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Measures of New Zealand core inflation

Satish Ranchhod

Assessing the strength of inflationary pressures is challenging. Headline inflation can be volatile due to temporary or idiosyncratic factors which are unrelated to the strength of domestic demand, or which are not expected to be repeated. Core inflation measures attempt to examine the component of inflation that is related to broad trends in economic conditions and pricing behaviour, and which is likely to be more persistent. There is no agreed upon ‘best’ approach to measuring core inflation, and each approach has various advantages and limitations. Some work best in some circumstances; some in others.

1 Introduction

The Policy Targets Agreement (PTA) specifies that the Reserve Bank’s monetary policy target “shall be to keep future CPI inflation outcomes between 1 per cent and 3 per cent on average over the medium term, with a focus on keeping future average inflation near the 2 per cent target midpoint.” Among the information the Bank often considers when examining the outlook for inflation are measures of core inflation. These measures attempt to examine the component of today’s inflation rate that is related to broad trends in economic conditions and price setting behaviour (rather than temporary or idiosyncratic factors), and which is likely to be more persistent. By providing additional insights on current underlying pricing conditions, they provide a starting point for assessing the outlook for the medium-term trend of inflation. These measures are also useful from a perspective of central bank accountability, as they help outside observers to examine the Reserve Bank’s past conduct of monetary policy in pursuit of the inflation target.

Estimates of core inflation can be calculated in a number of different ways. Each measurement approach has various advantages and limitations; some work best in some circumstances, and not so well in others. Consequently, there is no agreed upon ‘best’ approach to its measurement. It is unsurprising, then, that the use of these measures varies between and within countries.1

This article discusses various core inflation measures and how we use them in the economic analysis that feeds into New Zealand monetary policy.

2 The concept of core inflation

Inflation can be volatile, especially on a quarter-to-quarter basis (figure 1). Often, volatility in headline inflation results from sharp changes in the prices of a small number of goods or services, and may be unrelated to the strength of economic activity or underlying trends in price setting behaviour more generally (for instance, sharp movements in the CPI are often a result of geopolitical conditions that result in volatility in the price of petrol and diesel). Such volatility can obscure the more general trend in the price level - providing little information about the outlook for inflation.

For instance, external communications by policy makers in the United States have tended to focus on inflation excluding the effects of changes in the prices for food and fuel - a measure of core inflation that is widely understood by the public. However, to assist with the examination of inflationary pressures, the Federal Reserve Banks of Dallas and Cleveland also publish measures such as the trimmed mean inflation. In Australia, the Reserve Bank regularly publishes trimmed mean, weighted median and CPI excluding volatile items measures.

Measures of core inflation attempt to adjust for volatility in headline inflation, allowing the more general trend in prices to emerge. While there is no single definition of core inflation, such measures generally

1 Source: Statistics NZ.
assume that overall inflation is made up of an underlying component (that is determined by broad economic conditions, and public and business expectations of the pricing climate), as well as a more volatile component that reflects idiosyncratic influences on some prices.\(^2\) By abstracting from the idiosyncratic movements in prices, core inflation measures are able to highlight the persistent or generalised component of inflation that is likely to be sustained over time (Holden, 2006).\(^3\) Consequently, such measures provide a useful starting point for assessing the outlook for inflation. Core measures are also likely to be useful for examining the factors that influence households’ and businesses’ inflation expectations, which can be important determinants of wage and price setting behaviour.

Core inflation measures are also useful for central banks’ external communications, and for those attempting to monitor and hold to account the performance of central banks in pursuit of their inflation targets. These measures allow policy makers to identify things that influence headline inflation, while distinguishing them from the underlying pricing trends that typically form the basis of monetary policy decisions. Such measures can be particularly helpful at buttressing the credibility of a central bank’s inflation target at times when the rate of headline inflation is strongly affected by sharp, but temporary, price changes.

For the purposes of accountability and communications, it is desirable that a core inflation measure be understood by the general public (Wynne, 1999). However, more complex measures may be useful for analytical and forecasting purposes.

Research has highlighted a number of characteristics that core inflation measures will ideally display.\(^4\) Among the most salient for monetary policy are:

- that they provide an accurate gauge of persistent inflationary pressures. Monetary policy is generally focused on the underlying trend in prices. Indeed, in New Zealand clause 3(a) of the PTA notes that it is “the medium-term trend of inflation, which is the focus of the policy target.” Consequently, to help ensure policy is set appropriately, monetary authorities need to be able to distinguish between those price movements that are temporary and those that will be sustained over time.
- that the measure is less volatile than headline inflation. This allows the underlying trend in price changes to be examined more closely than when using headline inflation alone.
- that they provide a timely indication of inflationary pressures. To be most useful for policy purposes, measures should be coincident or lead headline inflation, rather than lag it.

3 Core inflation measures

There are numerous approaches to the measurement of core inflation. Here we outline some of them.

Cross sectional measures

The weights assigned to individual items in the CPI basket are based on households’ spending patterns. However, not all prices will be informative about the underlying strength of inflationary pressures, as some will display a high degree of volatility. Consequently the weighting scheme used in the CPI may not be appropriate for measuring core inflation. Cross-sectional measures of core inflation attempt to address this difficulty by identifying sources of temporary volatility in the CPI, and adjusting the weights of such items when calculating the rate of inflation (Wynne, 1999).

The most widely used cross-sectional measures of inflation are exclusion measures. Exclusion measures remove the prices for particular components of the CPI from the calculation of inflation, with the same items removed each period. The excluded prices tend to be those that are prone to large fluctuations, or that tend to change as a result of conditions unrelated to domestic demand.

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\(^2\) Rogers (1998) and Wynne (2008) provide summaries of various theoretical motivations that underpin measures of core inflation.

\(^3\) Richards (2006) notes that while core inflation measures may be useful indicators of the persistent component of inflation over short periods, we would not necessarily expect them to have leading indicators for longer forecasting horizons. Instead, over longer horizons, inflation is determined by the fundamental economic conditions, including monetary policy.

pressures. For instance, in New Zealand domestic prices for fresh fruit and vegetables are often influenced by climatic conditions here, and in Australia (which is a major source for many of our imports). A bad summer might send tomato prices soaring, but most probably prices will normalise once the weather does.

Exclusion measures are widely used by central banks, as well as other analysts and policy makers internationally (such as the IMF and OECD). Commonly used measures typically exclude prices for food and energy. These measures are simple to construct and are easily understood by the public. Such measures can be very useful for highlighting the direct effect of specific price movements on overall inflation, particularly those that monetary policy may not be able to offset (for instance, sharp increase in fruit and vegetable prices due to poor weather). Nevertheless, they have a number of limitations when examining trends in inflation:

- Exclusion measures remove price changes for only a select group of goods and services. In a given period these may not be the items that contributed to volatility in CPI.
- The average rate of inflation in the overall CPI may be, for a time, systematically different from the average rate in a given exclusion measure. For instance, during much of the past decade headline inflation in New Zealand has been higher than inflation excluding food and energy costs (figure 2), in large part due to increases in petrol prices over this period. Such differences are a concern when necessities such as food and fuel are excluded from the measure of core inflation. These items typically account for a large share of households’ spending and could reasonably be expected to be reflected in households’ expectations of future inflation.\(^5\)
- Changes in the prices for individual goods and services, even those that can be volatile, may still in part be a result of changes in demand pressures in the economy. As a result, their exclusion from core inflation measures may inadvertently discard information that is of interest for monetary policy when assessing the strength of underlying inflationary pressures.

**Figure 2**

Headline CPI and CPI excluding food and vehicle fuels

(annual)

![Graph showing CPI and CPI excluding food and vehicle fuels](image)

Source: Statistics NZ, RBNZ estimates.

Note: CPI excluding food and vehicle fuels has been adjusted for the increase in GST in 2010.

Rather than routinely excluding prices for a particular set of goods or services, it can be more informative to adjust for unusual price movements, large or small, up or down, in a general manner. This allows us to develop a measure of underlying inflation that captures the general trend in price changes. One approach is to adjust the measured inflation rate to by removing the effect of specific price changes each quarter that are considered to be one-off shocks. Such an approach has been used previously by the Reserve Bank, with items such as changes in government charges and sharp changes in commodity prices removed from the CPI when calculating “underlying” inflation. As the price changes that were removed were viewed as one-offs, they could be expected to have only a temporary impact on the measured inflation rate. However, the basis for such ad hoc adjustments and the extent of the adjustment to the price index can be somewhat arbitrary (Rogers, 1998). The Bank no longer publishes this measure of core inflation, but at times we still note the impact of specific price movements or events such as the 2010 increase in the rate of GST.

Rather than making ad hoc adjustments, it is possible to systematically adjust the CPI to account for volatile

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\(^5\) In New Zealand, food and energy prices (including motor vehicle fuels) account for approximately 25 percent of the CPI. A survey by UMR in 2002 highlighted that New Zealand consumers focus more on necessities such as food when thinking about inflation, rather than discretionary spending items such as televisions.
price movements in a given quarter. Two commonly used approaches to doing this, sometimes referred to as ‘limited influence’ measures, are the trimmed mean and weighted median measures of core inflation.\(^6\)

- To calculate weighted median inflation (figure 3), percentage changes in all components of the CPI are multiplied by their respective weights and then ranked. The weighted median is the rate of price change that half of all weighted price movements are below, and half are above.
- In each period, the trimmed mean (figure 4) removes the weighted price changes for a number of items from the CPI based on their volatility, and calculates a weighted average of the remaining price changes. For instance, the 10 percent trimmed mean measure excludes the CPI components with the largest and the smallest 5 percent of price changes, with the change in each component adjusted by its respective weight in the CPI.

Figure 3
Headline CPI inflation and weighted median inflation (annual)

![Figure 3](image)

Source: Statistics NZ.
Note: There is a structural break in the weighted median inflation measure in 2006 due to changes in CPI regimen. The weighted median measure has been adjusted for the increase in GST in 2010.

As shown in figures 3 and 4, there are structural breaks in the weighted median and trimmed mean core inflation series in 2006. These breaks resulted due to large changes in the basket used to measure the CPI. Changes to the CPI basket are necessary over time to ensure that the CPI remains an accurate gauge of spending by households. However, large changes can complicate the assessment of core inflation in real time as we are comparing prices for differing baskets of goods and services before and after the change occurs. While such changes can have a marked impact on measures such as the weighted median and trimmed mean, they will also affect other measures of core inflation.

Figure 4
Headline CPI inflation and trimmed mean inflation (annual)

![Figure 4](image)

Source: Statistics NZ.
Note: There is a structural break in the weighted median inflation measure in 2006 due to changes in CPI regimen. The trimmed mean measure has been adjusted for the increase in GST in 2010.

Computationally, these measures are relatively simple, and hence they can be estimated in a timely manner when the CPI is published. In addition, as they adjust for both very large and very small price changes, limited influence measures tend to be less volatile than headline inflation. These measures are also less likely than exclusion measures to suffer from a persistent bias when estimating the underlying rate of inflation. Richards (2006) notes the appeal of such measures over the past decade as China and a number of other economies in Asia have accounted for an increasing share of global economic activity. This development has resulted in increased demand for commodities such as oil. But at the same time, the price of manufactured consumer goods (which are major exports from many of these economies) has declined. Exclusion measures of core inflation adjust only the first of these conditions, potentially underestimating the degree of inflationary pressures. In contrast, limited influence measures are theoretically better able to adjust for the combination of effects this change has had on the economic environment.

Some practical caveats need to be allowed for when using limited influence measures. While they tend to be less volatile than headline inflation, they may still be volatile. In addition, Holden (2006) found that the weighted median has tended to be a biased estimator of headline inflation.
inflation in New Zealand. Furthermore, Motley (1997) notes that such measures may lag the turning point in inflation more generally.  

**Time series measures**

The various measures discussed so far focus on excluding volatility in the CPI on a period-to-period basis. However, we are often more concerned with underlying trends in inflation than with short-term volatility. In addition, attempts to exclude volatile price changes from the calculation of inflation may inadvertently exclude information about the strength of economic conditions and the underlying state of pricing pressures. Time series measures of core inflation offer a way of dealing with this concern. Rather than excluding volatility from the CPI, time series measures focus on identifying persistent contributors to changes in the price level. 

Simple time series measures of core inflation involve the averaging of inflation over several quarters. For instance, Cogley’s (2002) exponentially smoothed measure is a weighted average of historical inflation, with more recent outturns given a higher weight. A version of this measure based on New Zealand data is show in figure 5. Averaging approaches allow volatile movements up and down to balance out, limiting the influence of noisy price changes on estimates of underlying inflation. In addition, such specifications will respond to changes in the mean of inflation over time, and hence should capture that component of inflation that is likely to be persistent (Holden, 2006). However, the use of averaging means that these measures are backwards looking. Consequently, they tend to lag movements in the CPI, significantly reducing their usefulness for policy makers. This was a particular concern in New Zealand in 2005/2006, and again in 2012.

Other times series approaches to the measurement of core inflation can involve econometric modelling. Such approaches develop estimates of core inflation that explicitly account for how economic conditions are affecting the underlying pricing pressures (for instance, Quay and Vahey (1995) model core inflation in the United Kingdom in relation to the strength of industrial output). Estimates of core inflation developed using such approaches depend on the features of the model that is used, and different approaches will provide differing estimates. In addition, historical estimates of core inflation from models may be revised over time, as models are often re-estimated when new data become available. The possibility of such revisions needs to be taken into account when monetary authorities use core inflation measures as an input for decision making.

**Variance-adjusted approaches**

Variance-adjusted measures of core inflation combine cross sectional and time series information. They look at the variation among components of the CPI over time and put a lesser weight on those components that do not reflect the general trend in the CPI. The weighting of the components in the price index evolves over time as the volatility of each component changes (Wynne, 1999).

Variance-adjusted measures of core inflation used by the Bank have made use of factor modelling techniques (sometimes referred to as a principal components analysis). Core inflation estimates developed using this approach tend to be smooth and unbiased, without lagging

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7 The accuracy and volatility of core inflation measures is influenced by the frequency of the price changes being examined (for instance, annual or quarterly price changes). The Bank has typically focused on annual measures of core inflation. Such measures tend to be less volatile and are consistent with the specification of our price stability target.

8 Other variance adjusted approaches to measuring core inflation in the US and Australia are discussed in Wynne (1997) and Gillitzer and Simon (2006) respectively.
changes in the headline CPI (figure 6). In New Zealand, such measures have proven to be useful analytical tools, capturing the persistent trend in inflation. Notably, these measures have highlighted the strong influence that non-tradable inflation has on underlying inflationary pressures in New Zealand (Kirker, 2010). While non-tradable goods and services account for around half of the CPI, they account for around two thirds of the variance in core inflation. This is significant from a monetary policy perspective as, non-tradable inflation is strongly influenced by domestic economic conditions, including the stance of monetary policy. In contrast, tradable inflation tends to be more strongly influenced by global conditions and changes in the New Zealand dollar.\(^9\)

![Figure 6](image)

**Figure 6**
Headline CPI inflation and dynamic factor model inflation (annual)

Source: Statistics NZ, Reserve Bank of New Zealand.
Note: The dynamic factor model measure has been adjusted for the increase in GST in 2010.

Approaches such as factor models are computationally more complex than the other core inflation measures discussed here. In addition, the weights assigned to CPI components in factor model estimates are based on statistical analysis of how prices behave over time, rather than on a particular item’s share of household spending. Consequently, the weights underlying factor estimates are often not easily interpretable, and identifying the drivers of core inflation may not be a simple task. Furthermore, while such measures are very useful for monetary policy analysis, they may not be easily understood by the public. Consequently, they may not be as useful for external communication as simpler approaches like exclusion measures.

As with other approaches that involve estimation, historical estimates of core inflation from the factor model are revised when new data become available. However, Giannone and Matheson (2006) note that in New Zealand this has not dramatically affected the predictive power of the indicator, though they do find that the indicator’s historical estimates have tended to be modestly revised up over time.\(^10\)

4 Core inflation and New Zealand’s monetary policy

New Zealand’s monetary policy is focused on maintaining stability in the general level of prices, with the target measure defined in terms of the all groups CPI. The target is forward looking, focusing on the average rate of inflation over medium term horizons, and monetary policy affects inflation only with a lag. Thus, when accounting for our past performance, and when thinking about the implications of what is going on now for future inflation, the Bank does not focus solely on headline inflation.

Core inflation measures provide useful tools to assist the Bank when examining economic conditions and pricing behaviour. In particular, they allow us to better estimate the strength of inflationary pressures that are likely to influence future inflation outcomes.

For instance, if inflation is increasing as a result of increases in domestic demand, it may be appropriate to tighten monetary policy to dampen real activity and the related inflationary pressures. In such circumstances, headline and core inflation are likely to provide similar indications regarding the strength of underlying inflationary pressures.

\(^9\) Details on factor model measures of core inflation for New Zealand, including their calculation, can be found in Giannone and Matheson (2006) and Kirker (2010).

\(^10\) Although the prices of non-tradable goods will largely reflect domestic factors, global conditions and the New Zealand dollar may affect the domestic costs of inputs and the strength of domestic trading conditions.

\(^15\) The initial estimates of annual core inflation from the Bank’s factor models have tended to be revised up by around 0.1 to 0.2 ppts over time. Kirker (2010) notes that this may have been contributed to by the increase in the average rate of inflation over the past decade. While further revisions will occur over time, it is not clear that such revisions will be in one direction or that they will be material.
However, near-term inflation may vary for a range of reasons that monetary policy typically would not respond to. For instance, in the event of a temporary supply shock, such as a disruption to international oil markets, headline inflation would increase temporarily and then moderate as the shock passes. If monetary policy tried to affect the direct inflationary impact of such developments, it would be near-impossible (pass-through from world oil prices to retail petrol prices is very fast) and would accentuate the related disruptions to real activity (Roger, 1998). In such circumstances, core inflation measures are likely to be a more accurate gauge of the underlying trend in inflation that is related to domestic demand conditions. Trends in this component are likely to be more enduring than those in headline inflation, and are more likely to be responsive over time to changes in monetary policy. Understanding the strength in these underlying pressures is also important as while monetary policy is focused on price stability, the Bank aims to avoid unnecessary volatility in output, interest rates and the exchange rate in pursuit of price stability.

Core inflation measures also allow influences on historic inflation outcomes to be examined, and help to explain the judgements that underlie monetary policy decisions. This is especially useful during periods of increased volatility in inflation, as they help to look behind the noise and – by focusing on the underlying trends - help to signal the credibility of a monetary authority’s inflation target (Roger, 1998). For instance, between December 2007 and December 2008 headline inflation in New Zealand rose to levels above the Bank’s target band. During this period, the Bank reduced the Official Cash Rate in response to the downside risks for economic activity as global conditions and the domestic house market weakened. Our external communications over this period noted the downside risks for activity, and highlighted that increases in headline inflation were contributed to by strong increases in food and fuel prices, the effects of which were expected to be temporary. Similarly, in 2010/2011 when an increase in the rate of GST resulted in a sharp increase in headline inflation, the Bank’s external communications noted that wage and price setters should focus on underlying inflation, which remained contained. The Bank’s use of core inflation measures as discussed above accords closely with the intent of clauses 3(a) and 3(b) of the PTA. These clauses note that there may be variation in the annual rate of inflation as a result of factors whose impact could be expected to be temporary. In the event of such volatility, these clauses direct the Bank to respond in a manner consistent with its medium-term target. In practice, this means that the Bank does not respond to the direct inflationary effect of short-term volatility in prices. Instead, the Bank accounts for any impact that such fluctuations in headline inflation have on inflation expectations (as this may affect medium-term wage and price setting behaviour) and sets policy in accordance with economic conditions more generally.

When looking at core inflation, the Bank considers a range of different measures. This reflects the various advantages and limitations of the different approaches discussed above, and allows us to develop a broad understanding of inflationary pressures. Historically, we have focused on limited influence measures (such as the trimmed mean), as well as variance-adjusted measures such as the sectoral factor model. However, other approaches, such as exclusion measures, have been useful at times when trying to examine the effect of particular influences on inflation, such as the increase in the rate of GST in 2010. No one measure ever tells the full story, and all these methods of analysing the inflation rate itself are still only one element in the rich mix of information we use in analysing the outlook for inflation, including regular discussions with businesses, financial institutions, government agencies and unions.

Moreover, while the Bank makes considerable use of core inflation measures and other information, they always work from, and need to be related back to, headline inflation. Not only is the monetary policy target defined in terms of future headline inflation, but volatile CPI outcomes can themselves matter for policy, especially if that volatility is spilling over (which it typically does not) into the price

12 For instance, see the Reserve Bank’s September 2011 Monetary Policy Statement at page 2.
13 Some of the measures regularly examined by the Bank are included in table B of the Bank’s quarterly Monetary Policy Statement and can be found at http://rbnz.govt.nz/statistics/econind/a3/data.html?sheet=2.
and wage-setting behaviour, and consumption and other spending decisions, of firms and households.

Core inflation measures are informative when examining New Zealand inflation at present. Headline inflation has fallen to low levels, with the CPI increasing by only 0.9 percent in the year to December 2012 (figure 7). In part, this low rate of inflation is a result of sharp movements in the prices of fruit and vegetables. Exclusion measures, while having a number of limitations when assessing inflationary pressures in general, provide a useful diagnostic tool for examining the impact of such price movements on overall inflation.

Changes in the prices of fruit and vegetables over the past year have been strongly influenced by climatic conditions offshore. Consequently, at least some of the current softness in food prices is likely to be temporary, and could be expected to reverse as supply conditions normalise. Consistent with the PTA, the Bank has not responded to the direct effects of such influences on inflation. Instead, as noted in the December 2012 Monetary Policy Statement, the Bank has focused on medium-term inflationary pressures, the assessment of which is, in part, informed by measures of core inflation. Measures such as the trimmed and dynamic factor model suggest that while underlying inflationary pressures are low, they are not as low as headline inflation in isolation would suggest.

5 Conclusion

New Zealand’s monetary policy is focused on ensuring stability in prices over the medium term. Monetary policy works only with a lag, and a range of idiosyncratic or temporary shocks can complicate the interpretation of inflation outturns. To assist with understanding what inflation outturns are telling us, the Bank makes use of core inflation measures. Such measures try to look through the temporary volatility in prices, so that we can examine the strength of the underlying pressures in the economy. These measures are also useful for examining a central bank's performance in pursuit of an inflation target. There are many approaches to measuring core inflation, each with various advantages and limitations. Consequently, instead of focusing exclusively on a single measure, we make use of a number of different approaches to gauge core inflation.

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Open Bank Resolution – the New Zealand response to a global challenge

Kevin Hoskin and Noemi Javier

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. In recent years, the Reserve Bank has been working on the implementation of the Open Bank Resolution (OBR) policy as an option for responding to a bank failure to minimise the costs and disruption to the financial system and the wider economy, while minimising the cost to the taxpayer. This is a key issue for supervisors worldwide following the global financial crisis. This article assesses the framework in New Zealand against the global standards that are driving developments in other jurisdictions.

1 Introduction

One of the key lessons from the global financial crisis (GFC) is the potentially enormous fiscal cost that can be associated with supporting troubled banks. Many countries found that either their tools for resolving large failing financial institutions were inadequate or they simply did not exist. As a result, many authorities faced the difficult choice between relying on ordinary corporate insolvency laws to deal with the failure of systemic and complex financial institutions, or providing public financial support.

This article outlines the work under way in New Zealand to provide the Government with resolution options for failing banks that do not burden the taxpayer with huge costs, at the same time as avoiding major disruption to the financial system. The main mechanism providing this option is the Open Bank Resolution (OBR). The article then describes the development of global standards in recovery and resolution frameworks, and analyses the arrangements being put in place in New Zealand against these standards.

2 Background to OBR

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 OBR policy. The OBR is a tool for responding to a bank failure, and is designed to allow a failed bank to be open for full-scale or limited business on the next business day after being placed under statutory management (most likely as the result of an insolvency event).

The OBR policy seeks to ensure that first losses are borne by the bank’s existing shareholders. In addition, a portion of depositors’ and other unsecured creditors’ funds will be frozen to be available to bear any remaining losses. To the extent that these funds are not required to cover losses as a more detailed assessment of the position of the bank is completed, these funds will be released to depositors and creditors. At a high level, this is no different to an ordinary liquidation. The primary advantage of the OBR scheme, however, is that depositors would have access to a substantial proportion of their balances immediately after the failure event (i.e. at the start of the next business day). This contrasts with what would happen under a normal liquidation, where depositors might not have access to any of their funds for a significant period (which could be months, if not years).

In the event that a New Zealand bank were to come under solvency pressure, the Reserve Bank would undertake an initial assessment of the health of the troubled bank. Following this initial assessment it may make a recommendation to the Minister of Finance that the bank be placed under statutory management. The Minister of Finance is responsible for taking the decision whether to place the bank under statutory management, and whether to apply the OBR. As part of any recommendation for statutory management, the Reserve Bank

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1 The authors are grateful to the following Reserve Bank colleagues for their valuable comments: Ian Woolford, Jeremy Richardson, Bernard Hodgetts and Michael Reddell.
Bank (and the Treasury) will provide advice to the Minister on the appropriateness of activating the OBR policy.

While OBR is a central element of the New Zealand resolution framework, whether or not to use this tool will be assessed on a case-by-case basis. Therefore it is possible that there will be circumstances under which the government considers that an alternative option would be preferable, which may include liquidation, public support for a third party takeover, or an injection of public funds (often referred to as a ‘bail-out’).

Should OBR be the chosen solution, the first stage of the process is to freeze all access channels to the bank and establish the balance of each account at the point at which the bank was placed under statutory management. A high-level assessment of the bank’s losses will then be undertaken, and a conservative portion of liabilities frozen. These frozen funds are set aside to cover any losses beyond what the bank’s capital position could absorb. The frozen funds are not cancelled nor written off, and the depositors and creditors continue to hold a legal claim to these funds. To the extent that all or some of the frozen funds remain available after all losses have been covered, they will be returned to depositors and creditors.

The bank will re-open for ordinary transaction business on the next business day after it is placed under statutory management. At this point, depositors will have full access to the unfrozen portion of their accounts. These funds, and any new funds that the depositor places with the bank, will be subject to a government guarantee.

The full assessment of the condition of the bank and the identification of the appropriate long-term solution to the failure are likely to take a number of weeks or months to work through. Additional frozen funds may be periodically released to depositors during this time, to the extent that it becomes clear that they will not be required to cover the bank’s losses.

Other liabilities such as wholesale funding will have the same proportion of funds frozen, but will not be pre-positioned to allow the providers of the funding to have access to the unfrozen portion the next business day. However, as much of this funding will be held on term, it is unlikely that a significant amount of it will be due to mature in the immediate aftermath of an OBR event, so it is probable that the statutory manager will typically be in a position to release the unfrozen portion in line with the original contractual maturity.

3 Implementation of OBR

Although the OBR is a long-standing policy of the Reserve Bank, one of the key observations from the initial policy development work was that in order to operate effectively, it needed to operate within an overarching and internally consistent policy framework. This has meant that, as prudential and payments policies and requirements have been put in place, one factor for consideration in the policy development process has been the facilitation of effective resolution tools, including OBR.

There have, for instance, been a number of changes aimed at increasing the certainty that banks will be able to continue to provide essential functions (i.e. the provision and circulation of liquidity) at times of distress. These changes include the local incorporation policy, corporate governance requirements aimed at strengthening the New Zealand focus of bank boards, and restrictions on the extent to which core business processes and activities can be outsourced. In addition, there have been a number of developments in the payment system, such as failure-to-settle rules and the introduction of settlement before interchange that should help to enhance efficiency and reduce risk in the financial system.

Another critical part of the framework is the legislation that enables effective crisis resolution. The OBR policy utilises existing powers in the Reserve Bank of New Zealand Act 1989 (the RBNZ Act), in particular, the statutory management powers under Part 5. These powers allow for a failing bank to be placed under statutory management, with a moratorium taking effect on all claims against the bank. The OBR simply provides the necessary functionality to release the assessed good value to creditors immediately after the failure.

The remaining key part of the implementation of OBR is therefore the pre-positioning of banks’ internal IT systems and processes to ensure that the necessary
functionality exists to freeze and then partially unfreeze accounts overnight. This will allow a failed bank to re-open at 9am the next business day to enable depositors and creditors to access a large proportion of their funds, while the authorities work towards a long term solution. The Reserve Bank has been working closely with registered banks for the last two years to put this functionality in place. The specific requirements are listed in the consultation document of March 2011.3

The OBR policy applies to all locally incorporated banks with retail deposits over $1 billion. The Reserve Bank issued the formal requirements as a new chapter to the Banking Supervision Handbook for public consultation on 8 March 2013.4 Subject to consultation, the intention is for the pre-positioning requirements to be in place by 30 June 2013. From that date, the OBR will be available to the Minister of Finance as a viable option for responding to a bank failure.

4 Global standards

As outlined above, the legislative framework and work on the supporting policies for bank failure resolution were already well advanced in New Zealand before the GFC. Many jurisdictions were not as well placed, and have been working to update their own legislative and policy frameworks to address the issues arising as a result of the GFC. As well as this work under way at the national level, there has also been considerable work undertaken at a regional and global level to identify appropriate policy responses.

The Financial Stability Board (FSB) has been at the forefront of this work (box 1 contains a brief description of the FSB). On 4 November 2011, the FSB released a document setting out key high-level features of an effective framework for responding to the failure of banks and other key financial institutions. This document, entitled “The Key Attributes of Effective Resolution Regimes for Financial Institutions” (the Key Attributes),5 has been formally endorsed by the G20. The Key Attributes provide an international framework for effective resolution regimes, and are intended to guide members in the establishment of their national resolution regimes and to foster cross-border cooperation for crisis management.

The Key Attributes present the objectives and essential features that resolution regimes should have, focused mainly on the powers available to effect the prompt and orderly resolution of a failed financial institution. The remainder of this article compares the features and substance of the Key Attributes with the Reserve Bank’s own OBR policy, analysing the extent to which the OBR policy aligns with the essential elements set out in the Key Attributes.

The core objective of the Key Attributes is to minimise the systemic impact of a failing financial institution and avoid the use of taxpayer funds for bailouts. Through a well-designed resolution process backed up by statutory powers, the designated resolution authority in a particular jurisdiction should have sufficient authority and tools to ensure the continuity of systemically important financial services, and payments, clearing and settlement functions. The resolution authority should also have specific powers to impose losses on certain classes of creditors without putting the financial institution into liquidation.

Under the Key Attributes, an effective resolution regime should therefore be able to:

• ensure continuity of critical functions
• protect depositors covered by deposit protection schemes, where applicable (i.e., in jurisdictions that have such schemes)
• allocate losses to owners and creditors, not taxpayers
• not rely on public solvency support
• avoid value destruction and minimise the overall resolution costs
• provide for speed, transparency and predictability through legal and procedural clarity and advance planning
• provide a statutory mandate for cross-border cooperation
• ensure orderly exit of non-viable financial institutions
• provide incentives for market-based solutions

The Reserve Bank has been able to use its existing powers in the RBNZ Act to develop its own resolution

5 http://www.financialstabilityboard.org/publications/r_111104cc.pdf
regime. Section 68 of the RBNZ Act sets the high level objectives for the prudential supervision of registered banks in New Zealand. It requires that the Bank exercise its prudential supervision powers for the purposes of:

- promoting the maintenance of a sound and efficient financial system; or
- avoiding significant damage to the financial system that could result from the failure of a registered bank.

The development of a robust resolution regime can be clearly linked to the second part of section 68 which deals specifically with a bank failure. The focus on continuity of critical functions, speed and predictability, orderly exit, cross-border co-operation, and the minimisation of costs in the Key Attributes would all contribute towards minimising the damage of a bank failure. However, the focus on allocating losses to owners and creditors, and providing market incentives, can also be expected to meet the first part of section 68 by creating a framework that incentivises firms to operate more prudently, thereby reducing the probability that a failure event will occur. Furthermore, a regime in which failure is handled in a predictable, streamlined way might also enhance the efficiency of the financial system.

So at a high level, there is a clear alignment between the prudential supervision objectives set for the Reserve Bank and the Key Attributes. This alignment continues through to the detailed design of the OBR framework in New Zealand. In practical terms, the primary objectives of the New Zealand resolution regime, and the OBR policy in particular, are to:

- ensure that, as far as possible, any losses are ultimately borne by the bank’s shareholders and creditors (consistent with any legal obligations to them);
- 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 such as 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;
- ensure that the crucial objective of avoiding economic disruption does not dictate how the important matter of loss allocation is determined; i.e. to ensure the Government is not forced to bail out the bank simply because there are no acceptable alternatives; and
- preserve any remaining franchise value in the business to maximise the exit options.

Since the publication of the Key Attributes, the Reserve Bank has undertaken a detailed analysis to map the framework in New Zealand against them. This demonstrated a substantial level of alignment between the FSB framework and the arrangements in New Zealand. Table 1, overleaf, provides a summary of this assessment, focusing on the high-level objectives of the Key Attributes. (This table was originally published on the Reserve Bank’s website in November 2012.)

The primary point of difference between the outcomes that may be expected under the Key Attributes in other jurisdictions and the New Zealand framework reflects the treatment of depositors. Under the Key Attributes, resolution frameworks are expected to protect any depositors covered by relevant insurance schemes and arrangements, and ensure the rapid return of segregated client assets.

Unlike many other countries, New Zealand deliberately does not have a depositor preference or deposit insurance framework in place. This means that depositors are not shielded from losses in a bank failure. The Key Attributes do not state that deposit insurance or depositor preference is a necessary element in an effective resolution framework, instead requiring that where deposit insurance is in place, the resolution regime needs to ensure that protected depositors get access to their full insured amount. The New Zealand framework is therefore inconsistent with the Key Attributes. However, as a result of these differing broader policy settings, this is likely to represent a clear point of difference between the outcomes in New Zealand and many other jurisdictions.

New Zealand’s overarching policy towards prudential supervision is to focus on stability at a system-wide level. As a result, the legislative framework in New Zealand does not include any explicit requirements to have regard to, or give preference to, depositors’ interest as a separately
Table 1
Assessment of NZ framework against objectives of the Key Attributes

<table>
<thead>
<tr>
<th>FSB objective</th>
<th>NZ OBR framework</th>
<th>Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure continuity of systemically important financial services, and payment, clearing and settlement functions.</td>
<td>The core of the failed bank will be kept intact, re-opened for business the next day, with continued access to the payments system</td>
<td>Aligned</td>
</tr>
<tr>
<td>Protect, where applicable and in coordination with the relevant insurance schemes and arrangements, such as deposits, insurance policy holders and investors as are covered by such schemes and arrangements, and ensure rapid return of segregated assets.</td>
<td>Depositors are exposed to losses once shareholders and subordinated creditors funds are exhausted. Access to available funds the day after failure.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Allocate losses to firm owners (shareholders) and unsecured and uninsured creditors in a manner that respects the hierarchy of claims.</td>
<td>OBR allocates losses according to legal ranking. Shareholders and subordinated creditors bear first loss. Unsecured creditors treated pari passu.</td>
<td>Aligned</td>
</tr>
<tr>
<td>Not rely on public solvency support and not create an expectation that such support will be available.</td>
<td>OBR freezes conservative proportion of liabilities with excess returned later if not required to cover losses. Government guarantees initial unfrozen portion. Government solvency support only if initial freeze is insufficient.</td>
<td>Substantially aligned</td>
</tr>
<tr>
<td>Avoid unnecessary destruction of value, and therefore seek to minimise the overall cost of resolution in home and host jurisdictions and, where consistent with other objectives, losses for creditors.</td>
<td>Bank continues to operate preserving business and core of the bank intact to preserve exit options. RBNZ has legal responsibility to have regard to impact on Australian financial system.</td>
<td>Substantially aligned</td>
</tr>
<tr>
<td>Provide for speed and transparency and as much predictability as possible through legal and procedural clarity and advanced planning for orderly resolution.</td>
<td>Clear framework set out in existing legislation. Systems are being pre-positioned to ensure process is timely and orderly.</td>
<td>Aligned</td>
</tr>
</tbody>
</table>

identified subset of the financial system. Therefore, while such matters are relevant to the extent that they impact on satisfying the systemic objectives under Section 68, there is no clear mandate or requirement to pursue such an outcome as there would be in some other jurisdictions, such as Australia.6

In 2010 the Reserve Bank and Treasury undertook a detailed assessment of deposit insurance undertaken by the Reserve Bank and Treasury. This work concluded that deposit insurance was not an appropriate policy setting for New Zealand. This assessment considered a range of factors including prevention of retail runs, protecting depositors, market discipline and moral hazard, and regulatory burdens and costs. The Government also concluded that it did not favour a deposit insurance framework.7

The other main areas of difference between the New Zealand framework and the Key Attributes reflect the fact that the Reserve Bank has focused at this stage on the immediate steps to maintain financial system stability in the event of a bank insolvency. A number of jurisdictions, including Australia, have focused their attention on the development of broader recovery and resolution plans (RRPs) sometimes referred to as ‘Living Wills’.8 These plans generally include work to identify factors that could affect the resolvability of a banking group, such as its complexity, intra-group connections, and the separability of key functions.

In its cost benefit analysis of OBR9 the Reserve Bank recognised that the OBR policy could be further strengthened by adopting some of these elements of Living

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6 Deposit or preference is enshrined in the Banking Act 1959 and requires that depositors in Australia are first in line to recover their funds from the assets of a failed Authorised deposit-taking institution. http://www.beehive.govt.nz/release/maintaining-confidence-financial-system


8 The detailed proposals underlying the Key Attributes are broken down into 12 essential features. These include elements focused on recovery planning, information sharing and cross-border cooperation that go wider than mechanisms for resolving failed banks, which is the primary focus of the OBR policy. http://www.rbnz.govt.nz/finstab/banking/5014272.pdf
Wills. The reason for this is that OBR merely allocates the losses and keeps the entity in statutory management open – the various exit options that are then available are aided by, for example, clear information about interconnections and the separability of the entity such that it could be on-sold. The Reserve Bank will be working further on these measures as it completes the narrow pre-positioning work for OBR.

5 Conclusions

The combination of previous policy development work, and the wide-ranging powers in existing legislation, means that New Zealand has been well placed to respond to the issues exposed by the GFC. As at 30 June 2013, the OBR policy will be fully operational and will be available to the New Zealand government as a viable option in the unlikely event that a registered bank became insolvent.

While it is not intended to be the default solution to a bank insolvency, the OBR does represent a valuable addition to the New Zealand government’s toolkit if faced with such a scenario. Furthermore, the existence of the OBR policy as an alternative to bail-out is expected to have a positive impact on strengthening incentives to

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10 The G20 is made up of the finance ministers and central bank governors of 19 countries and the European Union. Country members are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russian, Saudi Arabia, South Africa, the Republic of Korea, Turkey, the United Kingdom, and the United States. “Institutional Members” include the European Central Bank, the International Monetary Fund (IMF), the World Bank, and the Financial Stability Board (FSB).

11 Full FSB membership details are available at http://www.financialstabilityboard.org/members/links.htm

12 See: http://www.financialstabilityboard.org/cos/wssh.htm
operate prudently, and thus reducing the probability that it will be necessary to use such a mechanism.

The objectives and outcomes under the OBR policy are well aligned with the standards being developed internationally. However, even once OBR can technically be implemented from June 2013, the Reserve Bank will continue to undertake further work on assessing, and where necessary improving, the resolvability of banks with a view to enhancing the resolution toolkit further.

6 References


Reserve Bank payment system operations: an update

Mike Woyncewicz

Electronic payment systems play a vital role in the economy and financial system of any modern society. The Reserve Bank plays a key role in the New Zealand payment system. In particular, it operates the Exchange Settlement System Account (ESAS) and the NZClear securities settlement system. In this article, we outline the nature of the Bank’s involvement, and recent developments, in these systems.

Introduction

Electronic payment systems – retail and wholesale – are now a vital cornerstone of commerce. Payment systems need to provide the highest levels of security, resilience and efficiency.

After briefly outlining our other payment system roles, this article focuses on the Reserve Bank’s direct involvement in the operation of the New Zealand payment system, as provider and operator of the Exchange Settlement Account System (ESAS) and NZClear.

Reserve Bank payment system roles

The Bank’s payment system roles include:

Regulator

Under the Reserve Bank of New Zealand Act, the Bank has specific regulatory powers over aspects of the payment system. A key aspect of these responsibilities is to make recommendations to the Minister of Finance on applications for payment systems to be “designated”. Designation gives legislative backing to the finality of settlements that are effected in accordance with the system’s rules, a vital element in providing certainty in the event of a failure of, in particular, a financial institution. In the case of securities settlement systems, the Bank and the Financial Markets Authority are joint regulators.

“Banker to the banks”

Approved financial institutions can open an exchange settlement account (ESA) at the Reserve Bank. The Bank has provided such accounts since its inception, and perhaps the most important feature of ESAs is that the balances are essentially free of credit risk. Financial institutions hold balances in their ESAs at the Bank (accounts must be kept in credit) and use those accounts to make payments to other financial institutions. The Bank is therefore, in colloquial terms, “banker to the banks”. ESAs have been opened by ten registered banks, CLS Bank International (the international vehicle for the settlement of many foreign exchange transactions), and New Zealand Depository Limited (a subsidiary of NZX Limited).

The Reserve Bank also provides an account for the Crown to facilitate the Government’s own banking arrangements.

Overall demand for settlement cash from the financial system fluctuates. The ability to influence the supply of settlement balances, or the price paid on (or charged for) those balances is the essence of monetary policy. The Bank undertakes open market operations to maintain a reasonably stable total level of settlement cash, smoothing flows to and from the Crown and ensuring that short term interest rates on interbank lending are not materially different from the OCR - the interest rate paid on deposits held in exchange settlement accounts.

In recent years, the overall level of settlement cash held by financial institutions has been in the range of $6 billion to $8 billion. During the 2008/09 international financial crisis the Bank provided additional liquidity to the system and at the height of the crisis the aggregate of

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1 The author thanks Ian Jupp, Andrew Rodgers, and Michael Reddell for helpful comments on earlier drafts of this article.
2 For more details on the Bank’s oversight role, see Chan and Irvine (2008).
3 For more details on designation and finality, see DeSourdy (2004).
settlement balances was for a brief period in a range of $10-11 billion.

Provider of system infrastructure and operation of systems

The focus of this article, however, is on the design and conduct of the two payment systems the Bank operates. These systems are:

• ESAS, the system which operates the exchange settlement accounts, processes payment instructions between settlement account holders.
• NZClear (formerly known as the Austraclear New Zealand system) which primarily allows members of that system to settle the sale and purchase of securities lodged in the system by simultaneously exchanging title to the securities and payment for those securities. This feature is known as “delivery versus payment” and the simultaneous exchanging of the elements to a transaction eliminates what is known as “settlement risk” (the risk that one party to a transaction performs its settlement obligations but the other party fails to do so). In addition to settling securities transactions, NZClear is a facility which allows members to make payments of cash to each other.

ESAS and NZClear are real-time gross settlement systems (‘RTGS’). That means each transaction entering these systems is settled individually and in real-time (there is no accumulation of transactions for batch settlement for example).

ESAS and NZClear are also both designated settlement systems under the Reserve Bank Act. The NZClear designation took effect only quite recently, in October 2012. In order to achieve designation, changes were made to the NZClear Rules after consultation with members and the new rules took effect from March 2012. NZClear is regulated jointly by the Reserve Bank’s Prudential Supervision Department and the Financial Markets Authority. All dealings on these issues between the Bank’s Financial Services Group and Prudential Supervision Department occur on an arm’s length basis.

NZClear has around 120 members in New Zealand and Australia, encompassing not just banks but also custodians, trustee companies, brokers and funds managers. NZClear’s main role, to settle securities transactions, is largely a commercial activity and is conducted with the objective of achieving a commercial profit. By contrast, ESAS supports a core policy function of a central bank, underpinning the conduct of monetary policy (and the system thus operates on a cost-recovery basis).

Relationship between ESAS and other payment systems

ESAS records the transfer of funds between financial institutions themselves and is, thus, at the apex of the payments system. Each transfer within ESAS can reflect settlement of a single transaction or settlement of the net value of a large number of underlying transactions. For example, a single payment within ESAS can represent the net value of thousands of underlying transactions between the customers of two financial institutions. One of those institutions sends authorised instructions to ESAS to transfer an amount equal to the net value of the underlying transactions from its own ESAS account to that of the other institution. ESAS itself does not record the details of the underlying transactions (these are recorded and separately exchanged by the two financial institutions by a process known as “interchange”).

There are four primary ways ESAS can receive instructions to effect transfer of funds between accounts (not all of which are used by every account holder):

• ESAS account holders use NZClear to send instructions directly to ESAS. These instructions are initiated by NZClear members who are required to use an ESAS account holder as their bank. Transactions will settle in NZClear if the relevant NZClear member has sufficient funds (or credit) with their bank and that bank has sufficient funds in their ESAS account to pay the bank for the NZClear member receiving the funds.
• ESAS account holders are members of a SWIFT

SWIFT stands for the Society for Worldwide Interbank Financial Telecommunication. SWIFT is a global messaging network which provides entities with a secure means of sending and receiving messages such as electronic payment instructions. SWIFT is a co-operative institution based in Belgium and owned by the world’s major financial institutions.
closed user group known as ‘AVP’ (Assured Value Payment). This facility is used by banks to transfer cleared funds (typically high value transactions, such as house settlements) on behalf of one of its customers to a customer of another bank. ESAS will receive authenticated instructions from an account holder which is a member of the AVP closed user group. The system will process the instructions debiting one ESAS account and crediting another, providing the ESAS account holder making the payment has sufficient funds in their ESAS account.

- ESAS account holders are members of a SWIFT closed user group known as ‘SBI’ (Settlement before Interchange). This operates in a similar way to AVP but the membership of this closed user group is administered by Payments NZ Limited rather than the Bank. SBI is described in more detail below.
- ESAS account holders can enter transactions directly into ESAS rather than submitting instructions via NZClear or via SWIFT. Direct entry is used only rarely, generally when operation of either of the NZClear or SWIFT interfaces has been interrupted or when a financial institution has lost its connection to ESAS.

How ESAS and NZClear services are delivered

ESAS and NZClear are two distinct services. Each service is governed by separate contracts (the ESAS Terms and Conditions and the NZClear Rules respectively). Despite being distinct services, ESAS and NZClear operate on the same computer platform. The two groups of users have separate logical access, but having ESAS and NZClear on the same computers provides account holders and members with economies of scope. As a result, the systems are cheaper to operate than they otherwise would be. Having the Bank as operator of both systems also provides more easily for synergies in areas such as liquidity management (for example the NZClear system has a module which allows ESAS account holders with eligible collateral to generate liquidity to meet short term and time critical payment requirements using an automatic reverse repo facility).

Figure 1
How ESAS and NZClear services are delivered

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ESAS account holders and NZClear members are linked to the Bank’s systems via telecommunications networks which allow data entry, authorisation and processing to occur throughout the day. Both systems are typically open for 23.5 hours per day, with the banking day, for settlement account purposes, ending at 8:30am.

ESAS and NZClear services are provided by the Bank’s Financial Services Group which is headed by the Chief Financial Officer. Bank staff provide help desk services to ESAS accountholders during core processing hours, from 7.30am to 12.15am the following day.

The Bank’s information technology section (Knowledge Services Group) provides technical support, particularly with respect to telecommunications and internet connectivity and security. Key software support and development services are outsourced to Datacom Systems (Wellington) Limited. All these parties work closely together to deal with issues and make sure the extensive programme of systems maintenance and development work is kept on schedule.

In 1990, the Bank was granted a licence to operate the NZClear system in New Zealand for 25 years. The system (then known as the Austraclear New Zealand system) was developed by Austraclear Limited for use in Australia and was subsequently adapted for use in New Zealand. In 1996, the Bank commissioned Austraclear Limited to develop ESAS and this was done by the addition of a new module to the Austraclear New Zealand system. The development of ESAS also entailed utilising some of the existing Austraclear programmes. Following consultation with the industry, in 2010 the Bank purchased the right to use the Austraclear New Zealand computer code in perpetuity.

Business developments

The most significant recent business development for ESAS is the introduction of “settlement before interchange” (SBI) for retail transactions. SBI became fully operational in 2012 and replaces the processing formerly undertaken by Interchange and Settlement Limited (ISL). The ISL model provided for central collation of retail transaction information which was interchanged overnight with subsequent bilateral deferred settlement of the net value of all transactions between banks the next morning. By contrast, under SBI, each bank progressively prepares interchange files containing retail transactions with customers of another bank at various times during the banking day. Those files are released to SWIFT where they are held until a message is received confirming that interbank settlement has occurred in ESAS.

A settlement request for the net value of the transactions in each file is sent to ESAS and once the settlement is effected between the two banks’ ESAS accounts, the file containing the underlying customer details is then released by SWIFT and is received by the destination bank. Settlement in ESAS of the net value of underlying transactions in the file occurs before the interchange process is completed. The key benefit of SBI is that it brings forward the timing of settlement and reduces the pipeline of incomplete transactions in the event that a bank fails during the course of the banking day.

To facilitate SBI, the Bank provided an additional interface to ESAS and has extended the hours of operation of its RTGS help desk.

Both ESAS and NZClear proved robust through the global financial crisis, a period of considerable uncertainty. These systems provide certainty to financial institutions - in particular certainty that funds for a transaction have been received and their receipt is not contingent on any other factors, and certainty that once the funds are received the transaction cannot be unwound or revoked.

Table 1 shows average daily transaction volumes and values passing through ESAS. The average value of transactions has fallen from a high of $39 billion per day prior to the crisis to nearer $25 billion per day now. This is consistent with a similar trend in other countries, reflecting reduced activity in foreign exchange markets in particular. The average daily number of transactions passing through ESAS continues to rise. This is partly due to the introduction of SBI in February 2012 which has added approximately 500-600 transactions per day to ESAS.

Table 2 shows key average daily statistics for
NZClear, which mainly handles New Zealand securities transactions. The number of transactions remains in a relatively tight range, but the average value of transactions settled each day has increased materially. Some of this is no doubt related to the considerable growth in assets held in the system for its members (table 3), in turn mostly because of the rapid growth in New Zealand government securities on issue over the last few years.

**Systems developments**

In 2007 and 2012, major changes were made to the computer architecture of the ESAS and NZClear systems. In 2007, in addition to using new hardware, the systems underwent a complete rewrite with all screens changing from the original character-based layout to a Windows or graphical user interface layout and construction.

The 2007 systems upgrade coincided with the development of internet-based access to NZClear and ESAS (replacing the previous dial-up facility). Most larger members continue to access ESAS and NZClear using a dedicated telecommunications network established by the Bank and operated by Telecom Corporation of New Zealand Limited (with another provider providing alternate access and failover facilities in the event of an emergency).

The systems upgrade in 2012 involved a complete hardware replacement and provided improved systems performance and considerable room to accommodate future increases in transaction volumes. Moreover, this upgrade increased the number of back up environments that are available to the Bank in the event of a physical outage at one of the Bank’s processing sites.

A number of new interfaces have been added to NZClear to automate processing and reduce operational risk. NZClear is now linked to the two main securities registries (Computershare and Link Market Services). These links allow members to electronically deliver or lodge securities into the NZClear system by entering details into NZClear which then electronically effects the

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**Table 1**

**Key ESAS statistics**

<table>
<thead>
<tr>
<th>Year ended 30 June</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average daily transaction volumes (number)</td>
<td>5472</td>
<td>6081</td>
<td>7,024</td>
<td>7,156</td>
<td>6,929</td>
<td>7,383</td>
<td>8,518</td>
</tr>
<tr>
<td>Average daily transaction values ($bn)</td>
<td>36.6</td>
<td>36.3</td>
<td>38.9</td>
<td>36.8</td>
<td>28.6</td>
<td>26.6</td>
<td>25.1</td>
</tr>
</tbody>
</table>

**Table 2**

**Key NZClear statistics**

<table>
<thead>
<tr>
<th>Year ended 30 June</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average daily transaction volumes (number)</td>
<td>1123</td>
<td>1077</td>
<td>1119</td>
<td>973</td>
<td>899</td>
<td>854</td>
<td>963</td>
</tr>
<tr>
<td>Average daily transaction values ($bn)</td>
<td>9.6</td>
<td>6.6</td>
<td>6.3</td>
<td>6.8</td>
<td>7.0</td>
<td>7.6</td>
<td>8.9</td>
</tr>
</tbody>
</table>

**Table 3**

**Value of securities held in NZClear**

<table>
<thead>
<tr>
<th>Year ended 30 June</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed interest ($bn)</td>
<td>75.6</td>
<td>76.7</td>
<td>84.9</td>
<td>118.4</td>
<td>118.2</td>
<td>132.4</td>
<td>143.7</td>
</tr>
<tr>
<td>Equities ($bn)</td>
<td>18.7</td>
<td>22.4</td>
<td>15.6</td>
<td>12.7</td>
<td>13.4</td>
<td>16.5</td>
<td>17.2</td>
</tr>
</tbody>
</table>
transfer of securities between NZClear’s account at the securities registry and the security account at the registry used by that member. A similar interface was developed jointly by the Bank and the operator of NZX’s central counterparty settlement system to facilitate movement of securities between NZClear and the NZX system by NZClear members who are also members of the NZX system. These interfaces process more than 70,000 transactions each year.

For many years the Bank has had computers in both Auckland and Wellington which operate ESAS and NZClear. By alternating production and back-up between these sites every few months the Bank provided a very high level of confidence that system failover to the back-up computer would be effective if an emergency such as a large earthquake or a flood impacted the production computer. The opening of a Bank office in Auckland, which has skilled staff familiar with the Bank’s operations, provides assurance that help desk and related support services can be provided to ESAS and NZClear users if the Bank’s main office in Wellington is ever unable to provide those services.

The Bank consults with account holders and members on all material systems developments. Each quarter an NZClear user advisory committee reviews the Bank’s performance as system operator and provides input to the Bank’s decision-making on the system.

Risk management

Risk identification and management are crucial elements in the successful operation of ESAS and NZClear. In addition to day-to-day procedures and self-assurance programmes undertaken by the Bank’s Financial Services Group, and internal audits by the Bank’s Risk Assessment and Assurance division, ESAS and NZClear are audited by PricewaterhouseCoopers as agent for the Auditor-General. At the end of each quarter an external audit report is prepared in respect of the internal controls for the reconciliation of securities holdings recorded within NZClear and held at the relevant securities registries in the name of New Zealand Central Securities Depository Limited (a wholly owned subsidiary of the Bank). External audit reports are addressed to the Governor of the Bank, are reviewed by the Bank’s Board audit committee and published on the Bank’s website.

Conclusion

ESAS and NZClear are vital elements of New Zealand’s financial infrastructure, and it is high priority for the Bank to ensure that these systems continue to operate with the highest levels of availability and resilience. Effective risk management, updates to software and hardware, and a responsiveness to users’ needs in extending the range of functional services are each an integral part of delivering on that commitment.

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Developments in New Zealand’s overnight indexed swaps market

Raiko Shareef

New Zealand-dollar denominated Overnight Indexed Swaps (OIS) have been traded for just over a decade. Characteristics unique to OIS make them an ideal financial market instrument with which to hedge against a change in the Reserve Bank’s Official Cash Rate. Market participants tend to use OIS to hedge against short-term interest rate risk, or to speculate on the direction of monetary policy. As a result, the Reserve Bank uses OIS prices to gauge market expectations of future monetary policy decisions. Our analysis suggests that market-implied expectations are an unbiased predictor of the Official Cash Rate for all forecast horizons out to six months.

1 Introduction

Overnight Indexed Swaps (OIS) have been traded in New Zealand for just over a decade and have become a widely traded financial instrument. The Reserve Bank of New Zealand is interested in this product as its pricing can give a clean measure of the market’s expectations of future changes to the Official Cash Rate. Monitoring these expectations is important as they can have a strong bearing on the market’s response to the Reserve Bank’s actual monetary policy decisions. Moreover, the Bank seeks to avoid unnecessary instability in interest rates when implementing monetary policy, and expectations can reveal the scope for policy surprises.

Not long after their introduction, we presented OIS in a Bulletin article. Ten years on, we highlight some developments in the OIS market. Furthermore, we test the information content of OIS pricing as a gauge of monetary policy expectations.

2 What is an overnight indexed swap?

As explained in Choy (2003), an interest rate swap is an agreement between two parties to exchange (or ‘swap’) a series of fixed interest rate payments for a series of variable (or floating) interest rate payments (or vice versa) over an agreed time period. An Overnight Indexed Swap is a special type of interest rate swap in two respects. Firstly, OIS contracts involve the exchange of obligations for relatively short periods – for example, from six weeks up to about one year – whereas standard interest rate swap contracts run for longer periods – for example, from one to 30 years. Secondly, the floating reference rate in the OIS is reset overnight, whereas the floating rate for most interest rate swaps is reset less frequently – usually quarterly or semi-annually. In New Zealand, the floating rate in an OIS contract is the Reserve Bank of New Zealand’s Official Cash Rate (OCR).

The parties also agree on a notional principal amount that determines the size of the settlement sum at the end of the contract. The fixed rate and the time period (‘term’) are agreed when the contract is traded between the two parties. No money is exchanged between the parties until the end of the contract.

The money transferred between the parties is just the difference between the two rates, multiplied by the notional principal. As a result, there is very minimal capital required to enter into a contract. This lowers the hurdle for participation, as the counterparty credit risk is much lower than if the notional value was exchanged.

OIS pricing can be used to measure market expectations of the future OCR. Take a simple example where Trader A and Trader B enter an OIS contract for a term of two days. Suppose that on the second day, the RBNZ is due to review the Official Cash Rate, currently at 2.50 percent per annum. Trader A agrees to pay a fixed rate of 2.60 in exchange for receiving the OCR. This trade reveals that Trader A believes there to be a good chance the OCR will be raised on the second day. More specifically, he believes that there is a better-than-80 percent chance
that the OCR will be raised to 2.75. If Trader A and B were the only two participants in the market, then one could say that ‘market pricing’ implies an 80 percent chance of a 25 basis point hike at the next meeting. Trader B would not have entered the contract if she believed that there was a greater-than-80 percent chance of this rate hike.

There are a number of ways a bank or trader could hedge themselves against changes in monetary policy, including through the use of bank bill futures, interest rate swaps, or forward rate agreements. In New Zealand, the cleanest way to hedge against a change in the policy rate would be through the New Zealand dollar-denominated OIS market (NZD OIS hereafter). The reasons are threefold.

Firstly, the floating rate in an NZD OIS contract is the RBNZ’s OCR, whereas the floating rate on an interest rate swap (IRS) is usually the three-month Bank Bill Market (BKBM) rate, which is a weighted-average interest rate for unsecured lending between contributing New Zealand banks. The BKBM rate can be affected by the risk of floating interest rates moving adversely during the term of the contract, due to liquidity and credit considerations in the interbank market. Even putting aside these risks, it is clear that the interest rate that would most accurately reflect changes in the OCR is the OCR itself.

Secondly, the floating reference rate on an OIS contract is reset every night, which means that any change in the OCR will be reflected in the floating rate by the next working day. By contrast, the reference rate on an IRS is reset on a quarterly or even semi-annual basis. As a result, an investor receiving the floating rate in an OIS contract will receive the benefit of rising interest rates more quickly that an investor receiving the floating rate on an IRS.3

Thirdly, OIS contracts tend to be made for shorter terms, maturing between six weeks and one year from when the contract is struck. This means that a trader can take a position on any upcoming RBNZ policy decision, including the one that will be less than six weeks away.4 It has become common for OIS contracts to be struck specifically for RBNZ policy decisions dates (a development discussed later in this paper). As a result, if an investor wanted to take a position on a meeting two days away, there will be a price available to trade on.

3 This applies to an investor holding the instrument to maturity. Note that the mark-to-market value of the IRS and OIS will both change immediately following a change in the OCR.

4 While the decision may be less than six weeks away, an OIS contract struck specifically for that meeting will mature immediately before the next meeting i.e. the contract term will be at least six weeks.

3

Figure 1
A simple representation of an OIS contract

![Diagram of OIS contract]

Trader A
OIS payer

Pay floating rate x notional principal

Trader B
OIS receiver

Pay fixed rate x notional principal

26 Reserve Bank of New Zealand: Bulletin, Vol. 76, No. 1, March 2013
Box 1
OIS in other jurisdictions

The NZD OIS market is unique in that the OIS floating rate is the announced policy rate, rather than a realised overnight cash rate. Here we examine the conventional OIS floating rates in comparable jurisdictions.

In the United States, Japan, and Australia, the reference rate is a volume-weighted average of interest rates on unsecured lending between financial institutions that hold reserve balances at the central bank. In the United States, this rate is known as the daily effective federal funds rate. In Japan, it is called the uncollateralised overnight call rate, and in Australia, it is the interbank overnight cash rate. The central banks of all three nations use open market operations to try to match these overnight rates with their policy target rates.

In the euro area and in the United Kingdom, the reference rate is again a volume-weighted average of interest rates, but of unsecured lending between approved contributor banks, known as ‘panel’ banks. In the euro area, the reference rate is known as the European OverNight Index Average (EONIA), while in the United Kingdom, it is the Sterling OverNight Index Average (SONIA). Neither the European Central Bank nor the Bank of England explicitly targets these with open market operations, although changes in monetary policy will, to an extent, be reflected in these reference rates.

Figure 2 shows that large and persistent differences can occur between the floating rate used in OIS and the central bank policy rate. This can be expected in jurisdictions that do not target the OIS reference rate, such as EUR and GBP. But differences can also be large in jurisdictions which attempt to minimise them. This is particularly pronounced in the US. On the other hand, the difference between Australia’s policy rate and the OIS reference rate has been zero nearly every day since the early 2000s, and the rare differences since then have been in the order of 1 to 2 basis points.

Figure 2
OIS floating reference rate minus central bank policy rate (basis points)

NB: USD – given Federal Reserve Board’s target for the federal funds rates has been a band of 0 to 25 basis points since 16 December 2008, the target policy rate is assumed to be 12.5 basis points. EUR – main refinancing operation rate is used. Sources: RBNZ, Federal Reserve Board, European Central Bank, Bank of Japan, Bank of England, Reserve Bank of Australia, Reuters

Consequently, New Zealand and (in practice) Australia are two of the only nations in which a change in the policy rate will be passed on one-for-one to an investor receiving the floating rate in an OIS contract.

Volumes

Market participants confirm that trading in NZD OIS is dominated by shorter contracts, with 90 percent of OIS contracts made in 2012 due to mature within six months. A small proportion of contracts mature between six and 12 months, and very few contracts are struck for longer than one year. Participants note that practically no market for NZD OIS exists past the one-year mark.

NZD OIS is an over-the-counter derivative instrument, and as such, trading volumes are not publicly available. Market sources suggest that the average daily notional value of NZD OIS traded was roughly in the region of $500 million over 2012, nearly seven times larger than the estimated average daily turnover of $71 million in 2003 noted by Choy (2003).1 In terms of liquidity relative to other instruments, OIS is generally not as liquid as bank bill futures or shorter-term IRS, but more liquid than forward rate agreements (FRAs). Note that these relative liquidities change very frequently, depending on market conditions and events.

1 Choy used a monthly average of $1.5 billion. Assuming 21 trading days a month, this works out to be $71.43mn per day.
Research by the Federal Reserve suggests that notional trading volumes in OIS can be larger than volumes in similar derivative instruments like IRS or FRAs. The data, collected over the three months to 31 August 2010, showed that trading in OIS market represented 39 percent of the daily average volume in interest rate derivative transactions, compared to 34 percent represented by IRS and 14 percent represented by FRAs.

OIS has also seen increasing popularity in Australia. Results from an annual survey by the Australian Financial Markets Association (AFMA) show that OIS turnover in the Australian market increased to A$8.7 trillion in the year to 31 May 2012, up 64 percent from a year earlier. That year also marked the first time that OIS turnover volume was larger than that for IRS or FRAs.

Figure 4
Overnight indexed swaps outstanding at 31 May (A$bn)

The AFMA data also allocates turnover volume in the AUD OIS market by term of contract. Figure 5 shows that the AUD OIS market is dominated by contracts maturing within 12 months, and that the majority of AUD OIS contracts mature within six months. This is consistent with the idea that OIS is used mainly for short-term balance sheet hedging, or for speculation on upcoming monetary policy decisions.

It is important to note that comparing trading volumes of different instruments by the notional value traded can be misleading. Such a comparison can overstate or understate the relative risk taken on by an investor. In general, the risk taken on by an OIS investor is much smaller than that taken on by an IRS investor. This is because OIS contracts are almost always struck for a shorter duration than IRS contracts.

One way of characterising this risk is to determine the paper gain (loss) made by an OIS or IRS payer (receiver) when the floating reference interest rate rises by one basis point. For example, the investor paying the fixed rate on a six-month OIS contract with $500 million notional will make a paper gain of (roughly) $24,600 from a one basis point rise in the OCR. On the other hand, the investor paying the fixed rate on a two-year IRS contract with the same notional would make a paper gain of (again, roughly) $96,500 from a one basis point rise in BKBM.

Balance sheet hedging

Local banks use OIS to hedge interest rate risk on their balance sheets. In particular, banks tend to receive fixed OIS interest rates at three-month and six-month tenors to match fixed interest rates paid to customers on term deposits at those terms.

Figure 5 is adapted from Choy (2003), and shows how this hedging strategy might work. In this example, a bank extends a six-month variable rate loan to a business, receiving a floating interest rate in return. The bank funds this loan with a six-month term deposit, on which it pays a fixed interest rate. To protect itself from an unfavourable movement (in this case, a fall) in the floating rate, the bank enters into an OIS contract. In this contract, the bank receives a fixed rate and pays floating. As a result, the fixed leg of the OIS contract offsets the fixed interest rate paid on the term deposit.

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*Fleming, Jackson, Li, Sarkar and Zobel (2012)*
In the past, balance sheet managers have used FRAs to hedge term deposits. However, a relatively illiquid market for FRAs means that the balance sheet is exposed to greater liquidity risk. The market for OIS can be more liquid, so some banks have moved to using OIS instead.

Monetary policy speculation

Hedge funds and proprietary trading desks use NZD OIS to speculate on the direction of monetary policy, and tend to participate more when there is some uncertainty about the Official Cash Rate decision. To cater for these participants, OIS market makers offer contracts tailored to RBNZ OCR decisions. This facility is popular for two reasons. Firstly, an investor asking for an OIS price for a particular decision date would be quoted the implied OCR for that announcement. That is, the fixed rate to be paid or received between that announcement and the next. As a result, the investor can instantly see what the market expects for that OCR announcement. This is slightly harder to achieve if one is quoted a standard term OIS price, which might encompass more than one announcement. Secondly, announcement date contracts are easier to trade. While a six-month contract is fairly liquid, after two weeks, this becomes a 5.5 week contract, which can be hard to divest. Contracts for announcement dates tend to be more liquid, as market participants look to directly express an opinion on that announcement.

To illustrate why investors (both onshore and offshore) might be interested in the NZD OIS market, it is useful to recall events in June 2012, when financial markets feared that Greece might exit the euro area. If realised, that result would have deepened the European debt crisis, and central banks around the world may have decided to ease monetary policy further. Indeed, some market participants judged it to be worth hedging against policy rate cuts. However, major central banks already had interest rates close to zero, and were more likely use unconventional tools to loosen policy. On the other hand, both the Reserve Bank of Australia and the Reserve Bank of New Zealand still had room to cut interest rates, allowing those investors receiving OIS a higher potential payoff.

Note that overseas investors may place positions in NZD OIS out of a need to hedge another global position, and not necessarily out of a strong belief that the OCR...
would be cut. In other words, an investor who might have had conviction that Greece would stay in the euro area (and expressed it, say, by buying European equities) may have also entered into a contract to receive NZD OIS, as an insurance measure.

**Distortionary behaviour**

Large flows by speculative investors (although rare) can sometimes push OIS prices to the point where market-implied OCR expectations diverge from ‘true’ OCR expectations (however those might be measured). This is most likely to occur in times of increased economic uncertainty, and especially when investors attempt to hedge against large and unexpected ‘tail risk events’. This behaviour was particularly apparent in the lead-up to the 14 June 2012 OCR announcement. As figure 3 shows, hedging flows were the dominant force, pushing the price to imply 21 basis points of cuts. In contrast, 15 out of 16 surveyed market analysts expected no change to the OCR at that announcement.

**Figure 6**

Market-implied expectation of change to OCR at next meeting (basis points)

![Graph showing market-implied expectation of change to OCR at next meeting](image)

*NB: The OCR remained at 2.50 percent over this period*

Interestingly, one cannot tell whether the market was pricing in a (roughly) 80 percent chance of a 25 basis point cut, or a 20 percent chance of a 100 basis point cut, or indeed any combination between. Market contacts suggest that at least some market participants were hedging against the second possibility i.e. the very small chance of a very large cut.

On occasion, a lack of liquidity can also move market-implied pricing out of line with ‘true’ expectations of future monetary policy. Such a scenario tends to occur when there is little disagreement about the direction of monetary policy, so that OIS trading becomes thin. As such, we have to apply judgement when interpreting market-implied pricing.

**What is the information content?**

The Bank is interested in market expectations for various reasons. Market participants are looking at much the same data as the Bank itself, so market expectations can provide a useful cross-check. But market expectations, as reflected in market prices, also provide useful insight into how markets are likely to respond to the Bank’s OCR decisions and monetary policy communications. At times, the Bank may judge it appropriate for monetary policy settings to be different to those the market is expecting, which could cause a significant reaction in interest rates and the exchange rate. Sometimes those reactions will be desired, and consistent with the intended stance of policy. At other times, we might be wary of the risk of over-reaction. Either way, the Bank takes market expectations into consideration when it drafts communications regarding monetary policy.

Market participants interested in measuring market-implied policy expectations are likely to have models which use OIS prices. These may differ from the Reserve Bank’s own model, based on the method used to estimate market expectations from financial market prices. As a result, the implied expectations may vary slightly. For example, when different instruments are available for the same term, market participants may use their judgement to choose which instrument’s price to use in their model.

NZD OIS prices are an important input into the internal RBNZ model. OIS prices are relied upon to provide all the information on market expectations out to the six-month forecast horizon, and are used along with other instruments to provide expectations beyond that.

More specifically, the Reserve Bank’s model calculates short-run expectations (i.e. up to six months) directly from OIS prices, and calculates the longer horizons by fitting

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*Krippner, L (2012)*
a model to a forward yield curve, using OIS, IRS, FRAs, and physical bank bill prices. When multiple instruments are available at the same term, the model systematically uses the prices of all of them to produce a market-implied expectation of the OCR.

We have used the model to investigate how well market expectations implied from NZD OIS prices predicted past OCR decisions, based on 74 RBNZ OCR announcements from 23 October 2003 to 6 December 2012. The sample period captures the tightening cycle through the mid-2000s, the dramatic easing in response to the global financial crisis, the gradual removal of stimulatory policy in 2010, and the rate cut in response to the Canterbury earthquake.

Figure 7 gives an insight as to how closely implied pricing can track the OCR. It shows market-implied expectations of the OCR for the upcoming announcement, using information derived exclusively from NZD OIS. Two observations are worth making. Firstly, the market has almost always correctly picked the direction of the next OCR move. Secondly, the market’s prediction for the upcoming decision generally improves as the announcement date approaches. One would expect this to be the case, as data releases and other information revealed in the lead-up to an announcement might impact on the policy decision, and the market will incorporate this into its pricing.

Figure 7 strongly suggests that the RBNZ’s written and verbal communication at the previous meeting is generally consistent with its policy moves at the next meeting. In other words, the RBNZ does not appear to have surprised the market with a rate hike (cut) after communicating an easing (hiking) bias at the previous meeting.

A forecast error is defined as the difference between the market-implied expectation of the OCR at a particular horizon and the realised OCR. Figures 8 and 9 show the mean forecast errors over the full range of forecast horizons studied, from one day to one year, and every day falling between. The figures also show confidence bands, centred on the mean forecast error. The interpretation is that 90 percent of the forecast errors fell between these two lines.

The former observation is relevant for the Reserve Bank’s mandate to seek to avoid unnecessary instability while implementing monetary policy.
The mean forecast error was remarkably small, suggesting that OIS market pricing offered an unbiased estimate of the actual OCR. Six weeks before a Reserve Bank announcement, the model predicted an OCR three basis points higher than was actually realised. In other words, immediately following an OCR decision, the model (on average) correctly predicted the next OCR within 0.03 percent. If one (somewhat wishfully) excludes the global financial crisis,9 this forecast performance improved dramatically. In this case, at a six-week forecast horizon, the model predicted an OCR just one basis point (0.01 percent) lower than realised. At a six-month horizon, the average error was just five basis points (0.05 percent).

Three other observations are worth making. Firstly, forecast errors were larger as the horizon increased. This is not surprising. Much more market-moving information can be released in the six months before an announcement than can be released the day before. At a six-week forecast horizon, 90 percent of the forecast errors fell between 38 basis points above and 33 basis points below the actual OCR. At a six-month horizon, this band widened to 161 basis points above and 120 basis points below the actual OCR.

Secondly, for the sample excluding the global financial crisis, the confidence bands were roughly half as wide at every forecast horizon. This implies, again unsurprisingly, that the forecast errors for announcements during the GFC were significantly larger than those for announcements outside of that period, due to higher-than-usual uncertainty.

Thirdly, the two sets of forecast errors show different biases. Over the whole sample period, market pricing, on average, implied a higher OCR than what actually came to pass. This ‘overprediction’ rises from around 0.03 percent at the one-month horizon, to 0.50 percent at the one-year horizon. To explain this, first note that the market will only ever be choosing between two possible outcomes for the upcoming announcement — either no change and a hike, or no change and a cut. During an easing cycle,10 the market-implied expectation will lie somewhere between a decision to hold the OCR and a decision to cut. Given that the overall sample is dominated by the easing cycle through the GFC, it makes sense that the average market-implied forecast is higher than the realised OCR.

Excluding the GFC, the model persistently picked a lower OCR than actually realised. This is due to the sample now being dominated by the tightening cycle from 29 January 2004 to 05 June 2008, where the market was picking between no change and a hike.

Using some simple regression analysis, we can test the idea that the model accurately predicted the actual OCR at various forecast horizons.11 To do this, we test whether the model’s forecast, made at time t for horizon h, will be exactly equal to the OCR realised at time t+h.

\[ OCR(t + h) = \alpha + \beta \cdot OCR(t, h) + \varepsilon(t + h) \]

We impose the constraint that \( \beta = 1 \) for all the horizons we test. This forces any systematic forecast errors (i.e. biases) over the sample for each horizon to be accounted for as a constant term premium \( \alpha \).

The results are shown in table 1. The first column gives the forecast horizon we are testing, and the second column gives the estimate of the term premium \( \alpha \). The right-hand column is the most important, and shows how confident we can be that \( \alpha \) is non-zero at that particular forecast horizon.13

The results suggest that the model is an unbiased predictor of the OCR for all horizons out to six months. That is, the probability of \( \alpha \) being non-zero is less than 95 percent (a typical statistical benchmark) in all those cases. For six months and beyond, there is greater than 95 percent probability of \( \alpha \) being non-zero. This suggests that

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9 Specifically, period beginning at the first rate cut on 24 July 2008 and ending on 29 April 2010, which was the last meeting before the first rate hike.

10 Here, an easing cycle is defined from the first OCR cut until the next OCR hike.

11 For this analysis, we use 67 Reserve Bank announcements from 9 September 2004 to 6 December 2012. While we have OIS prices implying OCR expectations for the 23 October 2003 meeting, one-year-ahead expectations are available only for the 9 September 2004 meeting onward.

12 The error term \( \varepsilon(t+h) \) always has mean zero and minimised variance.

13 For those familiar with regression analysis, the probabilities are obtained from t-statistics for the regression parameters (heteroskedastic- and autocorrelated-adjusted via the Newey-West method for our particular application). Also, regression analysis jargon would typically phrase the results as giving probabilities of not rejecting the hypothesis that \( \alpha = 0 \). But, for easier interpretation by the reader, we have expressed our results as the probability of \( \alpha \) being non-zero.
Table 1
Regression results

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the OIS data and/or the Bank’s model may systematically overpredict the OCR (by 22 to 50 basis points) for those horizons.

Conclusions

The New Zealand-dollar Overnight Indexed Swaps market provides participants with an efficient way of expressing a view on New Zealand’s monetary policy. Consequently, the market plays an important role in helping the Reserve Bank of New Zealand to gauge policy expectations. While there are periods in which market-implied expectations can misstate ‘true’ expectations, the increasing use of the market will improve the information content.

Our analysis suggests that OIS prices are an unbiased predictor of the realised OCR out to six months, with the estimated term premium being statistically immaterial. However, there may be small biases in the data or the Bank’s model for horizons from six months outward. We will bear these results in mind when using the model as an indicator for OCR expectations.

References


DISCUSSION PAPERS

DP2013/01
Export performance, invoice currency, and heterogeneous exchange rate pass-through

Richard Fabling and Lynda Sanderson

Using comprehensive, shipment-level merchandise trade data, we examine the extent to which New Zealand exporters maintain stable New Zealand dollar prices by passing on exchange rate changes to foreign customers. We find that the extent to which firms absorb exchange rate fluctuations in the short run is significantly related to both invoice currency choice and exporter characteristics when these are analysed separately. However, when jointly accounted for, the role of exporter characteristics largely disappears. That is, some firm types are more inclined to invoice in the New Zealand dollar, while others use either the importer or a third currency. In the short run, this translates into differences in exchange rate pass through because of price rigidity in the invoice currency. Differences across invoice currencies diminish, but do not disappear, over time as prices adjust to reflect bilateral exchange rate movements.
NEWS RELEASES

Reserve Bank Bulletin released
19 December 2012


The Bulletin’s first article looks at how well New Zealand’s labour market is doing in matching workers with available jobs. The unemployment rate suggests there is substantial slack in the labour market, yet some other indicators suggest the market is tighter and less disinflationary. The article explores this apparent discrepancy and suggests both the Canterbury earthquakes and international migration flows may have contributed to an increased mismatch between job vacancies and available unemployed workers.

The second article explains how repo markets function and what differentiates New Zealand’s repo market from those offshore.

Recent trends and developments in currency are explored in the Bulletin’s third article. Despite the increasing use of electronic payments in New Zealand, the value of currency in circulation continues to rise. The article outlines the Bank’s rigorous note processing procedures, which ensure the notes in circulation are of high quality.

The Bulletin’s final article outlines the work that is underway to produce a full set of financial accounts and flow of funds tables for New Zealand. Such accounts are expected to improve understanding of financial behaviours and relationships in New Zealand’s economy. New experimental estimates of some components of household business assets add another $170 billion to previously published estimates of total household assets.

Bank lending and the housing market
25 January 2013

By Reserve Bank Deputy Governor Grant Spencer
As published in the New Zealand Herald and Dominion Post

Recent debate about rising house prices in Auckland and elsewhere has included discussion on the risk weights the Reserve Bank requires banks to apply to their housing lending. Some of this discussion has focused on the impact that risk weights may have on the volume of credit, and house prices.

Risk weights play an important part in the Reserve Bank’s supervision of the banking sector. They help to determine the amount of capital that the banks need to set aside to cover losses on their lending to different sectors. In essence, the riskier the sector, the more capital must be held against lending to that sector.

The risk weights factor in things like the borrower’s capacity to repay the money, the type of assets put up as security for the loan, and the amount of security relative to the size of the loan. History provides some insight into the importance of these various factors.

As a result of these risk factors, risk weights vary for different types of lending, with housing having a lower risk weighting than business or rural lending, which typically involve more risk.

The risk weights are not set in order to incentivise any particular lending type over another. Instead, they reflect the different risks inherent in different types of lending, leading to capital holdings against loans that are appropriate for the risks involved. This tends to result in higher lending margins on riskier loans, but does not imply that banks will always lend to housing ahead of other sectors. In principle, banks will set loan margins such that risk-adjusted returns will be similar across sectors.

The Reserve Bank sets its risk weights in accordance with the international standards set by the Basel Committee on Banking Supervision, adjusted to fit the New Zealand context. Indeed, risk weights on housing lending in New Zealand are relatively high by international standards, the average in New Zealand being almost three times that of the Canadian average or around 1.5 times that of Australian or UK banks, according to a recent International Monetary Fund study. So the NZ regime does not favour housing lending compared to international norms.

The Basel Committee standards followed by the Reserve Bank provide for risk weights to be adjusted in accord with local risk factors, such as the position of the housing cycle. However, this facility is not designed to accommodate economic or social objectives. Rather it is intended for overall financial stability purposes – such as
preventing an unusually large build-up of lending risk in a particular sector.

A build-up of lending risk can, in some circumstances, leave banks overexposed to a sector where an asset bubble develops and eventually bursts, threatening the stability of the financial system overall. Adjusting risk weights to account for these risks can help build greater resilience in the face of such bubbles and, used early, could help prevent bubbles developing in the first place.

Recently, regulators around the world have been developing macro-prudential tools, which include the potential adjustment of sectoral risk weights. It is one of a suite of macro-prudential tools the Reserve Bank has been assessing for potential use in the future, including in situations where house prices may be accelerating to unsustainable levels.

But adjusting sectoral risk weights in this manner is not for everyday use and should be used under very specific conditions. It may be the case that an alternative macro-prudential tool, such as Loan to Value Ratio (LVR) restrictions, could be more appropriate in any given set of circumstances.

The framework the Reserve Bank is currently developing will establish the parameters for using macro-prudential tools. This will include when and in what conditions they might be appropriate, as well as clarifying governance and accountability issues. A public consultation on macro-prudential policy is expected to be released in late March.

**OCR unchanged at 2.5 percent**

*31 January 2013*

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

Reserve Bank Governor Graeme Wheeler said:

“Domestically, recent data on business confidence and construction activity suggest GDP growth is recovering from the softness seen through the middle of last year. The Canterbury rebuild is gathering momentum and its impact will be felt more broadly in incomes and domestic demand. House price inflation has increased and we are watching this and household credit growth closely. The Bank does not want to see financial stability or inflation risks accentuated by housing demand getting too far ahead of supply.

“Inflation remains subdued and is currently just below the bottom of the Reserve Bank’s inflation target range. This mainly reflects the impact of the overvalued New Zealand dollar. The high currency is directly supressing inflation on traded goods, and is undermining profitability in export and import competing industries. At the same time, the labour market remains weak and fiscal consolidation is dampening growth.

Overall, we expect economic growth to strengthen over the coming year, reducing spare capacity and bringing inflation slowly back towards the 2 percent target midpoint.

“On balance, it remains appropriate for the OCR to be held at 2.5 percent.”

**Economic destiny largely lies in New Zealand’s hands**

*1 February 2013*

Improving New Zealand’s productivity and competitiveness is critical to our economic prosperity, the Governor of the Reserve Bank said today.

In a speech to the Canterbury Employers’ Chamber of Commerce in Christchurch, Mr Wheeler said there is no easy formula for boosting economic growth rates. Like other small, commodity-producing economies, New Zealand’s economic prospects depend greatly on the growth in world output and trade.

But Mr Wheeler said there are ways to build prosperity in the longer term, and the Reserve Bank is committed to helping cement the foundations for this growth.

As well as ensuring price stability and reducing the risk of inflation surprises, the Bank is strengthening financial
sector regulation and supervision to promote a stable and
efficient financial system.

Strong international demand for New Zealand's
commodity exports will also help to build prosperity.
However, we need more investment to help with job
creation and market development.

“Instead of welcoming foreign investment, we have
one of the more restrictive frameworks among OECD
countries. We should re-examine the factors, including tax
and regulation, that diminish and distort the incentives to
both save and invest,” he said.

Mr Wheeler said returning to fiscal surplus and
lowering public sector indebtedness will also strengthen
the economy’s resilience and create more room for
responding to future economic shocks.

Improving education and employment outcomes,
especially for Maori and Pacific Islanders, will also help to
strengthen New Zealand’s skill base, improve productivity,
and reduce inequality.

“To a considerable extent our destiny lies in our own
hands,” Mr Wheeler said.

“We’ve much to do in continuing to build our
global linkages and addressing government spending
and regulatory issues that diminish productivity and
competitiveness. But addressing these will create
valuable payoffs for our future given our major resource
endowments, our impressive agricultural and primary
production engine, and the potential in our education,
tourism and other sectors.”

Reserve Bank Deputy Governor
appointed
12 February 2013

Geoff Bascand has been appointed Deputy Governor
and Head of Operations of the Reserve Bank, Governor
Graeme Wheeler announced today.

Mr Wheeler said Mr Bascand’s appointment has been
approved by the Reserve Bank Board, and will take effect
on 27 May 2013. He replaces Dr Don Abel, Assistant
Governor and Head of Operations, who retires this week
after providing outstanding service over an eight-year
period.

Mr Bascand is currently the Government Statistician
and Chief Executive, Statistics New Zealand. He will
join Grant Spencer, the Bank’s Deputy Chief Executive
and Head of Financial Stability, as one of two Deputy
Governors that can be appointed under the Reserve Bank
of New Zealand Act.

“Mr Bascand is a very accomplished leader and
manager. In his time at Statistics NZ, he has strengthened
the official statistics system, improved organisational
performance, enhanced relations and governance
mechanisms, and led significant cultural change and
leadership development,” Mr Wheeler said.

Mr Bascand has previously worked in senior
management roles in the Department of Labour and the
New Zealand Treasury, and was a senior economist at the
International Monetary Fund.

RBNZ appoints Head of Currency,
Property and Security
18 February 2012

The Reserve Bank has appointed Brian Hayr as Head
of Currency, Property and Security (CPS).

CPS meets the currency needs of the public by
ensuring the supply and integrity of notes and coins, and
is also responsible for security and property management
at the Reserve Bank.

Reserve Bank Assistant Governor and Head of
Operations, Dr Don Abel, said Mr Hayr has extensive
experience in retail banking, having worked for the
National Bank and, more recently, Westpac NZ, as the
Chief Operating Officer Retail.

In his final position at Westpac, prior to taking a
year’s sabbatical in 2012, Mr Hayr led the operational
teams responsible for cash distribution and management
as well as the security and operational efficiency of the
Bank’s 200 retail branches.

Mr Hayr has also represented Westpac as a director
on the board of Paymark NZ.
Manufacturing decline not just a dollar story

20 February 2013

The decline in the manufacturing sector is much more than a simple exchange rate story, the Governor of the Reserve Bank said today.

In a speech to the New Zealand Manufacturers and Exporters Association in Auckland, Graeme Wheeler said factors such as globalisation, outsourcing and international supply chains, along with competition of low cost producers and rising global demand for services meant that the relative importance of manufacturing had been declining in all but the poorest countries for the past 40 years. New Zealand was no exception.

Mr Wheeler acknowledged the New Zealand dollar was significantly overvalued in terms of economic fundamentals, and this was a headwind for some in the manufacturing sector. But he said there are no simple solutions available to the Reserve Bank.

“Some of the strength in our real exchange rate is due to global financial imbalances and the weakness of the US dollar in particular.”

Near-zero interest rates and quantitative easing by other central banks have pushed up currencies like the New Zealand dollar, and domestically, New Zealand’s poor savings record is also to blame.

Mr Wheeler said the Bank stands ready to intervene in the currency when circumstances are right and to use the Official Cash Rate as required. It is also investigating the use of macro-prudential tools which will help to support monetary policy.

While commentators have suggested a wide range of alternative policy responses to lower the New Zealand dollar, there are no quick fixes available to the Reserve Bank.

“Our economic challenges are different from the US, Euro area, and Japan, and quantitative easing would increase inflation, raise inflation expectations, stimulate asset prices, and lead eventually to higher interest rates.

“Efforts to improve the level and productivity of capital that labour works with, to reinforce ongoing fiscal adjustment, to re-examine the factors that diminish and distort the incentives to save and invest, and to reduce dependence on the savings of others, have to be a major part of the solution.”

RBNZ consults on macro-prudential framework

4 March 2013

The Reserve Bank today released a consultation paper on its proposed framework for macro-prudential policy in New Zealand.

Deputy Governor Grant Spencer said: “Following the lessons learned in the global financial crisis, policy makers internationally have been seeking ways to lessen risk in the financial system.

“Macro-prudential tools can have a role to play in this, by reducing the risks associated with excessive credit and asset price growth, or a reliance on unstable funding sources. As a result the Reserve Bank is now consulting on tools it believes could be useful additions to the policy toolkit in New Zealand.

“Four macro-prudential tools, which have the potential to be applied to the banking system, are being consulted on as part of this process.

“It is important to note that these tools would not replace the existing prudential regulation of banks already carried out by the Reserve Bank, but would be supplementary tools, used from time to time to help manage risks arising from the credit cycle.”

The tools outlined in the consultation paper include: the countercyclical capital buffer; the core funding ratio; sectoral capital requirements; and restrictions on high loan-to-value residential mortgage lending.

The consultation document explains the tools in more detail, as well as setting out the proposed decision-making, governance and accountability framework for conducting macro-prudential policy in New Zealand.

The Bank has released a background paper (PDF 893KB) to provide further technical context to its proposals and has also provided a simple Q&A document.

Submissions on the proposals are sought by 10 April 2013.
Effective monetary policy requires transparency
7 March 2013

Robust decision-making processes and clear communication are essential for effective monetary policy, the Governor of the Reserve Bank Graeme Wheeler said today.

In a speech to the University of Auckland Business School, Mr Wheeler said global financial markets are still dealing with the major regulatory changes and the massive adjustments taking place in government, corporate, financial sector and household balance sheets.

“The spill-overs from these adjustments, and the fiscal and monetary responses to them, can be especially challenging in small open economies with stronger growth prospects, and where there are high expectations of what central banks can achieve.”

Mr Wheeler said the Bank endeavours to provide an accurate assessment of the implications and challenges of these adjustments for the New Zealand economy, while being clear about what it can and cannot influence.

Measures to ensure transparency include the publication of an OCR projection in the Bank’s quarterly Monetary Policy Statement, to help businesses and households plan with greater confidence, and shape expectations about the future path of interest rates.

The Bank recently established a Governing Committee, comprising its team of Governors, who will debate major policy matters leading to decisions, Mr Wheeler said.

“While establishing this Committee represents a management change rather than a governance initiative, the Governing Committee will maximise the knowledge and experience of the Governors individually and, as a collective, rigorously test ideas and build consensus around major policy decisions. The Governor remains solely accountable for those decisions under the Reserve Bank Act.”

Mr Wheeler said communicating policy decisions is equally as important, and the Bank’s communications programme will also be expanded to include more on-the-record speeches, and use a wider range of Bank speakers and communication channels, to help broaden understanding of the Bank’s policy choices and tools.

OCR unchanged at 2.5 percent
14 March 2013

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

Reserve Bank Governor Graeme Wheeler said:

“The downside risks around global growth have receded in recent months, and financial market sentiment has improved.

“Domestically, the economic recovery is uneven. While demand and output are expanding, the labour market remains weak. Economic growth and inflation are being shaped by a range of forces. The Canterbury rebuild is gaining momentum and residential investment and business and consumer confidence are increasing. House price inflation is increasing and the Bank does not want to see financial stability or inflation risks accentuated by housing demand getting too far ahead of supply.

“The overvalued New Zealand dollar is undermining profitability in export and import competing industries, and worsening drought conditions are creating difficulty in much of the country. Ongoing fiscal consolidation will also act to slow overall demand.

“We project the economy to grow at an annual rate of between 2 and 3 percent over the forecast period. Inflation is expected to rise gradually towards the 2 percent midpoint of the target range.

“There are both upside and downside risks to this outlook. At this point we expect to keep the OCR unchanged through the end of the year.”

View the Monetary Policy Statement at http://www.rbnz.govt.nz/monpol/statements/

Forecasting key to monetary policy decisions
15 March 2013

Making sense of what is going on in the economy and forecasting future economic conditions are essential for making good monetary policy decisions, the Reserve Bank’s Assistant Governor John McDermott said today.
In a speech to the Financial Services Institute of Australasia, Dr McDermott said forecasting can be difficult, because the economy is never static and monetary policy actions take time to influence inflation. But forecasting is an important element of the Bank’s communication of policy and risks.

Dr McDermott said there is no single “correct” way to look at the economy, and the Bank draws on a range of official data, statistical models, surveys, business visits and market monitoring to shape its view of the economy.

“The forecasting framework includes some fundamental economic principles to anchor our analysis and dialogue. These include the big lesson from the 1970s experience, that you can’t sustainably get higher growth by tolerating a bit more inflation, and that to try to do so will eventually cause high and variable inflation, and damage the economy.”

Currently, monetary policy faces some big forecasting challenges, including the treatment of the persistently high exchange rate, high household debt and accounting for the substantial Canterbury rebuild. The Bank must predict the balance of the opposing economic forces, recognise the uncertainties and account for trade-offs.

“For example, it may seem there is room to cut interest rates, given we are below our inflation target. But we have had to weigh up that such a cut would also probably exacerbate the current strength in house prices, resulting in higher debt levels and potentially raising financial stability issues.”

Dr McDermott said the Bank goes to extensive efforts to ensure the economic outlook and the strategy framing monetary policy decisions are as clear as possible, as this helps policy makers, firms and households to plan for and adapt to changing circumstances.

“The Monetary Policy Statement acts as a record of our monetary policy deliberations. Some other central banks instead publish minutes of their monetary policy meetings, which amounts to much the same thing.”

Dr McDermott said the Bank needs to anticipate and consider a range of economic outcomes. “This enables us to keep the OCR as well-positioned as we can, and our policy strategy well-understood, so that our efforts to maintain stable inflation do not cause more economic volatility than necessary.”

**Regulation of NZ insurance sector well underway**

19 March 2013

Implementation of the Reserve Bank’s regulatory regime for insurers is well underway, with the aim of promoting a sound and efficient insurance sector, the Reserve Bank’s Head of Prudential Supervision Toby Fiennes said today.

In a speech to the Australasian General Insurance Exchange Conference in Sydney, Mr Fiennes said that the new licensing regime is already resulting in a sounder insurance sector.

“The requirement to obtain a licence means that insurers must all meet certain minimum standards and this serves to reduce areas of high risk within the sector,” he said.

The Reserve Bank’s regulatory regime is intended to reduce the risk of an insurer failing, by promoting a sound and efficient insurance sector. Its regulatory approach is based on principles of self, market and regulatory discipline.

The regime includes requiring insurers to meet solvency standards, which incorporate a catastrophe risk capital charge aimed at ensuring insurers can adequately respond to a 1 in 500 year event. Insurers are also required to be licensed, with the industry working towards a full licensing deadline of 7 September this year.

The recent Canterbury earthquakes had given the Reserve Bank first-hand experience of catastrophes and these experiences were being built into the regime, Mr Fiennes said.

“The prudential requirements of the Insurance (Prudential Supervision) Act significantly reduce the likelihood of failure and provide the Bank with appropriate tools to manage financial distress of an insurer.

“However and importantly, we do not run a zero failure regime, nor is there any Reserve Bank or government guarantee against failure.”
Mr Fiennes said the regulatory changes being put in place include increasing access to information on an insurer’s ability to pay claims, to help policyholders make informed decisions when buying insurance.

This includes mandatory disclosure requirements by insurers in areas such as solvency and the provision of financial strength ratings from approved agencies, similar to the credit ratings provided for banks and non-bank deposit takers.

Open Bank Resolution
20 March 2013

New Zealand’s Open Bank Resolution policy would facilitate a rapid and orderly resolution of a collapsed bank, and is markedly different from proposals to resolve the banking crisis in Cyprus, Reserve Bank Deputy Governor Grant Spencer said today.

Mr Spencer said depositors’ money has never been guaranteed, apart from temporary periods, such as under the Deposit Guarantee Scheme from late 2008 to December 2011.

“If their bank fails, depositors have always needed to understand that deposits are not guaranteed. What OBR does is facilitate a rapid and orderly resolution of a bank failure – it does not change the fact that depositors and other creditor funds are at risk.

“Fortunately, bank failures in New Zealand are rare. The major banks in New Zealand are amongst the most highly rated banks in the world. We saw their resilience through the Global Financial Crisis.”

Mr Spencer said the OBR policy bears little resemblance to proposals to resolve the banking crisis in Cyprus.

He said the alternative to OBR is for the government to bail out banks with taxpayers’ money – which comes with potentially enormous fiscal costs – or to close the failing bank, which comes with large economic costs.

“The Cyprus situation is very complex, it is a systemic collapse and not a case of just one institution failing. It must be seen in the context of the broader European sovereign debt and banking crisis. Further, the Cyprus banking system is dominated by a large foreign deposit base, from Russia in particular.”

Mr Spencer said deposit insurance is not a substitute for OBR or any other resolution tool.

“It is a separate issue altogether. The New Zealand Government has looked hard at deposit insurance schemes and concluded that they blunt the incentives for investors and banks to properly manage risks, and may even increase the chance of bank failure.

“Deposit insurance is widely used in Europe, including Cyprus, but hasn’t prevented banking failures, as we saw during the Global Financial Crisis.”

Note to editors:

The Reserve Bank has been consulting for a considerable time with banks to ensure their operating systems could implement an OBR if required. The deadline to have systems in place is 30 June 2013, in order to make OBR a feasible option in the Government’s failure resolution toolkit. Nothing changes for depositors on that date.

What is the OBR?

Open bank resolution is one option for responding to a bank failure.

It actually helps depositors because it allows for the bank to reopen the next working day (hence the “open bank” in the title) and means that customers would be able to get full or partial access to their accounts and other banking services, while an appropriate long-term solution to the bank’s failure is identified. Some of their deposits could be frozen, but the remainder would be available and would actually be government guaranteed.

On the other hand, if the bank went into liquidation, that process could be complex and time-consuming, during which time customers would not have any access to their funds or banking services.

But in any event, the first losses would be borne by the bank’s shareholders.

The OBR is not intended to be the only option in the event that a bank gets into difficulty. There may, for example, be circumstances in which a private sector solution is available.
A Q&A on OBR, a background feature and an earlier Bulletin article entitled ‘A Primer on Open Bank Resolution’ are also available on the Reserve Bank’s website.

RBNZ consults on payment system oversight
22 March 2013

The Reserve Bank today released a consultation paper on proposals to strengthen the powers for its oversight of payment and settlement systems.

Reserve Bank Deputy Governor Grant Spencer said payment systems are an important component of a sound and efficient financial system, and a recent review concluded that the Bank’s existing oversight powers need to be strengthened.

“The need for formal strengthened powers has become more important over recent years, because of the fast-changing payments landscape and the increasingly critical roles played by systemically important payment and settlement systems in the financial system.

“Improved oversight would also help to avoid any significant damage to the financial system that could result from the failure of a participant in a payment system, unlikely though that might be.”

The proposals include formally recognising systemically important payment and settlement systems and subjecting them to increased oversight; giving the Reserve Bank powers to impose conditions and give directions to system operators; and setting up a tailored statutory management regime for such systems.

The Reserve Bank also proposes adopting a co-regulatory model with the Financial Markets Authority for securities settlement systems.

“These additional powers will bring the Reserve Bank into line with other central banks, and better reflect the international regulatory developments in the payment oversight area, brought about by the global financial crisis,” Mr Spencer said.

The Reserve Bank has consulted with the Ministry of Business, Innovation and Employment and Treasury while developing the proposals.

More information on the Reserve Bank’s oversight of the payment and settlement systems is available on the Bank’s website.
PUBLICATIONS

Regular publications

Annual Report
Published in October each year.

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

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

Reserve Bank of New Zealand Statement of Intent, 2012-2015

Recent Reserve Bank Discussion Papers

2012
DP2012/01 The financial accelerator and monetary policy rules
Güneş Kamber and Christoph Thoenissen

DP2012/02 Modifying Gaussian term structure models when interest rates are near the zero lower bound
Leo Krippner

DP 2012/03 The information content of central bank interest rate projections: evidence from New Zealand
Gunda-Alexandra Detmers and Dieter Nautz

DP2012/04 Measuring the stance of monetary policy in zero lower bound environments
Leo Krippner

DP2012/05 The macroeconomic effects of a stable funding requirement
Chris Bloor, Rebecca Craige and Anella Munro

DP2012/06 Matching efficiency and business cycle fluctuations
Francesco Furlanetto and Nicolas Groshenny

2013
DP2013/01 Export performance, invoice currency, and heterogeneous exchange rate pass-through
Richard Fabling and Lynda Sanderson

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

Analytical Notes

2012
AN 2012/01 House price expectations of households: a preliminary analysis of new survey data
Graham Howard and Özer Karagedikli

AN 2012/02 Kiwi drivers - the New Zealand dollar experience
Chris McDonald

AN 2012/03 Currency intervention – the profitability of some recent international experiences
Enzo Cassino and Michelle Lewis

AN 2012/04 In search of greener pastures – improving the REINZ farm price index
Ashley Dunstan and Chris McDonald

AN 2012/05 A model for interest rates near the zero lower bound: An overview and discussion
Leo Krippner

AN 2012/06 Not a jobless recovery, just a slow one
Rebecca Craigie, David Gilmore and Nicolas Groshenny

AN 2012/07 Risk, return, and beyond: A conceptual analysis of some factors influencing New Zealanders’ investment decisions
Elizabeth Watson

AN 2012/08 Extending the Reserve Bank’s macroeconomic balance model of the exchange rate
James Graham and Daan Steenkamp

AN 2012/09 Do actual and/or expected OCR changes affect the New Zealand dollar?
Jason Wong and Bevan Cook

AN 2012/10 Modelling New Zealand mortgage interest rates
Enzo Cassino
AN 2012/11 Building a picture of New Zealand manufacturing
Gael Price
AN 2012/12 Market perceptions of exchange rate risk
Michelle Lewis

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?
Upside, downside – a guide to risk for savers and investors, by Mary Holm
Supervision of the insurance industry: a quick reference guide

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. 75, No. 1, March 2012
The evolution of prudential supervision in New Zealand
Business cycle review, 1998-2011
A brief history of monetary policy objectives and independence in New Zealand
The New Zealand Debt Conversion Act 1933: a case study in coercive domestic public debt restructuring

Vol. 75, No. 2, June 2012
Monetary policy in the last business cycle: some perspectives
Bank funding - the change in composition and pricing
Anti-money laundering and countering the financing of terrorism - the Reserve Bank's supervisory approach

Vol. 75, No. 3, September 2012
Alan Bollard – Reflections from 2002-12
The economic impact of the Canterbury earthquakes
Asset returns and the investment choices of New Zealanders
Foreign currency reserves: why we hold them influences how we fund them
Dealing with debt: speech to the Auckland Employers and Manufacturers Association
Learnings from the Global Financial Crisis: Sir Leslie Melville Lecture, Australian National University, Canberra

Vol. 75, No. 4, December 2012
Matching workers with jobs: how well is the New Zealand labour market doing?
What is the repo market? Why does it matter?
Recent trends and developments in currency 2011/2012
Financial accounts and flow of funds