in hampering New Zealand's export competitiveness.

Edwards' discussant, Dr John McDermott of the Reserve Bank of New Zealand, touched on several themes. First, McDermott noted that Edwards' unofficial-official view did not identify all of the important elements driving the last business cycle. For example, the boom in house prices dated back to 2002, preceding the loosening of fiscal policy in the middle of the decade. To attribute to fiscal authorities a strong causal role in stimulating the recent business cycle was not entirely accurate, though fiscal developments clearly contributed later. (Other discussants mentioned additional factors not captured by Edwards' unofficial-official narrative; see below.) Second, McDermott noted that the drive for efficiency was not solely a non-tradable concern, but remained relevant for both the tradable and non-tradable sectors of the economy. The third observation that McDermott made was that movements in the real exchange rate should reflect both relative productivity (which has trended down in New Zealand for several decades) and the terms of trade (which since about 1985 has broadly trended up). Edwards' empirical model omitted relative productivity, and this omission might affect his results.

The second paper presented at the conference, by Dr Peter Jarrett of the OECD, focused on the role of housing and provided interesting cross-country evidence on New Zealand investment. First, Jarrett's data confirmed the strength of the increase in house prices between 2002 and 2008, with investment in real construction shrinking markedly following the global financial crisis. Jarrett looked at many housing-specific features, such as land availability, house size, the responsiveness of the construction sector, and so forth. Second, Jarrett illustrated that New Zealand household savings rates as a proportion of gross disposable

income have been very low, and the private sector has been the main driver of the large current account deficits. New Zealand household debt (relative to gross disposable income) has climbed higher than levels in other Anglo-Saxon economies, even as debt levels in those countries rose. Third, New Zealand's residential investment rates seem quite high relative to other OECD countries, but this largely reflects strong population growth, including high net migration in the early part of the decade.

New Zealand's business investment as a proportion of GDP has generally been a little low relative to other OECD countries. In contrast, Australia's business investment has been a very large proportion of GDP. As Australia has many similar characteristics to New Zealand (culture, geographical location, colonial history, etc), it is natural to try to identify what factors explain the different investment rates in New Zealand and Australia. Jarrett cited New Zealand Treasury analysis that illustrated that the effective tax rate on owner-occupied housing in New Zealand was zero, whereas the marginal tax rates on other asset classes rose to nearly 50 percent, depending on the income tax bracket of the owner. The tax system may thus have a material effect on the composition of New Zealand investment.

In his discussion of Peter Jarrett's paper, Michael Reddell suggested that the huge increase in net immigration early in the last decade was the major precipitating driver of the upswing in house prices. Reddell also suggested that the policy change that resulted in a large increase in gross inward migration since the early 1990s may have exacerbated imbalances, and helped to explain New Zealand's failure to close the income gaps between New Zealand and other advanced economies. He argued that high rates of investment were required to maintain capital-labour ratios given high levels of immigration, and that high interest rates and a persistently high real exchange rate may have contributed to holding down rates of investment and, hence, per capita GDP growth. However, one of the distinguishing characteristics of open economies is that domestic investment and domestic savings do not need to equate – ie, it is possible to finance higher investment by running current account deficits. An important question for the Reddell story is to explain why cross-border financial

capital mobility failed to maintain the physical capital-labour ratio at an appropriate level. Further, the endogenous growth and economic geography literatures both emphasise that there can be positive spillovers from size and connectedness that result in greater technological progress and hence growth, although there are few empirical results from the literature relevant to cross-country income comparisons.

In the next keynote speech, Craig Burnside applied the toolbox of modern finance to address two questions: i) what might explain New Zealand's high interest rates? And ii) can high interest rates explain low levels of investment and hence low growth in New Zealand?

Burnside suggested that New Zealanders were charged high interest rates because New Zealand assets provided a low foreign currency return to foreigners in times of financial stress, precisely when foreign lenders most valued returns. Foreign lenders' valuations (their 'stochastic discount factor') matter for returns, because they are the marginal suppliers of loans to New Zealanders. The low foreign currency return from New Zealand assets arises because the New Zealand dollar tends to depreciate when returns are most valued by foreign investors. Consequently, foreign investors demand a premium to lend to New Zealanders as compensation for this risk.

In Burnside's analysis, the ostensibly high ex-post interest rates on New Zealand assets reflect a small sample problem – the sample data on interest rates and exchange rates may not contain enough 'extreme' but low-probability events (such as the global financial crisis). The absence of such extreme events in the data biases one's perspective on the level of New Zealand's interest rates relative to those observed overseas.

To explain the high ex-post returns, foreign currency returns from New Zealand assets have to be negatively correlated with the global investor's stochastic discount factor. Since New Zealand is a small part of the world economy, it is implausible to think that New Zealand shocks can affect the stochastic discount factor of foreigners. Burnside's rationalisation of these facts is that rare foreign shocks cause the NZD to depreciate (reducing the foreign currency return) precisely when returns are valuable to the foreign investor.

New Zealand and Australian interest rates have both been high relative to interest rates in the US, Japan or Europe. Consequently, Burnside also argued that high New Zealand interest rates did not simply represent compensation for a New Zealand-specific risk factor.⁴

As mentioned above, Jarrett's presentation noted that business fixed investment has been very high in Australia. Burnside concluded that, since the behaviour of interest rates in New Zealand and Australia had been broadly similar, differences in Australasian investment rates had to be driven by some other, non-interest, factor.

Burnside's discussant, Christoph Thoenissen, Associate Professor of Economics at Victoria University of Wellington, focused directly on why New Zealand and Australian exchange rates might depreciate in the face of a global shock. Thoenissen noted that, if all countries were alike, then a global shock might conceivably leave exchange rates unchanged. There must therefore be some heterogeneity between New Zealand/Australia and the rest of the world to motivate the depreciation of the NZD in times of financial stress. Thoenissen suggested three possible factors: the Australasian countries are both commodity exporters; they have low saving rates; and they have persistent current account deficits.

Prasanna Gai's presentation was next in the programme, but as it was focused on the macro-prudential policy debate, discussion is deferred until the next section.

Philip Lane's keynote paper proceeded in two parts. The first part of Lane's paper examined New Zealand's international investment position and current account in the context of cross-country experience following the global financial crisis. The second part of the paper explored policy options, and these too are discussed in section 4. Lane's policy advice was heavily influenced by Ireland's experience in the wake of the global financial crisis.

Lane began by noting that countries with large current account deficits and large domestic credit booms generally

⁴ **The financial systems of both countries are highly integrated and this might explain the common treatment of New Zealand and Australia, but it still would not explain the covariance with the global investor's stochastic discount factor.**

had bigger recessions and bigger falls in domestic demand in the wake of the crisis. A key empirical feature, post Global Financial Crisis (GFC), was the substantial reduction in trade for all countries and compression in current account deficits, with some countries even swinging into current account surplus.

Lane highlighted three features: New Zealand has a high level of net external liabilities; has run large current account deficits; and had a substantial boom in private domestic credit relative to GDP during the first decade of the millennium. Lane also placed the spotlight firmly on the composition of New Zealand's external liabilities, noting that prior to the GFC there was a substantial increase in New Zealand's net indebtedness, and only a modest improvement in New Zealand's net equity position.

Lane noted that New Zealand's growth and consumption performance following the GFC was better than most other countries with similar-sized debt positions or current account imbalances. Lane observed that the flexible exchange rate regime, independent monetary policy, fiscal stimulus, and hedged exchange rate risk had all helped New Zealand to weather the global financial crisis. However, he remained sceptical that these features would, by themselves, ensure future resilience, given the large stock of external liabilities.

The last paper of the conference was presented by Anne-Marie Brook of the New Zealand Treasury. Her paper focused squarely on fiscal policy and examined options to improve the contribution of fiscal policy to macroeconomic stabilisation 'in the next upturn'. Much of the paper was devoted to explaining the evolution of fiscal policy during the 2000s, and deriving policy lessons from that experience. As in Edwards' unofficial-official narrative, a central theme in Brook's paper was that loose fiscal policy had created inflationary pressure elevating interest rates and the exchange rate, worsening the current account. A key policy issue that Brook identified is that a government debt target might be achieved during an upswing in the business cycle, making it difficult to convince politicians and the public that they should 'bank' any revenue windfall. The array of policy options investigated by Brook is discussed in the next section.

Like John McDermott before him, Brook's discussant, David Plank of Deutsche Bank, noted that the boom in the 2000s preceded the expansionary fiscal policy shocks that took place in the middle and latter stages of the decade. The policy issue that Plank thought was most notable was the slow response of the Reserve Bank to the housing market and the rise in non-tradable inflation in 2003. Plank also highlighted the savings lens of the current account, and suggested that large current account deficits could occur even when interest rates and the exchange rate were both low (or vice-versa). The cross-country evidence on the effects of fiscal shocks on the real exchange rate is also subject to empirical and theoretical controversy; see Benetrix and Lane (2009).

4 What policies should be brought to bear on macroeconomic imbalances?

Edwards' unofficial narrative highlighted a 'perverse' policy mix of loose fiscal policy and tight monetary policy. The natural solution to this problem is to tighten fiscal policy – reducing expenditure or increasing taxes – thereby enabling looser monetary policy.

Fiscal consolidation was an important recommendation highlighted by the Savings Working Group.⁵ In the January 2011 report titled 'Saving New Zealand: reducing vulnerabilities and barriers to growth and prosperity', the Savings Working Group recommended a return to fiscal surplus in the order of 2-3 percent of GDP. The Savings Working Group also recommended a variety of policies designed to influence household savings and investment behaviour, including tax reform to broaden the tax base and to reduce distortions (such as those associated with inflation), and various recommendations about Kiwisaver, the New Zealand Superannuation Fund, the development of financial markets, etc.

Edwards agreed that fiscal consolidation was 'eminently reasonable', but argued that fiscal issues were only part of the problem. Like the Savings Working Group,

⁵ See <http://www.treasury.govt.nz/publications/reviews-consultation/savingsworkinggroup>

Edwards argued that New Zealand needs to address the private sector's incentive to save. Further, he advocated microeconomic reform to improve competitiveness. Edwards also suggested that further analysis was needed to better understand the impact of policies, and to identify the mix of policies that would give 'the most bang for the buck'.

Edwards suggested that the policy debate with regard to macroeconomic vulnerabilities should be cast in terms of an 'insurance' framework. The essence of insurance is that premiums are paid in good 'states of the world' (my house has not burned down) and insurance payouts then help to mitigate 'bad states' (my house has burned down). Good prospective policy interventions will contribute in one of three ways. They will:

1. reduce the probability of bad states of the world and the resultant periods of painful adjustment;
2. reduce the costs of bad states of the world; and
3. appropriately share the burden of these costs, for example, by creditors, debtors, bank shareholders, insurers, and also taxpayers.

This insurance framework – if interpreted broadly – encompasses most of the policies that are available to counter 'macroeconomic vulnerability'.

Insurance usually takes place through explicit financial contracts that match insurance premiums to insurance payouts. One possibility mentioned by Edwards is that the New Zealand government could produce a variation on so-called 'catastrophe bonds'. In catastrophe bonds, a payoff is activated when a particular catastrophe occurs (such a bond is said to be 'state contingent'). For example, catastrophe bonds could be used to deal with natural disasters of a given magnitude, such as a large earthquake or a cyclone.⁶ Edwards noted a suggestion by Ricardo Caballero and others that bonds could be issued that are indexed to the terms of trade, since movements in the terms of trade would affect fiscal revenue.

⁶ Reconstruction following New Zealand's 2010-11 earthquakes in Christchurch is largely being funded by foreign reinsurance of claims against domestic insurers and government funding of infrastructure.

Financial contracts such as those described above will only make sense as insurance devices if the price of the insurance is sufficiently close to being efficient/fair. Roughly speaking, the insurance premium should equal the payout, times the probability of the payout. The global financial crisis and the recent earthquakes in Christchurch highlight that both the cost and the probability of a payout can be difficult to determine a priori. This problem pervades macroeconomic policy choices. Consequently, it is difficult to know what size premiums we should be prepared to pay. It may also be difficult to know what outcomes would have occurred in the absence of a particular policy choice, making it difficult to know how large a premium is implicit in a given policy. For example, a policy that reduces credit growth may increase financial stability, but it may come at the cost of slower capital investment and growth.

In the absence of efficient insurance markets, self-insurance may be preferable. Rather than taking on board explicit financial contracts, individuals can choose to 'pay the premium to themselves', accumulating assets in good times in order to run down assets in bad times. Likewise, prudent fiscal authorities might choose to pay down outstanding liabilities or accumulate assets in good years in order to have the financial resources to be able to deal with bad future events. Accumulating assets to fund expenses arising from a future natural disaster is an example of a self-insurance strategy.

Access to lines of credit provides another way to stabilise expenditure patterns. Access to credit ensures that consumption can still be undertaken when times are bad. Edwards suggested that one possibility would be to sign up for an International Monetary Fund flexible credit line.⁷ Similarly, Lane noted that New Zealand could pre-position credit lines, such as foreign currency swap lines.⁸ The use of credit or debt can be thought of as a mechanism to trade off consumption at different points in time. Of course, if a shock is particularly severe or long-lasting, then some change in behaviour will ultimately be required.

⁷ See <http://www.imf.org/external/np/exr/facts/fcl.htm>
⁸ Since New Zealand banks hedge their foreign currency obligations, in times of financial stress they require NZD liquidity to support New Zealand asset values. If necessary, NZD liquidity could be supplied by the Reserve Bank.

Edwards briefly touched on a range of other policy options including the possibility of raising more foreign exchange reserves, macro-prudential policies aimed at financial institutions, and international capital controls. Edwards was agnostic about the appropriate level of foreign reserves and supportive of the development of macro-prudential policies, but he suggested that capital controls were likely to be of questionable effectiveness.

Philip Lane's policy discussion focused on four broad areas: monetary policy, macro-prudential financial regulation, structural economic policies and fiscal policy.

With respect to monetary policy, Lane saw no reason to question the inflation-targeting regime with floating exchange rates that currently prevails in New Zealand. Lane did note that exchange rate intervention could play a short-term role in restoring exchange rate stability if short-term speculative pressures were pushing the exchange rate to excessively strong or weak values. However, he also noted that "currency intervention has no influence over the medium-term trend for the exchange rate, such that the impact of persistent external imbalances cannot be undone through this type of policy".

In relation to structural policies, Lane noted that vulnerabilities were moderated if trend economic growth was higher. Policies to enhance growth are thus important to reduce macroeconomic vulnerability. Lane also noted that having flexible labour markets that enabled adjustment of real wages may also be important, to regain competitiveness in the event of economic shocks.

The bulk of Lane's policy advice focused on fiscal policy and fiscal institutions. Like Edwards, Lane supported fiscal consolidation, noting that it was very important for fiscal policy to preserve medium-term fiscal sustainability by ensuring that the level of public debt converges on a 'safe' low level.

Lane also suggested that fiscal policy had a role in addressing external imbalances. He made three main points:

1. Fiscal policy can (amongst other objectives) target the external account to avoid the emergence of excessive imbalances.
2. Fiscal interventions can facilitate adjustment of the external balance to a sustainable level (if an imbalance already exists).
3. Fiscal policy can play a central role in crisis management.

Given that much of the net foreign liability position reflects private sector indebtedness, it might seem a bit backhanded to highlight fiscal consolidation to offset the imbalance.⁹ However, reflecting the Irish experience, Philip Lane noted that there are important dependencies between the public and private sector. In Ireland's case, major banks failed and the government chose to bail out depositors. Whether this was an appropriate policy response is still up for debate, but it does illustrate that private sector financial problems can quickly end up on the public balance sheet. Further, an economic slowdown as the result of a private sector downturn will also affect fiscal revenues, worsening any pre-existing fiscal imbalances.

Lane also noted that the interdependence between public and private sectors runs both ways. If the government accumulates assets, then this implies a reduction in future tax obligations (unless future tax expenditures are also increased). Private sector individuals may respond to higher future disposable income by increasing debt to fund current expenditure. The current account will only improve overall if the increase in public sector saving exceeds the decline in private sector saving.¹⁰ Empirical evidence from Lane and Milesi-Ferretti (2011) suggests that the offset is not perfect – the current account and the fiscal balance appear to move together.

Lane noted that intertemporal models of the current account show that temporary changes in government consumption can affect the current account balance. Likewise, empirical evidence shows that a reduction in government spending improves the trade balance.¹¹ To implement fiscal

⁹ Edwards also noted that it was important to reduce distortions and encourage greater savings. Designing the incentives to get private sector agents to reduce their indebtedness may of course be rather challenging.

¹⁰ Ricardian equivalence is the proposition that, for a given path of government expenditure, changes in public and private saving might offset each other perfectly. See Seater (1993) for discussion of why Ricardian equivalence might not hold.

¹¹ See Benetrix and Lane (2009), Lane and Perotti (1998) and Beetsma *et al* (2009).

consolidation, Lane suggested that a 'rainy day fund' could be instituted to invest in liquid assets to cope with any crisis that impedes a government's ability to borrow. As Lane pointed out, an inherent problem with such funds, or with fiscal policy that seeks to stabilise the business cycle, is knowing when contributions or payouts are truly warranted.

Lane suggested that changing the composition of fiscal expenditure – reducing the demand for non-tradables – can help to reduce the relative price of non-tradables, and hence depreciate the real exchange rate. Again, some empirical evidence is consistent with this claim.¹²

Finally, Lane advocated a formal fiscal framework with numerical rules to guide overall fiscal policy, and a monitoring role for an independent fiscal council of the sort adopted recently in many developed countries. Such a council would be responsible for providing impartial advice on the medium-term sustainability of fiscal policy and on the macroeconomic stabilisation properties of proposed fiscal paths.

In his discussion of Lane's paper, Dr Norman Gemmill, of the New Zealand Treasury, made several observations about Lane's fiscal policy advice. First, he agreed that it was appropriate to have a low, medium-term debt target. Second, Gemmill noted that the optimal level of external imbalances was far from obvious, and a proper cost-benefit analysis of proposed policies would be required – to avoid paying an excessive premium in the context of Edwards' insurance framework. Lastly, Gemmill agreed that there was a need for better institutional mechanisms to guide fiscal policy. However, he was sceptical that an independent fiscal council would survive a cost-benefit analysis.

Craig Burnside covered similar ground to Edwards and Lane with his policy prescriptions. In brief, he suggested that fiscal policy should aim to reduce the stock of outstanding debt; policies that favour increased private saving should be continued or extended; and tax policies should be amended so that housing is not favoured over other asset classes. Christoph Thoenissen made similar policy recommendations about the tax treatment of saving and investment in housing.

Anne-Marie Brook's paper considered institutional mechanisms that could be introduced in New Zealand to reduce the political incentives for procyclical fiscal policy. She considered an array of options including: a sharper mandate in the Public Finance Act relating to the macroeconomic dimensions of fiscal policy stability; multi-year spending caps; more explicit de-linking of expenditure decisions from revenue out-turns; tax policy reform; the introduction of an independent fiscal council; and the possibility of a stabilisation fund.

In his comments on Brook's paper, David Plank was supportive of changes to the Public Finance Act to improve the mix of stability and sustainability objectives for fiscal policy. He also noted that the New Zealand Superannuation Fund (designed to deal with the rising superannuation payments stemming from demographic changes) could also be used as a stabilisation fund of sorts – akin to Lane's rainy day fund – particularly if contributions were varied over the business cycle.¹³ In the context of insurance, such funds offset the costs arising from bad states of the world.

Professor Prasanna Gai of the University of Auckland discussed the debate about macro-prudential policy and its implications for New Zealand. The connection to macroeconomic imbalances is that private sector debt makes up a large proportion of New Zealand's net foreign liabilities, and such debt is mediated through the financial system. As Jarrett discussed, the expansion of domestic credit played an important role in driving up New Zealand house prices (and perhaps other financial asset prices too). Furthermore, any macroeconomic disruption or crisis can have a material effect on the financial system, as witnessed recently during the global financial crisis.

Gai noted that macro-prudential policy was generally considered to be system-wide prudential policy. Macro-prudential policies are concerned about the cross-sectional resilience of the financial system – the possibility that problems in one financial institution may affect others, particularly the financial system as a whole – and about 'procyclicality'. Procyclicality is the concern that

¹² See Ricci *et al* (2008), Galstyan and Lane (2009), Lane and Perotti (2003), Beetsma *et al* (2009), and Benetrix and Lane (2009).

¹³ Brook noted that, given its different purpose, a stabilisation fund might need to hold a more liquid portfolio of assets relative to the portfolio held by the New Zealand Superannuation Fund.

developments in financial markets might amplify cyclical fluctuations in the real economy.

The standard presumption in economics is that markets will provide optimal allocations of goods and services when private agents pursue their own interests. However, this presumption will no longer be true if a variety of assumptions do not hold. In particular, if there are externalities – costs borne by others and not by the decision-maker – resources might not be allocated in a socially optimal way.

Gai noted that individual financial agents may not take account of the spillover effects of their own actions on the stability of the financial system. For example, an asset fire sale may cause dramatic declines in asset values, which may adversely affect the net worth of other firms and perhaps also their ability to access credit. Such costs will not be internalised by the firm selling the assets. As Gai noted, the traditional solutions to externalities are taxes or constraints to realign private decisions with socially optimal outcomes.

Macro-prudential policy can involve instituting stronger rules at times the financial system appears overheated (such as a countercyclical capital ratio) or tougher rules for systemically important financial institutions. The Reserve Bank has been developing a framework to consider the degree of ‘cyclical stretch’ in the financial system, and the scope for macro-prudential policy in the New Zealand context (see e.g. Ha and Hodgetts, 2011). The debate on macro-prudential tools is ongoing, and the international community is still in the process of developing a benchmark set of macroprudential policies. In the interim, the Reserve Bank of New Zealand has instituted a ‘core funding ratio’, which limits commercial banks’ exposure to short-term funding from wholesale financial markets.¹⁴

Gai noted two recommendations provided by staff of the International Monetary Fund (IMF): ‘[authorities should] consider the merits of gradually raising bank capital to levels well above the Basel III requirements’ and ‘[s]taff recommended explicitly including funding risk in future scenarios, encompassing a disruption to bank funding and a large increase in longer-term interest rates’. Higher bank capital provides a larger buffer to absorb the loan losses that

might arise in bad states of the world. Consequently, the potential cost to depositors and to the government from financial failures will also be reduced. Bank capital ratios in New Zealand have been increasing, well ahead of the Basel III implementation timetable, and the Reserve Bank has indicated that it wants this progress to be maintained (see the May 2011 *Financial Stability Report*).

Prof. Gai’s discussant, Dr Toni Gravelle of the Bank of Canada, took up two areas related to the IMF recommendations. He described the Bank of Canada’s efforts to incorporate funding risks into its stress testing and he discussed efforts to minimise the fiscal costs of bank failures by having credible failure resolution mechanisms. Lane, too, noted the need for well organised resolution regimes for financial institutions to avoid excessive costs to governments from financial distress. The Reserve Bank has taken steps in this direction, releasing a consultation paper on ‘Open Bank Resolution’ in March 2011.¹⁵

A final point to note, from Philip Lane, is that financial regulation of financial intermediaries on its own is insufficient to tackle external imbalances, since non-bank corporations and governments may accrue external liabilities directly. New Zealand banks currently play a central role in intermediating funds from abroad, but they may be displaced from this role if bank-based intermediation becomes too costly as a result of regulatory pressures.

6 Conclusions

One of the goals of the June conference was to identify macroeconomic imbalances, and develop our understanding of their more intrinsic features. The conference was successful on this front, helping to deepen our understanding of the imbalances by illustrating the interdependencies between private and public sector decisions, and the intertemporal nature of all debt-related decisions.

The second objective was to propose policies and policy frameworks that might help to remedy the imbalances. The New Zealand macroeconomic policy framework was considered to be broadly sound and there was no consensus

¹⁴ Details of the core funding ratio can be found at <http://www.rbnz.govt.nz>

¹⁵ See <http://www.rbnz.govt.nz/finstab/banking/4430900.html>

that a radical overhaul of the macroeconomic policy framework would improve macroeconomic outcomes. However, the conference did identify a wide range of policies that could affect macroeconomic imbalances, ranging from fiscal policy and fiscal institutions, structural policies aimed at growth, through to macro-prudential policies aimed at influencing the behaviour of financial institutions.

Much work remains to be done to identify specific policies that would improve outcomes. There was, however, a consensus that fiscal consolidation – paying down public debt and perhaps ultimately accumulating assets – would be beneficial, given ongoing global uncertainties and concerns about New Zealand's sovereign credit rating. However, New Zealand's external imbalances are deeply connected to private sector behaviour, and policy-makers must therefore also consider the incentives faced by households and firms to save and invest.

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Recent trends and developments in currency – 2010/2011

Kristin Flavall

This article reviews trends in the use of currency in New Zealand and reports developments of particular interest. The value of currency in circulation continues to grow, and there was a spike in the demand for cash after an earthquake hit Christchurch, one of New Zealand's largest cities. Coin demand also increased due to an increase in the Goods and Services Tax (GST) rate. New Zealanders use currency frequently for lower value transactions and are satisfied with its quality. The rate of counterfeiting is low in New Zealand by international standards. To maintain the quality of circulating banknotes, the Reserve Bank continually destroys and replaces ageing banknotes.

1 Introduction

One of the Reserve Bank's core functions is to supply the economy with currency, which comprises banknotes and coins. The Reserve Bank has the sole right to issue New Zealand physical currency and it is our obligation to maintain the supply, the quality, and the integrity of our currency. To do this, we closely monitor trends in demand for notes and coins. We also undertake banknote processing, both to maintain a high quality standard and to check the authenticity of notes in circulation. This article describes recent trends and developments in New Zealand's currency.

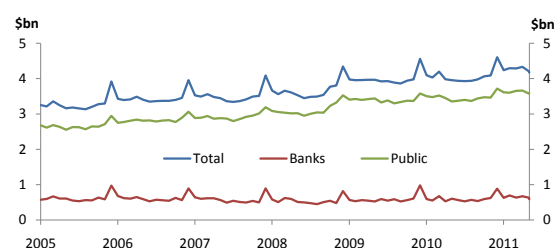
Section 2 focuses on the steadily growing demand for currency and the heightened demand following the Christchurch earthquake (see Box). Section 3 reports on cash use in New Zealand while section 4 reports on the Reserve Bank's banknote processing operation. The level of counterfeiting is described in section 5 and summarising comments are made in section 6.

2 Notes and coins in circulation

The Reserve Bank needs to be able to meet the demand for cash in a timely manner so that any cash transactions can be carried out by private households, retailers and other businesses, as the need arises.

The New Zealand public's demand for currency is growing (as shown in Figure 1). In June 2011, the public (and businesses other than banks) held \$4.2 billion of currency as compared to \$3.9 billion in the previous year. Demand for currency is also seasonal and the spikes around Christmas in each year in Figure 1, when the Reserve Bank issues about \$600m, reflect this.

Figure 1
Currency in circulation



Source: RBNZ.

In the year to June 2011, total currency in circulation increased by 6 percent (as shown in table 1). During the last five years, currency in circulation has risen by an average of 4.6 percent each year. Bank holdings of currency appear relatively stable. The value of currency held by the public was almost \$3.6 billion in June 2011. The year prior to that, it was almost \$3.4 billion. In the last 5 years, currency held by the public has increased by 27 percent.

Composition of banknotes in circulation

Figure 2 and table 2 show the composition of banknotes in circulation. The \$20 notes make up the largest share with more than 44 percent of all notes in circulation. However, the \$50 notes are becoming more popular at ATMs. In the year to June 2011, the number of \$50 notes in circulation grew by over 10 percent. They make up 14.6 percent of notes in circulation. By value, \$100 notes are the greatest proportion of notes in circulation.

In June 2011, about 132 million banknotes were in circulation, all of which had been issued by the Reserve Bank, at some point.

Table 1

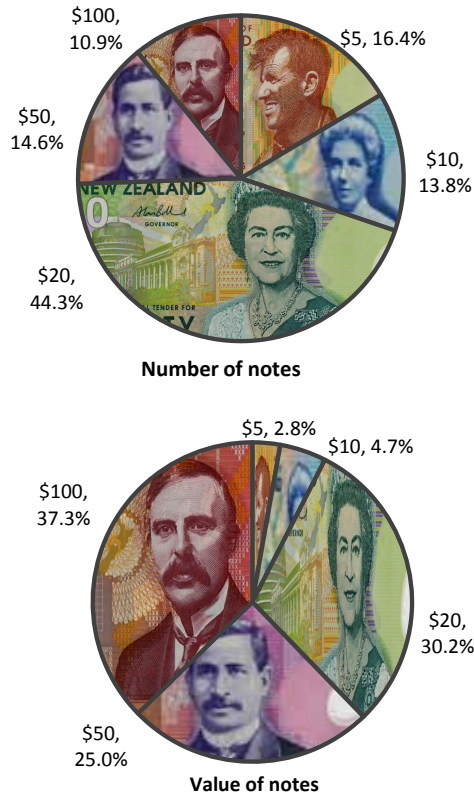
Value of currency in circulation (\$m) and annual growth

	General Public	General public - annual growth	Banks	Total	Annual growth
Jun-06	2,819		529	3,348	
Jun-07	2,871	1.8%	490	3,360	0.4%
Jun-08	2,948	2.7%	499	3,447	2.6%
Jun-09	3,328	12.9%	594	3,922	13.8%
Jun-10	3,374	1.4%	564	3,937	0.4%
Jun-11	3,583	6.2%	588	4,171	6.0%
5-year growth	27%	5.0%	11%	25%	4.6%

Source: RBNZ.

Figure 2

Number of banknotes in circulation and value of banknotes in circulation – June 2011 as percent of total



Source: RBNZ.

Box 1

Christchurch earthquake

On 22 February, an earthquake of magnitude 6.3 struck Christchurch at a depth of 5km. It is New Zealand's worst natural disaster for at least 80 years, and 182 people died. The Reserve Bank received, and satisfied, several large orders for cash immediately after the quake. It demonstrated that meeting the demand for cash is an immediate priority after a disaster of this nature and magnitude.

In the weeks following the quake, the Reserve Bank issued about \$145 million of cash. This is equivalent to about \$350 per Christchurch resident. To put this in perspective, the Reserve Bank issued an average of \$22 million in the month of February in the previous three years. Hence, the issues in response to the quake were about seven times the normal cash demand.

Demand for currency rose in all regions in New Zealand as people left the area affected by the quake. Initially, there was greater demand for \$20 and \$50 notes, as we had anticipated. However, a few days later, there was also demand for the lower denominations.

We are confident that the Reserve Bank holds sufficient reserves of all denominations of banknotes in order to be prepared for extreme demand hikes in case of emergencies such as earthquakes, pandemics, financial crises or events such as Y2K.

Figure 2

Number of banknotes in circulation and value of banknotes in circulation – June 2011 as percent of total

	Number (000)	Value \$(000)	Annual growth in value over 2010/2011
\$5	21,717	108,587	5.2%
\$ 10	18,179	181,792	1.7%
\$ 20	58,454	1,169,077	5.9%
\$ 50	19,300	965,015	10.2%
100	14,418	1,441,755	3.8%
Total	132,068	3,866,226	5.3%

Source: RBNZ.

Coins in circulation

The number and face value of coins in circulation at the end of June 2011 are shown in table 3. On 30 June 2011, the value of coins in circulation was \$305 million. This represents about 7 percent of currency (including banknotes) in circulation on the same day.

Since the introduction of the new copper and nickel-plated 10, 20, and 50 cent coins in July 2006, the demand for coins has been significantly above past levels. Before the introduction of the new coins, a large portion of coin issues was made up of 5 cent pieces. Figure 3 shows this by the red bars significantly exceeding the blue bars until 2006/7.

The exceptionally high demand for coins in 2006/07 was due to the need for banks, retailers, the vending industry and the general public to replace their active working stocks of coins. Demand for coins then tapered off until recently. In the year to June 2011, coin demand increased for the first time since the introduction of the new coins. This might be attributable to the Goods and Services Tax (GST) rate increase in October 2010, in so far as retailers may have

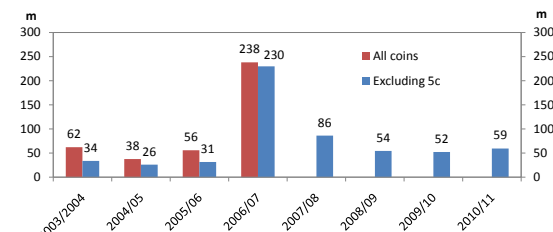
increased their prices that were previously at or slightly below an even dollar amount, to a level just above an even dollar figure. To provide the appropriate change, more coins would have been needed by retailers.

In the year to June 2011, 59 million coins were issued by the Reserve Bank, which is more than in the June year 2005/06, when 5 cent coins were still being issued.

Even apart from those GST-driven issues, the issues of 10 cent to \$2 coins have not yet reverted to the lower levels prevailing before the introduction of the new coins. This indicates that people are still tending to accumulate coins in jars, money boxes and other locations.

Figure 3

Number of coins issued



Source: RBNZ.

Table 3

Coins in circulation

	Number of coins (000)	Face value \$(000)	Face Value Annual growth (%)
c10	176,544	17,654	14.6%
c20	155,756	31,151	12.4%
c50	69,234	34,617	9.0%
\$ 1	80,620	80,620	5.8%
\$ 2	70,569	141,138	3.8%
Total	552,722	305,181	6.3%

Source: RBNZ.

Currency Survey

In 2010, the Reserve Bank commissioned The Nielsen Company to carry out a survey on the use of currency among consumers and retailers. The survey was held online with 1000 consumers, and 288 retailers filled in a paper based questionnaire.¹

As discussed further below, there is a sizeable proportion of notes in circulation (59 percent of the total) for which the currency survey could not account. There are several possible explanations for this. The survey was internet-based and people who use cash may have been under-represented. The \$50 and \$100 notes are over-represented among those not accounted for by the surveys. People who hold large amounts of high denomination banknotes may have chosen not to participate in the survey. Other notes may be lost, taken overseas, or be in use in the black economy. Either way, while the sample in the currency survey may not be fully representative, it does offer some useful insights to the Reserve Bank about people's perspectives and behaviours as regards currency.

The consumers' survey collected information on both the individual holdings of the respondent and of the total currency holdings of the households of which the respondent was a part.

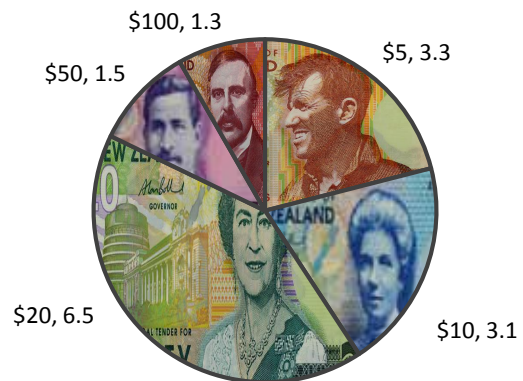
Taking the responses in relation to households first, such households were found to hold an average of 15.8 banknotes, which equates to an average of 5.5 banknotes per person. If the survey were representative, such household holdings, when scaled up, would comprise a total number of 22.9 million banknotes being held by households in New Zealand. The most commonly held note was the \$20 note. On average, households held almost 6.5 \$20 notes. Figure 4 shows that New Zealand households hold fewer \$100 notes than any of the other denominations.

The average individual respondent holds 2.3 \$20 notes while only holding 0.4 \$100 notes. In value, the average household sampled holds around \$383 while the average respondent holds about \$134.

¹ The entire survey can be obtained from the Reserve Bank website: <http://www.rbnz.govt.nz/currency/banknoteupgrade/index.html>.

Figure 4

Average holdings of banknotes per household



Source: RBNZ.

The results of the survey indicate that 51 percent of the banknotes held by households are held for day-to-day transactional purposes. A further 40 percent are stored in jars, money boxes, cars, or similar places around the home. More than half of the people surveyed who keep notes in storage inside the home stated that they hold those cash stores for emergencies.

The retailers' survey showed that retail businesses hold an average of 141 notes. Among those sampled, 58 percent are held as floats while the remainder are held in storage. The greatest value is held in \$20 notes while the most notes are held in the \$5 denomination. Retailers hold very few \$50 and \$100 notes.

As figure 1 showed, banks hold a significant share of currency in circulation. In 2010, they held about \$580 million or 14 percent of the value of all currency in circulation. The majority of notes held by banks are \$20 notes. The Reserve Bank estimates that Banks hold 25 million banknotes, which is about 18 percent of all notes in circulation.

As stated above, about 132 million banknotes are currently in circulation, with only about 54 million (or 41 percent) accounted for by households, businesses, and banks.

An even smaller share of banknotes than those surveyed is actively circulating among the general public. To the extent that the survey is representative, consumers would use 11.6 million banknotes for day-to-day transactions; retailers hold 3.6 million banknotes in their floats. This makes up just over 11 percent of notes in circulation.

3 Cash use in New Zealand

The 2010 currency survey undertaken by the Nielsen Company on behalf of the Reserve Bank explored the payment behaviour of New Zealanders. The Reserve Bank wanted to find out how and how often respondents obtained cash and how they used it as compared to other means of payment. The survey did not consider cash use in the context of households, focusing instead on the behaviours of the respondents.

The survey found that the most common method of obtaining cash was via an ATM. Thirty-eight percent of consumers are using an ATM weekly or more often. This was followed by getting cash in connection with a purchase. Nineteen percent of consumers do this weekly or more often.

The Reserve Bank is also interested in the payment preferences of the public because it helps us to identify trends and anticipate changes in demand for cash. There are several reasons people continue to prefer cash. Cash can simply be quicker and more convenient in some circumstances, particularly for small transactions. Also, cash works in emergencies, when electricity outages might stop electronic methods of payment. Further, cash is generally accepted whereas some stores do not accept Eftpos or credit cards. Another advantage of cash is that transactions are anonymous and not traceable. The survey shows that preferences for using cash or other means of payment depend on the value of the transaction. The greater the

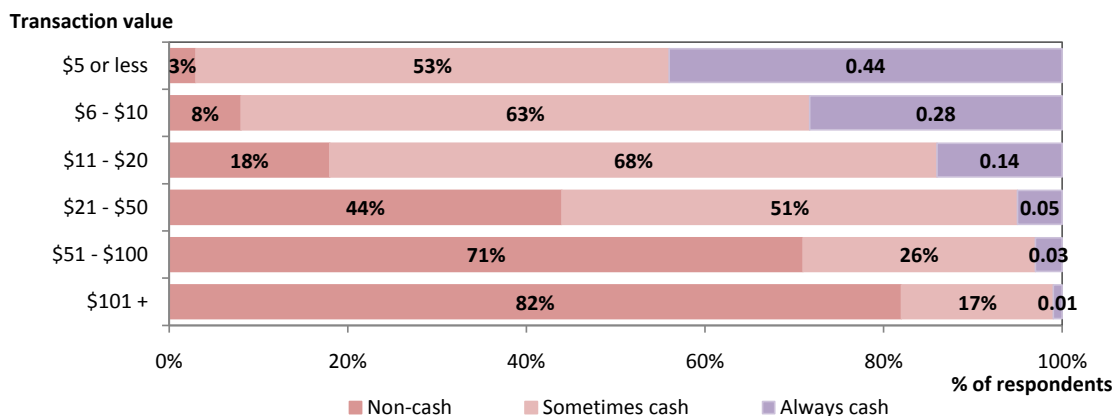
value of the transaction, the greater is the likelihood that people will or would use non-cash methods of payment. Figure 5 shows this.

Almost all respondents “always or sometimes” use cash for purchases of \$5 or less. More than nine in 10 “always or sometimes” use cash for purchases of \$6 to \$10 in value. For transaction values of between \$11 and \$20, the method of payment varies with similar proportions of people “always and never” using cash. Transactions with a higher value than \$20 are much less likely to be conducted in cash. Those aged 50 years and older are significantly more likely than the total population to use cash for all purchases with a value of \$20 and under (not shown in figure 5).

The survey also established how many cash transactions people made on average and what the average value of those transactions was. On average, people make five cash transactions a week (less than one a day). Almost two thirds of people make between one and five cash transactions a week while 6 percent claim to do none. Almost three quarters of people said that their average cash transaction value was between \$5 and \$50, while 15 percent of people claimed that their average value of cash transactions was below \$5.

By combining these facts, we have estimated the average weekly cash expenditure. Figure 6 summarises the results. A cluster of consumers that fall into the \$21 to \$200 category. One in eight people report to have no weekly cash expenditure. The average value of weekly cash transactions

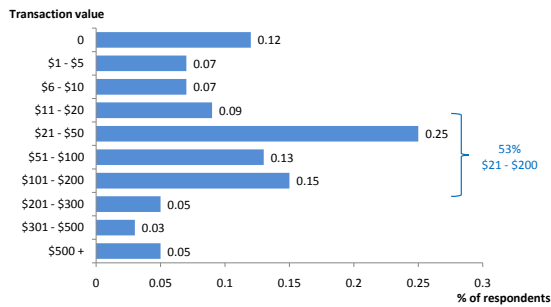
Figure 5
Preferred method of payment



Source: RBNZ.

found in the survey is the same as the average amount of cash that consumers report receiving weekly from all sources (\$130). This consistency supports the validity of survey data.

Figure 6
Average value of weekly cash transactions



Source: RBNZ.

4 Banknote processing

A key currency function of the Reserve Bank is to maintain a high quality of circulating banknotes. This objective is achieved by quality testing them, a process known as ‘note processing’. Maintaining a high standard of banknotes is vital for several reasons. Good quality banknotes are easier to handle for retailers and the general public – and by cash handling equipment. This benefits everyone who uses them. On the other hand, poor quality banknotes are more difficult to authenticate, which could lead to an increase in counterfeiting activity. Hence, note processing assists in the handling of notes by retailers and the public and is a preventative measure against counterfeiting.

Note processing

In the 12 months to June 2011, the Reserve Bank received 51.6 million surplus and unfit notes from banks. Of these, 22 million were machine processed by the Reserve Bank’s note processing machine. Machine processing identifies low quality notes and destroys the notes automatically. The note-processing machine also authenticates the notes, ie, checks for counterfeits. Hence, machine processing is an important instrument for the Reserve Bank to maintain high note quality as well as checking for counterfeits. In the year to June 2011, the Reserve Bank destroyed 15.5 million banknotes that were below the Reserve Bank’s quality standard.

Banknotes are destroyed when they show structural damage such as holes, tears, or soiling, when the security features are damaged, or when the printed image is starting to fade. New Zealand’s banknotes are made from polymer. These notes are more durable than paper notes and hence are more cost effective. Polymer notes however, eventually suffer from ink wear. Over time, the printed images on the notes fade with their extended use. The lower value notes are more affected by this condition because they are handled more frequently and are returned to banks for quality sorting less often.

Table 4 shows that the Reserve Bank destroyed 15.5 million banknotes in 2010/11, or about 12 percent of polymer notes in circulation in that year. When New Zealand used paper notes, the destruction rate was 60 percent of notes in circulation. That would represent 75 million notes in 2011. This is an effective reduction of more than 60 million notes that would otherwise be destroyed and replaced by new notes.

Only 3 percent of the \$100 notes were destroyed in the last year, which makes them the least destroyed notes. It is the highest value note and it appears to be used more for storing value rather than for transactional purposes. Hence, it is not handled as much as other notes and is less affected by ink wear and other structural damage.

The \$10 note is the most frequently destroyed, in percentage terms of notes in circulation. The Reserve Bank destroyed 21.6 percent of the circulating \$10 notes in the year to June 2011.

In the responses to the 2010 currency survey, about 80 percent of consumers and retailers said they were happy with the condition of the notes of value \$10 and higher. 57 percent of consumers and 76 percent of retailers were unhappy with the condition of the \$5 note. As noted further below, the Reserve Bank continues to take steps to improve the quality of notes in circulation.

In any event, the retail survey showed that low note quality had negative implications for businesses. 22 percent of retailers pointed out that poor note quality either slows down note counting or made the processing of notes difficult. Further, 11 percent of respondents said they did not

Table 4

Destruction of polymer notes from July 2010 to June 2011 and paper notes in 1998

(000)	\$5	\$10	\$20	\$50	\$100	Total
Polymer notes destroyed	2,676	3,398	7,655	1,355	424	15,507
Average polymer notes in circulation	17,346	15,765	58,369	18,681	14,032	124,193
Notes destroyed as % in circulation	15.4%	21.6%	13.1%	7.3%	3.0%	12.5%
Paper notes destroyed (1998)	7,871	12,599	18,024	1,951	870	41,315
Average paper notes in circulation	11,592	12,300	32,092	7,275	4,575	67,834
Notes destroyed as % in circulation	67.9%	102.4%	56.2%	26.8%	19.0%	60.9%

Source: RBNZ.

pass on damaged notes to customers and they had to make additional trips to the bank as soon as possible to deposit and replace damaged notes.

The Reserve Bank addresses this issue with regular \$5 note swaps. In 2009 and 2010, the Reserve Bank contracted the cash in transit companies that conduct banknote processing to replace 2.76 million worn \$5 notes with brand new ones. The Reserve Bank then processed the used notes and found 1.37 million or 50 percent of them unfit. The Reserve Bank is currently undertaking a similar exercise, issuing 2.4 million new \$5 notes into circulation.

5 Counterfeiting

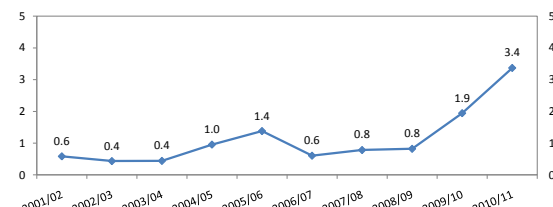
The third objective of the Reserve Bank’s currency function is to maintain the integrity of currency. Internationally, this is measured as a rate showing counterfeits found per million notes in circulation. It is the Reserve Bank’s target to have fewer than 10 counterfeits per million notes in circulation. The Reserve Bank has met this target comfortably since the introduction of polymer banknotes in 1999. Prior to this, New Zealand experienced a peak in counterfeiting. The counterfeiting rate reached almost 20 counterfeits per million notes in circulation in 1997.

Counterfeits are identified via three main methods; in the Reserve Bank’s own machine processing, in cash in transit companies’ machine processing, via the return of counterfeits by the general public and retailers to the police. The counterfeiting rate in New Zealand includes counterfeits from all sources. As shown in figure 8, in the year to June 2011, the counterfeiting rate rose to 3.4 per million notes in circulation from the level of 1.9 per million in the previous

year. Although this constitutes a noticeable increase, the rates remain very low by international standards and the Reserve Bank is confident of the integrity of its banknotes.

The Reserve Bank constantly strives to improve the quality of its banknotes, using state of the art techniques to do so. Nonetheless, the Reserve Bank also advises people to visually inspect notes before accepting them, especially the higher value notes, if they have any suspicions about their authenticity. The best security feature to check is the clear window with the embossed value in it. The plastic feel of the genuine notes is also a distinctive feature.

Figure 7
Counterfeits per million notes in circulation



Source: RBNZ.

6 Summary

Banknotes and coins are still an important means for conducting transactions in New Zealand. The stock of currency in circulation is still growing steadily despite continuing technological advances in other payments media. The Reserve Bank is committed to being able to meet currency demands, even quite extreme ones, as and when they arise – for example, following the February 2011 earthquake in Christchurch. It is very important that the Reserve Bank hold emergency reserves of currency. The Reserve Bank continues to meet the demand for cash and

note quality remains high. New Zealanders continue to use currency regularly and the public has confidence in the currency, as counterfeiting levels are low by international standards.

Submission to the Productivity Commission inquiry on Housing Affordability

Reserve Bank of New Zealand, August 2011

Executive Summary

Changes in house prices matter for the Reserve Bank of New Zealand (the Bank), both through their cyclical implications for monetary policy and the longer-term implications of the level of house prices for macroeconomic and financial stability.

Demand for housing can change, at times quite quickly, and, as in any market, it is important that the supply of houses quickly responds to changes in demand. Supply response moderates potentially damaging swings in house prices. Policy can have an influence on housing market outcomes through a variety of channels, in particular over the longer-term, by helping ensure that the regulatory regime facilitates the ready adjustment of supply to demand.

Lessons can certainly be learnt from examining New Zealand's most recent housing cycle, which is probably the most marked in our modern history. But policy development should be informed not just by the last cycle but also by previous episodes in New Zealand's history and by the richness of international experience. What matters most is getting long-run policy prescriptions right and this requires learning from a wide variety of sources rather than from any single episode. The right policy framework should probably be focused on supply conditions in the housing market, although a sensible tax structure is also likely to matter.

New Zealand has probably had too few houses, coming to market too slowly. The usual conclusion when the real price of a good has trended upwards is that supply has lagged demand. Research evidence suggests that residential construction has been relatively responsive to rises in house prices (at least relative to OECD norms). Residential construction is, however, also very sensitive to increases in construction costs. This has inhibited the construction of new homes. Over the last decade, the cost of construction of new homes in New Zealand has risen substantially more than the general increase in the costs of goods and services.

Supply constraints matter a lot for determining housing market outcomes (see Glaeser et al 2007 and Huang and Tang 2010). This is particularly so for countries or regions with fast growing populations, like New Zealand. In the long run, evidence suggests that significant supply constraints lead both to bigger house price booms and eventually to nastier house price corrections.

Many other factors have influenced house price cycles in New Zealand. Big swings in migration (by OECD standards) have been an important factor. At the margins, changes in relevant tax parameters, as well as the stance of monetary policy, will have been important at times. With housing supply slow to adjust, these were among the factors that helped trigger initial increases in house prices. Higher prices in turn fuelled expectations of further appreciation, which served to reinforce demand for housing at even higher prices.

As the Reserve Bank has acknowledged previously, with the benefit of hindsight, monetary policy may have been too slow to tighten in the early stages of previous business cycles. Rapid growth in fiscal transfers late in the cycle probably also provided a boost to income that sustained the house price boom a little longer than otherwise might have been possible. Both these mattered more than they should have because of the way demand shocks and supply constraints interacted to trigger the house price boom in the first place.

Policy should focus on regulation that gets supply conditions in the housing market right and removes barriers that impede productivity gains in the construction sector. Such a policy framework should produce lower, and perhaps most importantly from the Bank's perspective, less variable house prices over the long-run. We are not experts in the details of housing supply issues, but we would encourage the Commission to focus on ways to put in place a regulatory environment that (i) enhances productivity in the residential construction sector; (ii) supports land availability; and (iii)

promotes a residential construction sector that is responsive to price signals.

Taxation regimes can affect house price movements and house price cycles, but our judgement is that they have not been of decisive importance compared to supply factors, migration factors or fiscal and monetary policy. At times, tax provisions, in conjunction with other shocks, may have served to amplify or extend a housing boom that had initially been triggered by quite unrelated factors. Our reading of the international literature suggests that the presence or absence of a capital gains tax is not a decisive factor explaining house price behaviour here or in other countries.

The liberalisation of access to finance since the 1980s will have had a significant impact on debt levels, as well as the distribution of debt. Of course, the typical interest rate in New Zealand has been relatively high compared to international standards. Over the longer-term, changes in access to finance should not have a large or sustained effect on house prices. The ability to use additional land for housing (or use existing land more intensively) and the value of that land in alternative uses, probably matter most. Over long periods, and allowing for productivity growth, the prices of other inputs to housing construction like wood, steel and of course unit labour costs, should probably not grow much differently than the general level of prices in the economy.

In a second-best world where supply issues remain intractable, limiting excess demand pressures, which can come from unexpected swings in population growth through channels such as migration inflows, could mitigate big swings in house prices. Implementation lags would pose challenges, but more generally, this issue helps highlight the scope for better co-ordination of government policies that affect housing supply and demand.

Lower maximum marginal tax rates on personal income have reduced the benefit available to those (including owners of rental housing) able to deduct interest against other taxable income. Inflation indexing the tax treatment of interest (something the Reserve bank has long advocated) would further reduce those benefits, eliminate a distortion in the income tax system, and have incidental benefits for

the housing market. A more appropriate tax treatment of the inflation would probably largely eliminate reported tax losses on residential rental properties even near the peaks of housing booms (when rental yields tend to be lowest).

Introduction

The Reserve Bank welcomes the opportunity to make this brief submission to the Productivity Commission's inquiry into housing affordability. This submission should be read together with the wide range of data illustrated in the Commission's issues paper.

The guidance laid out in the 'Housing Issues' paper from the Productivity Commission cuts across many dimensions. Here, we examine the housing market in aggregate, focusing on demand and supply factors. We do not address the impact of housing affordability issues on lower income New Zealanders, nor do we explore important regional housing issues. Such issues are typically beyond the scope of the Reserve Bank's expertise.

In our judgement, the responsiveness of the supply of new houses is a critical factor behind house prices when housing demand shifts.

House prices and the Reserve Bank of New Zealand

The Reserve Bank has statutory responsibilities that span monetary policy, financial stability and prudential supervision. Given the way that the New Zealand housing market has behaved, understanding the housing market is essential for carrying out our responsibilities. The Reserve Bank has commented on issues that relate to housing in its submissions to the Commerce Select Committee (2007), the Finance and Expenditure Committee (2007) and the Savings Working Group (2010). The Reserve Bank's responsibilities relate to house prices in two important ways: (i) the cyclical movements in house prices over the short- to medium-term and the way they influence demand and monetary policy; and (ii) changes in the level of house prices that affect the value of mortgage collateral and could, under certain stressed conditions, pose issues for financial stability.

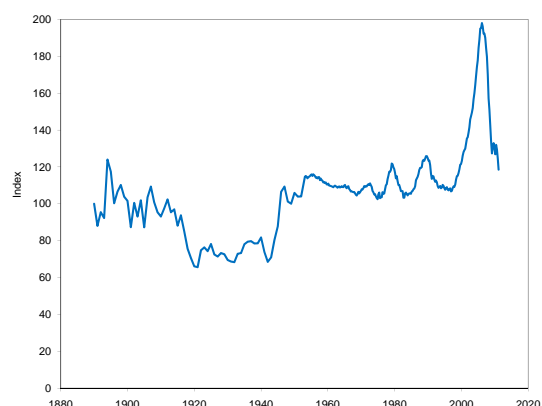
Large swings in house prices over the cycle matter primarily to the extent that they change consumption behaviour, by easing collateral constraints or leading households to think that their real wealth has increased. The associated wealth effects can bring forward consumption (see De Veirman and Dunstan (2008) and Smith (2010)), residential investment decisions and drive up inflation (as firms increase their output price in response to stronger demand).¹ Many of the Reserve Bank's *Monetary Policy Statements* have documented the impact of movements in New Zealand house prices on the economy and monetary policy. If anything, these effects seem to have been a little stronger in New Zealand than in some other advanced countries.

House prices swings can often be costly. They can distort the allocation of resources, detract from economic efficiency and, at times, threaten financial stability. Moreover, as figure 1 illustrates for the United States, over a very long period of time, real house prices tend to be stable around a very modest growth rate – the swings in real prices dominate any trend movement.

Large rises in the level of house prices are also often associated with increased household leverage. If those higher prices prove unsustainable, the resulting fall in house prices can generate financial stability risks (as recently happened in the United States and Ireland) or, at least, act as a sustained drag on private demand and economic activity (as appears to be the case in a number of other advanced economies at present).

Figure 1

Long-term real house prices in the US



Source: Robert Shiller as used in *Irrational Exuberance* (2000). Updated quarterly.

Appropriate focus for the inquiry

Turning to the inquiry into housing affordability, we think the focus should be on the long-term structural issues. We also think the inquiry should be careful not to over-weight the most recent cycle in house prices. This is because the increase in real house prices in New Zealand pre-dates the latest boom, in contrast to the United States and some other countries which had relatively stable and flat house prices up until around 1997.

But it can be difficult to identify and distil the appropriate policy response to long-run issues. New Zealand's previous housing cycles and cross-country evidence are useful in this regard. Although data issues can distort comparisons, cross-country evidence might help shed light on the possible role of inflation, financial liberalisation and tax policy and, more broadly, on what can realistically be achieved in the area of housing policy.

The demand side

When supply is relatively constrained in the short-term, swings in demand matter a lot for the determination of house prices. Lots of factors influence changes in the demand for housing, but factors such as migration and demography appear to have been particularly important in New Zealand. The Reserve Bank has noted the impact of migration on, not just the previous housing cycle, but also

¹ **Movements in house prices can be reflective of shocks to other parts of the economy, such as those from commodity prices booms. De Veirman and Dunstan (2008, 2011), for example, explore differences between shocks to financial wealth and shocks to housing wealth.**

those of the 1970s and the 1990s (see our submission to the Commerce select committee 2007, for example). Indeed, New Zealand has tended to have large swings in migration flows. Moreover, the response of house prices to migration appears large relative to international experience. Coleman and Landon-Lane (2007) estimate that house prices rise 10 percent in response to an increase in migration equivalent to one percent of the population. Of course, net migration flows are, at least in part, an endogenous response to changes in the underlying behaviour of the economy. But in spite of the difficulties in identifying the relative contribution of different factors, it is important that the implications of big swings in the population growth rate for house prices, and macro stability more generally, are recognised.

Another demand-side factor in the latest cycle was rapid growth in fiscal transfers late in the cycle, targeted at groups who were probably among those purchasing houses with large mortgages. These transfers probably provided the income to sustain the house price boom a bit longer than would have otherwise been possible. Generally, we think less pro-cyclicality in fiscal policy helps.

And expectations dynamics in housing markets matter. While supply was initially slow to respond sufficiently strongly to increased demand, total residential investment as a percentage of GDP ended up being quite similar to that in other countries with similar population growth (including the United States) across the boom period as a whole. But faced with large demand shocks supply appears to have been slow to respond. This allowed prices to rise quite materially, which appeared to fuel expectations of ongoing future house price rises. It is reasonably well accepted that expectations of future house prices are weakly anchored and hence quite easily displaced. The prevalence of publications touting the attractiveness of rental property as an investment option increased as the boom went on, not decreased.

Monetary policy can also play a role. If interest rates are set too low for too long, that will affect demand for housing and house prices. As we noted in our 2007 submission to the Finance and Expenditure Committee, with hindsight we may have been too slow to tighten monetary policy against a backdrop of a relatively strong economic performance. In terms of cyclical demand, we can certainly lean against

the wind regarding asset prices, and leaning early is better than leaning late (see Bollard 2004, for more discussion). Internationally, in the wake of the events of the last decade, some central banks that had held to the hypothesis that asset price bubbles are too difficult to identify and that a central bank should simply mop up the mess after the bubble has burst, have shifted their ground. That said, preemptive moves to try to manage house price booms using monetary policy risk exacerbating stresses on the tradable sector of the economy. Raising interest rates in this context will increase demand for New Zealand dollar-denominated assets, increasing the exchange rate and putting pressure on the bottom line of both exporters and import-competing manufacturers. It would be preferable to have the sort of housing market that was less prone to exaggerated price fluctuations in the first place.

Following the financial crisis, there has been considerable international interest in the possible role of various macroprudential instruments in helping to manage the consequences of credit cycles. Macroprudential instruments are various prudential requirements placed on the balance sheets of banks or other financial institutions. The objective of these tools would be to promote greater financial system resilience in the face of the credit cycle, or perhaps, rather more ambitiously, to directly lean against the credit cycle. While many of these tools are broad in focus, there has also been interest in some instruments that would directly relate to housing lending such as administrative restrictions on maximum loan-to-value ratios. This latter instrument has been widely employed throughout Asia and has been adopted more recently in Canada, and in some European countries. However, there is as yet limited experience with these tools in a developed country context.

The Reserve Bank's work suggests that macroprudential instruments could possibly have a role to play in helping manage the credit cycle, although their influence is likely to be 'at the margin' and to date remains largely untested. While the international research is continuing, such tools are generally seen as best directed toward bolstering financial system resilience in the face of credit growth being used rather than to directly influence the growth in credit or asset prices. The possibility of using such instruments in

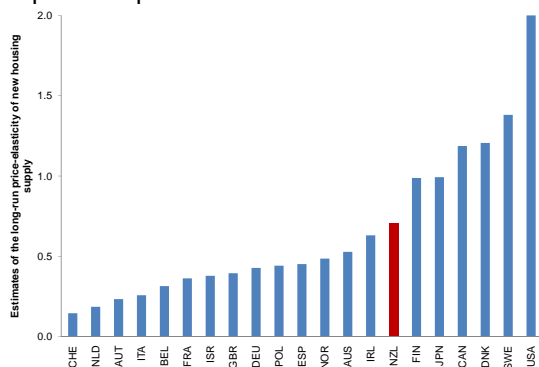
the future should not replace a continued focus on the underlying drivers of house prices, particularly housing supply constraints.

The supply side

It is now well established in the international literature that different housing supply regimes go a long way to explaining differences in cyclical house price behaviour (see Glaeser et al 2007 and Glaeser and Ward 2009, for example). These effects are particularly important in countries or regions where populations are growing comparatively rapidly. There is strong evidence of this in the United States at both the state and county level (see Huang and Tang 2010). When demand for any product is prone to significant changes, it is especially important that supply can respond relatively quickly.

The Reserve Bank is not an expert on the microeconomics of regulation of the housing and construction market. However, our interpretation of work by Arthur Grimes and others (see Grimes and Aitken 2006 and Grimes and Liang 2007, for example) and the recent series of OECD papers (see Caldera and Johansson 2010, the 2011 OECD Survey of New Zealand and Cheung 2011) is that the importance of regulatory regimes applies with force to New Zealand. The OECD work shows that while New Zealand's residential construction is relatively responsive to house prices (figure 2), investment in the residential capital stock is particularly sensitive to increases in construction costs (figure 3) that inhibit the supply response.

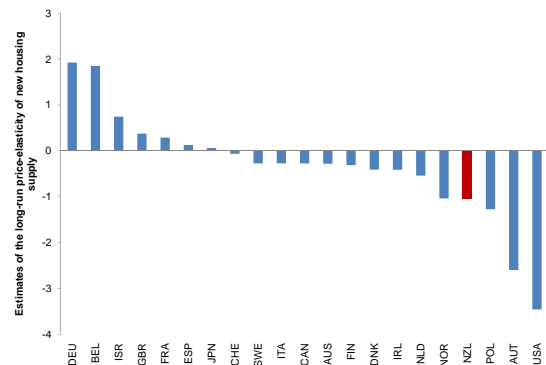
Figure 2
OECD Estimates of long-run housing supply response to prices



Source: Sánchez and Johansson (2011). A larger number indicates a more responsive supply.

Overall, that seems to mean that our housing supply has not been very responsive when there have been big swings in housing demand. As a result, on international metrics, our house prices look high, and have increased very substantially in the last decade. Supply constraints are therefore a key area warranting policy attention (see RBNZ submission to the Commerce Committee 2007 and Cheung 2011).

Figure 3
OECD Estimates of long-run housing supply response to construction costs



Source: Sánchez and Johansson (2011). A larger number indicates a more responsive supply.

The key supply factors appear to be the availability and price of land for residential purposes and construction costs. The Resource Management Act, and the way it is applied by local councils, may be playing a role. One solution that is often advanced regarding land prices is for metropolitan planning agencies to ease their urban limits and, more generally, to ensure that residential zoning practices are more directly responsive to market price signals. This will help ensure that land is used for the most economically valuable purposes, as revealed by prices. Issues have also been raised around the most appropriate way for local council to cover the infrastructure costs around new housing, and whether the move to greater lump-sum development levies may have played a role in inadvertently exaggerating house price fluctuations.

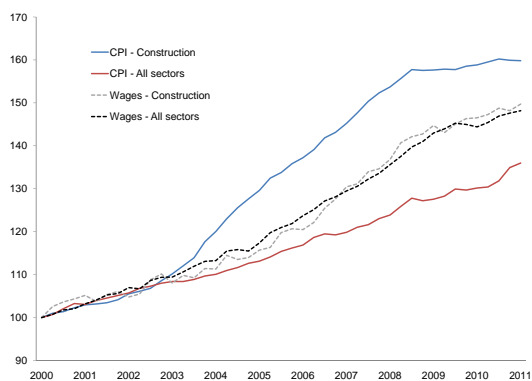
Regarding construction costs, figure 4 shows that the CPI sub-index for construction has risen by much more than the index for all consumer products, while the increase in hourly wages for construction workers since 2000 has been only slightly higher than for the full workforce. This is

² CHRANZ (2011) provides deeper insight to this issue.

suggestive of low labour productivity growth in construction relative to the rest of the economy (and New Zealand's labour productivity has not been high in the rest of the economy either).² Over the very long term, and allowing for productivity growth, the prices of other inputs to housing construction like wood, steel and of course unit labour costs, should probably grow in line with the general level of prices in the economy.

Some reasons for this productivity differential probably include the lack of scale in dwelling construction, with many dwellings being built as one-offs, largely to individual specifications. A lack of innovation in construction methods may be another problem. While it is not clear to what extent the poor productivity performance of the construction sector reflects regulatory constraints, we nonetheless encourage the Commission to look carefully at this issue.

Figure 4
Wage and price levels in construction relative to the aggregate economy



Source: Statistics New Zealand - Quarterly Employment Survey and CPI

Tax issues

Housing is a favoured investment from a tax treatment perspective. This is especially so for unleveraged owner-occupiers (see Hargreaves 2008), since owner-occupiers do not pay tax on the imputed rental value of the equity in their houses (although they do pay rates). The inadequate tax treatment of the inflation component of interest, whereby all interest received is taxed and all interest payments by investors are deductible, compounds the distortion and extends it to the rental property sector. With an inflation target centred on 2 percent per annum, a significant chunk

of the any interest rate reflects simply the expected general rise in the price level (rather than a real income or real cost).

The tax treatment of housing and savings products varies widely across countries. Tax regimes can be shown to influence both the level and volatility of house prices (see Hargreaves 2008 and van den Noord 2003, for example), especially when supply responses are sluggish. But countries with a variety of tax regimes experienced similar housing booms in the mid to late 2000s. Moreover, it is not clear that, in aggregate, housing is more tax favoured in New Zealand than in other countries. For example, householders in the US can deduct owner-occupier interest payments for tax purposes and in most cases face no capital gains tax. In addition, relatively high local government rates in New Zealand compared to other countries, act as a tax on property ownership.

Some have also argued that the increase in the maximum marginal tax rate in 2000 (perhaps in combination with the change in the inflation target in 2002) played a major role in the last cycle. We are sceptical for a variety of reasons outlined in our 2007 work. At most, we believe it was an exacerbating and amplifying factor. At the time, the underlying regulatory model made new housing supply relatively slow to respond and expectations of persistent future price increases became entrenched for a time. We also doubt that loss-offsetting in and of itself, was more than an amplifying factor, because rental yields at the start of the housing boom were high enough (and interest rates relatively low) that large losses were limited. More generally, however, correcting the tax treatment of interest to assess or deduct only real interest would remove the distortion in this area.

One tax issue that periodically receives considerable attention is capital gains taxation. Houses bought by investors with the intention to resell are already, in principle, caught by the income tax net, but New Zealand does not have a general capital gains tax. The Reserve Bank has never taken a stance on the general merits or otherwise of capital gains taxes. We have fairly consistently noted (including in the Supplementary Stabilisation Instruments report (Blackmore et al 2006) and the 2007 submission to the Commerce Committee) that there is little evidence internationally that countries with

capital gains taxes have experienced less marked cycles in house prices. In the 2007 document, we noted that, in practice, capital gains taxes are only levied on realised gains (rather than accruals), which creates additional distortions and that capital gains taxes usually largely exclude owner-occupied houses, even though unleveraged owner-occupied housing is the most lightly taxed component of the housing stock. We summed up that “capital gains taxes are common internationally but are hard to design and implement in a way that works well”. To avoid establishing new distortions, any capital gains tax should only tax real capital gains and needs to treat gains and losses relatively symmetrically.

Financial liberalisation

The liberalisation of access to finance since the 1980s has allowed a rise in aggregate debt levels, and affected the distribution of debt. As in many other similar developed countries, it is likely that financial deregulation affected the savings and housing finance decisions of New Zealanders (see Coleman 2007 and Hull 2003). Together with lower inflation and lower nominal interest rates since the early 1990s, deregulation allowed householders to service more debt with a fixed proportion of their income. With housing supply slow to adjust, easier access to finance, especially in the presence of other demand shocks, resulted in large increases in house prices. Higher prices fuelled expectations of further appreciation, which served to reinforce higher housing demand.

Over the long term, changes in access to finance should not have a large or sustained effect on house prices. In much of the United States, for example, with historically relatively liberal access to housing finance and similar debt-to-income ratios as in New Zealand and Australia, real house prices (and house price-to-income ratios) are materially lower than those in New Zealand (see New Zealand Productivity Commission 2011, p.13 and p.15). The more important factors are probably the ability to use additional land for housing (or to use existing land more intensively), and the value of that land in alternative uses.

Policy focus

What does this mean for the appropriate focus for policy? Policy should focus on the first-best solution – providing a regulatory environment that gets the underlying supply conditions right. New Zealand needs to ensure that land use can change relatively readily towards the most valuable use for that land, especially if its population is to continue to grow relatively rapidly. New Zealand also needs a regulatory environment that enables a highly productive residential construction sector. In combination, such changes to the supply conditions would help limit the risk of large future swings in house prices when demand shifts occur. House price swings of the sort that we have seen recently are damaging to New Zealand’s overall economic performance. At times, house price cycles can also unnecessarily complicate macroeconomic policy and pose avoidable risks for individual and system-wide financial stability.

Avoiding tax preferences for housing and removing the distortionary tax treatment of interest are also measures that would tend to enhance the policy environment in which housing markets can function. In a second-best world where supply is not particularly responsive, policy might also look at whether there is scope to manage migration inflows of non-New Zealanders in a way that limits the contribution to cyclical demand pressures. However, implementation lags are likely to pose challenges. Possible stabilisation advantages would need to be weighed carefully against potential disruption to the medium-term migration programme and policy would need to take a whole of government approach. More generally, better co-ordination of government policies that affect housing supply and demand would be helpful.

Looking ahead, the Reserve Bank can respond, if and when future house price bubbles build up, using several macroprudential instruments. These could include increasing capital requirements for banks, using macroprudential capital overlays or applying more restrictive loan-to-value limits during booms. But these are tools for when booms are already well under way and systemic risks are beginning to mount. A better underlying policy environment would reduce the risk of unduly large housing price cycles in the first instance. A more responsiveness housing market will not only better meet the changing demands of New Zealand

households, but will also reduce the extent to which the behaviour of the housing market is a cause for concern among macro-policymakers.

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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

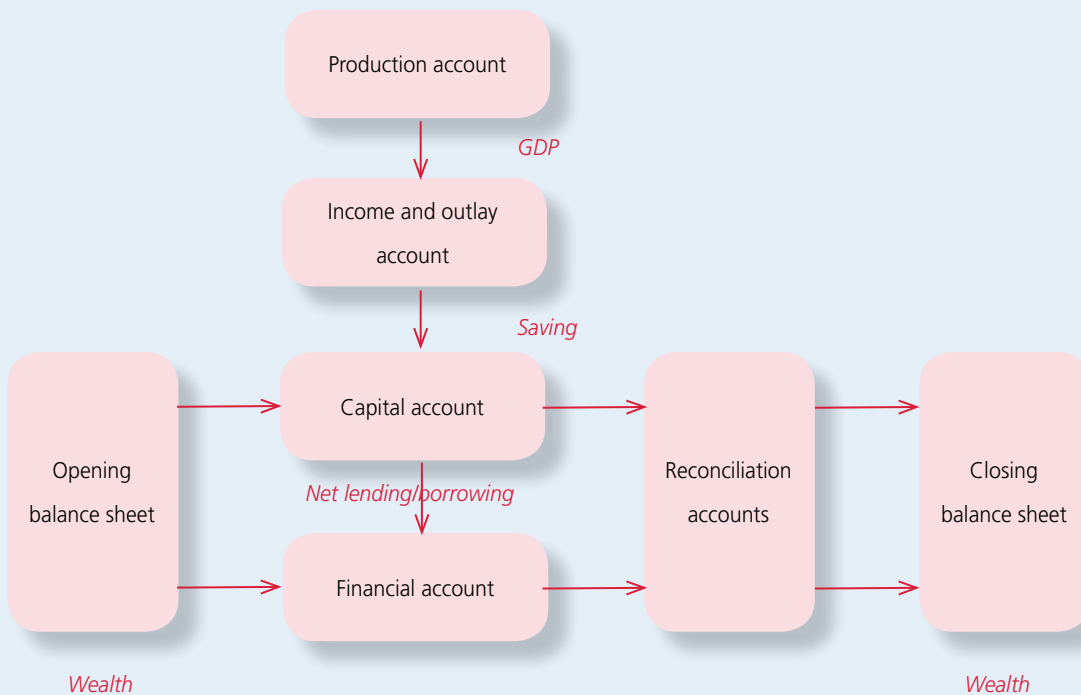
The internationally agreed System of National Accounts¹ consists of a set of inter-connected accounts, each of which reflect the major economic processes occurring in the economy within a given period of time, together with balance sheets that record the values of assets and liabilities at the beginning 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



¹ 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.²

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.

² 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

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 Presentations³

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

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

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

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.

DISCUSSION PAPERS

DP 2011/03

Evaluating density forecasts: model combination strategies versus the RBNZ

Chris McDonald and Leif Anders Thorsrud

Forecasting the future path of the economy is essential for good monetary policy decisions. The recent financial crisis has highlighted the importance of tail events, and that assessing the central projection is not enough. The whole range of outcomes should be forecast, evaluated and accounted for when making monetary policy decisions. As such, we construct density forecasts using the historical performance of the Reserve Bank of New Zealand's (RBNZ) published point forecasts. We compare these implied RBNZ densities to similarly constructed densities from a suite of empirical models. In particular, we compare the implied RBNZ densities to combinations of density forecasts from the models. Our results reveal that the combined densities are comparable in performance and sometimes better than the implied RBNZ densities across many different horizons and variables. We also find that the combination strategies typically perform better than relying on the best model in real-time, that is the selection strategy.

DP 2011/04

An estimated small open economy model with frictional unemployment

Julien Albertini, Güne Kamber and Michael Kirker

This paper investigates labour market dynamics in New Zealand by estimating a structural small open economy model enriched with standard search and matching frictions in the labour market. We show that the model fits the business cycle features of key macroeconomic variables reasonably well and provides an appealing monetary transmission

mechanism. We then extend our analysis to understand the driving forces behind labour market variables. Our findings suggest that the bulk of variation in labour market variables is solely explained by disturbances pertaining to the labour market.

DP 2011/05

Time-varying returns, intertemporal substitution and cyclical variation in consumption

Emmanuel De Veirman and Ashley Dunstan

This paper studies the importance of intertemporal substitution in consumption for the cyclical co-movement of consumption, net worth and income in New Zealand. We can largely explain the empirical hump-shaped consumption response to a transitory wealth increase by allowing for time-varying returns in an otherwise standard Permanent Income Hypothesis (PIH) model. At the net worth peak, households bring consumption forward in anticipation of low returns on saving. The PIH model fully explains the empirical response when households initially expect the net worth shock to be permanent, but gradually learn that it is in fact transitory.

ANALYTICAL NOTES

AN 2011/1

The macroeconomic impact of the Rugby World Cup

Adam Richardson

Rugby World Cup 2011 kicks off in September 2011. The tournament will be a significant event for New Zealand. The Reserve Bank's main interest is in how the tournament affects domestic economic activity, capacity pressures and New Zealand's national accounts. This article aims to outline the Reserve Bank's current estimates of these impacts and to identify where some of the key uncertainties lie.

NEWS RELEASES

Reserve Bank's *SOI* shows focus on stability

30 June 2011

The Reserve Bank's *Statement of Intent* (SOI) for 2011-2014, released today, demonstrates the Bank's focus on maintaining stability despite shocks from devastating earthquakes and continuing world financial and economic uncertainties.

"The effects of the Canterbury earthquakes are complex and significant," Reserve Bank Governor Alan Bollard said. "At the same time, internationally, much of the world is still in recovery from the Global Financial Crisis, with continued uncertainty in some financial markets. On the economic front, rising commodity prices are improving export incomes, but putting pressure on the exchange rate."

Dr Bollard said that the strategic priorities the Bank has adopted for the next year focus on work contributing to economic and financial recovery and stability.

"Our work programme includes assessing the impact of the Canterbury earthquakes and their implications for the Bank's monetary policy.

"We will also be developing an implementation framework for macro-prudential policy tools in New Zealand which takes into account the inter-relationships with monetary policy."

In terms of promoting a more stable financial system, the Bank will develop a plan for implementing the Basel III prudential requirements for banks, suitably adapted for New Zealand conditions.

"We will also seek to have insurers on the path to obtaining full licences by September 2013, meeting at least the provisional licensing requirements by March 2012."

The Bank also intends to undertake initial planning for a new issue of bank notes.

Reserve Bank *Bulletin* Released

30 June 2011

The Reserve Bank today released the June 2011 issue of the Reserve Bank of New Zealand *Bulletin*.

This edition centres on the Bank's financial stability and

financial markets responsibilities, looking firstly at rural lending. The last few years have highlighted to borrowers and lenders alike that rural lending can be risky and this article provides background on the Reserve Bank's new minimum requirements and looks at how they might affect rural lending margins.

Sitting alongside this is an article detailing the results of a "stress" test carried out by the Reserve Bank to better understand how severe shocks in the dairy industry might impact banks.

The June *Bulletin's* third article focuses on financial system efficiency. This piece reports on the Bank's analysis and policy development in financial system efficiency. It includes preliminary findings on rates of return in banking, based on cross-country results.

The final article looks back to the international financial crisis and the extraordinary measures the Reserve Bank took at that time to manage domestic liquidity conditions and to avoid the risk of a more serious domestic credit crunch. This includes formal statistical tests on the announcement effects of the various measures employed.

The article suggests that the supportive actions undertaken by the Reserve Bank played a significant role in maintaining the functioning of the New Zealand money market and the flow of domestic credit during the financial crisis.

New rural lending rules take effect

30 June 2011

The Reserve Bank's new capital adequacy requirements for farm lending take effect today, requiring New Zealand's four largest banks to hold more appropriate regulatory capital to back their rural lending portfolios.

The changes affect the risk weights used in regulatory capital calculations and mean the four big banks will have higher regulatory capital requirements than when the existing Basel II capital regime commenced in 2008.

The exact impact on each bank varies depending upon the make-up of their rural lending portfolio. Loans carrying lower risks attract lower risk weights.

Reserve Bank Deputy Governor Grant Spencer said the new risk weights are more conservative and reflect a more accurate assessment of risk.

“The new rules will ensure banks are better prepared for any extreme shock to the rural sector,” Mr Spencer said.

“The Reserve Bank expects the new average risk weight across these banks will be about 80 to 90 percent. This is an increase on existing risk weights. However, it is important to note that before 2008 – i.e., before the Basel II capital regime was introduced – this figure was 100 percent.

“The changes are expected to have only a minor impact on rural loan margins, as banks have already adjusted pricing considerably over recent years.”

The rule change affects only New Zealand’s four largest banks, also known as internal models (IM) banks, which use their own Reserve Bank approved models for determining minimum capital requirements.

All other banks use a standardised model and are subject to a risk weighting of 100 percent.

See this Q&A for responses to frequently asked questions about the rural lending rules.

New Zealand banknote upgrade project underway

21 July 2011

The Reserve Bank announced today that planning has begun to upgrade New Zealand’s current series of banknotes.

Reserve Bank Governor Alan Bollard said the project will involve updating all five banknotes, the \$5, \$10, \$20, \$50 and \$100.

“This upgrade will ensure our banknotes benefit from the technical advances that have been introduced in banknote security over the last 12 years. Such upgrades are carried out on a regular basis and help to maintain New Zealand’s low counterfeiting levels. The project will also look to improve the quality of these notes,” he said.

Dr Bollard emphasised that planning for the upgrade project is at an early stage and the various new banknotes will be progressively released from 2014 at the earliest.

A recent survey carried out by Nielsen for the Reserve Bank found the public is satisfied with the colours, design and themes of the existing notes and that the different note denominations were easy to distinguish. The public were also happy with the range of notes available.

“As a result of these survey findings, we will not be making significant changes to the overall themes of the notes themselves. This includes continuing to use the five respected individuals currently depicted on our notes.” Dr Bollard said.

“However, we are planning to modernise the designs, as modern printing techniques will allow us to give the notes a new look.

“At this point in the project it is envisaged the new notes will be phased in and will be used alongside the existing notes for a period once they are released.”

The Reserve Bank has already begun contacting business and consumer groups with a special interest in currency matters to gather technical feedback. Further such groups can contact the Bank at newnotes@rbnz.govt.nz.

Further details of the Currency Survey carried out by Nielsen can be found on the Reserve Bank website at <http://www.rbnz.govt.nz/currency/>.

OCR unchanged at 2.5 percent

28 July 2011

The Reserve Bank today left the Official Cash Rate (OCR) unchanged at 2.5 percent.

Reserve Bank Governor Alan Bollard said: “The economy has grown more strongly than was expected, and it appears that the recovery is getting back on track, supported by a strong terms of trade. At the same time, however, current fragility in global financial markets, including the uncertainty around the US Government’s debt ceiling, continues to highlight the downside risk to trading partner activity noted in the June Statement.

“Annual headline CPI inflation continues to be above the Bank’s 1 to 3 percent target band. However, much of the current spike in inflation has been driven by the October 2010

increase in the rate of GST, and will therefore be temporary. Wage and price setters should focus on underlying inflation, which is currently estimated to be below 2.5 percent.

“Provided current global financial risks recede and the economy continues to recover, the Bank sees little need for the March 2011 ‘insurance’ cut to remain in place much longer. The current very high value of the New Zealand dollar is acting as a drag on the New Zealand economy. If this persists, it is likely to reduce the need for further OCR increases in the short term.”

Improving New Zealand’s banking system post-crisis

6 August 2011

Improving the resilience of New Zealand’s financial system has been an important focus for the Reserve Bank since the global financial crisis. The efficiency of the system in providing financial products and services to the rest of the economy also needs to be considered, says Reserve Bank Governor Dr Alan Bollard.

In a speech delivered to the NZ Shareholders Association in Tauranga this morning, Dr Bollard said banks play the dominant role in New Zealand’s financial system. They remained relatively resilient to the global financial crisis and the resulting slowdown in economic activity.

“Our banks remained sound. They stuck to their knitting over the boom, engaging in very profitable lending to households and the rural sector in the main, without resorting to the sort of exotic financial innovations witnessed elsewhere,” he said.

The Reserve Bank’s efforts to reinforce the soundness of the banking system for the future have been centred on implementing stronger capital and liquidity standards; determining the role of various macroprudential tools in managing system-wide risks; and improving the resolution framework for dealing with bank failures.

Prior to the global financial crisis, New Zealand and Australian banks look to have been among the most cost-efficient and profitable in the OECD. While high rates of return could be seen as evidence of a lack of competition, the interest

margins earned on products like residential mortgages were not particularly high relative to other countries.

However, operating conditions for banks have changed profoundly since the financial crisis, with regulatory changes, weak credit demand by households and businesses, and higher funding costs all likely to affect financial performance.

“All things considered, it seems unlikely that the rates of return in banking enjoyed over the past decade can be sustained in the future,” Dr Bollard said.

Rugby World Cup significant event for NZ economy

18 August 2011

The Reserve Bank has today published the first paper in a new ad hoc research series entitled *Analytical Notes*.

Reserve Bank Head of Economics Dr John McDermott, said the inaugural paper presents an analysis of the potential economic effects of this year’s Rugby World Cup tournament.

“It describes the tournament as a significant event for the New Zealand economy, estimating it will attract 95,000 visitors to the country, who are likely to spend a total of \$700 million on local goods and services,” he said.

This first paper in the series comes as the Reserve Bank Museum launches a special ‘Ruggernomics’ exhibition in spring, showcasing currency from rugby playing countries around the world.

Dr McDermott said the Reserve Bank’s new Analytical Notes series is designed to provide an outlet for research by Bank staff that does not fit into the brief of existing series such as the Reserve Bank *Bulletin* and Discussion Papers.

Those interested in signing up for email notification of new releases of *Analytical Notes* can do so at the Reserve Bank website.

RBNZ MPS/OCR and FSR dates for 2012-13

26 August 2011

Following is the Reserve Bank's schedule for the release of its quarterly *Monetary Policy Statements*, the intervening Official Cash Rate reviews, and the six-monthly *Financial Stability Reports*. The schedule covers 2012 and, provisionally, the first half of 2013.

Each *Monetary Policy Statement* includes within it an OCR announcement. Each announcement will be made at 9.00 am on the day concerned. The schedule includes the first six months' for the following year, to assist financial markets' planning, but these 2013 dates are provisional, subject to confirmation in August 2012.

Monetary Policy Statement/OCR

2012

26 January	OCR announcement
8 March	<i>Monetary Policy Statement</i>
26 April	OCR announcement
14 June	<i>Monetary Policy Statement</i>
26 July	OCR announcement
13 September	<i>Monetary Policy Statement</i>
25 October	OCR announcement
6 December	<i>Monetary Policy Statement</i>

2013

31 January	OCR announcement
14 March	<i>Monetary Policy Statement</i>
24 April	OCR announcement
13 June	<i>Monetary Policy Statement</i>

Financial Stability Report

2012

9 May
7 November

2013

8 May

The Bank reserves the right to change this schedule, if required, due to unexpected developments. In such an event, markets and the media will be given as much warning as possible.

Monetary Policy Challenge winners announced

26 August 2011

The Reserve Bank announced today that Saint Kentigern College from Auckland is the national winner of the Reserve Bank 2011 Monetary Policy Challenge (MPC). Waikato Diocesan School for Girls from Hamilton was placed second and Havelock North High School came third.

The national final took place at the Reserve Bank in Wellington yesterday and was hotly contested. The judges were Assistant Governor John McDermott and two Bank economists, Rebecca Craigie and Tony Wolken.

Saint Kentigern College won \$2,500 in prize money for their school and will visit the Reserve Bank on 15 September to watch the announcement of the next *Monetary Policy Statement* by Governor Alan Bollard.

Waikato Diocesan School for Girls won \$1,500 and Havelock North High School won \$750 in prize money for their respective schools. The other competitors in the national final were Epsom Girls' Grammar School (Auckland), Papanui High School (Christchurch) and James Hargest College (Invercargill).

The judges said the finalists performed to a very high standard, and determining the winning school was a difficult task. They were particularly impressed with the depth of economic understanding shown by Saint Kentigern College.

"Saint Kentigern College were a very polished team, who answered many difficult questions with great composure. They clearly demonstrated their understanding of economic relationships," said the judges.

The MPC is designed to expand senior secondary school economics students' understanding of monetary policy, and it links to NCEA achievement standards.

Just like economists working in the Reserve Bank, each team analyses the economic conditions facing New Zealand and the outlook for inflation. On the basis of that analysis, they decide on an appropriate setting for the Official Cash Rate (the Reserve Bank's interest rate). Each team provides the reasons for their decision in a written submission

and, if selected as a regional or national finalist, an oral presentation.

“Rather than just expecting students to learn established facts, this competition confronts them with the challenges, ambiguity and uncertainty of actual decision-making,” Dr McDermott said.

The MPC is open to all New Zealand secondary school economics students and runs annually from May to August.

New anti-money laundering code sets standard for customer ID checks

1 September 2011

Customers of financial institutions and casinos can expect more stringent identity checks in the lead up to 30 June 2013, when anti-money laundering legislation comes fully into force. Businesses now have access to guidance on the standard those identity checks should meet.

The Anti-Money Laundering and Countering Financing of Terrorism Act 2009 places obligations on New Zealand’s financial institutions and casinos to detect and deter money laundering and terrorism financing.

An Identity Verification Code of Practice being Gazetted today applies to all reporting entities being supervised by the Reserve Bank, the Financial Markets Authority and the Department of Internal Affairs.

The code sets out an acceptable practice for verifying the name and date of birth of customers (people, not corporations) whom the reporting entities have assessed as low to medium risk. The code details acceptable forms of identification, and outlines when secondary or supporting identification is required – for example, a passport on its own, or a New Zealand Driver Licence with an Eftpos card.

Although the code is not mandatory, it constitutes a ‘safe harbour’ – a reporting entity that fully complies with the code is deemed to be compliant with the relevant parts of the legislation. If a reporting entity decides to opt out of the code, it must adopt practices that are equally effective, otherwise it risks non-compliance.

Media contact: Reserve Bank of New Zealand: Sonia Speedy

04 471 3846 or 021 663 082?Department of Internal Affairs:

Trevor Henry 04 495 7211 or 0275 843 679?Financial

Markets Authority: Nick Stride 09 985 4868 or 021 739 052

Background information:

The Anti-Money Laundering and Countering Financing of Terrorism Act 2009 (AML/CFT) will come fully into force on 30 June 2013 under a commencement order Gazetted on 30 June 2011. Reporting entities now have less than two years to establish and implement their AML/CFT programme and comply fully with their obligations under the Act.

Money laundering is how criminals disguise the illegal origins of their money. Financers of terrorism use similar techniques to money launderers to avoid detection by authorities and to protect the identity of those providing and receiving the funds.

The AML/CFT Act requires reporting entities to obtain identity information about their customers and verify that information.

The Reserve Bank of New Zealand supervises banks, life insurers, and non-bank deposit takers.

The Financial Markets Authority supervises issuers of securities, trustee companies, futures dealers, collective investment schemes, brokers, and financial advisers.

The Department of Internal Affairs supervises casinos, non-deposit taking lenders, money changers, and any other financial institutions not supervised by The Reserve Bank or The Financial Markets Authority.

Examples of financial activities include (but are not limited to):

- accepting deposits or other repayable funds from the public
- making a loan to or for a customer
- issuing a debit or credit card
- managing the means of payment
- supplying goods through a finance lease (other than for consumer products)
- providing remittance services which transfer money or property

- issuing or accepting liability under life insurance policies
- issuing or selling securities and derivatives
- safekeeping or administering cash or liquid securities on behalf of other persons exchanging foreign currency.

New Council to support close regulatory cooperation

13 September 2011

A new Council of Financial Regulators has been established to foster cooperation between financial and prudential regulators in New Zealand.

On 9 September, the Council held its first meeting, chaired on this occasion by Reserve Bank Governor Alan Bollard.

The permanent members of the Council are the Bank and the Financial Markets Authority (FMA). Associate members are The Treasury and Ministry of Economic Development. Senior officials of the four organisations were present at Friday's inaugural two-hour meeting.

"What the Council means for New Zealand is that the two key financial services regulators are talking together regularly and at a high level," said Dr Bollard.

FMA CEO Sean Hughes said: "We aim to implement a new era of cooperation and information sharing that will result in better, more informed regulation of New Zealand's capital and financial markets."

The Reserve Bank had good working relations at an operational level with FMA's predecessor bodies, such as the Securities Commission. The Council embeds and reinforces those working relationships and ensures important issues are discussed at the most senior level.

The Council's objectives include the sharing of information, identifying important trends and issues and coordinating responses to those issues, and ensuring appropriate coordination arrangements are in place to respond to events and developments. The regulators expect that the arrangement will enable them to identify and respond more quickly to emerging common concerns in the financial system.

At the meeting's end, a Memorandum of Understanding (PDF 1.2MB) was signed between Dr Bollard and Mr Hughes on behalf of their respective organisations.

The Council will meet on a quarterly basis, and the Bank and FMA will take turns to chair the meetings. Issues discussed will remain confidential unless disclosure is required by law or agreed by the permanent members.

OCR unchanged at 2.5 percent

15 September 2011

The Reserve Bank today left the Official Cash Rate (OCR) unchanged at 2.5 percent.

Reserve Bank Governor Alan Bollard said: "The New Zealand economy has performed relatively well while headline inflation has increased somewhat since the June *Statement*. At the same time, however, global economic and financial risks have increased.

"Domestic economic activity has surprised on the upside and capacity usage appears to have increased. Continued high export commodity prices and, in time, reconstruction in Canterbury are expected to provide impetus to demand over the projection horizon.

"However, the outlook for New Zealand's trading partners has deteriorated markedly. There is now a real risk that global economic activity slows sharply.

"Global financial market sentiment has also deteriorated. Sovereign debt concerns in Europe and the weakened global outlook have caused international bank funding markets to tighten. If conditions do not improve, New Zealand bank funding costs will increase.

"Largely because the New Zealand economy has been doing better than many others, the New Zealand dollar has appreciated since the June *Statement*. The high level of the New Zealand dollar is having a dampening influence on some parts of the tradable sector and on imported inflation.

"Annual headline CPI inflation continues to be above the Bank's 1 to 3 percent target band. However, much of the current spike in inflation has been driven by last year's increase in the rate of GST, and will therefore be temporary.

Wage and price setters should focus on underlying inflation, which, while rising, is currently estimated to be near 2 percent.

“If recent global developments have only a mild impact on the New Zealand economy, it is likely that the OCR will need to increase. For now, given the recent intensification in global economic and financial risks, it is prudent to continue to hold the OCR at 2.5 percent.”

View the *Monetary Policy Statement* page <http://www.rbnz.govt.nz/monpol/statements> for the current policy assessment, *Monetary Policy Statement*, and data file.

PUBLICATIONS

Regular publications

Annual Report

Financial Stability Report

Monetary Policy Statement

Reserve Bank of New Zealand Statement of Intent, 2010-2013

Published in October each year.

Published six-monthly. A statement from the Reserve Bank on the stability of the financial system.

Published quarterly. A statement from the Reserve Bank on the conduct of monetary policy.

Recent Reserve Bank Discussion Papers

2011

DP 2011/01

Any port in a storm? The impact of new port infrastructure on New Zealand exporter behaviour

Richard Fabling, Arthur Grimes and Lynda Sanderson

DP 2011/02

Fluctuations in the international prices of oil, dairy products, beef and lamb between 2000 and 2008: a review of market-specific demand and supply factors

Phil Briggs, Carly Harker, Tim Ng and Aidan Yao

DP 2011/03

Evaluating density forecasts: model combination strategies versus the RBNZ

Chris McDonald and Leif Anders Thorsrud

DP 2011/04

An estimated small open economy model with frictional unemployment

Julien Albertini, Güne Kamber and Michael Kirker

DP 2011/05

Time-varying returns, intertemporal substitution and cyclical variation in consumption

Emmanuel De Veirman and Ashley Dunstan

A full list of Discussion Papers is available from Administration, Economics Department.

Analytical Notes

2011

AN 2011/1

The macroeconomic impact of the Rugby World Cup

Adam Richardson,

Selected other publications

Testing stabilisation policy limits in a small open economy: proceedings from a macroeconomic policy forum

Finance and Expenditure Select Committee inquiry into the future monetary policy framework: submission by the Reserve Bank of New Zealand

Pamphlets

Explaining Currency

Explaining Monetary Policy

The Reserve Bank and New Zealand's Economic History

This is the Reserve Bank

Your Bank's Disclosure Statement – what's in it for you?

Snakes and Ladders – a guide to risk for savers and investors, by Mary Holm

For further information, go to www.rbnz.govt.nz, or contact:

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Articles in recent issues of the Reserve Bank of New Zealand *Bulletin*

Vol. 73, No. 3, September 2010

Connecting the dots: a yield curve perspective on New Zealand's interest rates

The New Zealand dollar through the global financial crisis

Anti-money laundering and countering the financing of terrorism – the Reserve Bank's responsibilities and approach

The currency denomination of New Zealand's unhedged foreign reserves

Vol. 73, No. 4, December 2010

Regulating non-bank deposit takers

Bringing financial stability legislation to the insurance industry – the Insurance (Prudential Supervision) Act 2010

Global currency trends through the financial crisis

New Zealand's imbalances in a cross-country contest

Vol. 74, No. 1, March 2011

Making sense of international interest rate movements

We're all in this together: the transmission of international shocks to open economies

Towards better data on New Zealand debt securities markets

Submission to the Savings Working Group

Looking into the crystal ball: a forecast and some risks for the year ahead

Vol. 74, No. 2, June 2011

Bank farm capital: does it cost the earth?

Stress testing New Zealand banks' dairy portfolios

Understanding financial system efficiency in New Zealand

New Zealand's emergency liquidity measures during the global financial crisis