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Editor's Note

In this issue of the *Bulletin* we have a broad range of articles relating to most of the Reserve Bank's core functions, including monetary policy, financial stability and the exchange rate. For the first time in the *Bulletin*, we also feature an interview. On this occasion it is with a visiting academic, Professor George Kaufman, and covers a range of financial stability issues. We also reproduce a public lecture given earlier this year in Wellington by Professor Kaufman. And we feature a copy of the Policy Conclusions paper to emerge from an APEC Policy Dialogue on Financial Disclosure, which was co-chaired by the Reserve Bank earlier in the year.

Our first article covers an issue that is central to the Reserve Bank's function of monetary policy – the Policy Targets Agreement (PTA) - the agreement between the Minister of Finance and the Governor of the Reserve Bank that specifies the monetary policy target. Although much has been written about the PTA as a key element in the New Zealand monetary policy framework, most of that has been on the inflation target itself. On this occasion, we discuss another important aspect of the PTA, though one that receives less prominence and is probably less well understood – the requirement for the Bank, when conducting monetary policy in the pursuit of price stability, to seek to avoid unnecessary instability in economic output, interest rates and the exchange rate.

In this article, we discuss what this requirement means in practice and how we implement it when conducting monetary policy. It discusses the nature of the trade-offs between maintaining a low and broadly stable inflation rate, on the one hand, and seeking to avoid excessive volatility in the real economy and in interest rates and the exchange rate, on the other. It notes that a strict approach to inflation targeting tends to exacerbate volatility in other parts of the economy, whereas a flexible approach to inflation targeting generally results in less volatility in the economy as a whole, but also permits a greater degree of variability in the inflation rate. It therefore notes the need for a sensible balance to be struck in conducting monetary policy, such that inflation is kept low and broadly stable in the medium-term, but where allowance is made for occasional temporary deviations of inflation outside the target range where this is necessary in order to avoid excessive swings in the wider economy.

A variation on this theme appears in our second article. This article discusses the vexed question of what determines exchange rate movements. This has been one of the most problematic elements in the field of economics for many years, with few clear-cut answers as to the key determinants of exchange rate movements in the short or medium-terms. However, in this issue of the *Bulletin*, we discuss one of the frameworks for seeking to explain what drives exchange rate movements – in which the exchange rate is viewed as an asset price. Much like other asset prices (such as financial asset or property prices), the exchange rate can be seen as a function of the present value of future returns able to be earned in one currency versus the present value of future returns earned in another currency. Using this approach, we discuss what kinds of factors can influence exchange rate movements, both in the short-term and medium-term, including changing interest rate levels, economic growth rates, commodity prices and purchasing power parity. The article concludes that the asset price framework does help to explain exchange rate movements, but acknowledges the inherent complexity of the many factors that underlie exchange rate changes, and hence the difficulty in applying any one model to make sense of exchange rate trends.

The third article introduces a complete change of subject matter by providing an analysis of developments in the New Zealand banking sector in 2003. It notes that the banking system continues to perform well, with high levels of profitability (though down on the previous year results), high asset quality and a strong level of capitalisation. The article also provides an update of recent developments in banking supervision policy and related matters.

This will be the final of the regular, annual articles on the banking sector to appear in the *Bulletin* for the foreseeable future. Instead, analysis of the banking sector and wider financial system will be set out in a new publication – a *Financial System Review*. This will be a regular publication, commencing later this year, and will cover a wide range of financial sector issues, including analysis of the structure, performance, soundness and efficiency of the financial system. The *Bulletin* will continue to feature articles on particular aspects of the financial system, such as descriptions of regulatory frameworks and policy developments.

Still on a financial stability theme, the fourth article in this issue of the Bulletin is on the results of the Financial Sector Assessment Programme (FSAP) evaluation of the New Zealand financial system conducted by the International Monetary Fund (IMF) late last year. The FSAP is a programme administered by the IMF and World Bank to assess potential financial sector vulnerability in a country and to evaluate the effectiveness of financial sector regulation. Each country is expected to undergo an FSAP assessment every 7 years or so. The article notes that the FSAP for New Zealand concluded that New Zealand's financial system is sound and well placed to withstand a range of economic and financial shocks. The FSAP also concluded that the financial sector regulatory framework is generally robust and meets most international standards, although there are areas where improvements can be made. The article discusses the nature of these improvements and the policies underway within the Reserve Bank to address these matters.

The Reserve Bank has for many years sponsored a visiting academic programme, whereby a prominent academic from another country spends a couple of months or so in New Zealand, working jointly with the Reserve Bank and Victoria University of Wellington. Earlier this year, Professor George Kaufman, of Loyola University Chicago, spent two months under this programme in Wellington, much of it at the Reserve Bank. In that period, he worked on a range of financial stability issues relevant to the work of the Reserve Bank. This Bulletin contains an interview with Professor Kaufman and a public lecture he gave while in Wellington.

Finally, this Bulletin contains a copy of the Policy Conclusions paper that emerged from the APEC Policy Dialogue on Financial Disclosure, which was held in February this year

and co-chaired by the Reserve Bank of New Zealand and the Ministry of Finance of Chile. The Policy Dialogue was one of a number that have been held under the auspices of the APEC Finance Ministers' process. On this occasion, the topic was financial disclosure in the financial and corporate sectors of countries in the Asia-Pacific region and involved presentations and policy dialogue from participants of 17 of the 21 economies in APEC. It drew attention to the importance of financial disclosure as a means of strengthening the management of financial institutions and other corporate entities, of improving the accountability of directors and management, and of enhancing the ability of investors and creditors to protect their interests when dealing with financial institutions and other corporates

I hope that readers will enjoy this issue of the Bulletin, with its wide variety of content and interesting issues.

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ARTICLES

Interpreting clause 4(b) of the Policy Targets Agreement: avoiding unnecessary instability in output, interest rates and the exchange rate

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In clause 2(b) of the Policy Targets Agreement (PTA) between the Minister of Finance and Governor of the Reserve Bank, the target used to direct the Reserve Bank's pursuit of price stability is expressed as "future CPI inflation outcomes between 1 per cent and 3 per cent on average over the medium term." While the Reserve Bank has the independence to choose when and how to adjust policy settings so as to achieve the target, another clause of the PTA provides guidelines as to how this freedom should be used. In clause 4(b) of the PTA, the Minister of Finance and the Governor agree that, in using monetary policy to pursue price stability, the Bank shall take account of the implications of its actions for instability in economic output, interest rates, and the exchange rate.

This article describes how clause 4(b) affects monetary policy decision-making, and reviews the role of clause 4(b) in the current operation of monetary policy.

1 Introduction

Concern for volatility in the real economy is an important element in the conduct of monetary policy in New Zealand, as in other countries. This concern is made explicit in clause 4(b) of the Policy Targets Agreement (PTA), which states that "in pursuing its price stability objective, the Bank shall implement monetary policy in a sustainable, consistent and transparent manner and shall seek to *avoid unnecessary instability in output, interest rates and the exchange rate*".¹

The word "unnecessary" reflects two related points. First, some degree of economic volatility is an inevitable and indeed necessary part of the adjustment that occurs with changing economic circumstances: it would be counter-productive to seek to avoid this process. Second, an important part of the way that monetary policy acts on inflation is via the real economy. This fact can create a trade-off, such that beyond a certain point, reductions in the cyclical variation of inflation can only be achieved at the cost of increasing volatility in interest rates and output. Recognition of the

existence of this trade-off underlies the reason that central banks do not attempt to control inflation rigidly, regardless of the economic costs of doing so.

In the next section we begin by outlining the conceptual nature of the trade-off between price stability and the volatility of the other economic variables listed in clause 4(b). This provides a rationale for the flexible approach to inflation targeting - the term coined by Lars Svensson for policy that takes account of this trade-off - that is articulated in the PTA and discussed in section 3. Section 4 provides an overview of the monetary policy process in New Zealand and the operationalisation of flexible inflation targeting in practice. In section 5 we discuss how volatile the New Zealand economy has been in recent history, and in comparison to other countries. Section 6 briefly summarises the new policy of foreign exchange intervention and its relationship to clause 4(b). The article concludes by highlighting what clause 4(b) means for the accountability of the Governor of the Reserve Bank.

1 Emphasis added. The seventh and latest PTA was signed between the then new Governor of the Reserve Bank, Dr Alan Bollard, and the Minister of Finance, Dr Michael Cullen, in September 2002.

2 The transmission mechanism and understanding trade-offs

The relationship between the primary policy goal of price stability and the variability of interest rates, output and the exchange rate mentioned in clause 4(b) derives from the particular way monetary policy impacts upon the economy. Monetary policy affects both real variables (eg production and employment) and nominal variables (eg the price level) through a variety of channels or transmission mechanisms. The ultimate goal for monetary policy is influence on a nominal variable – prices. The consensus opinion among most economists is that, while the operation of monetary policy affects real variables in the short-term, the effect subsides or reverses in the medium to longer term, with the only lasting effect being on nominal variables.

The real effects of monetary policy arise because in the short-term domestic prices and domestic inflation are relatively slow to change. Prices for labour and output are slow to change due to a variety of frictions or transactions costs in the economy. An inherent degree of uncertainty about the economy and the behaviour of their competitors will prevent producers immediately responding to what they think may be changing demand for their product. It is also costly to change prices continuously, and customers may well prefer that prices remain stable, providing a competitive incentive to maintain prices unchanged. From the point of view of workers, it is inefficient to continuously bargain over one's wage and salary. Hence, wage and salaries are typically negotiated in the form of contracts over pre-defined periods of time. Overlaying all these reasons for price stickiness in the face of changed circumstances is the point that economic agents may well not immediately recognise that a change in circumstances has occurred - economic agents' perceptions or expectations do not fully adjust straight away to any new piece of information.

Sluggish adjustment of price expectations means that central banks are able to affect real short-term interest rates by inducing a change in the short-term nominal interest rate.² In turn, real interest rates affect economic activity, since there has been a change in the price of borrowing and spending

now rather than later. Typically, a reduction in short-term interest rates will also cause the nominal exchange rate to depreciate. Given sticky prices, this would also imply a fall in the real exchange rate, again affecting economic activity, this time by changing the relative price of buying another country's output versus one's own country's output.

These effects from the initial change in short-term nominal interest rates can be gradual: on average the effects of the real interest rate channel and of the exchange rate channel on aggregate demand occur after about a year. There is also a direct exchange rate channel to CPI inflation, since import prices enter the domestic CPI. This effect tends to occur a bit faster, although this is dependent on the extent and speed of the pass-through from the exchange rate to the domestic price of imports.³

The short-run boost to aggregate demand arising from the monetary policy stimulus will affect domestic inflation with a further lag. One way to think about domestic inflation pressures is via the pricing behaviour induced by the intensity with which the economy's resources are being used. The output gap - the difference between current output being produced to satisfy current demand and an economy's normal or trend output - is shorthand for the intensity of resource utilisation. An increase in aggregate demand will generally create a positive output gap or excess demand in the economy. This excess demand lifts inflation, as increased production increases the costs of production and firms are able to raise prices in response to strong demand. Similarly, workers are in a better position to claim wage and salary increases, as labour becomes in short supply. Given this connection to wages and prices, the central bank may have to respond to positive output gaps if it is to meet its inflation targeting obligations.

Given the lags in the monetary policy transmission mechanism described above, one immediate source of a trade-off between price stability and the variability of interest rates, output and the exchange rate is a mismatch between these lags and the policy horizon. Research indicates that that monetary policy affects inflation (via its effect on the intensity of resource utilisation) very little at all within the

2 The real short-term interest rate is the difference between short nominal rates and short-term inflation expectations.

3 The extent to which importers pass on exchange rate changes rather than absorb the changes in their own profit margins.

first few months, then with increasing power out to a peak at around 1½ to 2 years. Given this, if the Bank attempted to control inflation within, say, a 6 month time horizon, then larger shifts in our policy instrument - the Official Cash Rate (OCR) - would be required. The large hike in interest rates that would be needed to clamp down on inflation pressures within this short time frame would in all likelihood open up a large negative output gap over successive months. This policy-induced recession would then require interest rates to be eased, and aggressively so, if the imminent fall in inflation were to be turned around within a six month time frame.

The 'instrument instability' (i.e. interest rate instability) associated with a lag mismatch, while motivated by the attempt to reduce inflation variability, would result in large and unnecessary output fluctuations. It could also be associated with accentuated swings in the exchange rate, given the relationship between interest rates and currency movements. Indeed, a strict approach to inflation targeting in an open economy such as New Zealand's, that was based on this lag mismatch, would rely primarily on the exchange rate channel to alleviate inflation pressures, given the quicker pass-through from the exchange rate to domestic inflation.

In contrast, a flexible policy approach would result in lower output, interest rate and exchange rate variability, perhaps at the expense of somewhat higher inflation variability. 'Flexibility' in this sense involves the matching up of the policy horizon to the output gap-to-inflation lag.

In addition, flexibility also entails shaping the policy response to match the nature of the macroeconomic disturbance causing a change in circumstances.

To illustrate, consider a temporary supply-side disturbance that takes the form of an increase in the cost of supplying goods and services to the economy. Such a disturbance might result from, for example, an increase in the price of oil, caused by supply restrictions. In this circumstance, monetary policy-makers can either:

- tighten policy relatively aggressively to reduce inflation (perhaps by pushing up the exchange rate), which will also tend to slow the economy, exacerbating the negative effect on growth of the higher oil price; or

- follow a more cautious route, which has less effect in taming the immediate rise in inflation, but will have a smaller negative effect on output (and also tend to cause less instability in interest rates and the exchange rate).

The first option should result in inflation returning towards the target more quickly, but probably at the cost of more variability in output and interest rates. In contrast, the second option may result in inflation taking longer to return to target, but with the benefit of a more stable output path.

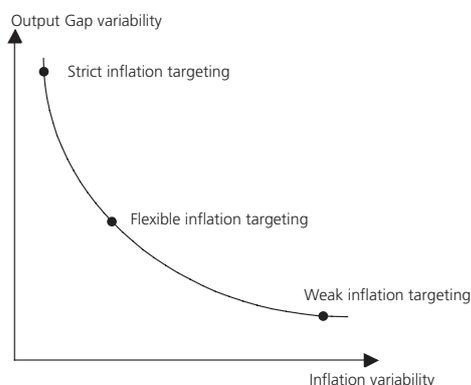
As the above example illustrates, when temporary supply-side or cost-push factors affect the economy, policy-makers will be faced with a variability trade-off. In contrast, no such trade-off between inflation and output variability arises when inflation pressures are only due to aggregate demand pressures (assuming the policy horizon is roughly matched with transmission channel lags). This is because demand pressures tend to move both inflation and output in the same direction. A positive demand shock, all else equal, opens up a positive output gap, thereby inducing inflationary pressures which would be realised in actual inflation outcomes up to about 2 years in the future. Interest rates are increased in anticipation of this forecast inflation, with a view to reducing demand pressures on the economy. In this case, controlling inflation results in less inflation variability, and more stable output around its trend path.

In summary, a relatively "strict" inflation targeting approach would entail relatively low inflation variability over the business cycle, but relatively high output and interest rate variability over the cycle, as policy is adjusted quite aggressively to counter any inflation pressures. This could arise due to an intentional or unintentional lag mismatch, or through the way the policy-maker responds to supply-side shocks.

In the monetary policy literature the policy trade-off between strict and flexible inflation targeting is illustrated by stylised "Taylor" curves that represent the set of variance-minimising combinations of the output gap and inflation around target – see figure 1.⁴

4 See J B Taylor (1979), for the original statement of this trade-off.

Figure 1
The trade-off between inflation and output gap variability



Points to the left of and below the curve are not feasible combinations of output variability and inflation variance around target. Policy choices that result in outcomes to the right of the curve would be inefficient: by changing the implementation of monetary policy at a minimum it would be possible to reduce the variance along one dimension without worsening it in the other. A strict approach to inflation targeting will accept relatively large output gap variance for a given reduction in inflation deviations around target. Conversely, an inflation targeting central bank that places more weight on minimising output deviations would be prepared to accept relatively large inflation variance in order to reduce variability in the rate of economic growth. Flexible inflation targeting therefore represents a compromise between these two extremes.

The Taylor curve depicted in figure 1 is a stylised illustration of the choice that a central bank faces between price stability and output stabilisation. In principle, we could draw similar curves that plotted the technically feasible combinations of interest rate or exchange rate variance against inflation variance and/or output gap variance, and these would also tend to show that strict inflation targeting increases interest rate and exchange rate variance while reducing inflation variance.

A final but crucial point to note about these trade-offs is that they are in terms of the variances of the relevant variables, not their levels. Thus the trade-offs described relate to variations in inflation relative to its target, in output relative to its trend, the exchange rate relative to its equilibrium, and

interest rates relative to their “neutral” level. This variance trade-off relates to, but is not the same as, the short-run “Phillips curve” trade-off that exists between the rate of inflation and the growth rate output. For a while, through the 1960s and especially the 1970s, monetary policy operated on the implicit premise that the short-run Phillips curve also existed in the long-run. Were that the case, a central bank could permanently trade off higher inflation for higher output and employment growth. However, the experience of the 1970s suggests that this is an illusion and that a central bank can only achieve a short-run output gain above trend at the cost of higher long-run inflation - in the long-run the Phillips curve is vertical. But around that long-run outcome, inflation and output growth variations will interact in the manner described by the Taylor curve.

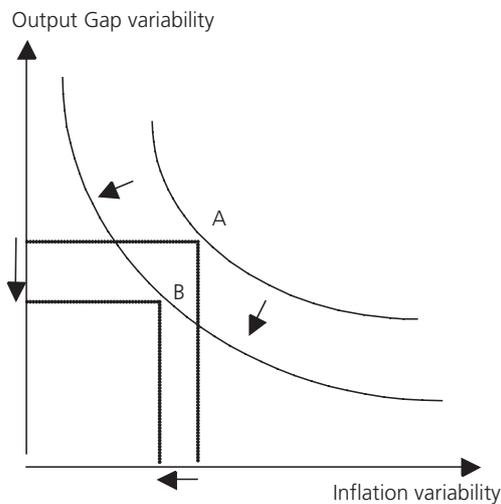
Improving the trade-offs

In figure 1, the best achievable combinations of inflation and output variability are represented in the Taylor curve. These combinations define the nature of the trade-off at any particular time that confronts the policy-maker. Ideally however, the policy-maker would like to face a trade-off that is more favourable in terms of both inflation and output variability - the policy-maker would like the Taylor curve to be as close to the origin as possible. And in fact, it seems that over the last two decades, as central banks around the world became more focussed on keeping inflation low and stable, both inflation and output variability have diminished.⁵ It appears, that the Taylor curves have moved closer to the origin. Clearly, understanding the relationship between policy choices and the position of the Taylor curve is vital for achieving good policy outcomes and satisfying the PTA mandate.

Figure 2 illustrates this stylised improvement in the inflation-output variance trade-off.

⁵ See Blinder (1998) and Taylor (1998) for discussion of this improved inflation-output variance trade-off.

Figure 2
Improving the inflation-output variance trade-off



Although we do not have the research that would firmly establish why the trade-offs might have improved, there are at least three possibilities (presented here in increasing order of importance).

First, it may well be that policy-makers better understand the lags involved in monetary policy (notwithstanding that a degree of uncertainty is inevitable), and better match the policy target horizons to these lags.

Second, as policy-makers learned from the mistakes of the 1970s and policy has become more focussed on controlling inflation, monetary policy actions themselves have become less of a source of shocks to the economy. Armed with the misapprehension that monetary policy could sustainably lift growth, policy had a tendency to oscillate from growth-boosting to inflation-reducing objectives and back again. Those oscillations were themselves somewhat unpredictable, and hence a source of shock.

Third, and most important, economic agents' expectations about inflation and central bank behaviour are important and have been affected by the refocusing of monetary policy on keeping inflation low and stable. The associated changes in the behaviour of price and wage decision-makers have almost certainly been responsible for an improved trade-off.

Actual inflation is strongly affected by expectations of future inflation - price and wage setting is influenced by the beliefs that economic agents hold about future inflation. Changing

expectations have an independent effect on actual inflation, over and above the effect on inflation that comes from the change in aggregate demand and the exchange rate.

If firms and households believe that future inflation will be within the target on average over the medium-term, then temporary shocks to inflation will cause people to alter their expectations of future inflation by less. These stable expectations help to ensure that an inflation shock has only temporary effects on inflation. In this case, the monetary authority has more leeway to allow temporary shocks to dissipate on their own, without a monetary policy response.⁶

The more that inflation is consistent with the set policy target, the easier it is for economic agents to divest resources from forming inflation expectations, and the more likely it is that they will instead presume that inflation will be within the range they have experienced and within the range the central bank has stated it will be. This line of reasoning reinforces itself: as people build expectations of stable inflation into their price-setting decisions (for example, by assuming inflation consistent with their target in wage negotiations, or by extending the length of nominal contracts), it becomes more likely that actual inflation will remain stable in response to shocks.⁷

The relationship between supply-side decisions of economic agents and their expectations of inflation is underlined by a recent IMF research paper (Bayoumi and Sgherri, 2004). The authors argue that more stable monetary policy improves the trade-off between inflation and output embodied in the 'Phillips Curve' relationship. The public learns about monetary policy over time and incorporates this reduced uncertainty in their supply decisions. Inflation therefore becomes less sluggish as nominal price adjustment becomes less backward looking. Less inflation inertia increases the flexibility of the supply side of the economy, reducing output fluctuations, since it is the price of output that will be more

⁶ Since inflation expectations affect interest rates and the exchange rate, well-anchored expectations will also reduce the volatility in the real economy.

⁷ There is some tentative evidence that inflation expectations are also becoming more 'rational' in the New Zealand context. This means that economic agents are becoming more forward-looking in how they form expectations as opposed to basing wage and pricing decisions on what happened in the past. See Basdevant (2003).

likely to adjust rather than the quantity of output over the short-run. Bayoumi and Sgherri therefore credit some of the seemingly 'magical' improvement in the supply side of the US economy since the 1970s to the behaviour of the US Federal Reserve (the US central bank).

Creating stable expectations of inflation based on concrete inflation outcomes is therefore an important way of improving the trade-off between price stability and output variability. This learning process by households and firms is buttressed by the credibility of the central bank to deliver their stated objectives. Once inflation expectations have adjusted, the degrees of freedom within which to conduct a more fully specified flexible inflation targeting regime are increased. As Lars Svensson notes, "a gradual move towards more flexible and medium-term inflation targeting [in New Zealand] is to a large extent a natural consequence" of increased credibility and well anchored expectations (p. 38).⁸

However, central banks cannot take well anchored inflation expectations for granted. In this regard a flexible approach to monetary policy is bounded. Inflation targeting that is too flexible, allows too much inflation variance, or has too long a policy horizon over which to return inflation to target, runs the risk of economic agents changing from a presumption that, once up, inflation will fall back, to a presumption that, once up, inflation may or may not fall back, depending on the circumstances. Not only would this increase the time and effort people spend in forecasting and managing the consequences of inflation, it would make inflation less stable and thereby increase the work that monetary policy has to do. The volatility trade-off would worsen.

In the next section we discuss the evolution of flexible inflation targeting in New Zealand as embodied in the changes in the PTA since 1989.

3 Monetary policy objectives and the PTA

The PTA is a formal agreement between the Governor and the Minister of Finance that operationalises the pursuit of price stability, as set out in section 8 of the Reserve Bank of New Zealand Act 1989 (the Act).⁹ The Act and the PTA framework were motivated by the negative experiences of high and variable inflation from the 1970s onwards. The experience of the 1970s and 1980s showed how high and variable inflation can impair efficient resource allocation, create uncertainty and lead to an arbitrary redistribution of wealth between borrowers and savers, to the detriment of economic growth and welfare.

The Act and the PTA framework can also be viewed in the context of the broader public sector reforms that were occurring during the late 1980s. An underlying philosophy guiding these reforms was the need to establish clear, achievable policy objectives, while assigning appropriate responsibilities and the necessary delegated authority to achieve the objectives.¹⁰

Successive PTAs have continued to operationalise the objective of price stability in terms of stabilising the Consumer Price Index (CPI) within a specified target band.¹¹ This inflation targeting framework provides an "anchor" for changes in the general price level, and to the extent that it delivers the intended outcomes, for expectations of future price changes.

In practice, however, no central bank sets policy with only inflation in mind. As discussed in the previous section, strict inflation targeting (attempting always to immediately achieve the inflation target) would produce adverse consequences for the real economy, since achieving the strict inflation target

8 Svensson (2001). Svensson's comments are drawn from his review of the operation of monetary policy in New Zealand, initiated by the government in 2000. See also the Reserve Bank submissions to the Svensson review: Reserve Bank (2000).

9 Section 9 of the 1989 Act requires that the PTA sets out specific price stability targets and that the agreement, or any changes to it, must be made public. A new PTA must be negotiated every time a Governor is appointed or re-appointed, but it does not have to be renegotiated when a new Minister of Finance is appointed. The PTA can only be changed by agreement between the Governor and the Minister of Finance (section 9(4)). Thus, neither side can impose unilateral changes. The Act can be browsed online at <http://www.legislation.govt.nz/>.

10 The institutional design of monetary policy specifically reflects the desire to overcome the politicisation of monetary policy decisions.

11 See Mishkin (1999) for an overview of different types of monetary policy regimes.

could come at the cost of increased volatility in interest rates and output, and possibly the exchange rate. The recognition of such trade-offs is typically embedded in the operational design of an inflation targeting regime and is reflected in the choice of the inflation target band, the length of time over which inflation must be returned to target in the event of an 'inflation shock', and the extent to which the monetary authority is given scope to "look through" specific shocks or temporary disturbances.

The core components of New Zealand's inflation targeting regime, together with various iterations contained in successive PTAs, reflect a flexible approach to the pursuit of price stability. That flexibility has increased through the years since the first PTA was agreed in 1990. The following points illustrate the nature of the flexibility built into successive PTAs and the increase in flexibility that has emerged through the last decade or so.¹²

- Initially, the government and Reserve Bank agreed to a phased move towards the initial inflation target of 0-2 per cent, with the original target date in the PTA signed in April 1990 being December 1992. This was extended in the second PTA, signed in December 1990, with the new target date becoming December 1993.¹³
- The target band has been changed on two occasions. It was widened to 0-3 per cent in December 1996 to enable a somewhat greater degree of inflation variability. In the latest PTA, signed in September 2002, the lower bound was raised to 1 per cent, on the grounds that at extremely low or negative rates of inflation, the volatility trade-off probably worsens.
- A clause 4(c) was included in the PTA in 1999, requiring the Reserve Bank to have regard for "unnecessary volatility" in interest rates, output and the exchange rate, in the course of conducting monetary policy. This clause was retained with modified wording in the PTA signed in September 2002, as clause 4(b).

- In the 2002 PTA, clause 2(b), specifying the inflation target, was amended from "12-monthly increases in the CPI" to keeping future CPI inflation outcomes within the target band "on average over the medium term". This change made explicit the medium-term focus for price stability, further enhancing monetary policy flexibility.
- In early versions of the PTA, the PTA contained specific provisions enabling the Bank to disregard temporary inflation deviations away from target when these are caused by exceptional events, such as changes in government charges or sharp movements in commodity prices, such as oil. In the 2002 version, clause 3 simply makes it clear that with the target focussed on medium-term outcomes, individual observations of inflation outside the 1-3 per cent target range are not in themselves reasons for monetary policy action.

The inclusion of clause 4(b) is an explicit recognition that unnecessary volatility in interest rates, output and the exchange rate would (in all probability) be detrimental to longer term growth prospects and overall economic welfare. There is also a small body of research to suggest that smoother output cycles may actually be beneficial for trend or long-run growth. Unnecessary volatility in output may amplify the costs associated with recessions and unsustainable expansions: recessions generate the social costs of unemployment, while expansions that overheat the economy can create inflation which also generates social costs. Large swings in interest rates create unhelpful uncertainty for business investment and household expenditures. Uncertainty regarding the cost of borrowing may cause spending and investment decisions to be deferred, or worse still, the wrong decisions to be made.¹⁴

Similarly, variability in the exchange rate may adversely impact on the export sector by squeezing profits when the exchange rate is very high and by possibly leading to the demise of some firms that may have turned out to be innovative and dynamic over the longer run. When the

¹² For a discussion of the elements of the successive PTAs see Reserve Bank (2000).

¹³ When the 0-2 per cent target was breached in March 1996 the Bank notified the Minister that aggressively using policy to get inflation back within the band would impose costs on the real economy.

¹⁴ This is of course a different issue than the higher average level of interest rates than elsewhere which has caused public concern in New Zealand. Our higher rates reflect New Zealanders' propensity to borrow and their risk appetite for debt, rather than the particular preferences of the Reserve Bank.

exchange rate is too low, some marginal businesses may be encouraged to set up that become unprofitable when the exchange rate returns to more average levels, tying up resources which might better have been employed in businesses with stronger long-term prospects.

However, to some degree economic volatility is also a necessary and desirable part of an economy's adjustment to an ever-changing environment. As firms and households interact with their economic environment, respond to new opportunities afforded by technological change, or shift resources from one endeavour to another, aggregate output will ebb and flow around its trend. Such swings in economic activity are desirable; they cannot and should not be avoided by monetary policy. It also needs to be borne in mind that periods of slower growth can assist to strengthen the productive capacity of the economy by weeding out less efficient firms.

For example, much of the movement in the exchange rate reflects changes in the New Zealand economy's economic fundamentals relative to other countries - growth, inflation and interest rate differentials. In effect, that variability in the exchange rate helps to buffer the economy against a range of different shocks, reducing the need for adjustment elsewhere. These exchange rate movements are a desirable consequence of operating in an open capital market; leaning against them would most likely be ineffective.

Unfortunately there are no hard and fast rules or simple mechanical calculations to enable us to precisely differentiate necessary from unnecessary volatility. This is where the role of judgement becomes paramount. The intuition of the policy-maker, combined with the lessons from historical experience, will shape specific policy responses in any given circumstance.

Clause 4(b) and the current PTA

The September 2002 PTA focussed the inflation target explicitly over the medium-term. This reinforced the flexibility added to the 1999 PTA and the requirement to seek to minimise unnecessary variability in interest rates, output and the exchange rate. As the Governor stated in a speech following the signing of the new PTA in November 2002, we

have a "little more flexibility, but it's a flexibility that needs to be applied with care".¹⁵

This flexibility is the result of the hard fought battle with inflation over the course of the 1990s. With the achievement of price stability and stable inflation expectations, the risks of inflation becoming destabilised are reduced, and the better the Bank is placed to accommodate transitory fluctuations of inflation outside the target band.

The medium-term focus to achieving price stability implies somewhat 'softer edges' to the target band. The Reserve Bank is able to tolerate inflation outside the band if this does not compromise price stability over the medium-term. This does not mean the Reserve Bank is now any less committed to price stability, but rather that the way we achieve this primary goal has changed.

International practice

Inflation targeting central banks focus on securing price stability via a publicly announced inflation target. Broader goals, such as full employment or reduced fluctuations in economic growth, are interpreted, if at all, subject to the primary price stability goal.¹⁶ However, this does not mean that inflation targeting countries attach more importance to inflation than economic growth. Rather, policy-makers in these countries think that the best way for monetary policy to support economic growth in the long-run is to maintain price stability. Moreover, countries that are not inflation targeters in the formal sense may still attach the same importance to price stability as a means to achieve other goals.

The Reserve Bank of Australia Act 1959 has full employment and stability of the currency as legislated objectives. However, the Reserve Bank of Australia's Statement on the Conduct of Monetary Policy 2003 interprets these objectives as providing a mandate for price stability. Echoing clause 4(b) of the New Zealand PTA, the Statement also stipulates that the Reserve Bank of Australia should take into account "activity," subject to maintaining price stability.

¹⁵ Bollard (2002).

¹⁶ Mishkin (1999) provides an overview of the key features of inflation targeting regimes.

Similarly, the Bank of Canada Act 1934 makes reference to maintaining the external value of the currency and fluctuations in production and employment. However, the Joint Statement between the Bank of Canada and the Canadian government (2001) sets price stability as the means to achieve these objectives laid out in legislation. The Joint Statement makes no explicit reference to avoiding undesirable volatility per se.

The remit for the Bank of England's monetary policy committee instructs it to support the economic policies of the government, subject to maintaining price stability. The remit explicitly refers to "undesirable volatility in output" that may arise if the inflation target is too rigidly applied in the event of unexpected shocks or disturbances to inflation. This is similar to New Zealand's earlier clause 3 exceptions and to clause 4(b) in the current PTA.

The 2001 Norwegian Royal Decree defines the goal of monetary policy as "stability in the krone's national and international value". At the same time, monetary policy is required to underpin fiscal policy by contributing to "stable developments in output and employment". However, the Royal Decree also states that "in accordance" with the above goals, "monetary policy shall be oriented towards low and stable inflation". Further, in a letter to the Ministry of Finance clarifying the operation of inflation targeting, Norges Bank stated that it will implement the 2.5% CPI target in a manner that seeks "to avoid unnecessary fluctuations in output and demand".

In summary, New Zealand's PTA clarifies what the pursuit of the price stability goal means in practice. Clause 2 requires the Reserve Bank to maintain a low and stable inflation environment, while clause 4(b) instructs us to do this in such a way as to minimise any adverse impact on the variability of output, interest rates and the exchange rate that is in our control. In this regard, the Bank has one clear policy objective that is defined in the Act. There are, however, different paths to price stability. The PTA requires the Bank to choose monetary policy paths that do not exacerbate the inevitable volatility that already exists in the economy.

The next section provides more detail on how we operationalise the flexible inflation targeting framework embodied in the PTA.

4 Clause 4(b) in operation: how does the Bank seek to avoid unnecessary instability in the economy?

Eight times a year, the Governor has a scheduled opportunity to decide whether to alter the Bank's monetary policy instrument, the OCR. The framework for this decision-making involves an assessment of future inflation pressure, with specific reference to forecasts for inflation six to eight quarters into the future.¹⁷

The six to eight quarter horizon at which we attempt to respond to inflation is intended to match approximately the time it takes for interest rates to have their peak effect on inflation - the transmission lag described in section 2. Essentially, we try to avoid responding to inflationary pressure if the pressure will already have dissipated by the time our response is having its peak effect. This is another way to describe the "flexible" nature of inflation targeting.

Another choice is the speed at which interest rates are adjusted. A smoother profile of interest rate adjustments is typically utilised because of the difficulty that volatile interest rates create for decision making. More predictable policy helps to condition expectations more favourably.¹⁸ In addition, the pervasive environment of uncertainty that the policy-maker faces will often attenuate the policy response. In a recent speech, US Federal Reserve Governor Bernanke described this relatively slow adjustment in the face of uncertainty as 'gradualism'.¹⁹

Gradualism cannot be the right prescription for all circumstances, however. As discussed earlier, for some

17 There is a large literature within monetary policy that argues that targeting conditional forecasts of inflation, rather than current inflation, produces better outcomes. See for example, Batini and Haldane (1999); and Batini and Nelson (2000).

18 Woodford (1999).

19 Bernanke (2004). Gradualism also has the added benefits of policy being able to better influence long-term interest rates, together with reducing the risks to financial stability.

types of shocks - surprise changes in aggregate demand for example - the volatility-minimising approach might be to move interest rates quickly to stabilise both output and inflation. Thus, the manner in which clause 4(b) considerations affect the policy rate will always depend on an assessment of the specific economic conditions prevailing at the time. In some instances caution may be warranted (the gradualism of Bernanke), while in others a more pre-emptive policy response may be appropriate.

Although the choice of inflation targeting parameters embeds concern for volatility minimisation in the manner described, it is important to consider whether flexible inflation targeting could be operated in an alternative way that did even more to stabilise the relevant variables, while continuing to successfully stabilise inflation. In the terminology of section 2, can we shift the efficient frontier of the Taylor curve to the left?

Several researchers have considered whether an explicit response to the output gap or exchange rate additional to that implicit in forecast inflation targeting is desirable. Batini and Haldane (1999) argue that there is no need for further response to the output gap, arguing that it does not improve the "Taylor" trade-off discussed in section 2. Other work, including some at the Reserve Bank, argues that including such a term would improve the inflation-output variance trade-off.²⁰ However, uncertainty around the measurement of the output gap at any point in time works against the case for responding to it directly, given the risk of measurement-induced policy errors.

Other research has examined whether responding explicitly to the exchange rate improves the variability trade-offs. For example, using a model of the Australian economy, Dennis (2003) found that if the monetary authority responds to both current inflation and the exchange rate, then the trade-off between inflation and output is improved. However, this improvement does not materialise if the monetary authority is starting from an inflation forecast targeting approach like that used by the Reserve Bank. In other words, responding to forecast inflation achieves the same thing as responding to current inflation and the exchange rate.

²⁰ See Drew and Hunt (1999).

Overall, the international literature tends to find that there is little to be gained in terms of improving the inflation-real economy variance trade-off from an explicit response to exchange rate movements, over and above the response that will result from standard flexible inflation targeting.²¹

This question has also been specifically looked at within the Reserve Bank recently.²² West (2003) examined what would happen if interest rates were used to attempt to stabilise the exchange rate in a model of the New Zealand economy. He found that reducing quarter-to-quarter exchange rate variance would result in greater output, interest rate and inflation variance.²³

West's results have been supported by Reserve Bank research using the Bank's Forecasting and Policy System (FPS) model, and a variety of assumptions about exchange rate determination. Hampton et al (2003) find greater costs to the real economy of achieving exchange rate stabilisation than West, while Stephens (2004) suggests that West's findings are robust to different models of exchange rate determination.

West suggests that the estimate of costs involved in these trade-offs are probably on the low side, as the results assume that the central bank fully understands the exchange rate and that interest rate changes affect the exchange rate in a reliable manner. While this is a conventional assumption in the theoretical literature, in practice the empirical link between monetary policy and exchange rates is complicated by a number of other influences over and beyond interest rate changes and inflation expectations. In other words, it would probably be extremely difficult for the Bank to precisely control the exchange rate using interest rates. And even if it were possible, attempting to move policy in this direction would lead to significant rises in inflation and output variability. Moreover as Leitemo and Söderström (2001) show, given uncertainty about what determines the exchange rate, it may be better to not explicitly respond to exchange rate movements.²⁴

²¹ See Dennis (2001) for an overview.

²² See Hampton, Hargreaves and Twaddle (2003); Stephens (2004); and West (2003).

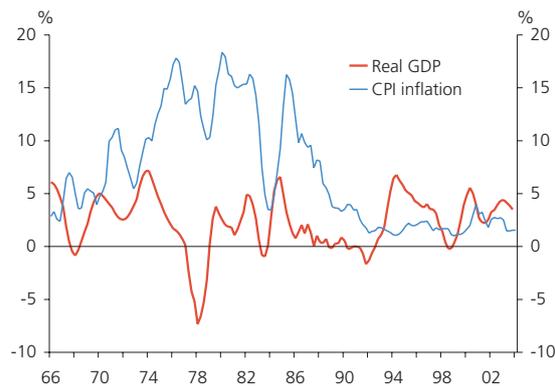
²³ Professor West conducted his research while in New Zealand as an Academic Fellow of the Reserve Bank and Victoria University of Wellington.

²⁴ Leitemo and Söderström (2001).

5 How effective has monetary policy been in meeting the requirements of clause 4(b) of the PTA?

Ideally, one would be able to look at the economic data to see how effective the Reserve Bank has been in meeting its obligations under clause 4(b) of the PTA. If we look at the data, we can see that, overall, there has been an improvement in the stability of the business cycle, and that this reduced volatility has coincided with the inflation targeting period (see figure 3). But of course, correlation never establishes causation: there are many other factors at work in the economy aside from monetary policy.

Figure 3
Real GDP growth and Inflation
(annual percentage change)



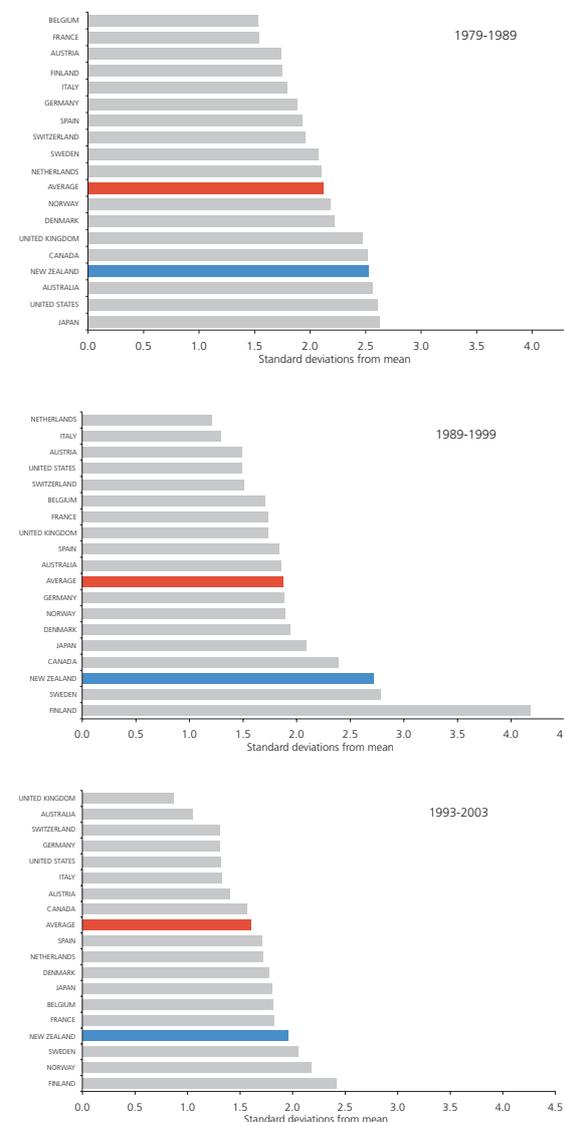
Notwithstanding this, in this section we compare New Zealand's economic variability in recent years compared with earlier periods. We also make comparisons with other, similar countries.

Output

Output volatility in New Zealand has declined since the early 1990s despite the impact of major shocks, such as back-to-back droughts in 1997 and 1998 and the Asian crisis of 1997/98. In addition, New Zealand's average GDP growth rate has improved over the course of the 1990s, while recessions have become shorter and expansions longer. The latest expansion, which began in late 1998, is the most durable of the past two decades.

New Zealand's volatility improvement has been more than matched by other countries and our relative ranking has not improved significantly. Figure 4 shows that while New Zealand's GDP volatility has improved since the early 1990s, we are still towards the bottom of the OECD ladder on a comparative basis. This is not that unsurprising given our relative size and exposure to international trade.

Figure 4
Year-on-year growth volatility ranking for 18 OECD countries



25 See Buckle, Haugh and Thomson (2001) for a brief overview of major explanatory causes for the observed volatility decline.

There are a number of (inter-linked) potential explanations, including:²⁵

- lower volatility in the components of aggregate demand, such as government spending, private consumption and investment;
- improvement in inventory management techniques associated with “just-in-time” manufacturing processes;
- fewer and smaller supply shocks;
- structural change towards a service oriented economy, and,
- better use of macroeconomic stabilisation policy, including monetary policy.

To date, evidence distinguishing these possible causes in New Zealand is scant. One study that has examined the issue highlights lower industrial sector output variance, especially in services and manufacturing (Buckle, Haugh and Thomson, 2001). In relation to monetary policy, Treasury research has found that, on the whole, monetary policy has been counter-cyclical, and improved the output-inflation variance trade-off.²⁶ Consistent with the international evidence that the variance trade-off has improved in recent times, at the very least, monetary policy in New Zealand appears not to have aggravated output variability.

Interest rates

In a briefing note on the PTA in 2002, the Reserve Bank discussed the extent to which the pattern of interest rate adjustments (shown in figure 5) has been more aggressive in New Zealand than in other countries and whether or not these changes were the result of the policy choices being made, or were due to the shocks to which monetary policy must respond.²⁷

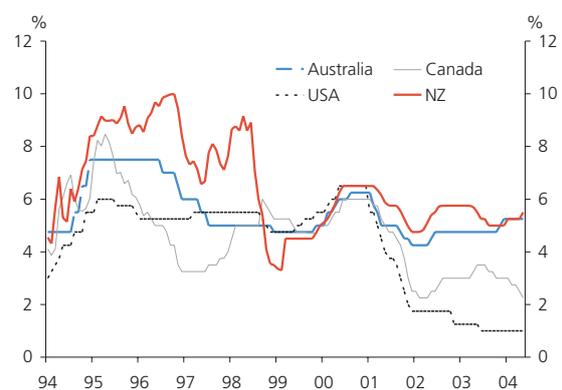
The findings are as follows:

- Comparative interest rate cycles: New Zealand short-term interest rates have not been much more variable

than foreign short-term rates, particularly since the introduction of the OCR in 1999.

- Frequency and size of interest rate adjustments: since the introduction of the OCR the Reserve Bank has behaved in a similar fashion to other central banks in advanced economies – the Bank is in the middle of the pack in terms of the frequency of interest rate adjustments.
- Model simulation: using models of monetary policy to simulate how other central bank policy-makers would behave if confronted with New Zealand data yields a similar pattern of interest rate adjustments to that actually observed - it is our economic circumstances which largely explain our interest rate cycle rather than any over-zealous central bank policy-making per se.

Figure 5
Short-term official interest rates of dollar bloc countries



The exchange rate exception

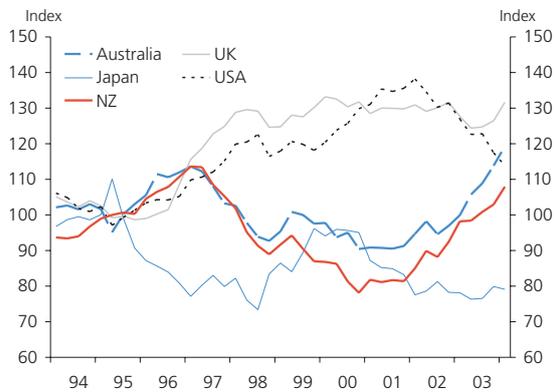
The general improvement in real economy stability has not been matched by any discernable reduction in the cyclical amplitude of New Zealand’s exchange rate. The New Zealand dollar has exhibited large swings in value. The currency appreciated by 30 per cent between the first quarter of 1993 and the first quarter of 1997. Subsequently, the kiwi fell 30 per cent and reached an all-time low of around 38c against the US dollar in 2000. On a TWI basis, the New Zealand dollar has recently reached levels nearly 50 per cent higher than that 2000 trough.

While our currency is more volatile than the OECD average, it is not an outlier. Figure 7 charts episodes of currency appreciation in various OECD countries. The nature of our

²⁶ Buckle, Kim, and McLellen (2003).

²⁷ Reserve Bank of New Zealand (2002, p. 5-21).

Figure 6
Real effective exchange rates

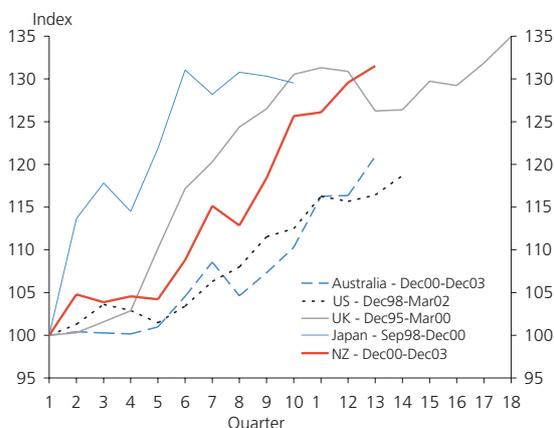


Source: IMF

currency's fluctuations is not unusual on a comparative basis.

Why have exchange rates remained volatile while other key variables have become more stable worldwide? Unfortunately, the answer is far from straightforward, as the companion article in this *Bulletin* issue notes.²⁸ While short-term interest rate differentials are an important part of the story, they are not the whole story. Trade flows create noise in short-term exchange rate movements, but over and above this there is a part of the cycle in the exchange rate that is difficult to explain solely with economic fundamentals.

Figure 7
Trough-to-peak comparison of various real exchange rates



²⁸ The article also makes reference to clause 4(b) concerns with "unnecessary volatility".

6 Alternative policy instruments

We have seen that despite the relatively stable macroeconomic climate since the early 1990s, the exchange rate continues to exhibit marked swings in value over time.

As noted above, much of this exchange rate variability cannot be offset using interest rates. This explains the recent decision to develop a capacity to intervene in foreign exchange markets. Intervention in the foreign exchange market - the buying and selling of our currency - to influence the level of the New Zealand exchange rate may provide an additional, though limited, policy lever for monetary policy. This new lever will provide modest scope to influence the exchange rate at the extremes of the cycle, trimming the peaks and troughs where this is consistent with maintaining price stability. The new policy is not expected to achieve any major attenuation of exchange rate variability. The exchange rate will continue to exhibit large swings, much of which is driven by factors outside of the Reserve Bank's control. However, any percentage point or two trimmed from the extremes of the cycle that might result from our intervention will be of help to the tradables sector.

The Bank has emphasised that it will only intervene if the exchange rate is considered to be both exceptional and unjustified by economic fundamentals, and if it is opportune to do so.

In addition to foreign exchange intervention, the Bank has also periodically reviewed other policy instruments that could be used to alleviate exchange rate pressure on the export sector. These include the efficacy of reinstating capital controls, changes to tax policy, the relationship between housing/property cycles and the exchange rate, and broader monetary and fiscal policy coordination. The Reserve Bank's views on these alternative instruments were included in the Bank's submission to Lars Svensson's Independent Review in 2000-2001.²⁹ At the time of that review we concluded that, in general, the costs of these alternative instruments outweighed any purported benefits. Since then our thoughts on foreign exchange intervention have evolved and culminated in the change in policy. However, in other areas, such as in relation to capital controls and regulatory tools,

²⁹ Reserve Bank (2000).

we remain of the view that these instruments are unlikely to be effective in achieving desired policy outcomes and would probably impose undesirable distortions on the economy.

7 Conclusion: Clause 4(b) and accountability

The PTA is a negotiated agreement between the Minister of Finance and the Governor of the Reserve Bank that operationalises the statutory objective of price stability. All PTAs to date have set out this primary objective in the form of inflation targets. The PTA also provides a behavioural framework that guides the pursuit of price stability. Clause 4(b) directs the Reserve Bank to have sufficient regard for “unnecessary volatility in interest rates, output and the exchange rate”.

This clause reflects a view that flexible inflation targeting is more likely to engender net benefits for the economy than rigid inflation targeting. In the pursuit of price stability, we need to consider the impact of monetary policy on the wider economy, because variability in interest rates, output and the exchange rate are important for economic and societal welfare in their own right.

The PTA also provides an accountability framework to assess the performance of the Governor of the Reserve Bank. Accountability in respect to price stability is admittedly somewhat clearer than that attached to clause 4(b). There are specific numerical targets for inflation that provide the benchmark for assessing the performance of the Governor in pursuit of price stability. Of course, any assessment of the Governor with respect to the inflation target will have to take into account the nature of the economic environment at the time, including the nature of shocks hitting the economy.

Inevitably, any assessment of the extent to which the Governor has conducted policy in a manner consistent with clause 4(b) will be qualitative in nature. There are no quantitative benchmarks to assist this evaluation. In assessing the Governor’s performance in relation to clause 4(b), the Reserve Bank Board, the Minister of Finance and others need to consider whether, in light of the information available to the Governor at the time monetary policy

decisions were made, those decisions were consistent with achieving inflation within the target range over the medium-term without causing avoidable instability in the real economy, in interest rates and in the exchange rate. As this article has described, this assessment is made difficult by the problem of differentiating necessary from unnecessary volatility. It is also complicated by the fact that the trade-off is non-linear - slower interest rate adjustment or ever greater inflation variability will yield ever smaller improvements in output variability, and at some point probably no gains at all.

Overall, the Bank is satisfied that the Act, the PTA and the current policy framework provide a sound basis for managing monetary policy in ways that maintain price stability, while avoiding excessive adverse impact of monetary policy on the real economy.

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What drives the New Zealand dollar?

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This article draws together some of our recent exchange rate research. The research is interpreted against an asset price view of the exchange rate, which has become increasingly relevant as foreign exchange market turnover has become dominated by capital market transactions unrelated to trade in goods and services. Factors that affect expected relative returns on New Zealand dollar assets (eg interest rates, export commodity prices, fixed asset prices and a notion of equilibrium) are found to explain a considerable part of exchange rate cycles, even though they explain only a small part of short-term exchange rate fluctuations. The sources of the relative stability of the Australia-New Zealand bilateral exchange rate and the larger variation of the New Zealand-United States bilateral exchange rate are explored.

1 Introduction

What drives the New Zealand dollar? This is a question that affects the Reserve Bank every day in terms of forecasting inflation, understanding the consequences of changes in interest rates, achieving our institutional objective of avoiding unnecessary instability in the exchange rate, and more recently, making decisions about foreign exchange market intervention. It is a question that is important in more tangible ways for New Zealanders engaged in activities that reach outside our borders. While domestic stability, in terms of prices, output and interest rates, has improved dramatically in the past two decades, both short-term exchange rate fluctuations and cyclical exchange rate movements have continued to be large.

What drives exchange rates is a question that has frustrated economists for decades. After a period of optimism for exchange rate models in the 1970s and early 1980s, Meese and Rogoff (1983) showed that no exchange rate models could systematically outperform the simple assumption that today's exchange rate is the best estimate of tomorrow's exchange rate.

This article draws together our recent empirical research that explores determinants of the New Zealand dollar. The research is set against an asset price view of the exchange rate, whereby the value of the New Zealand dollar responds to a forward-looking calculation of the discounted sum of returns to holding New Zealand dollar assets. A few factors that affect expected relative returns (eg interest rates, export commodity prices, fixed asset prices and a notion of equilibrium) are found to explain a considerable part of exchange rate cycles, even though they explain a

much smaller part of short-term exchange rate fluctuations.

The close integration of the Australian and New Zealand economies is estimated to be an important factor in the relative stability of the Australia-New Zealand bilateral exchange rate compared to the New Zealand-United States bilateral exchange rate.

The remainder of the article is structured as follows. Section 2 introduces the asset price view of the exchange rate and sets out its main implications for exchange rate behaviour. Section 3 discusses uncovered interest parity as a driver of the exchange rate, and the roles of exchange rate expectations and forward-looking behaviour. While an asset price framework fits with the short-term volatility we observe, and offers an explanation for the difficulty in reliably predicting future exchange rates, section 4 considers the notion of a more stable equilibrium exchange rate. Section 5 considers how well fundamentals associated with expected returns can explain observed exchange rate fluctuations. The findings support exchange rate cycles driven by relative expected returns on New Zealand dollar assets, particularly interest rate differentials and commodity prices, but moderated by reversion toward equilibrium. Section 6 considers the implications for the trade-offs between volatility in the exchange rate and in other economic variables. Section 7 concludes.

2 The asset price view of exchange rates

A crucial factor in exchange rate behaviour has been the evolution of the foreign exchange market. Prior to 1985, most foreign exchange market activity was associated with

financing international trade flows. With the lifting of capital controls in 1984-5 and the floating of the New Zealand dollar in March 1985, transactions associated with investment and securities grew rapidly. By 2001, international trade in goods and services accounted for less than 2 per cent of foreign exchange market turnover.¹

As foreign exchange market turnover has become dominated by financial transactions rather than those related to trade,² the exchange rate has increasingly come to be viewed as an asset price. An asset price is viewed as the present value of the future net income stream associated with a particular entity or asset. This model can be applied to all sorts of assets, such as shares, bonds, housing, etc. As an asset price, the exchange rate responds to the market's current expectation of a discounted sum of returns to holding assets denominated in New Zealand dollars relative to those denominated in other currencies. While free capital mobility underpins the market, the exchange rate may be bid up or down in response to changes in a wide range of factors that affect expected returns and risk, without capital flows necessarily having to take place.

The asset price framework has at least three important implications for the determination of the exchange rate. First, when market expectations of present or future returns change (ie there are changes in fundamentals or risks that can affect returns), or if the discount rate applicable to such future returns changes, the market immediately re-prices the currency in response to the news. The prevalence of news in driving the exchange rate helps to explain the high degree of short-term variation observed in floating exchange rates and the empirical difficulty in explaining exchange rate movements, and particularly in forecasting exchange rates.³

Second, both current and expected future economic policy will affect the exchange rate. This helps to explain why, for

example, attempts during the Asian crisis to defend falling currencies by raising interest rates was largely ineffective - higher interest rates were not perceived as sustainable given the weak state of the domestic economies. Closer to home, the importance of expected future policies helps to explain why changes in the Official Cash Rate (OCR) have had little same-day effect on the exchange rate.⁴ With a clear objective for monetary policy, a published model and regular OCR review dates, changes in the OCR are largely anticipated and priced-in prior to the announced change.

For example, while the January 2004 rise in the OCR was seen by many as a surprise, the surprise was, in fact, only a matter of timing. The markets were already pricing in an OCR rise in March. Moreover, positive US data a few days earlier had brought forward expectations of a US tightening cycle. So while the announcement was "news", it didn't affect the expected sum of discounted returns by much and had little effect on the exchange rate. More generally, the Reserve Bank's ability to manipulate the exchange rate through interest rates is very limited. Any announced interest rate path which the markets interpret as inconsistent with meeting the inflation target, would be unlikely to change expected real returns by very much or for very long, and would thus have a minimal effect on the exchange rate.

Finally, the asset price framework changes how we must view the interaction between the exchange rate and the balance of payments. Prior to 1985, in an environment of capital controls and a fixed exchange rate, we used to think of exchange rate depreciations as being driven by current account deficits and the need to attract financing to prevent a run down in reserves. This can be understood in terms of the balance of payments identity: current account balance plus capital account balance equals the change in reserves. The exchange rate depreciation would both attract financing⁵

1 In 2001, current account debits plus credits amounted to about US\$40 billion, while NZD/USD turnover in the New Zealand and Australian foreign exchange markets amounted to US\$7.2 billion per day. The NZ dollar is also widely traded in New York (an additional \$1 billion per day) and London (no disaggregated figure for the NZ dollar). See Rosborough (2001).

2 The view that the exchange rate is best regarded as an asset price goes back at least to the early 1980s. See Frenkel and Mussa (1980), Mussa (1982).

3 Originally shown by Meese and Rogoff (1983). See Chen and Rogoff (2002) for an update.

4 Gray (2004).

5 The incentives for financing can be understood in terms of portfolio balance models (see Branson and Henderson 1985 for a basic model and Cushman 2003 for a recent application to exchange rate determination for the US-Canada exchange rate). To encourage investors to increase holdings of New Zealand dollar debt in their portfolios, the debt must offer higher relative yields - either a larger interest rate differential or a fall in the relative price (an exchange rate depreciation). The required yield increase rises in line with the level of net foreign debt, to offset diversification losses in foreign portfolios, over and above any potential increases in default risk.

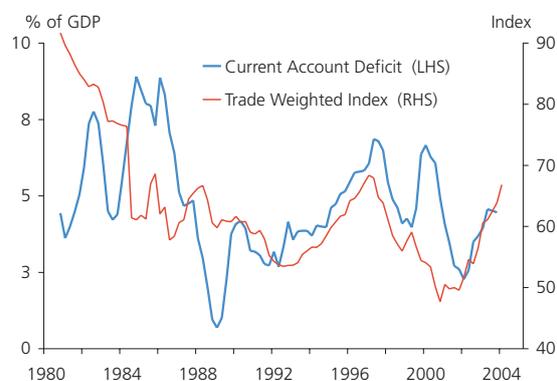
and improve the current account position (by increasing export competitiveness and reducing import demand).

In an asset price framework, with capital markets driving the exchange rate, the current account is forced to adjust. However, the current account adjustment should moderate exchange rate fluctuations in two ways. First, an appreciation of the New Zealand dollar means a deterioration of the current account (exporters receive less foreign currency and cheaper imports stimulate import demand) which implies a fall in demand for New Zealand dollars. This fall in demand, however, may not affect the exchange rate by much, since international trade accounts for such a small part of foreign exchange turnover.

Second, a current account deficit implies a rise in net foreign debt that needs to be financed. The expected depreciation required to attract financing of the rising net foreign debt reduces expected returns on New Zealand dollar assets, putting downward pressure on the New Zealand dollar.

Figure 1 illustrates how the relationship between the exchange rate and the balance of payments appears to have changed over time. In the early 1980s, large current account deficits were offset by depreciations of the New Zealand dollar. From about 1990, growing current account deficits generally coincide with currency appreciations, consistent with the idea that capital markets have driven the exchange rate, forcing the current account to adjust, rather than the other way around.

Figure 1
The balance of payments and the exchange rate



Source: Statistics New Zealand, RBNZ data

3 Uncovered interest parity

The assets most widely traded across borders are debt securities, such as bills, bonds or notes issued by governments, state-owned entities and private sector corporations, including banks. Quality and risk characteristics are relatively easy to assess in the case of debt securities, and debt securities are traded in liquid markets, including derivatives markets. The expected relative return to holding New Zealand dollar debt depends on (i) the (risk-adjusted) interest rate differential between New Zealand and foreign securities, and (ii) the expected change in the exchange rate. If the expected relative return is zero, there is no incentive for arbitrage, and uncovered interest parity (UIP) is said to hold. When UIP does not hold, there is an incentive to shift capital into the currency expected to yield a higher net return, leading to an appreciation of that currency.

While the interest differential is observed at the beginning of the period, the change in the exchange rate over the period of the security is not. If investors had perfect foresight, then high (risk-adjusted) domestic interest rates relative to foreign interest rates should always be offset by proportional exchange rate depreciation. This is not, however, what we tend to see in practice.⁶

Forward-looking behaviour also helps to reconcile efficient markets theory with what we observe. If investors are forward-looking, today's exchange rate is its expected future value, plus the expected sum over time of the interest differential.⁷ The exchange rate initially "overshoots" its future expected value by the sum of the interest differential over time and then depreciates over the life of the security so that expected profits are zero over the investment period.⁸

As shown in figure 2, both the size of the interest rate differential and its expected duration determine the extent of the initial "overshooting".⁹ For example, a 100 basis

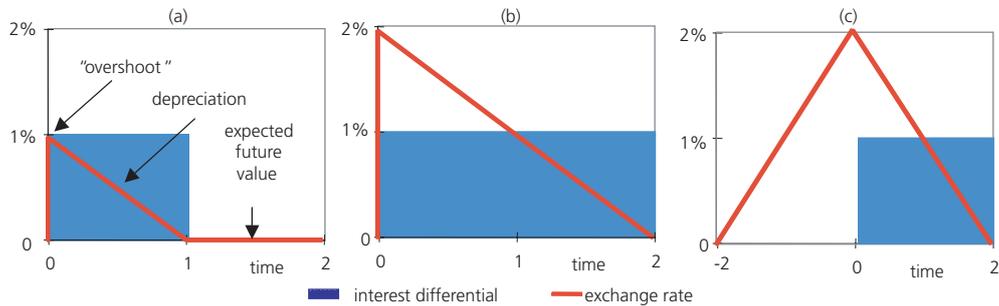
6 There is a large literature on the empirical failure of this form of UIP. See Flood and Rose (2002) for an example. This is, however, a good description of covered interest parity since forward exchange rates are generally determined by interest rate differentials so profits are arbitrated away.

7 See Allsopp and Vines (2000).

8 This is the intuition captured in the "overshooting" model of Dornbusch (1976).

9 See MacDonald and Nagayasu (2000) who find interest differentials on longer maturity securities to be associated with larger exchange rate responses.

Figure 2
Uncovered Interest Parity



point interest differential on a one year debt security might be expected to lead to an initial 1 per cent exchange rate appreciation, followed by a depreciation of 1 per cent per year for a year (figure 2a). If, however, the interest rate differential is expected to persist for two years, the resulting increase in the expected sum of returns should lead to an initial appreciation of 2 per cent followed by a depreciation of 1 per cent per year for 2 years (figure 2b). So the exchange rate response is larger for interest differentials on longer-maturity securities and on short-term securities that persist. If the interest differential is anticipated (eg strong economic news suggests rising inflationary pressure and future increases in interest rates), the exchange rate may be bid up before the interest differential opens (figure 2c).

As short-term exchange rate movements are difficult to predict, near-term portfolio investment decisions may in practice be made on the basis of the (risk-adjusted) interest differential alone. This implies positive returns to holding the higher yielding currency, and continued incentives for capital to flow towards the higher yielding currency, as long as the interest rate differential persists or until overvaluation begins to alter exchange rate expectations. While persistent profit opportunities may seem at odds with efficient markets, there is probably some truth to this, consistent with the enduring findings of Meese and Rogoff (1983) that today's exchange rate is the best estimate of the future exchange rate, particularly for time horizons of less than one year.¹⁰

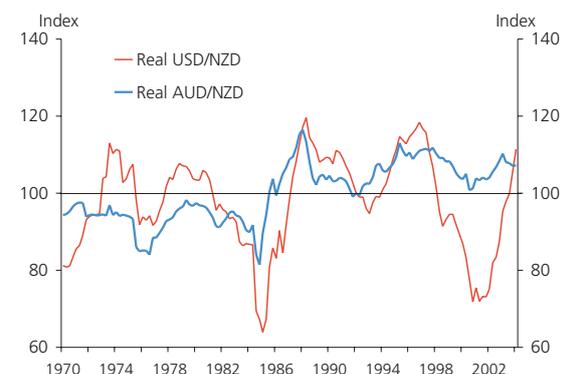
10 Technical factors (eg timing of closing out of positions) may dominate "fundamentals" for relatively short time periods. See Chinn and Meese (1995) and Mark (1995) for longer run forecast performance. Many of the models that challenge Meese and Rogoff (1983) incorporate nonlinearities, eg Taylor and Peel (2000).

Arbitrage conditions similar to UIP should apply to other types of assets. Typically, however, the expected returns on other types of assets will be more difficult to estimate, as the nominal return on most assets is only known ex post (while the nominal interest return is known at the beginning of the investment period), and specific risk and quality characteristics will often be difficult to assess.

4 Long-run equilibrium in the foreign exchange market

While an asset price framework emphasises news as the driver of exchange rates, the notion of "equilibrium" remains important for expected returns. Implicit in the discussion of UIP above was a notion of a future equilibrium exchange rate. As the New Zealand dollar comes to be seen as "over-valued", expected returns to holding New Zealand dollar assets fall as the currency is expected to depreciate.

Figure 3
Australian dollar and US dollar real exchange rates



Note: March 1992 quarter = 100. Sources: RBNZ, Statistics New Zealand data.

What determines the long-run equilibrium? If we accept that there was a fall in New Zealand's risk premium in about 1985, the real value of the New Zealand dollar appears to have fluctuated around a fairly constant average value relative to Australia and the United States (figure 3). While this might appear as reversion to a stable equilibrium, there are reasons to expect the equilibrium to vary over time, in response to broader structural changes in the economy.

Two analytical frameworks can be used to assess long-term equilibrium exchange rates: the concept of purchasing power parity and the notion of macroeconomic balance. These two concepts are discussed in the next parts of this section of the article.

Purchasing power parity

Purchasing power parity (PPP) is based on the law of one price: with competitive markets, in the absence of transactions costs and barriers to trade, the prices of identical goods in different countries should be the same when denominated in the same currency, leaving no profitable arbitrage opportunities in the goods market. While the law of one price applies to a single good, PPP applies to the price of a basket of goods and services. If PPP holds, then the real exchange rate (nominal exchange rate multiplied by the ratio of the domestic price level to the foreign price level) should be stationary, meaning that over time it reverts back toward some equilibrium level.

In practice, exchange rates between countries with large differences in inflation do tend to move to offset the differences in inflation. However, exchange rates between countries with low and stable inflation often do not appear to revert toward PPP, particularly for US dollar cross rates.¹¹ Some studies using very long data sets support the idea that in low inflation countries, PPP will apply over the longer term, once cumulative relative price developments grow sufficiently large.

There are, however, several reasons why PPP may not hold. First, persistent short-term factors, such as persistent interest rate differentials, that drive nominal exchange rates also

drive real exchange rates in a low inflation environment, and therefore lead to substantial deviations from PPP in the short term.

Second, transactions costs and trade barriers may create bands where prices diverge, but there are no profitable arbitrage opportunities. Arbitrage only leads to adjustment to the edge of the band. While PPP is generally measured relative to consumer prices, transactions costs are much larger at the consumer level than at the producer level.¹²

Third, in the absence of perfect competition, price differences may persist. For example, the removal of the ban on parallel importing in 1998 should have increased price arbitrage in the market for branded goods and strengthened adjustment toward PPP by increasing the pass-through of exchange rate changes to domestic prices.

Fourth, price arbitrage can only be expected to equalise the prices of goods that are traded between countries. Price differences in non-traded goods may lead to differences in price levels, even when the prices of traded goods are equal across countries,¹³ and traded goods prices often include non-traded components such as retail costs.

Finally, differences in the baskets of goods that make up domestic and foreign consumer price indices may lead to changes in relative prices levels over time, even if the law of one price holds for each good or service.

Macroeconomic balance

In a macroeconomic balance framework, the sustainable real exchange rate is one that is consistent with both internal balance (meaning output is at potential with non-accelerating inflation) and external balance (meaning the current account is being financed by a sustainable rate of capital flow).¹⁴ The long-run real exchange rate is affected by structural factors underlying both the current account and the capital account, such as productivity, trade policy, terms of trade, the composition of fiscal spending and factors that affect a country's underlying propensity to be a

¹¹ This is one of macroeconomics' major puzzles. See Rogoff (1996), Obstfeld and Rogoff (2000).

¹² Obstfeld and Rogoff (2000).

¹³ See MacDonald (1997) for a discussion of factors that may alter the PPP equilibrium, including relative productivity, relative savings and the terms of trade.

¹⁴ See Wren Lewis (2004) for a study of New Zealand.

net lender/borrower, such as demographics and the stock of government debt.¹⁵ As such, the long-run equilibrium real exchange rate may vary over time depending on a variety of factors including:

- relative current account positions – an unsustainable current account deficit implies a devaluation of the domestic currency to restore balance;
- unemployment – if domestic unemployment is high, then a larger depreciation is required to restore balance;
- the net foreign asset position - a higher stock of net foreign liabilities implies higher payments on net foreign liabilities and a greater depreciation to achieve current account balance;
- relative productivity growth - a country with high productivity growth in its export sector can sustain an appreciating currency;¹⁶
- relative inflation (PPP); and
- the terms of trade (export prices relative to import prices) – if the terms of trade improves, less depreciation is required to restore balance.

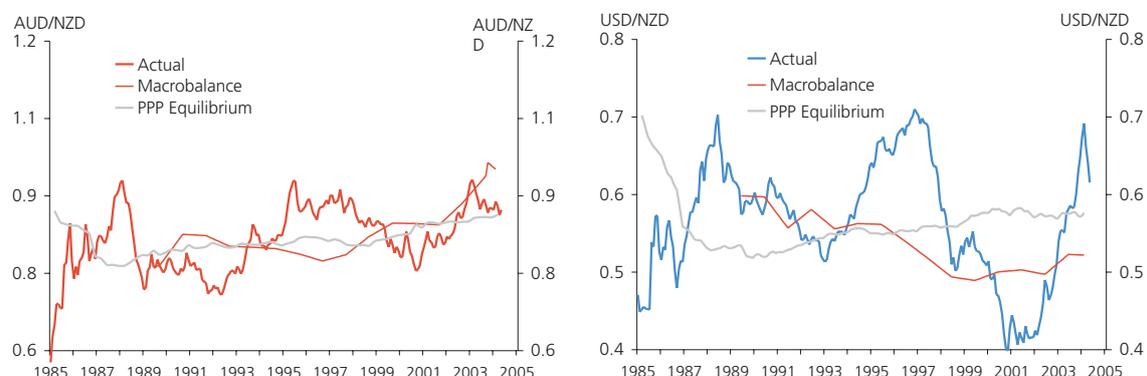
Figure 4 shows some estimates of bilateral exchange rates that are consistent with PPP equilibrium and a current account deficit of 4 per cent of GDP. The New Zealand dollar appears to remain close to “equilibrium” relative

to the Australian dollar, but to deviate substantially from equilibrium relative to the US dollar.

Implicit in the macroeconomic balance framework is the idea that real imbalances in the economy will lead to adjustment, either through the exchange rate or through adjustments in the domestic economy. The expected adjustment to imbalances will affect the expected return on New Zealand dollar assets. For example, a high current account deficit implies a future depreciation of the currency, which reduces expected returns to holding New Zealand dollar assets, leading to a re-pricing of the currency. In this way, capital markets may play an important role in the adjustment toward “equilibrium”

Capital market perceptions of the long-run equilibrium exchange rate may, however, differ from those based on the concepts of PPP or macroeconomic balance. For example, some market participants may extrapolate from recent trends – a recent appreciation may be seen as evidence that we are on the rising part of the exchange rate cycle. Alternatively, if the New Zealand dollar remains strong the equilibrium value may be perceived to have risen. These types of expectations may lead to persistent departures from macroeconomic balance or PPP equilibrium. The associated uncertainty about the degree of over- or under-valuation of the currency (see for example figure 4) may lead to bands

Figure 4
Equilibrium exchange rates: PPP and macroeconomic balance



Note: PPP Equilibrium based on historical average of real exchange rate.
Source: Macrobalance estimates from Wren Lewis (2004), PPP normalised on period average.

15 See Faruqee (1995)

16 The Balassa Samuelson effect. See Balassa (1964) and Samuelson (1964).

in which the market does not respond to deviations from a fundamentals-based long-run equilibrium.

5 Empirical evidence: does an asset price framework fit the data?

If exchange rates are viewed as asset prices, the prevalence of “news” as a driver might appear to preclude empirical work based on “fundamentals”. However, over time news about fundamentals should generally coincide with actual fundamentals, with some leads or lags. This section reports on recent empirical work at the Reserve Bank and considers how variables that are correlated with the exchange rate might affect expected relative returns on assets denominated in New Zealand dollars. While the foreign exchange market aggregates a lot of information, it turns out that a few explanatory variables can explain a reasonable part of the cycles observed in the New Zealand dollar, at least within the sample period.

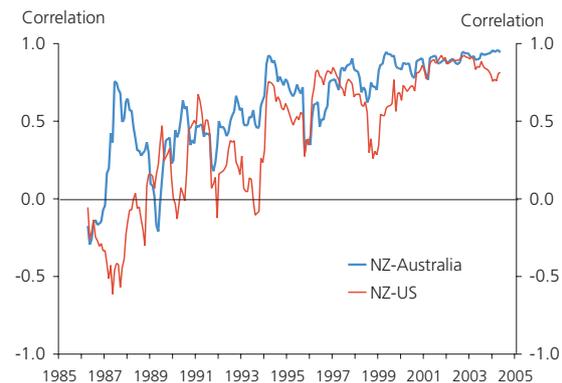
Interest rates: the return on fixed income assets

In a clever twist on the UIP relationship, an IMF study¹⁷ covering 1990 to 1999 looked at monetary policy announcement-day effects (corrected for same-day financial

news), and estimated a 2-3 per cent appreciation of the New Zealand dollar in response to a 100 basis point rise in 90 day interest rates. An update of this work¹⁸ for the OCR period found that, while the result held for the whole period (but with reduced significance), OCR changes have been largely anticipated and associated with no significant exchange rate response.

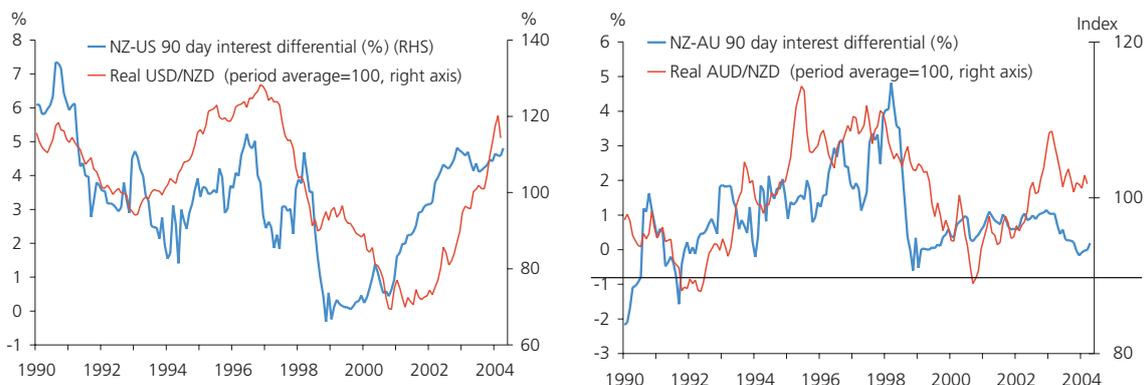
Over a month or a quarter, however, high New Zealand 90 day interest rates relative to our trading partners are associated with appreciation of the New Zealand dollar (figure 5). A 90 day interest rate differential of 100 basis points is associated with an exchange rate appreciation of about 6 per cent in the long-run relative to the Australian and US dollars.¹⁹ In

Figure 6
Capital market integration:
Co-movement of long term interest rates



Note: Correlation of monthly changes in 10-Year interest rates over the previous year. Source: RBNZ data.

Figure 5
90 day interest rate differentials and the exchange rate



¹⁷ Zettelmeyer 2000, IMF Working Paper WP/00/141

¹⁸ Gray (2004).

¹⁹ Huang (2004).

contrast, long-term interest differentials are not found to be significant as a driver of the exchange rate.²⁰

Relatively recent changes in the determinants of interest rates help to explain these findings. In principle, a given interest rate differential on longer maturity securities would be expected to have a larger impact on the exchange rate than an equivalent differential on short-term instruments because the security lasts longer. If, however, New Zealand long term interest rates adjust in response to deviations from UIP, the required exchange rate adjustment should be small. Figure 6 illustrates the increasing co-movement between New Zealand and foreign 10-year interest rates.²¹ Assuming New Zealand interest rates respond to foreign interest rates, but not vice versa,²² Australian and US interest rates now explain most of the variation in New Zealand 10-year interest rates, implying a high degree of capital market integration and interest rate adjustment.

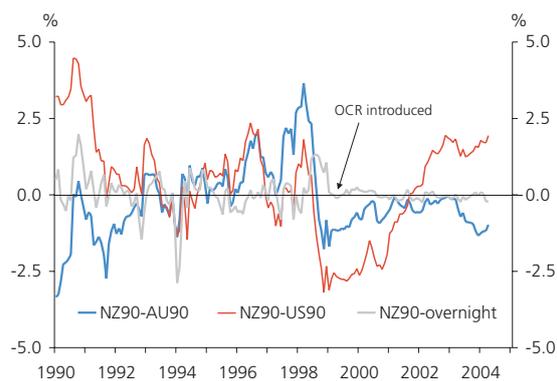
At the short end of the maturity spectrum, the story is almost the opposite. Since the introduction of the OCR in March 1999, 90 day interest rates have moved closely with overnight interest rates (figure 7). This close relationship reflects a fall in arbitrage risk between short-term interest

rates and overnight funds as monetary policy has become more predictable (reflecting a clear objective, published model, scheduled OCR review dates and the overnight interest rate defended within a ± 25 basis point band around the OCR). This relationship is not unique to New Zealand. In Australia, a similar cash rate system was introduced in the early 1990s, and internationally there has been increasing focus on controlling interest rates rather than monetary quantities over the past decade.

The ability of monetary policy to anchor short-term interest rates means that short-term interest differentials are determined by relative monetary policies, which reflect persistent relative domestic demand pressures and hence inflationary pressures. As exchange rate changes are difficult to predict at short horizons, persistence in short-term interest rate differentials may present continued incentives for uncovered interest rate arbitrage. If interest rates do not adjust in response to this arbitrage, adjustment toward UIP must come through the exchange rate.

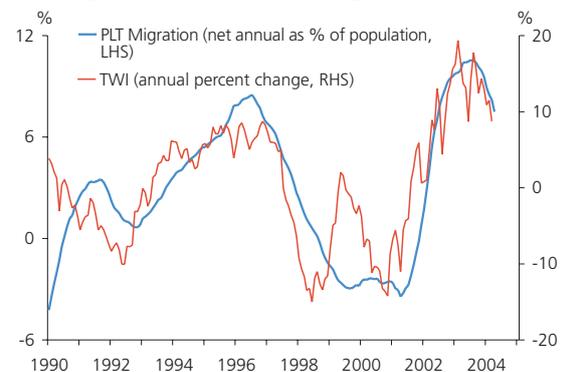
The strong estimated exchange rate response to short-term interest differentials may also reflect two related factors. First, the short-term interest rate differential reflects domestic demand pressures, and therefore relative profitability and asset returns as well as interest returns. Second, large observed exchange rate cycles may encourage herd-like behaviour: not only do high interest rates imply higher interest returns, but also a higher yield due to the expected exchange rate appreciation.

Figure 7
Effective monetary policy control of 90 day interest rates



Note: Interest differentials adjusted for constant risk premium (1992-2004 average). NZ 90-day-overnight differential calculated as difference between 90-day rate and average overnight rate for the same period. Source: RBNZ data.

Figure 8
Net migration and the exchange rate



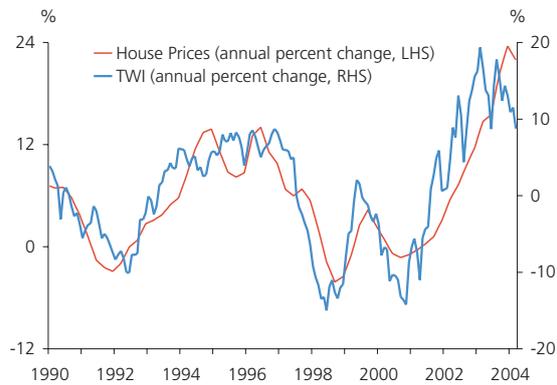
Sources: Statistics New Zealand, RBNZ data.

20 Huang (2004), Stephens (2004), Munro(2004a)

21 For a more rigorous treatment in an error correction framework, see Munro (2004a).

22 This implies foreign capital market domination, consistent with New Zealand's relatively small economy and capital market.

Figure 9
House prices and the exchange rate



Source Quotable Value NZ, RBNZ data.

Migration, domestic demand and the return on residential property

Changes in the exchange rate are highly correlated with both migration (figure 8) and house prices (figure 9). To some extent, the correlation with migration could be coincidence. Periods of a strong New Zealand dollar in the mid 1990s and in the past year coincided with high net immigration; but the strong New Zealand dollar also coincided with large and persistent interest rate differentials. In the mid-1990s it was unusually high New Zealand interest rates, and since 2001 it has been unusually low US interest rates.

This coincidence aside, there are still good reasons why high net migration may be associated with a strong New Zealand dollar. First, high rates of net immigration tend to fuel domestic demand. Buoyant domestic demand is associated with increased profitability, which increases the

attractiveness of New Zealand assets, and leads to higher domestic interest rates. This much is probably captured in the interest rate differential.

Second, capital flows associated with migration can be quite large (see figure 10), as migrants bring or take capital with them to purchase a house or business and fund other expenditures. Capital flows into the housing market put pressure on house prices, reinforce domestic demand pressures through a wealth effect, and encourage domestic investment in housing. With low domestic savings, mortgages are financed through external borrowing, and so amount to a further capital inflow, and greater upward pressure on the exchange rate. Viewed another way, both the exchange rate and house prices are important asset prices that reflect some of the same underlying demand factors. While migration may sometimes be a causal factor, interest rate differentials are probably a broader measure of demand pressures.

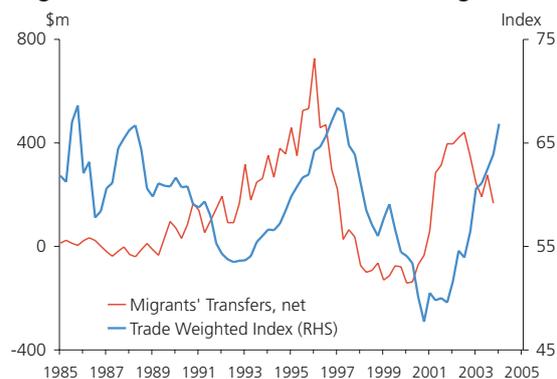
Commodity prices and the return on primary production

A rise in export commodity prices (in US dollar terms) implies higher expected returns to rural land and other assets associated with primary production, and possibly higher future interest rates, implying an appreciation of the New Zealand dollar. Viewed in terms of actual capital flows, higher US dollar denominated receipts for these exports means greater demand for New Zealand dollars and upward pressure on the New Zealand dollar.

Either way, the appreciation associated with a rise in export commodity prices potentially plays an important buffering role. If a 1 per cent rise in export commodity prices leads to a 1 per cent appreciation of the New Zealand dollar, then commodity exporters will face stable export prices in New Zealand dollar terms.²³

As shown in figure 11, the buffering role of the exchange rate generally appears to be on the order of one-to-one. In our empirical studies, the estimated exchange rate appreciation

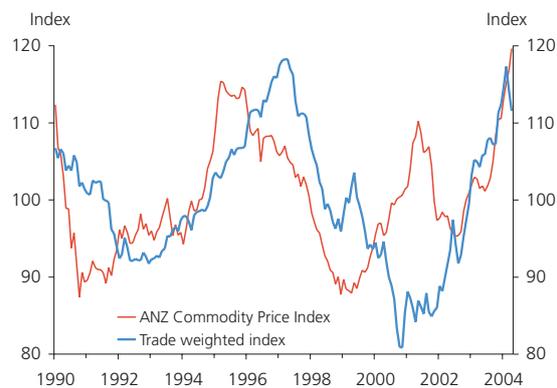
Figure 10
Migrants' transfers (\$m) and the exchange rate



Sources: Statistics NZ, RBNZ data.

²³ While this may be true in aggregate, producers of manufactured goods or commodities whose prices have risen by less than average may see a fall in income or loss of competitiveness.

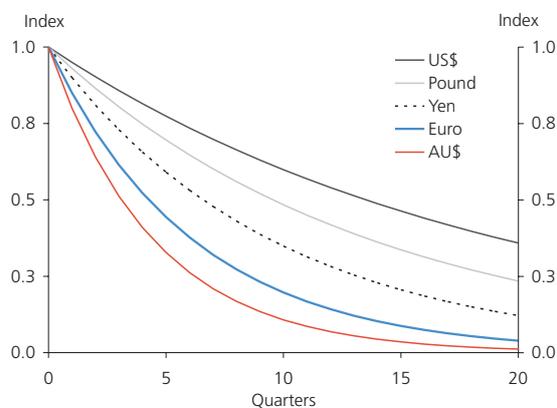
Figure 11
Commodity export prices and the exchange rate



Note: 1990-2004 average=100. Source: ANZ, RBNZ data

in response to a 1 per cent rise in commodity prices varies from 0.3 per cent for the AUD/NZD and 0.5 per cent for the USD/NZD in the short-term (Munro 2004b); 0.7 per cent for the TWI in the medium term (Wren Lewis 2004); and 0.6 for the AUD/NZD and 1.8 per cent for the USD/NZD in the long run (Huang 2004).²⁴ The estimated relationship between commodity export prices and the exchange rate is stronger relative to the US dollar than the Australian dollar. This may result from a degree of co-movement between Australian and New Zealand commodity export prices which, despite different compositions (eg Australian metals), are partly driven by world demand.

Figure 12
Estimated New Zealand real exchange rate adjustment toward PPP



Note: Estimated adjustment toward PPP, in the absence of other influences on the exchange rate, based on first order autoregressive process. Source: Luo and Plantier (2003).

Reversion toward equilibrium

Much of the evidence of reversion toward “equilibrium” is based on an equilibrium defined by PPP. In international studies, adjustment toward PPP is estimated to be slow, with half the adjustment typically taking 3 to 5 years for major currencies against the US dollar.²⁵

For New Zealand, Luo and Plantier (2003) estimate a similar speed of adjustment relative to the US dollar, but faster adjustment between the New Zealand dollar and other currencies in New Zealand’s trade weighted exchange rate index (TWI). As shown in figure 12, the fastest estimated adjustment is against the Australian dollar (with half of the adjustment taking less than a year), and the slowest against the US dollar (half of the adjustment in 3.75 years), with the euro, yen and UK pound falling somewhere in between. This helps to explain the relatively larger and more persistent fluctuations of the New Zealand dollar against the US dollar, and relatively smaller fluctuations against the Australian dollar. So a better understanding of the reasons for slow adjustment may be important in terms of understanding exchange rate volatility.

Slow adjustment toward PPP for US dollar exchange rates was initially thought to be the result of slow price adjustment, but several recent international studies suggest that the bulk of the adjustment toward PPP occurs through the exchange rate, and that it is, in fact, slow exchange rate adjustment, rather than slow price adjustment, that leads to slow equilibrium reversion.²⁶

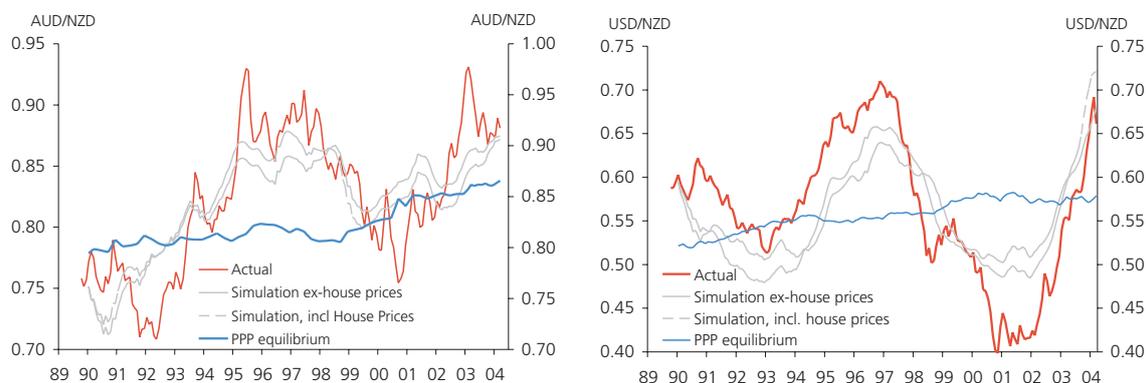
Exchange rate adjustment toward PPP may come through goods market adjustment (through the current account) or through a capital market response to deviations from “equilibrium”. With international trade accounting for a small part of foreign exchange market turnover, the capital market response may be more important. As discussed above, capital market adjustment toward “equilibrium” may be slow because of uncertainties about the equilibrium level. In addition, estimated adjustment speeds may be biased if factors that drive the exchange rate away from PPP

²⁴ Chen and Rogoff (2002) estimate a USD/NZD appreciation of 0.5 to 2.3 per cent in the long run.

²⁵ Rogoff (1996). Some studies (eg Cashin & McDermott 2001) challenge this.

²⁶ See Cheung, Lai and Bergman (2003) for a vector error correction model, and Engle and Morley (2001) for a state-space model.

Figure 13
Exchange rate simulations



Note: The period 2000-2001 coincided with a large volume of Eurokiwi maturities (unrelated to interest differentials) that may explain some of the New Zealand dollar weakness in those years.

equilibrium, such as relative interest rates and commodity prices, are not controlled for.

Putting everything together

A few factors that affect the flow of returns on New Zealand dollar assets can explain a significant part of the exchange rate cycle. Figure 13 shows paths for the USD/NZD and AUD/NZD generated by an equation that explains changes in the exchange rate in terms of 90 day interest rate differentials, changes in ANZ commodity export prices, deviations from PPP equilibrium, and some inertia.²⁷

In this equation, the interest rate differential (driven by relative domestic demand) drives the exchange rate cycle, which is reinforced by some inertia, but moderated by reversion toward PPP equilibrium. Changes in commodity prices lead to short-term changes in the exchange rate, and fluctuations around the main cycle. The estimated reversion toward PPP and inertia can be interpreted as the expected change in the exchange rate. The equation can then be interpreted simply as uncovered interest parity plus commodity price influences.

The exchange rate is estimated to continue to respond to the 90 day interest rate differential until the growing deviation from PPP erodes expected interest returns.²⁸ The estimated

response to commodity prices seems to have strengthened over time, suggesting that the New Zealand dollar plays an increasing role in buffering commodity price shocks.

While the interest rate differential likely accounts for much of the effect of migration (as well as a range of other factors) on domestic demand, to the extent that monetary policy has not fully responded to asset prices,²⁹ house prices may serve as a proxy for an additional capital flow into the housing market.³⁰ Explicitly including changes in house prices further helps to explain exchange rate fluctuations.

6 Volatility trade-offs

It is useful to think of volatility trade-offs in terms of the so-called monetary policy “trilemma”: a central bank faces three desirable objectives – monetary policy oriented toward domestic goals (principally stability in consumer prices), a stable exchange rate, and international capital market integration – of which only two can be achieved at one time.³¹ Since the late 1980s, New Zealand has targeted monetary policy to achieve price stability, allowed free movement of capital and allowed the exchange rate to float

²⁷ This is based on an error correction equation estimated for 1990-2004. The simulation is the cumulated changes in the exchange rate generated by the equation using in-sample coefficients and data. This explains about 25 per cent of monthly changes in the exchange rate but 60 to 80

²⁸ See Stephens (2004) for a discussion of equilibrium based on UIP and PPP.

²⁹ Monetary policy naturally responds to asset prices to the extent that they affect forecast inflation. See Bollard (2004) for more detail on monetary policy and asset prices.

³⁰ This will also capture non-migrant investment in housing. With a negative savings rate and much of this investment financed through mortgages, this represents a capital inflow as the mortgages need to be financed through overseas borrowings.

³¹ Also called the “impossible trinity”, this concept dates at least as far back as the optimal currency area work of Mundell in the 1960s. See Obstfeld et. al (2004) for a good presentation of the rationale and evidence.

freely.³² Increasing capital market integration (figure 6) may have made the trade-offs between domestic stability and exchange rate stability more binding.³³

The research discussed above helps to explain why some bilateral exchange rates are more stable than others. Smaller fluctuations in the AUD/NZD than in the USD/NZD can be explained by a common commodity component of exports, smaller interest rate differentials (figure 7), and faster estimated reversion toward equilibrium. These reflect similarities in, and integration between, the New Zealand and Australian economies. Integration of the Australian and New Zealand economies appears to have allowed some stabilisation of the AUD/NZD exchange rate.

7 Summary and conclusions

The asset price perspective helps us to understand large short-term exchange rate fluctuations in response to economic or financial news and focuses attention on factors that affect expected relative returns on New Zealand dollar denominated assets. In our empirical research, factors that affect relative returns - short-term interest rates, commodity prices, a notion of medium-term exchange rate equilibrium and some asset prices – help to explain exchange rate movements, at least within sample periods, and a reasonable degree of the exchange rate cycles observed. However, they do not explain all, or even most of, short-term exchange rate movements, which may be dominated by news, market sentiment and technical factors.

Although short-term interest rate differentials are important for the exchange rate, and short-term interest rates are effectively controlled by monetary policy, it does not follow that monetary policy can effectively manipulate the exchange rate. In New Zealand and elsewhere, it is underlying demand

pressures that are driving inflation and therefore monetary policy. With a clear inflation target, an OCR that is seen as inconsistent with meeting our inflation target would probably not change the expected path of interest rates by very much or for very long. Interest rates seen as too high would only lead to expectations of lower interest rates in the future to prevent undershooting of the inflation target. Indeed, since the introduction of the OCR in March 1999, Gray (2004) finds little evidence of OCR surprises, or a systematic exchange rate response to changes in the OCR.

With increasing capital market integration, the monetary policy trilemma suggests that the choice between monetary policy focused on domestic goals and stability in the exchange rate may have become more binding. Indeed, several recent papers estimate the trade-offs between volatility in the exchange rate and volatility in interest rates, inflation and output, to be substantial. However, the high degree of integration between the Australian and New Zealand economies (associated with faster reversion toward equilibrium and common domestic goals, reflected in smaller interest rate differentials) appears to have provided a degree of exchange rate stabilisation.

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32 The Reserve Bank has not intervened in the foreign exchange market for the purpose of influencing the currency since the floating of the exchange rate in 1985. In 2004, Parliament approved additional capacity for the Reserve Bank to intervene in foreign exchange markets for the purpose of influencing the level of the currency when it is exceptionally and unjustifiably high or low.

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Developments in the New Zealand banking industry during 2003

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This article reviews developments in the New Zealand banking industry over the year ended 31 December 2003. It describes structural changes in the industry, comments on current issues in the area of banking supervision in New Zealand, and examines trends in payment methods and distribution channels. The article analyses banking system data from 2003, looking at aggregate financial position, financial performance and risk indicators. The data indicate that the banking system continues to display considerable stability, with good profitability and asset quality. Some comments on developments in the non-bank financial sector and the Australian banking sector are also included. Concluding remarks are made about areas of potential vulnerability for the New Zealand banking system.

This is the final article on the state of the banking system to appear in the *Bulletin* for the foreseeable future. Commencing later this year, the Reserve Bank plans to publish a regular report, probably six monthly, on the New Zealand financial system. That publication will include analysis of the state of the banking system and related issues. The *Bulletin* will continue to include articles discussing specific policy developments in the financial system.

1 Introduction

This article is a continuation of the annual series of articles that review developments in the New Zealand banking industry. The article begins by describing changes in the structure of the industry during 2003 and then comments on other current issues that are relevant to banking supervision in New Zealand. In 2003, this included amendments to the Reserve Bank of New Zealand Act 1989 and a number of policy developments of a regulatory nature. Trends in payment distribution channels (eg bank branches, ATMs) and in payment systems (eg EFTPOS, cheques) are described, drawing on data provided by the New Zealand Bankers' Association. The article also analyses aggregate data for the New Zealand banking system for 2003, drawn from the quarterly disclosure statements that all registered banks are required to publish. It looks at trends in aggregate financial position and performance and risk indicators in respect of registered banks in New Zealand.

2 Structural issues in the banking sector

As at the time this article was prepared, there were 18 registered banks in New Zealand. The number of banks increased by one in 2003 with the registration of St George

Bank New Zealand Limited. During March 2004 there occurred the simultaneous voluntary de-registration of the New Zealand branch of Bank of Tokyo-Mitsubishi (Australia) Limited (an Australian subsidiary of Bank of Tokyo-Mitsubishi) and the registration of Bank of Tokyo-Mitsubishi, which now operates directly as a branch in New Zealand. A list of registered banks as at the time of publication of this article is shown in the Appendix.

A significant change to the structure of the banking industry during 2003 was the acquisition by ANZ Banking Group (New Zealand) Limited of The National Bank of New Zealand Limited on 1 December 2003. Both banks have, to date, continued to be separately registered as banks in New Zealand (although National Bank has given notice that it wishes to be removed from the register of banks on 26 June 2004). This acquisition created the largest banking group in New Zealand, which as at 31 December 2003 held 34 per cent of the total assets of the New Zealand banking system. The next largest bank was Westpac with 20 per cent of total system assets. Bank of New Zealand had 18 per cent of system assets and CBA banking group had 15 per cent.

Another effect of the merger was to increase the concentration of Australian ownership of the banks operating in the New Zealand banking system. As at 31

December 2003, Australian owned banks held 87 per cent of total banking system assets.

The merger required the approval of both the Commerce Commission (which considered market dominance issues) and the Reserve Bank (which considered financial stability issues). The Commerce Commission gave an unconditional consent to the merger. The Reserve Bank consented to the merger subject to a number of conditions. These conditions required National Bank to remain a separate entity, with no significant changes occurring to its structure or operations until further consents were given by the Reserve Bank.

The purpose of imposing these conditions was to ensure that there was no movement to Australia of any functionality of National Bank unless specifically approved by the Reserve Bank. These conditions ensured that a plan for the ultimate location of the systems, back-up arrangements and management of the ANZ/NBNZ group in New Zealand would need to be submitted to, and approved by, the Reserve Bank before changes could be made. Issues related to the giving of these further consents are currently being worked through, with National Bank remaining a separate entity at the time of writing.

3 Amendments to the Reserve Bank of New Zealand Act

The Reserve Bank of New Zealand Amendment Act 2003, enacted in August 2003, made a number of changes to the provisions of the Reserve Bank of New Zealand Act 1989 that related to bank registration and supervision. Changes were also made to other provisions in the Act. The changes were described in an earlier *Bulletin* article (March 2004, vol. 67 no. 1). The main changes to banking registration and supervision were as follows:

- The matters that the Reserve Bank must take into account when considering an application for bank registration were expanded to include the suitability of proposed appointees for the positions of the directors and senior managers of the applicant, risk management systems and policies of the applicant, and outsourcing arrangements proposed by the applicant.
- The Amendment Act introduced a requirement that any person or entity wanting to obtain an ownership or controlling interest in a registered bank of 10 per cent or more must first obtain the consent of the Reserve Bank.
- The scope of disclosure statements was extended so that disclosures about registered banks' subsidiaries and subsidiaries of holding companies may be required.
- Disclosure statements of an overseas incorporated bank operating in New Zealand as a branch must now be signed by the New Zealand chief executive, as well as the directors of the overseas bank board.
- Home country banking supervisors may now, with Reserve Bank approval, conduct on-site examinations that include examinations of individual customer files of New Zealand branches or subsidiaries of banks that they are responsible for supervising.
- The Reserve Bank's powers to obtain information from registered banks have been strengthened. The Reserve Bank can require registered banks to provide reports on any issues that impact on the operations of banks.
- Some streamlining of the statutory management process was also included in the Amendment Act. This included more flexibility in the appointment and termination of statutory managers. Amendments were also included to make it easier and faster for the Reserve Bank to take investigative steps or direct banks' actions in times of financial stress.

4 Current supervisory issues

The last year or so has been a busy one for the Bank in the development of banking supervision policy. This section briefly highlights the main policy initiatives undertaken in 2003 and currently underway.

The Australian and New Zealand banking markets are highly integrated and interdependent. A working group of the Australian Treasury and New Zealand Treasury, Reserve Bank of New Zealand, Reserve Bank of Australia and the Australian Prudential Regulation Authority, has been formed to develop policy options for closer integration of trans-

Tasman banking regulation. Officials are due to jointly report to their respective Ministers by 30 June 2004.

The trans-Tasman working group is assessing the possible options for more closely integrating the banking regulatory frameworks of the two countries. In assessing the options, a number of considerations need to be borne in mind so that any closer integration of regulatory frameworks meets the needs of both countries. One of these considerations is the need to ensure that any agreed trans-Tasman regulatory framework enables the authorities to respond quickly and effectively to a financial crisis in either country. It would also need to make allowance for the possibility that an economic or financial shock might affect one country more than the other. In such a case, the regulatory framework needs to facilitate quick and effective responses that minimise the impact on the country's financial system.

There is also a need to ensure that any agreed trans-Tasman regulatory arrangements are consistent with maintaining sound and efficient financial systems in both countries, taking into account the particular circumstances of each country. The Reserve Bank is working with the New Zealand Treasury and Australian officials to these ends, and will report to the New Zealand Minister of Finance and the Australian Treasurer.

Regulatory capital continues to be on the Reserve Bank's agenda for further consideration, pending the finalisation of the Basel Committee's revisions to its Capital Accord "Basel II". The Reserve Bank will consider the merits of alternative approaches to implementing changes to the Capital Accord, taking into account trans-Tasman integration of banking regulation, among other factors. The Reserve Bank's preference at this stage is to require banks to calculate their capital on the basis of the Basel II standardised model, rather than allowing banks to use their own credit risk/capital allocation models (which would require approval by the supervisory authority). The bank disclosure framework will also be reviewed in light of the disclosure element of Basel II.

Separate from the Basel II capital changes, the Reserve Bank will also be considering possible changes to the level of capital ratio for banks in New Zealand. Since the introduction

of minimum capital requirements under the Basel capital framework in the late 1980s, the Reserve Bank has applied the international standard minimum capital ratio of 8 per cent (with at least 4 per cent being in the form of tier one capital and the balance being allowed as tier two capital). Consideration will be given to the possible costs and benefits of increasing the minimum capital requirement to a higher level, to further bolster the strength of banks' balance sheets and the financial system as a whole. Consideration will also be given to the allowable mix of capital instruments banks are permitted to include in their qualifying capital, with a view to ensuring that the capital instruments are of high quality and provide a genuine loss absorption buffer for a bank. In addition, the Reserve Bank intends to require banks to maintain the same minimum capital adequacy levels on a solo basis as they do on a banking group basis.

Another issue under consideration is the treatment of outsourcing of functionality by banks – the provision of IT systems and other bank functionality by an entity other than the bank in New Zealand – especially where the outsource provider is the parent bank. Outsourcing has the potential to compromise the ability of the board and management of a bank in New Zealand to manage its core business, when the supplier of the outsourced functionality is unable to provide the required services. Although outsourcing is now a common arrangement in many companies (including banks) around the world, the issue of particular concern to the Reserve Bank is where the outsource provider is a related party of a bank in New Zealand, such as a parent bank. In such a case, outsourcing arrangements might not be on arms' length terms or subject to robust documentation. Under such outsourcing arrangements there may also be less consideration given to the nature of contingency arrangements should the related party, such as a parent bank, fail or become dysfunctional. In these circumstances, there is a serious risk that a bank in New Zealand could be rendered dysfunctional in the event that the parent bank or other related party provider of functionality fails, leaving the bank in New Zealand unable to meet its obligations to creditors or conduct normal banking business. This has the potential to cause severe disruption to the New Zealand financial system.

In view of these concerns, the Reserve Bank's position is that a bank's board, or a statutory manager acting in place of the board, needs to have unambiguous legal authority and practical ability to control the core functionality of the bank on a stand-alone basis. The Reserve Bank is currently developing the details of a policy on outsourcing that will meet this objective.

Another aspect of the banking supervision arrangements currently under review is the Reserve Bank's policies with respect to the corporate governance arrangements for banks. Corporate governance in banks is an important element in the promotion of sound risk management practices; strong risk management systems are unlikely to exist where corporate governance is weak. This is a core element in the Reserve Bank's "self discipline" pillar in the banking supervision framework.

As part of the preparation for the Financial Sector Assessment Programme (FSAP) assessment of the New Zealand financial system last year, the Reserve Bank undertook a survey of directors and auditors to gain a better understanding of corporate governance processes that are currently used in banks. The results of these surveys are being incorporated into a review by the Reserve Bank of bank corporate governance arrangements. The review takes into account international and national developments in corporate governance, with a particular focus on the role of directors and related issues. A discussion paper will be released for consultation with the banking industry later this year and may include some proposals for further strengthening corporate governance arrangements in banks.

Another aspect of the bank corporate governance policy theme is the process for ensuring that bank directors and senior managers have the qualifications and experience to discharge their responsibilities. Although the principal responsibility for ensuring that directors and managers do have suitable skills and experience, and are of appropriate character, lies with the bank boards and shareholders, the Reserve Bank, as supervisory authority, has responsibility to consider the suitability for their positions as directors and senior managers of banks. The Reserve Bank has developed new policy on this which it will implement soon.

The Reserve Bank continues to work on various aspects of managing bank distress and failure events. This is a core function of any supervisory authority and central bank. Although bank distress or failure events are expected to be rare, there is nonetheless a need to ensure the financial authorities have the capacity to respond quickly and effectively to any crisis situation, so as to minimise impact on the financial system. In this context, the Reserve Bank is advancing a number of projects to further strengthen its capacity to manage financial crises.

These projects include:

- Developing a capacity to manage a large bank failure by using depositors' and creditors' funds to absorb estimated losses and provide the basis for a recapitalisation of the bank, in a situation where the bank's shareholders' funds and other capital have been extinguished by losses. A prototype of this model being assessed in cooperation with one of the large banks to evaluate its feasibility and cost.
- Developing other options for dealing with bank failure events, including:
 - possible use of loss-sharing arrangements, where the government and a failed bank's depositors and other creditors jointly absorb a bank's losses and facilitate its recapitalisation;
 - the possibility of some form of banking industry support for a bank in distress;
 - the possible use of "good bank"/"bad bank" restructuring of a failed bank (ie: transferring the non-performing loans of a failed bank into a separate entity and recapitalising the bank); and
 - various structures to wind down a bank without causing significant disruption to the financial system.
- Further developing the Reserve Bank's capacity to provide emergency liquidity support to the financial system or to a particular bank.
- Further enhancing the Reserve Bank's operational capacity to respond effectively to a range of financial

crisis situations, including through the use of occasional crisis simulation training exercises.

A further important element in failure management is to ensure that the operation of payment systems is not compromised in the event of a bank failure. The adoption some years ago of real time gross settlement for large-value payment systems and the implementation of legislation to facilitate robust netting of payment obligations have gone a long way towards making the New Zealand payment system robust in the face of a bank failure. One remaining area requiring attention is to ensure that the main retail payment systems do not cease operating if there is a bank failure. Good progress is being made in this area in association with the New Zealand Bankers' Association, with a view to implementing robust failure-to-settle arrangements for retail payment systems in the near future.

Another policy area currently under review within the Reserve Bank is in relation to the use of the Reserve Bank's powers under section 95 of the Act to require a bank to undergo an independent review of its risk management systems and other controls or systems. The Reserve Bank is planning to make regular use of its powers to require a bank to supply it with a report prepared by a person approved by, and in accordance with terms of reference set by, the Reserve Bank. The use of independent reviews of banks' systems and controls will provide the Reserve Bank with a greater capacity to evaluate the adequacy of banks' risk management and governance arrangements, and will be a valuable tool to further encourage the maintenance of sound risk management practices in the banking system.

5 Australian banking sector

As noted earlier in this article, some 87 per cent of the assets of the New Zealand banking sector are held by Australian-owned banks. Thus, the strength of the Australian banking sector is of direct relevance to the New Zealand banking sector. Accordingly, the Reserve Bank monitors the Australian banking system and especially the parent banks of the banks operating in New Zealand. We also have close regard to analysis released by the Reserve Bank of Australia and others on the state of the Australian financial system, with a

particular focus on those aspects with possible implications for the New Zealand financial system, such as channels of contagion via ownership linkages, connected exposures and linkages between New Zealand and Australian financial markets.

In its Financial Stability Review released in March 2004, the Reserve Bank of Australia (RBA) conducted a comprehensive analysis of the Australian financial system. Some of the key points in that report are summarised below:

- The RBA's overall assessment of the Australian financial system is that it is currently in a sound condition, with the banks being profitable, with low levels of impaired assets and with capital considerably in excess of the minimum regulatory requirements.
- The RBA notes that since the early 1990s there has been a significant shift in banks' assets away from business lending towards lending to households. More than a decade of continual economic growth has seen a striking increase in residential property prices and household debt. Household lending is generally seen as lower risk for financial intermediaries than lending to corporates. However, now that both residential property prices and household lending are high relative to historical benchmarks, the RBA's view is that the overall riskiness of the banks' mortgage lending portfolio is likely to have increased. The RBA states that these developments raise the possibility that future default rates may not be as benign as those in the past. However there are currently few signs that households are having difficulties meeting their financial obligations.
- In the opinion of the RBA it remains difficult to envisage circumstances in which developments in the housing market alone could cause major difficulties for the Australian financial system. There have been few instances in which adjustments by the household sector have been a major factor in shaping an economic downturn. It is usually adjustments by the corporate sector or financial institutions that are the source of difficulties.
- Overall, the RBA believes the Australian financial system is currently well placed to ride through economic

and financial shocks, with a relatively low risk of any significant damage to the financial system.

6 New Zealand payment system and credit distribution channels

The New Zealand payment system continued to perform efficiently over the year under review, with no significant interruptions to the payments processing or settlement functions occurring in any of the payment switches. The use of electronic payment instruments and remote access facilities continued to increase, while the paper-based payments instruments, such as cheques, continued to decline in use, albeit at a slower pace than in previous years.

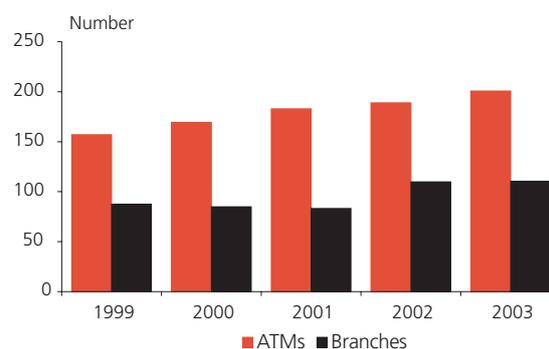
These trends are discussed in this section of the article, drawing on data published by the New Zealand Bankers' Association.

The number of ATMs has risen 28 per cent over the last five years, with more than 2000 ATMs now being in operation. The number of bank branches, which was static from 1999 to 2001, showed a significant rise in 2002, mainly due to the addition of branches of Kiwibank Limited, but remained largely unchanged in 2003. Figure 1 shows the number of ATMs and branches over the last five years.

The number of EFTPOS terminals has also been subject to a steady rise since 1999 (24 per cent over that period). This is shown in Figure 2.

The total number of banking transactions rose from 1,655 million in 2002 to 1,759 million in 2003, a rise of 6 per cent. The trends apparent for the last few years in payment system methods have continued in 2003. Table 1 shows

Figure 1
ATMs and bank branches

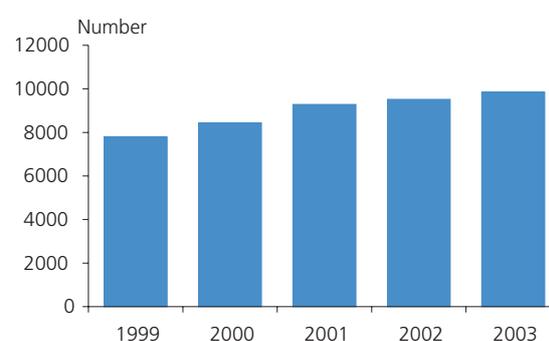


(Source: New Zealand Bankers' Association)

the percentage of total transactions represented by each payment method since 1999.

The most significant changes between 1999 and 2003 are a substantial reduction in cheque usage and an increase in credit card usage. In absolute terms the number of cheque transactions fell from 277 million to 206 million, and the number of credit card transactions rose from 144 million to 296 million over this period.

Figure 2
Number of EFTPOS terminals



(Source: New Zealand Bankers' Association)

Table 1
Payments methods (% of total transactions)

	1999	2000	2001	2002	2003
Cheques	20	17	14	13	12
Electronic credits	20	20	19	18	17
Direct debits	4	5	5	5	5
Credit cards	10	13	16	17	17
ATM	13	12	12	12	11
EFTPOS	33	33	34	35	38
Total	100	100	100	100	100

Table 2
Computer banking (millions of transactions)

Year	Transactions
1999	80
2000	93
2001	104
2002	116
2003	159

(Source: New Zealand Bankers' Association)

The number of transactions undertaken by either personal computer banking or internet banking continues to rise rapidly – a 99 per cent increase over the last five years. This is shown in Table 2.

Electronic transactions have dominated payment methods for some years now. While there is some evidence that a steady-state situation between electronic and non-electronic transactions may now be developing, the relative proportionate usage of the various types of electronic transactions is likely to change, reflecting the changing impact of cost and convenience.

7 State of the New Zealand banking system

The New Zealand banking system continues to display strength across all relevant indicators, with a high level of profitability (although down on earlier years), a very low level of impaired assets, capital at a level similar to that in other advanced economies, and exposure concentration levels that generally maintain a strong degree of diversification across most banks' asset portfolios. Although individual banks displayed different levels of financial performance, asset quality and capitalisation over the year, none of the banks breached prudential limits imposed by the Reserve Bank. All of the banks, and their parent banks where applicable, continued to show indicators of a sound financial condition.

The strength of the banking system reflects a combination of several factors. These include strong bank ownership, where the parent banks are currently in a sound financial condition and are mainly based in countries with robust banking systems, sound risk management practices and good quality management in the parent operations and New Zealand operations, and favourable economic conditions in New Zealand and in parent bank economies. Reflecting these factors, the credit ratings of banks in New Zealand have remained stable over the last year and are relatively high by international standards.

Table 3
Aggregate income statement for registered banks

\$million	1999	2000	2001	2002	2003
Net interest income	3307	3527	3911	4699	5009
Less					
Impaired asset costs	144	127	191	196	553
Equals					
Net interest income after impaired asset costs	3163	3400	3720	4503	4456
Plus					
Other income	1865	2140	2264	2254	2390
Less					
Operating expenses	2944	3106	2987	3165	3418
Equals					
Profit before abnormals	2084	2434	2997	3592	3428
Plus/Less					
Abnormals	125	-7	-11	196	16
Equals					
Profit before tax	2209	2427	2986	3788	3444
Less					
Tax	566	606	799	991	1013
Equals					
Net profit after tax	1643	1821	2187	2797	2431

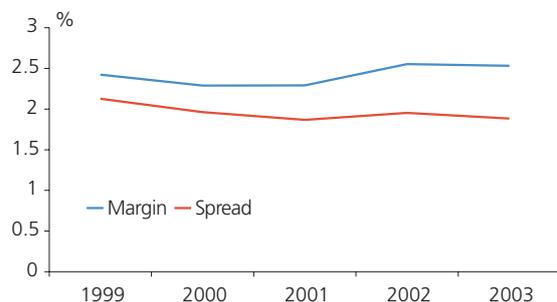
Although the analysis in this article is based on data for the year to December 2003, developments in the banking sector since then have not significantly changed the picture. Economic and financial conditions in New Zealand remain favourable for the banking system and there have been no material adverse developments affecting banks' earnings, asset quality or capital position in the last six months.

Financial performance

For the year ended 31 December 2003, aggregate profit after tax for registered banks was \$2.4 billion, which was a 13 per cent decrease on the previous year. An aggregate income statement for registered banks over the last five years is shown in Table 3.

ABanks' income from net interest and other sources has continued to increase, rising about 6 per cent in 2003. The margin (defined as net interest income divided by average interest earning assets) and the spread (defined as gross interest income divided by average interest earning assets minus interest expense divided by average interest bearing liabilities) have remained similar to the previous year, as shown in Figure 3. This means that the increase in net interest income has come from an increase in the amount of lending.

Figure 3
Margins and spreads



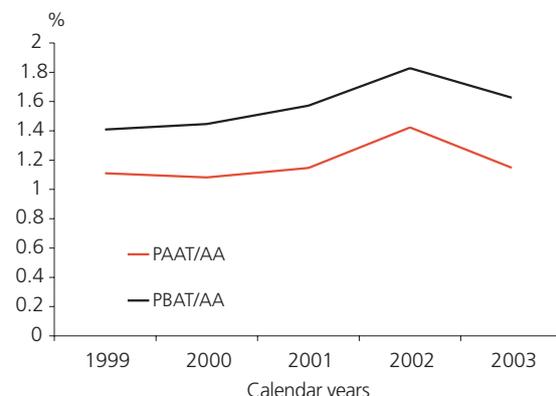
The reasons for the decline in net profit in 2003 are related to changes in expenses and abnormal items. Impaired asset costs rose significantly in 2003. This was principally due to increased provisioning by two banks. National Bank increased its provisioning after its acquisition by ANZ Bank, and Westpac moved its general provisioning for its New Zealand

lending onto the New Zealand balance sheet. Neither of these changes represented an increase in impaired asset expectations, but simply reflected changes in provisioning policy. Operating expenses also increased during 2003, and this was mainly associated with changes to National Bank's recorded expenses related to its sale to ANZ Bank. A third factor reducing the net profit in 2003 compared to 2002 was that there was a significant level of abnormal income in 2002 from the sale of assets by some banks (which was not a strong feature in banks' financial statements during 2003).

Reflecting continued strong underlying profitability, the profit before tax after excluding impaired asset costs and abnormal items increased from \$3,788 million in 2002 to \$3,981 million in 2003, an increase of 5.1 per cent. This indicates a continuing strength in the underlying business of the banking sector after the deduction of factors unrelated to the underlying performance.

The 2003 net profit represented an after tax return on average assets of 1.1 per cent (1.4 per cent in 2002), compared to the benchmark level of 1 per cent which is generally accepted as a minimum satisfactory level of performance for banks by international standards. The trend in returns on assets is shown in Figure 4.

Figure 4
Profitability as a percentage of average total assets



Financial position

For the year ended 31 December 2003, aggregate total assets for registered banks was \$221 billion, which was an 8 per cent increase on the previous year. A summary aggregate

Table 4

Aggregate balance sheet for registered banks

\$billion	1999	2000	2001	2002	2003
Assets					
Financial investments	28.2	37.1	36.1	38.7	35.5
Mortgages	61.0	64.3	67.3	73.1	85.7
Other lending	60.3	66.3	75.7	81.5	83.3
Other assets	9.0	12.4	10.5	11.2	16.1
Total assets	158.5	180.1	189.6	204.5	220.6
Liabilities					
Equity	8.9	9.5	10.7	13.3	16.9
Related party exposures	26.0	35.4	33.0	30.0	30.1
Other borrowing	116.2	124.3	138.1	149.8	161.0
Other liabilities	7.4	10.9	7.8	11.4	12.6
Total liabilities	158.5	180.1	189.6	204.5	220.6

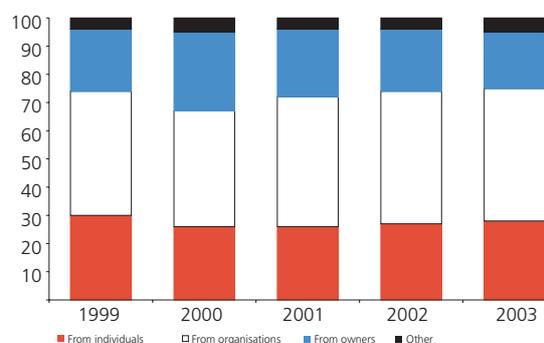
balance sheet for registered banks over the last five years is shown in Table 4.

The big change on the asset side of the balance sheet was the increase in lending on residential mortgages, which went up from \$73.1 billion at the end of 2002 to \$85.7 billion at the end of 2003, an increase over the year of 17 per cent. This increase was driven by the continued buoyancy of the housing market and reflects registered banks' continued dominance of residential mortgage lending - see comments below on the non-bank financial institution sector. The increase in 'other assets' was mainly due to an increase in intangible assets, being goodwill related to the acquisition of National Bank.

On the funding side of the balance sheet, equity increased principally because ANZ Bank in New Zealand received additional equity from its parent to fund the acquisition of National Bank. The big change on this side of the balance sheet was the increase in 'other borrowing' (retail deposits and wholesale market borrowing) from \$149.8 billion at the end of 2002, to \$161.0 billion at the end of 2003, an increase of 7.5 per cent. This funding largely financed the increase in mortgage lending. Related party funding (loans generally provided by parent banks) remained broadly stable over 2003, in contrast to quite rapid growth in related party funding in the late 1990s and in 2000.

Figure 5 shows the composition of funding in percentages. There was little change from 2002 to 2003, and even over the longer term funding sources have remained relatively stable.

Figure 5
Composition of funding



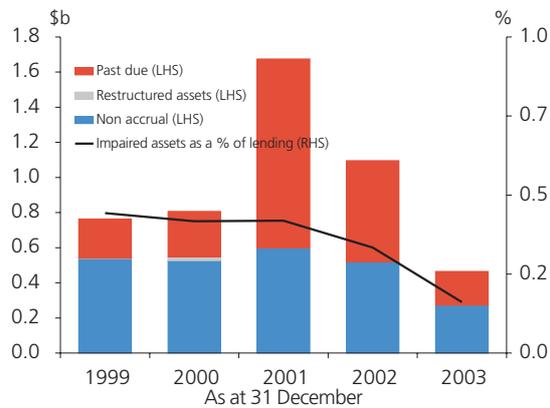
Risk indicators

Asset quality

Asset quality in the banking system is assessed by looking at both the level of impaired assets (assets on which a full recovery of principal and interest is in doubt) and past due assets (assets more than 90 days in arrears, but not considered impaired).

The quality of registered bank assets is very high by international standards and in historical terms. As at 31 December 2003, impaired assets were 0.16 per cent of total

Figure 6
Asset quality

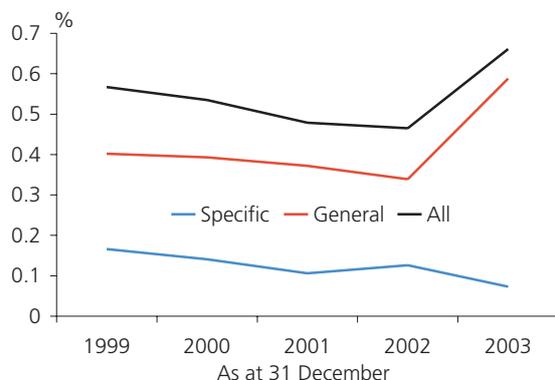


lending, which is extremely low by international standards. Figure 6 shows changes in asset quality over the last five years. The rise in past due assets during 2001 was attributable to exposures to the Central North Island Forestry Partnership. By the end of 2003, these exposures had been resolved and were no longer classified as past due or impaired.

Provisioning

Specific provisioning as at 31 December 2003 was 45 per cent of impaired assets, up from 37 per cent in 2002. Total provisioning as at 31 December 2003 was 0.66 per cent of total lending, compared to impaired assets of 0.16 per cent of total lending. Provisioning levels are shown in Figure 7.

Figure 7
Provisioning as a percentage of total gross loans



Large exposures

Registered banks are required to disclose quarterly the number of exposures to individual borrowers or groups of closely related borrowers that exceed 10 per cent of each bank's equity, distinguishing between exposures to banks

and exposures to non-bank entities. This requirement impacts mainly on locally incorporated banks, as exposures in New Zealand rarely exceed 10 per cent of the equity of overseas incorporated banks operating in New Zealand as branches.

At the end of 2003, there were 41 such exposures to banks (45 in 2002) and 32 such exposures to non-banks (50 in 2002). The total number of large exposures has continued to fall over the last five years. Some banks reported exposures in excess of 30 per cent of equity, but these were generally either to banks or to highly rated non-bank corporates. Overall, banks' exposure concentration suggests that banks continued to maintain generally well diversified loan portfolios, with an appropriate spreading of risk. However, the Reserve Bank intends to keep the large exposure disclosure framework under review and to assess whether disclosure alone remains an appropriate mechanism to ensure that banks avoid excessive exposure concentration. In that context, the Reserve Bank will shortly be introducing a new disclosure requirement for banks, requiring them to disclose large exposures broken down into categories showing the credit rating of borrowers. This will further assist in the assessment of the potential vulnerability associated with exposure concentration.

Exposures to connected persons

The Reserve Bank imposes limits on the exposures of locally incorporated banks to connected persons (such as parent banks or other entities capable of controlling or significantly influencing the bank in New Zealand, and entities connected with such parties). The purpose of these restrictions is to prevent bank subsidiaries in New Zealand lending their capital back or otherwise acquiring credit exposures to their parents or other parts of the parent banking group, thereby effectively reducing the bank's level of capital in New Zealand. This is particularly important in times of crisis affecting a parent banking group, when capital requirements are designed to provide a loss absorption role to help a bank to maintain its operations, including where the parent bank gets into difficulties.

There was a change during 2003 to the manner in which these limits are set. The intention of these changes was to further limit the amounts that banks can lend to connected persons, and so increase their resilience to a crisis. Previously, all banks were subject to a limit on such exposures of 75 per cent of tier 1 capital (with a sub-limit applying at 15 per cent in the case of exposures to non-bank entities). The limits are now set by reference to the credit rating of a registered bank, with the limit being lower in the case of banks with lower credit ratings. For example, the limit for banks rated AA or above is 75 per cent, of their one capital reducing to 70 per cent for AA- rated banks, and so on down to 15 per cent for banks rated BBB- and below. The exposures as at 31 December 2003 for the major locally incorporated banks ranged from 33 per cent to 14 per cent, with all banks being well below their applicable limits.

Market risk

Market risk arises because changes in interest rates, exchange rates and equity prices impact on the value of banks' financial assets and liabilities. These changes can damage a bank's capital position if the bank has large open positions to exchange rates or interest rates, or large holdings of equities. Banks are required to disclose information on their exposure to this risk as a percentage of their capital. No limits are applied to banks' market risk positions.

Banks in New Zealand have small, or in some cases nil, exposures to exchange rate risk (because of the use of currency hedging) and equity risks, but most carry some degree of interest rate risk, albeit generally quite low. The level of risk held by banks fluctuates over the course of a year, but in 2003 peak exposures to interest rate risk ranged up to 6.6 per cent of capital (2002 6.3 per cent), reflecting a high degree of interest rate risk management by banks in New Zealand.

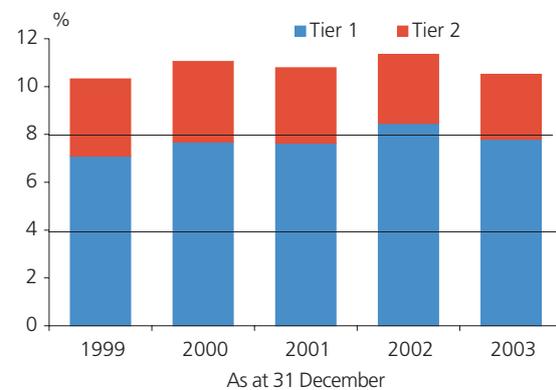
Capital adequacy

The Reserve Bank imposes minimum capital adequacy ratios for all banks in incorporated in New Zealand, using the standard Basel capital framework, of 4 per cent tier one capital and 8 per cent total capital relative to risk-weighted

credit exposures (on and off the consolidated bank balance sheet). Tier one capital essentially comprises issued share capital and audited retained earnings. Tier 2 capital comprises other forms of quasi-equity, such as subordinated debt. Total capital is essentially the sum of the two. Capital ratios are calculated by dividing capital by risk-weighted credit exposures.

There was a slight fall in the capital ratios of locally incorporated banks during 2003, in both aggregate tier 1 capital (from 8.5 per cent to 7.8 per cent) and total capital (from 11.3 per cent to 10.5 per cent). However, these levels are still well in excess of the minimum permissible levels for individual banks and are similar to capital ratios in many developed economies, including Australia. All banks maintained capital ratios in excess of the required minimum. The aggregate level of capital adequacy of locally incorporated banks over the last five years is shown in figure 8.

Figure 8
Capital adequacy



Credit ratings

All registered banks are required to have and disclose a credit rating from a rating agency acceptable to the Reserve Bank. Ratings as at the time of publication of this article are shown in the Appendix. All banks registered in New Zealand currently have an 'investment grade' credit rating (BBB- or better), with the five major retail banks all having a credit rating of at least AA-. As noted earlier, the ratings of most banks in New Zealand compare favourably to the ratings of banks globally and reflect the generally high quality of banks in New Zealand and their parent banks.

8 Non-bank financial institutions

This article is primarily about the banking sector. However, to put that in perspective in relation to non-bank financial institutions (NBFIs), some comment on the significance and performance of the NBFI sector is appropriate. An aggregate balance sheet as at 31 December 2003 of all significant NBFIs (except credit unions which have aggregate assets of only about \$400 million) is shown in Table 5. This information is compiled from surveys the Reserve Bank undertakes.

The NBFI sector is small in comparison to the bank sector, but is generally growing at a considerably faster pace. Total assets in the NBFI sector were \$15 billion compared to \$220 billion for banks. The NBFI sector had housing loans of \$3 billion, compared to \$85 billion for banks. Over the 12 months ended 31 December 2003, housing loans by the NBFI sector increased 31 per cent, compared to 17 per cent for banks. Total lending by the NBFI sector to households increased by 18 per cent over 2003, and deposits from the household sector increased 22 per cent over this period, which exceeded the growth rates for banks.

The financial performance and condition of individual NBFIs varied considerably across the NBFI sector, reflecting differing risk appetites, nature of business, quality of management and risk management systems.

9 Conclusion

The banking system continues to be in robust health, with a good level of profitability, high asset quality, sound capitalisation and a generally well diversified portfolio of assets. These positive attributes reflect generally high quality of management across the banks and strong ownership structures, with most banks in New Zealand being supported by strong and well-performing parent banks.

However, the banking system is not immune to potential vulnerabilities. These vulnerabilities are related to concentrations of risk in a number of areas. Banks operating in New Zealand are heavily exposed to the New Zealand housing market. This market is currently buoyant, with some indications of over-valuation in parts of the property market. However, current indications are that banks should

Table 5
Aggregate balance sheet for NBFIs (except credit unions)

\$ millions	1999	2000	2001	2002	2003
Assets					
Housing loans	1197	1287	1420	1720	2071
Consumer loans	2381	2658	3172	3895	4280
Other loans	3199	4015	5201	5800	7052
Other assets	606	763	1043	1560	1879
Total assets	7383	8723	10836	12975	15284
Off-b/s housing loans	255	442	644	807	1240
Off-b/s consumer loans	480	570	626	696	833
Liabilities					
Household deposits	3482	4141	5190	6105	7454
Deposits from banks	1368	1929	2321	1493	1577
Other deposits	1373	1428	1735	3518	4184
Other liabilities	329	339	527	599	671
Equity	831	886	1063	1260	1398
Total liabilities	7383	8723	10836	12975	15284

be resilient to even a relatively large decline in house prices. Stress testing done for the FSAP assessment indicated that house prices would need to fall substantially and unemployment rise significantly in order to have a major impact on banks.

Because the ownership of the New Zealand banking system is dominated by Australian banks, indirectly the New Zealand system is exposed to changes in the Australian banking system. While Australian banks are currently sound, they are heavily exposed to the Australian housing market, which, like the New Zealand market, is subject to some risk of contraction. Again, however, analysis by the Australian authorities suggests that the Australian banks are likely to be resilient to most plausible declines in house prices.

The New Zealand banking system has also become more concentrated in terms of the number of banking groups. The acquisition of National Bank by ANZ Bank reduced the number of large banking groups operating in New Zealand from five to four, and created one banking group that has a third of the assets of the total banking system. At present, these concentration factors are potential risks rather than currently impacting on the system, but banks will need to deal with the consequences of these risks if they eventuate. The Reserve Bank is undertaking a number of policy initiatives aimed at effective outcomes in the soundness and efficiency of the financial systems in times of stress.

Appendix

List of registered banks in New Zealand and their credit ratings

The credit ratings are applicable to long-term unsecured obligations of the registered bank, payable in New Zealand and in New Zealand dollars, and are as disclosed in the bank's most recently published Key Information Summary. Ratings may have changed since the publication of the most recent Key Information Summary.

Banks marked (B) operate in New Zealand as branches of overseas incorporated banks. All other banks are incorporated in New Zealand.

Name	Registration Date	Standard & Poor's	Moody's
ABN AMRO Bank NV (B)	2 March 1998	AA-	Aa3
AMP Bank Limited (B)	12 October 1998	BBB+	-
ANZ Banking Group (New Zealand) Limited	1 April 1987	AA-	Aa3
ASB Bank Limited	11 May 1989	AA-	Aa3
Bank of New Zealand	1 April 1987	AA	-
Citibank N A (B)	22 July 1987	AA	Aa1
Commonwealth Bank of Australia (B)	23 June 2000	AA-	Aa3
Deutsche Bank A G (B)	8 November 1996	AA-	Aa3
Kiwibank Limited	29 November 2001	AA-	-
Kookmin Bank (B)	14 July 1997	BBB+	A3
St George Bank New Zealand Limited	3 February 2003	BBB-	-
Rabobank New Zealand Limited	7 July 1999	AAA	-
Rabobank Nederland (B) The Bank of Tokyo-	1 April 1996	AAA	Aaa
Mitsubishi, Ltd. (B)	1 March 2004	BBB+	A2
The Hongkong and Shanghai Banking Corporation Limited (B)	22 July 1987	-	Aa3
The National Bank of New Zealand Limited	1 April 1987	AA-	Aa3
TSB Bank Limited	8 June 1989	BBB-	-
Westpac Banking Corporation (B)	1 April 1987	AA-	Aa3

Outcomes of the Financial Sector Assessment Programme for New Zealand

Michael Gordon, Financial Stability Department

This article reviews the main findings from the recent assessment of the New Zealand financial system by the International Monetary Fund, under the Financial Sector Assessment Programme (FSAP). The FSAP assessment concluded that New Zealand's financial system is currently in a strong position and that the banking supervision framework is broadly in line with international standards.

The FSAP report made recommendations in four key areas of banking supervision: on-site supervision, bank failure and distress management, disclosure of information and bank corporate governance. These recommendations are largely addressed by policies currently under development within the Reserve Bank.

1 Introduction

In May this year, the International Monetary Fund (IMF) published its review of New Zealand's financial system (IMF, 2004).¹ The review was carried out during the last quarter of 2003 under the Financial Sector Assessment Programme (FSAP), a joint IMF-World Bank initiative that assesses the adequacy of a country's financial sector regulation and supervision and identifies potential vulnerabilities in the financial system.

The FSAP report made a range of recommendations for improving New Zealand's financial sector regulation, in light of the relevant international standards, and for reducing potential risks to the financial system. Most of the recommendations relate to the Reserve Bank's role in banking regulation and supervision, reflecting the fact that banks dominate New Zealand's financial system.

This article summarises the key recommendations from the FSAP and discusses their relevance in the context of New Zealand's financial system. The article also highlights current or upcoming projects within the Bank that address many of the FSAP recommendations. Before doing this, however, it is useful to briefly explain what an FSAP assessment involves and how the process unfolded for New Zealand.

The FSAP process

The FSAP assessment for New Zealand was a major undertaking, involving more than 40 government agencies,

financial institutions and industry organisations. The Reserve Bank acted as the lead authority and coordinated the FSAP process. The main government agencies responsible for financial sector regulation – the Reserve Bank, Securities Commission, Ministry of Justice and Ministry of Economic Development – spent several months preparing for the FSAP, during which they compiled data for the FSAP assessors and completed comprehensive self-assessments of New Zealand's compliance with the relevant international standards and codes. The FSAP assessment was conducted by a team of IMF staff and contracted international experts.

There are essentially two aspects to an FSAP assessment.² The first aspect includes a review of short-term vulnerabilities and medium-term risks to the financial sector, an analysis of its resilience to an economic or financial shock, and an assessment of the institutional capacity to respond to a financial crisis. This part of the assessment may draw on a range of analytical tools such as 'stress testing' and small economic models. The components are brought together in the Financial Sector Stability Assessment (the FSSA report), produced by the IMF.

The second aspect is an assessment of a country's compliance with a set of international standards and codes that are regarded as best practice. The assessments against the standards and codes, taking the wider legislative and regulatory setting and institutional structure into account, form the Report on the Observance of Standards and Codes

1 The report can be downloaded from www.imf.org/external/pubs/ft/scr/2004/cr04126.pdf.

2 Mortlock and Woolford (2003) provide more detail on the structure of an FSAP assessment.

(the ROSC report). The following standards and codes are routinely included as modules in an FSAP assessment, although decisions on which modules to include are made on a case-by-case basis:

- the Core Principles for Effective Banking Supervision, relating to the framework for licensing and supervising banks;
- the Objectives and Principles of Securities Regulation, relating to securities market regulation;
- the Code of Good Practices on Transparency in Monetary and Financial Policies, relating to transparency in monetary policy and financial sector regulation;
- the Forty Recommendations issued by the Financial Action Task Force, on anti-money laundering and combating the financing of terrorism;
- the Core Principles for Systemically Important Payment Systems; and
- the Insurance Core Principles and Methodology, relating to insurance sector regulation.

Not every country completes all of these modules, as the scope of an FSAP assessment depends on the relevance to a country's financial system and the priorities and resources of the IMF or World Bank. It was agreed that the New Zealand FSAP assessment would include only the first four modules. The FSAP team felt that there were no systemic stability concerns in the payment systems area, and that the Bank's self-assessment of payment systems was sufficient.³ Life insurance sector regulation was excluded because it was not considered to be sufficiently relevant to an assessment of systemic stability.

The FSAP team visited New Zealand to conduct its assessment during October and November last year. The IMF Executive Board discussed the final versions of the FSSA and ROSC reports in April this year, and the reports were made available on the IMF website in May.

2 Key findings of the FSAP

The broad conclusion of the FSAP assessment was that the current strength of New Zealand's financial system, the favourable economic outlook and sound financial policies provide an effective buffer against systemic risks. The regulatory framework for the financial sector was found to be generally appropriate for New Zealand's circumstances, and with some refinements it should continue to provide a basis for maintaining a sound financial system.

The following section summarises the main findings of the FSAP assessment. Many of the findings relate to the Reserve Bank's responsibilities in bank regulation and supervision and in promoting a sound financial system. Box 1 summarises the key findings relating to agencies other than the Bank.

Short-term and medium-term stability issues

The FSAP report noted that the five banks that dominate New Zealand's banking system have been profitable and well capitalised for many years, and the average credit rating for New Zealand banks is among the highest in the world.⁴ It was noted that banks have learned from the difficulties they faced in the late 1980s and early 1990s, and have developed strong credit cultures and risk management systems.

The strength of the banking sector, and sound economic policies over the last 15 years or so, has allowed the financial sector to weather a number of shocks in recent years, such as the Asian financial crisis, with few signs of distress. The stress testing exercise conducted by the Bank as part of the FSAP indicated that the major banks could withstand a range of sizeable shocks (see Box 2).

The FSAP report noted that New Zealand's approach to banking supervision emphasises the roles of bank directors and managers in promoting sound risk management, and the role of market discipline in creating incentives for banks to manage their risks prudently. The Bank has a range of powers for enforcing supervisory requirements on banks, such as requiring banks to obtain and disclose a credit rating, quarterly disclosures of a range of financial and risk-related

³ Stinson (2003) includes a summary of this self-assessment.

⁴ Since the FSAP, the ANZ Bank has purchased the National Bank of New Zealand.

Box 1

FSAP findings and recommendations outside the banking sector

The FSAP covered two key areas outside the Bank's sphere of responsibilities: the supervision of non-bank financial institutions and the regulation of securities markets. The main regulatory authorities in these areas (respectively, the Ministry of Economic Development and the Securities Commission) are considering the FSAP findings within their current work programmes. Briefly, the main findings were:

Non-bank financial institutions: Oversight of most of the non-bank financial sector relies substantially on the roles of trustees, who are appointed by the institution to represent the interests of creditors, and auditors, who are responsible for auditing the prospectuses of financial institutions. With a few exceptions, there is no formalised licensing or supervision of non-bank financial institutions. The FSAP team found that

disclosure by non-bank financial institutions may not be timely or comprehensive enough to ensure adequate market oversight, and that there is no official oversight of trustees. The report recommended a review of the practices and resource needs for the government agencies involved in this sector, with a view towards improving public access to financial data.

Securities markets: New Zealand is compliant with the majority of the principles relating to securities market regulation. Recent reforms in securities regulation and the restructuring of New Zealand Exchange Limited were found to have strengthened the regulatory framework. The FSAP team noted that the framework could be further enhanced by developing minimum standards of conduct for collective investment scheme operators and better reporting mechanisms, strengthening standards and penalties relating to market abuse, and improving oversight of market intermediaries that are not exchange members.

Box 2

Stress testing the banking system

An important part of the FSAP is assessing the vulnerability of the financial system to a major economic or financial shock. The Reserve Bank conducted a stress testing exercise with the five largest banks, where the Bank provided the scenarios and supporting material, and asked the banks to calculate the impact of defined shocks on their balance sheets and profitability. The Bank collected and reviewed the banks' results and provided aggregated results to the FSAP mission.

The scenarios included a range of large, one-off shocks to financial markets (including a sharp fall in the exchange rate and a large increase in interest rates) and a substantial fall in house prices. There were also two dynamic scenarios that attempted to capture medium-

term impacts on the banking system: an outbreak of foot-and-mouth disease, based on previous work on the possible impacts (RBNZ, 2003); and a shock to international investor confidence, resulting in reduced access to offshore funding.

The results suggested a high degree of resilience among the major banks. On average, the market and credit risk shocks substantially reduced profits at the time of the shock, but none of the banks reported net losses. The results from the dynamic scenarios indicated, beyond the initial shock, only a modest drag on banks' profits in the medium-term relative to the baseline assumptions. None of the shocks resulted in a serious deterioration in bank asset quality or capital adequacy.

We will publish more details on the stress testing exercise later in the year.

information, and director attestations on the adequacy of their banks' risk management systems. The Bank reinforces these with a selection of prudential rules, such as minimum capital ratio requirements and limits on lending to connected parties.

The FSAP team concluded that although New Zealand relies heavily on offshore finance to fund its current account deficit, exchange rate risk is well understood and managed by the financial and corporate sectors. The market for hedging foreign exchange risk is deep and liquid, which has mitigated the impact of large swings in the exchange rate in recent years.

Institutional capacity to respond to financial crises

The FSAP report concluded that the organisation and structure of New Zealand's banks would create unique challenges in the event of a financial crisis. The basis for this view is that all of the systemically important banks are foreign-owned, and although most of these banks operate in New Zealand as a separate legal entity, core functions such as IT, accounting and risk management are increasingly being outsourced to parent banks or other overseas companies. In a crisis situation, it may be difficult to isolate

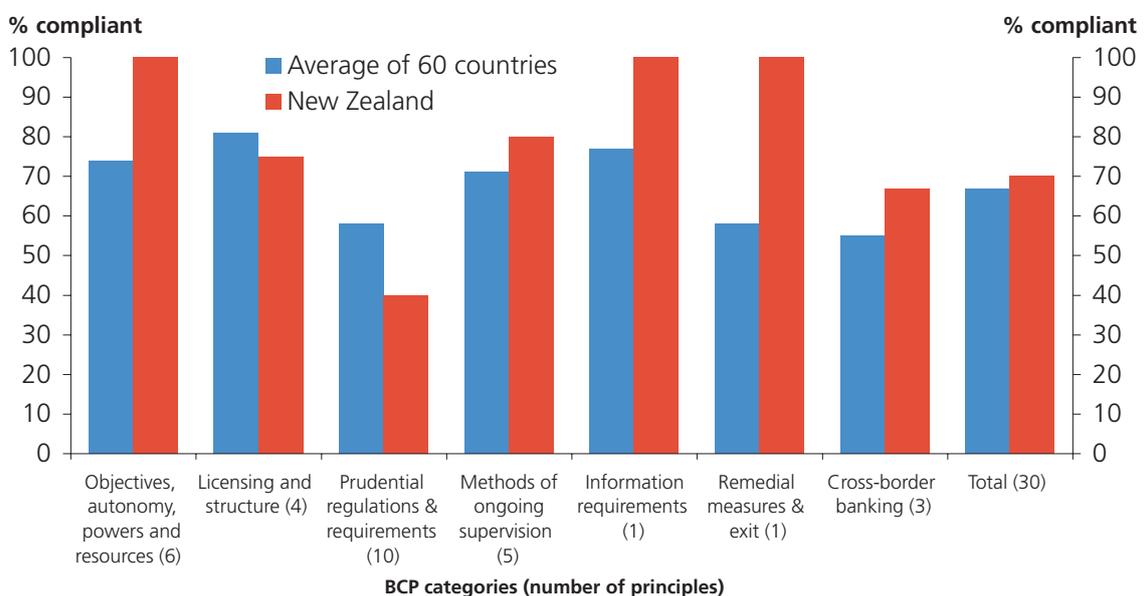
the assets of a New Zealand bank or keep it operating as a separate entity, which would limit the Bank's options for resolving the crisis. Reflecting this, the report made a number of recommendations for further strengthening the Bank's capacity to manage financial distress events.

Financial sector regulation compared to international standards

The FSAP team assessed New Zealand's compliance with the Basel Core Principles for Effective Banking Supervision (BCPs) - a set of international guidelines for banking supervision developed by the Basel Committee on Banking Supervision, the international standard-setting body in this area. Although the standards and codes are not binding, they have become accepted as benchmarks of international good practice, and hence provide a useful framework for assessing a country's regulatory arrangements in the banking sector.

The BCPs were developed with an eye towards more conventional approaches to supervision, which tend to rely on extensive prudential requirements and on-site inspections of banks. In contrast, New Zealand's approach to bank supervision places greater emphasis on bank self-discipline and market discipline to provide incentives for prudent

Figure 1
Degree of compliance with Basel Core Principles



management, and enforces this through public disclosure of information and directors' attestations on their banks' risk management. The FSAP report acknowledged that while the Bank's approach often uses different means than those envisaged in the BCPs, it generally meets the same objectives. Reflecting this, the FSAP team concluded that New Zealand is compliant or largely compliant with 16 of the 25 BCPs.⁵

Figure 1 shows that the overall degree of compliance was similar to the average of the 60 countries that had completed an FSAP assessment by the end of 2001. However, the comparison group consists mostly of developing and transitional economies, which tend to be less compliant with the standards. New Zealand is less compliant than the few advanced countries that have undergone a BCP assessment.

The main areas of non-compliance relate to the use of prudential requirements and the absence of on-site examinations of banks. In the BCPs, the supervisor is expected to provide banks with a range of guidelines and limits on their activities, including setting criteria for major acquisitions and investments, approving systems for identifying large credit exposures, evaluating lending policies, and setting guidelines or imposing limits on managing various types of risk. The supervisor is also expected to evaluate banks using a combination of off-site monitoring and on-site examinations.

The New Zealand approach to supervision minimises the use of direct regulation, and does not involve on-site supervision. Instead, the Bank emphasises disclosure of information to allow monitoring of banks' risks by the market – which includes depositors, creditors, analysts and competing banks – and to encourage sound risk management practices.

Banks are required to disclose comprehensive details about their operations on a quarterly basis, and the disclosure statements are subject to a full external audit at year-end and a limited audit review at the half-year. In addition, bank directors must attest on a quarterly basis on several key prudential matters, such as the adequacy of the bank's

risk management systems and the accuracy of disclosure statements. This requirement focuses directors' attention on matters of prudential importance, and obliges them to take responsibility for ensuring that their bank operates in a prudent manner.

The Bank's choice of approach to banking supervision stems from its statutory powers and responsibilities. The purpose of supervision, as set out in section 68 of the Reserve Bank of New Zealand Act 1989 (the Act), is to:

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

The focus of supervision in New Zealand is on systemic stability, rather than on safeguarding individual institutions, as in some other countries. Similarly, there is no explicit obligation to protect depositors and other bank creditors. The absence of a safety net also reduces the moral hazard problem associated with centralised supervision and regulation, making market discipline a more powerful force than would otherwise be the case.

The Act also contains an explicit efficiency objective for banking supervision and other financial stability responsibilities. The Bank aims to foster a competitive and innovative environment in the banking sector by ensuring that regulatory compliance costs are reasonably low, that any regulatory interventions are well-targeted and cost-effective, and that entry into the New Zealand banking sector is open, subject to meeting the conditions for bank registration.

The FSAP mission recognised that this less intrusive approach has clear strengths in the New Zealand context, and made recommendations for improving compliance that were consistent with the current approach. In most cases, the Bank has acknowledged the potential improvements in the supervisory framework that were identified by the assessors, and is either currently working, or plans to carry out work, on these issues.

5 The first BCP has six sub-categories, so there are effectively 30 principles in total. On this basis, New Zealand is compliant with 21 out of 30 principles, as indicated in Figure 1.

3 FSAP recommendations and Reserve Bank responses

This section details the main FSAP recommendations relating to banking supervision and notes where they correspond to the Bank's work programme. The recommendations fall into four broad categories: on-site supervision, financial system crisis management, supervisory information and bank corporate governance.

3.1 On-site supervision

FSAP recommendation: *The Reserve Bank should make use of its powers under the Act to commission third-party reports on banks' systems and controls, and/or establish a small, specialist team in-house to make focused, on-site visits on particular aspects of credit and operational risk.*

The Act does not give the Bank the power to conduct on-site supervision of banks, which are a key aspect of conventional approaches to banking supervision. However, section 95 of the Act allows the Bank, as a routine part of the supervision process, to require a registered bank to supply a report on almost any aspect of a bank's operations, including corporate, financial, and prudential matters. The report must be prepared by an independent party approved by the Bank on terms of reference specified by the Bank, and the Bank can require the report to be published.

The Bank has not exercised its section 95 powers to date out of a desire to avoid weakening the incentives for bank directors to take responsibility for the sound management of their banks. In addition, before the amendments to the Act in 2003, the range of issues to which a report could apply was limited mainly to accounting systems and internal controls (Twaddle, 2004).

Notwithstanding the merits of the current approach, there are times when other tools, such as independent reports on banks, could be appropriate. Banks' risk exposures and risk management systems are becoming increasingly complex, and there are times when a focused review by an independent party can provide greater assurance around a bank's risk management capacity. Moreover, the FSAP report noted that periodic reviews of banks' systems and controls, through the use of independent reports, need not

be overly intrusive if they are properly focused. The Bank can also contribute to trans-Tasman cooperation on banking supervision by coordinating independent reviews with on-site examinations of Australian banks by the Australian Prudential Regulatory Authority.

The Bank is currently developing a framework for requiring independent reviews of banks' systems and controls, and recently established a small team within the Financial Stability Department that will specify and implement these reviews. The Bank intends to use independent reviews as a selective tool to provide additional scrutiny of banks' risk management capacity in ways that are compatible with retaining bank director and senior management responsibility for ensuring strong risk management processes. This step will bring New Zealand's approach to supervision closer into line with international standards, while preserving the strengths of the current approach.

Bank resolution and crisis management

FSAP recommendation: *The Reserve Bank should continue to review possible approaches to bank resolution and the operational and legal consequences that might arise, and finalise a crisis management strategy, exploring avenues for co-operation with Australian authorities where appropriate.*

Periods of financial distress are expected to be very rare, but it is essential for the Bank to be able to respond quickly and effectively to any event that poses a threat to the soundness of the financial system. The Bank has several projects underway that aim to strengthen its existing preparedness for a range of financial crisis events.

The Bank is working to operationalise its role as the lender of last resort for the financial system. Under section 31 of the Act, the Bank has a responsibility to act as lender of last resort to the financial system. It can provide liquidity to the financial system as a whole or to an otherwise solvent financial institution that has exhausted all private sector sources of liquidity.

The Bank's policies will need to identify more precisely the circumstances in which it may provide liquidity, the possible terms and conditions that may apply to the lending, and the nature of disclosure arrangements for lending. This strand

of work also includes the development of closer coordination arrangements with the Australian financial authorities, in the case of providing liquidity to Australian banks in New Zealand.

The Bank is also developing options for responding to a bank failure. One option that has been under development for some time is the use of depositors' and other creditors' funds to absorb the losses of, and possibly recapitalise, an insolvent bank.⁶ A number of IT-related and other issues need to be resolved in order to make this plan operational. Other options that will be considered include a 'life boat' rescue by the rest of the banking industry, the separation of a troubled bank into a 'good' bank and a 'bad' bank, and different structures for winding down a failed bank.

The high degree of integration between the New Zealand and Australian banking systems increases the likelihood that a financial sector crisis will affect both countries. The Bank is working with the Australian financial sector authorities to develop a framework for coordinating responses to trans-Tasman financial crisis events.

To bring these strands together, the Bank is developing a crisis management manual to guide it in responding to different crisis situations. The Bank will further build and test its crisis management capacity through periodic simulations of bank crisis situations.

Supervisory information and disclosure

FSAP recommendation: *The Bank should take steps to address gaps in supervisory information, in order to maintain the quality, scope, and timeliness of disclosure and ensure it continues to meet best international practice.*

The FSAP report noted that there are certain areas where supervisory information falls short of what is required in other countries as a means of anticipating banking problems. For example, quarterly disclosure statements contain no reporting on liquidity, limited information on large credit exposures, and only very general descriptions of risk management systems.

The report recommended that the Bank should review the contents of the statements in certain areas and supplement them with focused, prudential information directly for its own use. In addition, the Bank could use existing information sources, such as the data on liquidity and inter-bank exposures that the Bank observes through its daily liquidity management operations, to develop early-warning indicators of bank distress.

Comprehensive disclosure requirements for banks were introduced in the mid 1990s as an important element of banking supervision. The Bank occasionally supplements disclosure-based information with data obtained privately from banks where necessary to assess their financial condition. In addition, the Bank periodically reviews the disclosure regime and has made several incremental improvements since its introduction.

However, international best practices for disclosure have evolved in recent years, and in some cases have surpassed practices in New Zealand. Most significantly, the new Basel Capital Accord (Basel II), which is due to take effect at the end of 2006, includes a framework for strengthening market discipline (Pillar 3) that goes beyond the Bank's current disclosure requirements.

The Bank will be reviewing the disclosure regime in light of these international developments, with a view to maintaining a strong disclosure environment for banks. The next review will consider various possible enhancements, such as additional reporting to the Bank on liquidity and on large exposures, and the possibility of introducing some form of timely reporting for significant changes to a bank's financial condition.

Corporate governance

FSAP recommendation: *The Reserve Bank should complete work on enhancing "fit and proper" criteria for bank directors and senior managers, and consider ways to reinforce the role of independent directors.*

Directors play a critical part in the New Zealand approach to banking supervision. The 'self discipline' aspect of supervision places heavy reliance on bank directors and

6 Carr (2001) provides an outline of this option.

senior managers, and governance arrangements that allow them to exert meaningful oversight and management of the bank. It is crucial to ensure that there is a thorough vetting process for appointing directors. The BCPs require the supervisor to carry out “fit and proper” checks on bank directors and senior managers.

With the recent amendments to the Act, the Bank now has to consider the suitability of directors and senior managers when registering banks, and has the option of considering it on an ongoing basis through a bank’s conditions of registration (Twaddle, 2004). The Bank is close to implementing new policies on the use of these powers, having consulted on proposals with the industry.

The second issue is the effectiveness of directors and corporate governance within banks. The Bank has developed policies to encourage sound governance in the banking sector, including comprehensive disclosure requirements and director attestations. The requirements imposed on bank directors complement and reinforce the standard duties of care applicable to company directors generally, as codified in the New Zealand Companies Act (Mortlock, 2002).

Locally incorporated banks are required to have at least two independent directors and a non-executive chairperson on their board. This requirement is intended to increase the board’s capacity to exercise appropriate scrutiny over the performance of managers, and to reduce potential conflicts of interest between a New Zealand bank and its parent bank or other related parties.

Last year, the Bank sent a comprehensive survey to the boards of all registered banks, seeking information on a range of matters, including the means by which directors satisfy themselves that their banks’ disclosures are not false or misleading, and that their systems for controlling risks are robust (Bollard, 2003). Drawing on the insights from this survey, as well as recent international developments in corporate governance, the Bank is preparing a consultation paper on bank governance issues, with proposals for possible changes to current policies. The issues raised in the consultation paper are likely to include:

- whether a minimum of two independent directors is sufficient, and whether the definition of “independence” is strong enough;
- whether the scope of directors’ attestations should be widened to include additional aspects of bank risk management, such as outsourcing arrangements;
- whether to provide guidance to banks on corporate governance arrangements, focusing particularly on the role of the board; and
- the use of independent reviews of governance arrangements in banks.

The FSAP report noted that a bank director’s role is demanding, and independent directors in particular would benefit from more regular communication with the Bank. The Bank meets with the boards of the larger banks on a fairly regular basis, but it generally does not meet with the boards of all banks, and does not meet separately with independent directors. The consultation paper will address the possibility of more regular and focused discussions with bank directors.

The Bank’s local incorporation policy also aims to strengthen bank governance. In 2000, the Bank introduced a requirement that banks must be incorporated in New Zealand if they are systemically important, or if they are based in a country that has inadequate disclosure requirements or applies a depositor preference scheme. The policy ensures that such banks are governed by a local board of directors who have a duty to act in the best interests of the New Zealand bank.

4 Other issues

The FSAP report noted several other areas where financial regulation could be enhanced, without making specific recommendations. Many of these areas are already on the Bank’s work agenda, and the FSAP assessors were generally supportive of the direction of current policy developments. This section briefly highlights the recent developments in those areas.

External vulnerability and foreign reserves

New Zealand depends on continuing capital inflows to fund its current account deficit. Notwithstanding the current favourable conditions, this leaves the economy vulnerable to a shift in market sentiment, which at worst could lead to extreme disorder in the foreign exchange market as investors 'rush for the exits'. The Bank holds a reserve of foreign currencies for use in such an event, but in absolute terms the level of reserves has been largely unchanged since 1985, and appears relatively low by international standards.

The Bank recently conducted an extensive analysis of the optimal level of foreign reserves for intervening to stabilise a disorderly foreign exchange market. This project involved cross-country and empirical analysis, the development of a theoretical model, and discussions with other central banks. The FSAP assessors reviewed and supported the analysis, and noted that regular assessments of the optimal level of reserves would be valuable. As a result of this work, the Minister of Finance and Cabinet recently agreed to the Bank's request for an additional NZ\$1.9 billion of reserves for this purpose (RBNZ, 2004).⁷

Stress testing

In light of the results from the stress testing exercise in the FSAP, the Bank is examining the value of conducting stress tests on a regular basis. Any future stress testing is likely to cover fewer scenarios than in the FSAP, and would focus on specific areas of interest. The Bank is also looking at developing models that would allow it to perform in-house stress tests, although this would still require close consultation with the banking industry.

Outsourcing

New Zealand banks have increasingly made use of outsourcing of IT systems and other functionality, either to parent banks or third parties, to reduce their costs in areas such as risk management, accounting and computer processing. The Bank is generally supportive of outsourcing,

as it provides considerable scope for efficiency gains in the banking industry. However, there are associated risks that need to be addressed. For example, if a parent bank failed and the New Zealand subsidiary was placed in statutory management, it is unclear whether the statutory manager would have access to the core functions needed to operate the bank on a self-contained basis.

The recent amendments to the Act allow the Bank to place restrictions on outsourcing activities as part of the conditions of bank registration (Twaddle, 2004). The Bank is currently working with banks to improve its understanding of current outsourcing arrangements, with a view to developing policy proposals for consultation. The finalised outsourcing policy will require banks to ensure that necessary systems, information and management capacity are accessible to a statutory manager in New Zealand in the event of a bank failure situation, and that more generally, the board and management of a bank in New Zealand can maintain the bank's operations if the parent bank is in distress.

Trans-Tasman cooperation

The recent increase in Australian ownership of New Zealand banks has reinforced the importance of cooperation and coordination between the regulatory authorities in both countries. New Zealand's approach to supervision already dovetails quite closely with the Australian approach, which means that most of the efficiency gains from closer regulatory integration have probably already been achieved. However, there is considerable scope for gains on issues relating to financial sector soundness, such as crisis management coordination.

The Bank will continue to strengthen its relationship with the Australian Prudential and Regulatory Authority and the Reserve Bank of Australia, especially in regard to information sharing, policy co-ordination and crisis management. These three authorities, along with the New Zealand and Australian Treasuries, are members of a working group looking at ways of better integrating the two countries' banking regulations.

⁷ This is distinct from the use of foreign exchange intervention as an additional monetary policy tool. See www.rbnz.govt.nz/foreignreserves/intervention/index.html for briefing materials on both topics.

Anti-money laundering

The FSAP included an assessment of the framework for countering money laundering and the financing of terrorism. The assessment was conducted on behalf of the IMF by the Financial Action Task Force (FATF), the international body responsible for setting standards in this area, and by the regional Asia Pacific Group on Money Laundering (APG). New Zealand is a member of both the FATF and APG.

At the time of writing, the text of the FATF/APG report had not been finalised. The early indications are that New Zealand meets the majority of the FATF standards, but has some areas for improvement, such as strengthening the legal framework for combating aspects of money laundering, possibly tightening the supervisory arrangements in relation to money laundering, and increasing resources for the relevant government agencies.

The FATF/APG report and the ROSC report raised the issue of the lack of a framework for monitoring financial institutions' compliance with money laundering and terrorist financing requirements. The Ministry of Justice is currently coordinating an inter-agency review of anti-money laundering arrangements, which will provide advice to government on changes needed to respond to the FSAP recommendations, and to meet the revised international standards that FATF has recently adopted.

5 Conclusion

In recent years, the Bank has increased its focus on issues relating to financial sector stability, and has taken a fresh look at the banking supervision and regulation regime to ensure that it remains effective and appropriate for New Zealand's banking system. The FSAP assessment was a valuable opportunity for an independent, wide-ranging review of the current framework and the policies under development, and the Bank welcomed the perspectives of the FSAP assessors.

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Musings on financial stability issues

An interview with Professor George Kaufman¹

Prepared by Geof Mortlock, Editor

Professor George Kaufman, the John F Smith Professor of Finance and Economics at Loyola University in Chicago, spent time at the Reserve Bank of New Zealand earlier this year while a Professorial Fellow in Monetary and Financial Economics at Victoria University of Wellington, funded by the Reserve Bank under its visiting academic sponsorship programme. While at the Reserve Bank, Professor Kaufman worked on a range of issues relating to financial stability, focusing in particular on options for dealing with bank distress and failure situations. In that context, the Editor of the *Bulletin* interviewed Professor Kaufman on a range of financial stability issues.

This interview represents an edited version of the interview held with Professor Kaufman and has been approved by him for publication in the *Bulletin*. The views expressed in this interview are those of Professor Kaufman and do not necessarily represent the views of the Reserve Bank.

Editor: Professor Kaufman, as you know, the Reserve Bank places considerable emphasis on the importance of market disciplines in promoting a sound banking system, including through comprehensive disclosure requirements for banks, maintaining an open and competitive financial system and the absence of explicit government support for banks. What are your views on how market disciplines can be fostered in the banking system, particularly where most of the banks are wholly owned subsidiaries of foreign banks and not listed on the stock exchange?

George Kaufman: Market disciplines play a major role in promoting a sound financial system by strengthening the incentives for the prudent management of banking risks.

The kinds of policies you refer to are all important ingredients in creating the conditions for effective market disciplines. However, as you have observed, there are specific issues that need to be taken into account when considering market disciplines in a banking system heavily characterised by wholly foreign-owned banks, where nearly all of the local banks have no direct public shareholders and are therefore not subject to discipline through the normal equity channel. In the case of wholly-owned subsidiaries, the nature of the market discipline on the subsidiary will depend in part on its size relative to the parent bank. In the case of subsidiaries that are small relative to the parent, the market disciplines are likely to be fairly muted.

One option to strengthen market disciplines on wholly-owned subsidiaries that can be considered is to require such subsidiaries to issue subordinated debt - ie debt that ranks below deposit liabilities and other senior unsecured debt in the wind-up of a bank and thus more likely to suffer losses in a bank failure. This can strengthen the incentives on the managers of bank subsidiaries to manage the bank's risks prudently, given that the pricing of the debt will reflect investors' perceptions of the subsidiary bank's risk profile and quality of management, among other factors, independent of the parent bank.

The design of the subordinated debt will depend on the size and nature of the bank, among other factors, including

¹ Professor George G Kaufman, the John F Smith Professor of Finance and Economics at Loyola University Chicago, was the 2004 Professorial Fellow in Monetary and Financial Economics at the Reserve Bank of New Zealand and Victoria University of Wellington. In addition to a distinguished academic background, Professor Kaufman has considerable experience of working in central banks, and has been a consultant to, and visiting scholar at, a number of US public sector and policy institutions. He has also served on the boards of directors of two US banks. Professor Kaufman's recent research has covered issues relating to banking regulation and the management and prevention of bank failures and financial system distress. He has also written on monetary and financial economics, and on a variety of topics relating to the banking and financial systems.

the likely demand for such debt and the depth of financial markets. For example, a large bank operating in a country with deep financial markets could issue subordinated debt periodically in wholesale markets, where trading in the secondary market provides considerable scope for the market price of the debt to change depending on the market's perception of the bank's risks and quality of management. In a smaller market, where there is insufficient secondary trading to establish a reliable price mechanism, it may be desirable to require banks to issue tranches of debt in the primary market at regular intervals.

In general, subordinated debt should not be issued in the retail market, given the possibility that, in a bank failure situation, the government could extend rescue support to retail holders of subordinated debt. It is therefore preferable that such debt be issued to the large, institutional investors in the wholesale markets. In any case, it would be essential that the subordinated debt is structured in a way that makes it unambiguously subordinate to all other debt claims on the bank in question, so that the holders of such debt have strong incentives to monitor the bank issuer and to exert discipline through the pricing of the debt, whether in the primary or secondary markets.

Editor: Another mechanism for encouraging market disciplines on banks is to require banks to issue public disclosures on a regular basis, covering their financial position, performance and risk positions. Do you have any views on the effectiveness of disclosure as a mechanism for promoting strong market discipline in the banking sector?

George Kaufman: Disclosure is undoubtedly an important element in promoting effective market disciplines in the banking sector. In a well-functioning market, banks, like other corporations which obtain funds from the market, will have market-based incentives to issue public disclosures, without the need for regulated disclosure. However, where the market operates on the presumption that banks may be bailed out by the government, then it may be necessary to require banks to issue disclosure statements so as to ensure that the market is provided with the information required

to assess the risk profile and quality of management of the bank.

Requiring mandatory public disclosure of financial and risk-related information will be of limited effectiveness unless there are investors, creditors or financial analysts who make use of it. This is where it becomes important to educate depositors and other providers of bank funding that they do face a risk of loss when lending to a bank. But for this to be credible, it is necessary to maintain a framework for dealing with bank distress and failure events which does not involve unlimited government support. Large depositors and other creditors of banks need to be persuaded that they stand to lose some of their money in a bank failure situation. But more on that issue later.

In addition to the need to have a framework for dealing with bank failures where government support is limited, a disclosure-based approach to market discipline also benefits from other initiatives, such as encouraging financial analysts and the financial news media to make use of and correctly interpret banks' disclosure statements. And this is where there is a need for some caution. There is an increasing tendency in many countries to require banks and other corporations to make increasingly comprehensive and complex financial disclosures. This can create a risk of information overload, where key information is buried in a mass of complex detail. I would therefore urge a careful design of bank disclosure requirements, so that a "wood for the trees" problem is avoided. Banks should be encouraged to issue disclosure statements where key financial and risk-related information can be quickly and easily identified, without the need for the investor or creditor to peruse many pages of detailed information.

It is important to bear in mind that, as with any regulatory initiative, disclosure requirements impose costs as well as benefits and should be subject to cost/benefit tests, so as to avoid imposing excessive compliance costs on banks.

Editor: It is not possible to have a meaningful discussion of market disciplines in the banking sector without covering the issue of deposit insurance. As you are aware, New Zealand is one of the few developed countries that does not have

deposit insurance for banks or other deposit-taking financial institutions. Professor Kaufman, what are your views on deposit insurance? Do you think the absence of deposit insurance in New Zealand is a positive factor, reinforcing market disciplines in the banking sector, or does it create risks for the banking system?

George Kaufman: Although New Zealand has no explicit deposit insurance, it is arguable that there is implicit deposit insurance in the banking sector. This stems from the presumption that many depositors are likely to have that the government would not allow depositors to lose money in a bank failure situation. This might be an incorrect presumption, but it is nonetheless likely to influence the way many depositors behave in relation to their banking arrangements. And in a bank failure situation, it needs to be remembered that depositors can exert significant political influence on a government, sometimes leading to the government being pressured into bailing out a bank in distress. For these reasons, it is unlikely that all depositors adequately price banking risk into the deposits they place with banks. This inevitably reduces the market discipline on banks that could otherwise arise from depositors.

Given the political pressure that inevitably applies to governments in a bank failure situation, and the risk that this can lead to a bail-out of all bank depositors, I think it is preferable to have ex ante deposit insurance, but only for small depositors. This offers a number of benefits. It reduces the political risk associated with a bank failure and enables the authorities to resolve a bank failure in an economically sound way with less risk of political interference. It enables a firm cap to be placed on the amount of a bail-out of depositors, such that the insurance applies only up to the maximum level specified in the insurance scheme. It also enables the authorities to more convincingly state that larger uninsured depositors and other creditors will not be bailed out.

In order to give force to the argument that large depositors and other creditors would not be bailed out in a bank failure situation, I think it would be desirable to introduce some very high hurdles in legislation to make it more difficult for

governments to protect these claimants at banks in financial distress. This would assist to reduce expectations of bank bail-outs and help to strengthen market disciplines on the banking system. It is the kind of structure that now applies in the United States.

I would further suggest that, where a decision is made to rescue a failed bank and losses are incurred, it may be desirable to require survivor banks to provide all or some of the funding for the rescue. This would reduce the burden on the taxpayer and further assist in strengthening market disciplines in the banking sector. A survivor bank contribution to a rescue support package can be justified on the grounds that survivor banks might derive benefit from such a bail-out, given the reduced disruption to the financial system compared to a situation where a major bank is allowed to fail. However, I acknowledge that the notion of a survivor bank rescue arrangement presents particular challenges in a banking system like New Zealand's, given the fact that it is highly concentrated and that the cost of a bail-out would be spread over only a few banks.

Editor: If New Zealand were to adopt deposit insurance in the future, careful consideration would need to be given to the design features of the insurance arrangements, such as its funding structure, whether insurance premiums should be risk-based, and the limit of the insurance cover. Do you have thoughts on these matters?

George Kaufman: There is a good argument to suggest that the insurance cap should be set at a relatively low level so that it offers protection to those least able to protect their interests and yet minimizes the political tensions associated with bank failures. A low cap helps to limit the adverse effects on market disciplines and moral hazard risk-taking associated with deposit insurance schemes that apply to large-value deposits.

There is probably also merit in designing the insurance scheme to avoid its application to multiple accounts held by the same person or household. For example, there is scope to design an insurance scheme so that the insurance limit

applies to deposits on a household basis, with a maximum cover per household.

The funding arrangements for a deposit insurance scheme also warrant careful consideration. Deposit insurance can be funded ex ante or ex post. An ex ante funding structure would involve a deposit insurance scheme charging a fee for deposits on an ongoing basis with a view to building up a fund to meet the costs of any future insurance payouts. An ex post funding structure would involve no ongoing fees, but would require banks (and any other deposit-takers covered by the scheme) to make payments into the scheme to meet any insurance claims on it. A third option would involve a combination of ex ante and ex post funding arrangements.

Arguments can be made for and against ex ante and ex post funding arrangements. For example, it is generally agreed that an ex ante funding structure involves greater administrative expense and imposes greater ongoing costs on depositors. There may also be a temptation to use any fund that already exists to protect claimants that may not occur if the funds had to be raised from scratch. Equally, however, an ex post funding structure could prove to be expensive in the short-term for survivor banks following the collapse of a major bank. In addition, the guilty parties escape payment as they have disappeared from the scene.

Much has been written on the issue of whether the deposit insurance fee should be risk-based or simply a flat fee regardless of risk. Again, there are arguments for and against risk-based fees. In theory, a risk-based deposit insurance premium can help to strengthen the incentives for prudent risk management by rewarding banks with lower risk profiles and penalising banks with higher risks or poorer quality risk management capacity that are more likely to lead to insurance losses. But I do see some difficulties associated with risk-based fees. For example, risk-based fees tend to be backward-looking rather than forward-looking, and therefore do not necessarily create the kinds of incentives that one would wish them to create. Moreover, there is almost inevitably a degree of opacity associated with a risk-based fee, making it difficult for depositors and others to interpret the reason why one bank's fees are higher or lower than another's.

Whatever fee structure is adopted, I think it is important that the structure is relatively simple, transparent and understandable. For example, one option could be to base a deposit insurance fee on the interest rate on a bank's subordinated debt or uninsured senior debt. A fee could, in theory, be based on a bank's credit rating, but this raises inevitable questions about the reliability of credit ratings and the objectivity and independence of rating agencies.

A further difficulty with risk-based fees is that they tend to ignore the fact that some of the risks associated with banks are endogenous and able to be influenced or controlled by the insurance agency or banking supervisory authority. Thus, losses from insolvency are not independent of the length of time after insolvency that the regulator waits before imposing statutory management or receivership. It could also be argued that a risk-based fee raises some conflicts of interest for the insurance agency or supervisory authority. Higher risk fees could be seen by some as an indication that the insurance agency or supervisory authority has failed in its task of encouraging sound risk management practices within banks.

Editor: Can we now turn to another issue of interest in the area of managing financial system distress – prompt corrective action. In the United States and some other countries, prompt corrective action frameworks have been introduced, such that supervisory authorities are required to take particular actions when a bank's financial condition deteriorates. Professor Kaufman, do you have views on prompt corrective action frameworks?

George Kaufman: I see some important benefits in a regulatory prompt corrective action (PCA) framework. PCA can help to simulate market discipline in the banking sector, especially in countries where market disciplines in the banking sector are relatively weak. PCA forces the supervisory authority to take the kinds of actions that the market would typically take in a situation where a government rescue of a bank is not expected - including imposing restrictions on the activities of an under-capitalised bank, restricting distributions to shareholders and requiring the bank to take

steps to restore its capital level to an acceptable position. In situations of extremely low or negative capital levels, PCA forces the authorities to resolve a bank, which is a parallel to what the market would do in the absence of implied government support. There is evidence to suggest that PCA helps to reduce both the number of failures and the expected level of loss in bank distress or failure situations.

PCA also provides an opportunity for a troubled bank to be turned around, giving it a greater chance of resurrection than in the case of a bank allowed to drift along in a weakened state. PCA reduces the scope for regulatory forbearance. This is important, given that banking crises around the world have revealed a strong tendency for supervisory authorities to delay taking corrective action in situations where they have had the flexibility to indulge such delays. This has often resulted in greater costs to the taxpayer than would have been the case had early corrective action been taken.

In the United States, PCA is based primarily on the level of a bank's total and risk-weighted capital ratios. The PCA framework involves two kinds of sanctions for banks - those of a discretionary nature and those that are mandated by legislation. Both apply at pre-defined points of capitalisation. Although the PCA framework was met with a sceptical reaction upon its introduction in 1991, it is now generally recognised as a positive development and has been accredited with reducing the cost of bank failures and restoring a measure of regulatory discipline to the US banking system.

I know that the New Zealand supervisory arrangements include a limited PCA framework and that this is based on a bank's level of risk-weighted capital. Although this is a useful framework, I think there is scope to increase its effectiveness. For example, it might be desirable to have some supervisory actions triggered by events other than a bank's level of risk-weighted capital. I also see merit in increasing the number of capital trigger points for supervisory responses. It would also be desirable to consider the merit of requiring a bank to be legally failed when its capital falls below a pre-specified level, so that the discretionary element is largely removed, and to incorporate a requirement for more rigorous supervisory examination of a bank, either by on-site examination by the supervisor or through a third

party, when a bank's financial condition deteriorates to a specified low level.

Of course, in developing a PCA framework, there is a need for a sensible balance to be struck between a framework that requires early corrective action by the supervisor, and avoiding an excessively intrusive approach to the regulation and supervision of banks and the development of an excessively complex set of prompt corrective action triggers. As with any aspect of regulatory design, getting the balance "right" in the design of a PCA framework is important.

Editor: Can we now turn to the issue of the jurisdiction in which a bank is incorporated. As you know, the Reserve Bank of New Zealand now requires all systemically important banks to be incorporated in New Zealand. We require this for a number of reasons, including that it facilitates more effective supervision of a bank, it provides greater certainty of outcome for depositors and other creditors of the bank, and it better facilitates the management of a bank failure. Do you have any views on this policy?

George Kaufman: I agree that requiring systemically important banks to be incorporated in New Zealand generally makes good sense from a supervisory perspective. Local incorporation of a bank assists the supervisor to apply supervisory measures on a more effective and meaningful basis than is generally possible in the case of banks incorporated in other countries and operating in New Zealand as branches. It is also likely to be the case that a supervisory authority will have greater capacity to manage a bank distress or failure event where the bank is locally incorporated than when it is a branch of an overseas bank, not least because of the ease with which assets can be moved from the branch to the foreign-based parts of the bank in the case of a bank incorporated offshore and operating in New Zealand as a branch.

Against these benefits of requiring local incorporation needs to be weighed the likely operational benefits of allowing banks to operate as branches, including the enhanced operational efficiency generally associated with a branch.

Requiring banks to incorporate locally can therefore impose efficiency costs on a bank, with potential flow-through effects to the clients of banks in terms of higher costs for some banking services. Another factor that needs to be borne in mind when considering the pros and cons of requiring a bank to incorporate locally is the issue of probability of failure. It is arguable that a bank operating as a branch has a lower probability of failure than a bank subsidiary, primarily because of greater asset diversification. Against that, however, is the greater difficulty in resolving a bank failure when the bank is a branch than when it is a subsidiary, as we discussed a few moments ago.

On balance, I think there are sound reasons to require systemically important banks to be incorporated locally rather than operating as branches of the foreign bank, given the greater scope local incorporation allows for effective ongoing supervision of the bank in the host jurisdiction and the greater capacity for dealing promptly and effectively with a bank failure situation.

Editor: Having now worked with the Reserve Bank for nearly two months and having acquired a good understanding of the New Zealand banking system and supervisory framework, you are in a good position to give us the benefit of your thoughts as to any future areas of the supervisory framework that you think would benefit from attention. Are there any particular areas you would recommend the Bank give its attention to in the future?

George Kaufman: There are three policy issues that I think would benefit from further attention in New Zealand.

First, I would encourage the Reserve Bank in its work to further develop its capacity to respond effectively to a bank distress or failure situation. I think it is important that central banks and supervisory agencies have well developed policies in place for dealing promptly and effectively with a bank distress event, including mechanisms for:

- prompt recognition of an insolvency and legal closure of a bank;

- the ability to promptly apply a haircut to large depositors and other creditors to absorb losses;
- the ability to promptly re-open a bank post-haircut, if necessary under temporary government ownership, so that depositors have almost uninterrupted access to the values of their funds and borrowers to their credit lines; and
- prompt reprivatization with a new ownership and capital structure or, in rare cases for small banks, liquidation.

Effective failure management capacity that minimizes long-term costs requires central banks and supervisory agencies to have “plans on the shelf” to deal with a range of different failure situations. It also requires regular training of staff to deal with bank distress and failure situations, including through the use of simulated bank failure exercises. If one waits until the failure is imminent or has occurred, political pressures of the day make it likely that inefficient solutions focusing on minimizing only short-term costs will be adopted.

Second, and related to the above, I would encourage the Reserve Bank to review and expand its prompt corrective action framework so that it has a well-established set of procedures for early intervention in a situation where a bank is experiencing continued reduction in its capital or otherwise showing signs of financial distress. It is important for a supervisory authority to be prepared to intervene at an early stage before the bank is too weak to survive.

Finally, I would suggest that the Reserve Bank could usefully assess whether it might be sensible to introduce limited explicit deposit insurance in New Zealand. I believe the current situation, involving potentially uncapped and unpriced implicit insurance, is not particularly satisfactory and could be very costly to taxpayers and impede the effective resolution of a bank failure situation in the future. I therefore think it would be desirable if serious consideration could be given to assessing the costs and benefits of alternative forms of explicit deposit insurance for small depositors.

Bank regulation and foreign-owned banks

George G. Kaufman, Loyola University Chicago

This article is a revised version of the paper presented by Professor George Kaufman in Wellington, New Zealand, on 7 April this year, when he was Professorial Fellow in Monetary and Financial Economics at Victoria University, on a programme sponsored by the Reserve Bank of New Zealand.*

The American novelist F. Scott Fitzgerald started one of his books by noting that the rich “are different”; and there is a widespread perception that banks are also different from other firms, and that bank failures are different from the failure of other firms, particularly failures of large, systemic banks. There would probably be far fewer in the audience tonight if this lecture had been on grocery stores or steel mills. Banks have long been treated differently with respect to public policy. In the United States, banks need to obtain special charters from the states, and may be chartered by the federal government, an advantage that is not available to most other firms. In New Zealand, banks must be registered by the Reserve Bank to use the word “bank” in their name. In the United States, bank insolvencies are resolved under a special bank code by the bank regulators rather than under the general bankruptcy code by the bankruptcy courts. To a large extent, this is because bank failures are widely perceived to be more damaging to the customers of the affected banks, both depositors and borrowers, than the failure of like-sized other firms and more likely to spill over to other banks through knock-on (contagion, cascade or domino) effects, the payments system, the financial system as a whole, and even beyond to the wider economy.

But beyond the direct damage, bank failures are widely perceived to be more frightening than the failure of other firms. This may result in indirect, collateral damage. “Horror” books and movies based on bank failures are not uncommon, while few such books or movies are based on the failure of grocery stores or steel mills. Bank failures are perceived as being more frightening for a number of reasons:

- Banks deal in intangibles, which cannot be seen. This makes it more difficult for many to understand their operations than, say, operation of grocery stores or steel mills; and causes banks to be shrouded in mystery and uncertainty.
- Almost everyone has contact with banks in their daily life as either or both a depositor and/or borrower.
- Bank deposits make up a large percentage of the national money supply.
- Bank deposits frequently represent the owners’ principal and most liquid assets.
- Banks operate the payments system.
- Bank assets can be moved very quickly.
- Bank assets are very large in the economy.
- Banks operate internationally.
- Banks operate in highly sophisticated and complex markets, such as derivatives markets, which are both very large and very volatile.

Breakdowns in these areas are highly disruptive. Indeed, failed banks are sometimes closed physically as well as legally so that depositors cannot access their accounts and borrowers their credit lines, and payments in process are not completed, leading to defaults. Whether or not the great public fear of bank failures is rational or justified, it exists; and perception is often as important as reality and requires recognition in the formation of public policy.

Researchers at the World Bank have identified nearly 120 systemic bank crises in 93 countries since the mid-1970s - some countries suffered more than one crisis - and another 50 or so near-crises in 45 countries.¹ Thus, more than one half of all countries in nearly all parts of the world have

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1 World Bank, 2001, p75

experienced serious banking crises in recent memory. Many of the countries that did not suffer such crises are emerging economies that do not have a functioning banking system.

The costs of these crises have been high. Bank crises are often associated with recessions in the macroeconomy, although they are more frequently the result rather than the cause of the economic downturns. Nevertheless, bank failures exacerbate economic downturns. A survey by the International Monetary Fund that examined 54 banking crises between 1975 and 1997 reported that GDP during the crises averaged nearly 12 per cent below trend output and that it took these countries, on average, three years to recover.²

In addition, almost all countries did not impose the full cost of bank failures on the creditors and shareholders of the banks - the parties that would normally bear much of the cost of other business firm failures - but partially or totally protected these parties, particularly the banks' depositors, against loss. Instead, some of the loss was shifted to taxpayers and, because insolvent banks were frequently permitted to operate for long periods of time after they became insolvent and increase their losses further, in many cases these wealth transfer costs were very high. As a per cent of GDP, transfer costs from depositors to taxpayers are estimated to be greater than 50 per cent in Argentina in the early 1980s - Argentina has suffered three banking crises since the 1970s - and between 30 and 50 per cent in Thailand, South Korea, Chile, and Uruguay, among others. Resolution of the New Zealand bank insolvencies of the late 1980s is estimated to have cost taxpayers about 2 per cent of GDP - about the same as the US savings and loan failures of the 1980s and one half of the cost of Australian failures in the same period.³

A large share of the high social cost of bank failures arises from poor and inefficient means of resolving insolvent banks. As noted above, the resolutions are frequently delayed until long after the banks become insolvent and the costs are often not fully imposed on the banks' creditors

or owners. Good public policy demands that these societal costs can and should be reduced and largely removed from the shoulders of taxpayers.

In this paper, I propose a general four point or step program for efficient and low short-term and long-term cost resolution of large insolvent banks. I propose such a program not because I am predicting that any New Zealand banks are likely to fail, but because history has shown that banks do fail in all countries at some time and that the costs of such insolvencies can be reduced if a country plans ahead of time on how to respond if and when this does occur. I note both short-term and long-term costs because many of the poor resolution practices have resulted from attempts to keep immediate costs low without great concern for later costs. The program proposed is based on my analysis of actual bank resolutions throughout history, but particularly in the United States, as well as economic and finance theory. The program is general, but can and should be tweaked and tailored to the institutional particulars of different countries and I will make some comments on how near the end of the paper.⁴

One of these particulars is the importance of foreign-owned banks, where New Zealand ranks number one in the world with some 99 per cent of its bank assets in foreign-owned banks. My analysis is based heavily on US experience, not only because I am most familiar with it, but because the United States has many banks - some 8,000 currently, and about 30,000 in the 1920s - has good historical data on these banks dating back to the Civil War of the 1860s and even before, and effectively has had no state-owned banks, which muddy the waters. Unfortunately, unlike the case in New Zealand, foreign bank ownership in the United States is relatively unimportant, accounting for only 5 per cent of total bank assets. This introduces additional problems that I will turn to in the final section of the paper. International banking may be said to be domestic banking made difficult.

I offer this program as much to stimulate thought and discussion as anything else. The program centres on:

2 International Monetary Fund, 1998, p79

3 World Bank, 2001, p83 and Barth et al., 2004, p77. More recently, a study by the Basel Committee on Banking Supervision surveyed bank failures and resolution costs in eight industrial countries (2004).

4 A number of more or less similar plans have been developed by others, eg, Mayes, 2004 and Mayes and Liuksila, 2004.

- Prompt recognition of economic insolvency and legal “closure” of insolvent banks according to a disclosed explicit “closure rule”.
- Prompt estimates of recovery values and corresponding losses or “haircuts” to be imposed on the banks’ depositors and other creditors.
- Prompt reopening of the bank under temporary government agency control – eg a bridge bank, with a full guarantee of existing deposits at the haircutted or protected amounts.
- Prompt reprivatization through recapitalization at adequate capital levels or liquidation.

Let me expand on these principles. To achieve them requires a number of things.

Prompt legal closure implies terminating the interests of existing shareholders, who knowingly assumed both the returns and risks associated with ownership. One should not privatize profits and socialize losses. At the same time, senior management should generally be changed. The rules for legal closure should be thoughtfully designed to maximize efficiency and minimize losses and be publicly disclosed fully, so that all players know the rules of the game. Evidence ranging from organizational management to child rearing clearly indicates that players play both better and more predictably in a world of certainty than in a world of uncertainty. The United States has recently introduced clearly specified rules for prompt corrective action (PCA) by regulators on financially troubled banks, including a clear legal closure rule when a bank’s equity declines to 2 per cent of its assets and instructions to regulators to resolve the bank at least long-run cost to the insurance fund. (The United States has limited explicit deposit insurance.) Such a closure rule permits the desirable exit of inefficient or unlucky banks at minimum societal cost.

Regulators in the United States also have authority to resolve banks for cause before this minimum closure requirement is hit. So that the closure rule is not breached without sufficient warning, and to attempt to prevent a troubled bank from deteriorating further down to the closure trigger, PCA imposes a number of other triggers, generally calibrated

in terms of capital ratios, at which time the regulators first may, and then must, impose sanctions to increase the cost of poor performance to the banks. The sanctions are modeled after those that the market imposes on troubled firms in non-regulated industries, such as reductions in dividends, restrictions on acquisitions and growth, a recapitalization plan, and changes in senior management. That is, the regulatory environment is made to mimic or simulate a market environment.

Prompt estimates of recovery values and depositor loss-sharing haircuts require current and accurate information on a troubled bank before its insolvency. This likely requires some on-site examination of these institutions to verify the accuracy of the publicly reported information and to obtain interim information. It is well known that, as a bank approaches insolvency, its reported financial statements approach fiction more than fact. Current and accurate information is also required by the regulators if they are to market the bank quickly upon declaration of insolvency.

The magnitude of depositor haircuts depends, among other things, both on the promptness of legal closure and on public policy. The quicker a bank is resolved upon declining to the specified closure-rule trigger, the smaller are the losses and therefore also the smaller the depositor haircuts are likely to be. If a bank or any other firm is resolved before its true capital (net worth) position turns negative, the only loss is to its shareholders. Depositors and other creditors are fully protected. In addition, as noted, the longer an insolvent firm is not legally closed and permitted to continue to operate, the more likely is it to continue to generate operating losses and to increase its risk exposure in the process of “gambling for resurrection.”

Public policy may at times wish partially or fully to protect two groups of depositors against loss:

- Small depositors, primarily for political reasons. They are likely to lobby the government for protection loudly and in large numbers. But it also may be economically efficient to provide them with a low-cost, riskless depository and to avoid the relatively high cost of having them collect and process information to monitor and discipline banks in order to protect their reasonably

small accounts. Lastly, small depositors are the only ones who can operate on currency and are thus able to run on the banking system as a whole, exchanging deposits for currency and, in the absence of central bank intervention, decreasing the money supply by a larger amount, as described in basic money and banking textbooks.

- Large depositors, if and only if there is a serious threat to financial stability by imposing full pro rata losses on them. This is the so-called “too big to fail” or TBTF policy. But TBTF is often abused at very high societal cost.⁵ In addition, in the United States, TBTF really never meant what it said. With effectively only 1.5 exceptions among a reasonably large number, all big insolvent banks in the United States were failed legally and placed in receivership. Shareholders’ interests were terminated. (The Continental Illinois National Bank in my home town of Chicago, whose resolution in 1984 gave rise to the term TBTF, is the 1/2 exception, as its private shareholders’ interests were terminated but not until five years later.) TBTF actually referred to protection for de jure uninsured depositors and other creditors. (In the United States, the first \$100,000 of deposits is explicitly insured by the FDIC, a government agency funded by the insured banks.)

De facto protection of de jure uninsured depositors at some large banks in the 1980s eventually became so costly that it threatened to bankrupt the FDIC and was perceived to be so unfairly applied across banks that it became politically unpopular. In addition, it became evident that protecting these depositors removed an important source of discipline on the banks and increased the likelihood of future losses. Nor is there sound evidence that imposing losses on large depositors necessarily leads to losses elsewhere or widespread financial instability. In response, reform legislation enacted in 1991, known as the FDIC Improvement Act, or FDICIA, prohibited the FDIC from protecting uninsured depositors and creditors in a bank resolution. But there was an exception. The FDIC could protect these claimants if not protecting them threatened aggregate financial instability

⁵ Kaufman, 2004. See also Stern and Feldman, 2004

and protecting them would mitigate this threat. TBTF was transformed into the systemic risk exemption (or SRE).

However, invoking SRE is not easy. Five high barriers – three ex ante and two ex post – must be cleared and a paper trail created and maintained.⁶ The ex ante barriers are:

- A recommendation to the Secretary of the Treasury to invoke SRE approved in writing by two thirds of the board of directors of the FDIC and two thirds of the Board of Governors of the Federal Reserve System.
- Approval by the Secretary of the Treasury in writing after consultation with the President of the United States.
- Written notification of approval by the Secretary to the Chairs of the House and Senate Banking Committees.

If approved and invoked, two ex post barriers exist that are likely to affect the decision whether to invoke SRE:

- An audit must be conducted by the congressional General Accounting Office (GAO) of the reasons for invoking SRE and the effectiveness of the actions taken.
- Any resulting loss to the FDIC from protecting uninsured claimants must be paid expeditiously by a special assessment on all other banks.

These are high barriers to hurdle. Combined with the required paper trail, this framework is likely to encourage accountability and discourage hasty, unthoughtful action. To date, SRE has not been invoked in the United States. But there has not been a fair test. No really large, money centre bank has encountered serious financial difficulties. Nevertheless, uninsured depositors at all other failed banks have shared in any losses with the FDIC.

To make this program effective in minimizing the short and long-term societal cost of resolving insolvent large banks, the plan must be fully developed, be in place “on the shelf” for immediate use, and be fully and widely disclosed to the public. If it is not, political pressures at the moment of crisis will overcome any ability of policy-makers to stand back and develop a program. As a result, all or nearly all potentially damaged parties are likely to be protected. Federal Reserve

⁶ Kaufman, 2004

Chairman Alan Greenspan has recently noted this in testifying before the US Congress on resolving large US government sponsored entities (GSEs), such as Fannie Mae and Freddie Mac, which are privately owned mortgage lenders with past government ownership (and which have retained a close association with the government in the eyes of many investors). Greenspan testified that it was important to:

“...clarify the circumstances under which [the GSEs]... can become insolvent.... This process must be clear before it is needed; otherwise the hands of any regulator would be constrained by uncertainties... Left unresolved, such uncertainties would only heighten the prospect that a crisis would result in explicit guaranteeing.”⁷

It is important that banks of any substantial size are not physically closed for any extended length of time after they are legally closed. Among other things, physical closure implies that existing borrowers lose their credit lines and cannot extend maturing loans and existing depositors or other creditors, including other banks, may not have full and immediate access to even the haircutted value of their accounts and other claims at maturity, including those payment instruments in the process of clearing. Most deposits are effectively frozen, frequently until proceeds are obtained from the sale or liquidation of the bank, which could be a lengthy process. Demand or current accounts are involuntarily transformed into time accounts. Fear of account freezing in bank failures is often as great if not greater in many countries as fear of reduced value of accounts due to credit losses. Indeed, important firms in most other key industries are not physically closed when they fail. For example, major bankrupt airlines typically keep flying for some time and electric power companies keep generating electricity. To keep banks open and operating during the reprivatization process, the regulators need to arrange for advancing the expected proceeds from the pending reprivatization to the depositors. In the United States, the FDIC has the authority to advance dividends to uninsured depositors almost immediately, based on a conservative estimate of the pro rata recovery value. Insured depositors are also advanced funds, so that they have access

to the par value of their accounts the next business day or so (Kaufman and Seelig, 2002).

If the plan is widely and fully known, bankers and the public will modify their behavior and regulators can act with greater confidence. The “tougher” and clearer the insolvency rules, the greater also will be market discipline on misbehaving bank management by bank shareholders.

Let me now turn to a few remarks on how the institutional arrangements in New Zealand affect or are affected by this program. First, to deposit insurance. New Zealand prides itself on not having an explicit deposit insurance program and thus not being required to protect any depositor or other claimant at insolvent banks. But there is a long distance between not being required to provide deposit insurance and not effectively providing deposit insurance. The Reserve Bank of New Zealand Act provides the Bank with the authority to act as a lender of last resort if it “considers it necessary for the purpose of maintaining the soundness of the financial system”.

Although the purpose of any intervention may not be to protect depositors, this language is sufficiently vague to permit such an interpretation. In 2000, then Deputy Prime Minister Jim Anderton stated “It’s inconceivable that banks can be allowed to fail with all the repercussions that would go through the whole community.”⁸ And in recent memory, the government has protected some depositors at insolvent institutions. Despite an immediate rebuttal by the Reserve Bank Deputy Governor that “Depositors and other creditors of banks should operate on the presumption that, if a bank were to fail the government would not insulate them from losses,” such statements from government officials serve to fuel doubts.⁹

The Reserve Bank’s website also notes that while “the RBNZ would generally recommend against any form of taxpayer-funded rescue ... the ultimate decision ... would be made by the government of the day.” This strengthens the government statement and significantly weakens any no de facto deposit insurance claim. Indeed, recent surveys suggest that a substantial percentage of the New Zealand

7 Greenspan, 2004, p6.

8 “For the record,” p69

9 Ibid.

population believes that depositors would be protected in bank failures. If so, the regulators' credibility is at stake and, in the area of prudential regulation, as in monetary policy, credibility is the most important weapon that regulators have. Unless a significant percentage of depositors truly perceive themselves at risk, emphasis on public disclosure is less effective. Disclosure is a necessary but not sufficient condition for market discipline to be effective. If few if any depositors or other bank creditors perceive themselves at risk, information disclosed is less likely to be processed and used to discipline banks. So what do I recommend?

As much as I favour not protecting large depositors, I favour explicitly protecting small depositors in the form of full deposit insurance for the first x dollars of deposits.¹⁰ From a practical point of view, it is difficult to avoid such protection at the time of resolution.¹¹ By reducing pressure from small depositors, it is easier to leave large depositors, who both can monitor their bank's financials and are accustomed to taking risks in their short-term investments, such as commercial paper, unprotected. Thus, on balance, pressure on banks to restrain risk-taking moral hazard behavior is not necessarily reduced. Studies by the World Bank show that the costs of bank failures are on average lower in industrial countries that have explicit deposit insurance and strong and credible institutions, property rights, legal systems, and regulatory independence.¹² New Zealand clearly has the latter group of characteristics. How the insurance is to be provided and who pays for it needs to be determined, but considerable evidence exists evaluating alternative structures.

To enhance credibility for keeping uninsured deposits uninsured, I would recommend imposing explicit high

barriers for invoking exemptions, such as for SRE in the United States. Of course, they need to be tailored to the institutional structure of New Zealand, but could involve written sign-offs by the Reserve Bank, Minister of Finance and Prime Minister that protecting uninsured depositors is necessary to maintain financial stability. This arrangement should be viewed as part of the package of providing explicit insurance for small depositors. Both need to be adopted together. Who pays the cost of any assistance that may be provided to uninsured depositors should also be clearly specified. Should it be the other banks or taxpayers? I would prefer the other banks, as this is likely to create additional pressure not to provide the assistance. To further minimize the pressure on the government to provide support, Professor John Singleton of Victoria University has proposed having the government delegate the authority for resolution to the Reserve Bank for a specified length of time similar to the delegation it now makes to the Reserve Bank on achieving the agreed-upon inflation target (Reserve Bank, 2002 and 2003).

I would also recommend that New Zealand add both a simple capital leverage ratio (equity or total capital to total assets) to the Basel-type risk-based capital measure requirements that it now imposes on banks and a fuller version of the PCA that includes a number of explicit triggers for intervention by the Reserve Bank on a progressively harsher and more mandatory basis. While the market evaluates a bank's risk exposure in determining the appropriate amount of capital required, the Basel measures assume that the regulator-determined weights are the same as the market-determined weights. Evidence suggests they are not and encourages game playing by the banks to reduce their risk-weighted assets. The leverage ratio reduces such gaming and puts banks on the same basis as all other firms for comparison. For example, most other firms have a worldwide average capital to total asset ratios of nearly 50 per cent, implying leverage ratios of 2 to 3, rather than non-risk adjusted capital ratios of 6 to 8 per cent, with leverage ratios of 12 to 16 that better capitalized banks in developed economies maintain.¹³ By encouraging earlier regulatory intervention before insolvency, multiple action triggers would both improve the

10 Alternatively this can be achieved by imposing haircuts only after the first \$x of deposits. This idea was proposed to me in discussions at the Reserve Bank.

11 The appeal of avoiding political problems with small creditors is reflected in a recent proposal to creditors by Origin Pacific, the second largest airline in New Zealand, to avoid bankruptcy by paying all creditors owed less than NZ\$10,000 in full but paying only 40 cents on the dollar over the next five years to all other larger creditors. The current shareholders would then recapitalize the firm. The company also blamed part of its problems on "the government bailout of Air New Zealand in 2001." (Van den Bergh, 2004, p. 1.)

12 World Bank, 2001. However, the analysis may not have included observations for countries that had no explicit insurance but favourable institutions. I am indebted to Ian Harrison at the Reserve Bank for this observation. See also Kane and Klingebiel, 2004 (Forthcoming).

13 World Bank, 2001, p.50

probability of regulators being able to turn troubled banks around before failure and reduce the probability of delayed or weak action by the regulators.

Although some of my suggestions would increase regulation and supervision, and appear to run contrary to both my preferences and the well-known preferences of the Reserve Bank of New Zealand and government for self and market discipline, rather than intrusive government regulation and supervision, I do not believe that they would be unduly intrusive on well-operated banks. It would only be when a bank stops being well operated and becomes troubled that the intrusiveness factor kicks in. Indeed, this is a carrot and stick structure that may be viewed as reinforcing the incentives for banks to avoid getting themselves into such unfortunate positions, and would basically formalize the informal monitoring and consultation that occurs now. If I had the time, I would also discuss a plan to enhance market discipline by requiring banks to issue subordinated debt, a proposal that is receiving attention in some countries (Shadow, 2000). This may be particularly useful for gauging the financial condition of wholly-owned subsidiary banks, which represent a relatively small part of the parent's operations so that information based on the parent's stock or debt prices may not be very informative about the subsidiaries. This may be particularly helpful to regulators in a country in which relatively small subsidiaries of a parent bank in another country are located. But that is for another day.

Lastly, I will briefly comment on some unique issues raised by the high degree of foreign ownership of banks in New Zealand. As I noted earlier, some 99 per cent of registered banks' assets are foreign owned and 85 per cent are in the largest five banks that are all owned by Australian banks.¹⁴ (The next largest percentage of foreign bank ownership is in Botswana, with 97 per cent, followed by Luxembourg with 95 per cent.)

Much has recently been written about the benefits of foreign bank entry, but less about the costs, and almost all with respect to emerging rather than developed economies.¹⁵ The two primary areas of concern are economic efficiency

and safety. I will touch mostly on the safety issues. There is little doubt that foreign bank entry enhances competition and efficiency, holding other things equal, in both developed and developing countries, and New Zealand appears to have benefited from the entry of major foreign banks.¹⁶ But the safety issue is more complex, particularly with respect to the resolution of insolvencies.

It is obvious that the legal and regulatory structures of the foreign bank's home country as well as those of the host country matter. At minimum, this increases complexity, as it requires knowledge of foreign institutional structures by host countries, particularly with respect to insolvency resolutions, and the more foreign countries represented, the more complex.¹⁷ But is also likely to be more difficult than this, as the legal and regulatory structures may conflict, particularly in times of stress. The banks are then subject to two or more masters!¹⁸ A major issue is the form of organization of the foreign facility - branch or subsidiary. Here safety and efficiency may conflict and trade-offs between the two exist. A branch is likely to be somewhat more efficient and lower cost for the banking organization, as it is not a separate legal entity and is operated on a fully consolidated and integrated basis. Its financial health is also likely to be dependent primarily on the health of the home office and thus on the state of the economy in the home country.¹⁹ Although branches may be safer than either a subsidiary or independent bank of equal size, as the latter's share of assets in the overall bank are likely to be more diversified, branches are more difficult for the host regulators to monitor and discipline. Host country regulators are thus likely to rely heavily on the home countries' regulators for monitoring

¹⁶ Hull, 2002 and Barth et al., 2004

¹⁷ For an expansion on this point, see Herring, 2003.

¹⁸ For example, with respect to implementing Basel II capital requirements, New Zealand plans to apply the standardised approach for all banks; Australia expects the large banks will implement either of the internal ratings approaches and the others the standardized approach, and the United States will require the advanced internal ratings approach for the 10 or so largest, internationally active banks. Other US banks may choose this approach or will apply the Basel I requirements. A similar analysis for European Union and , in particular Nordic, countries appears in Denmark, 2004.

¹⁹ Peek and Rosengren (2000a) report that domestic problems at Japanese banks in the early 1990s led to sharp reductions in commercial real estate lending at their US branches. In an earlier study (1997), they report that business lending was cut back more sharply at Japanese branches in the US than at US subsidiaries of Japanese banks.

¹⁴ Barth et al., 2004

¹⁵ Peek and Rosengren, 2000

and disciplining. This likely requires some agreement on information sharing on a timely basis and cooperation on some prudential actions. A subsidiary is, at least in theory, separate from its parent and stands on its own feet with its own capital. It is subject to the same capital standards and the same insolvency resolution process as the host regulator applies to domestic banks. Its financial health should reflect primarily the health of the host country.²⁰

Foreign branches introduce another problem for the host country if the home country has depositor preference legislation that gives priority to deposits at domestic over foreign offices of failed banks. Such legislation is currently in effect both in the United States and, more importantly for New Zealand, in Australia. To depositors in these home countries, deposits in branches in foreign countries provide an additional layer of protection above a bank's capital. Moreover, home regulators may be incentivized to resolve home banks less quickly, as any additional losses would be borne first by depositors in other countries. To protect against this, the Reserve Bank is exploring how domestic deposits at large branches of foreign banks could be matched or effectively collateralized by domestic assets. Indeed, this is the predictable dynamic response to depositor preference provisions (Kaufman, 1997). In case of danger, low priority claimants will attempt to increase their priority by securitizing or running. Until such an arrangement is in place, New Zealand depositors at branches of Australian and US banks in New Zealand appear to assume greater risk than depositors at these banks in home offices and should receive a correspondingly higher interest rate.

On the other hand, it may be argued that regulators in some home countries may support their insolvent large, systemic banks through liquidity or other assistance, so that the host depositors are protected via spill-over. But one may wonder whether the home country's taxpayers may not be even more reluctant to bail-out depositors in foreign countries than in their own. Likewise, it is sometimes argued that parent holding companies in home countries are likely to recapitalize their sick subsidiaries in other countries in order

to avoid reputational damage. Thus, host country regulators need not be greatly concerned and rely on their home country counterparts. However, the decision whether to support or not is likely to involve a careful weighing by the holding company of the costs of such recapitalization versus the potential reputational harm of walking away from the subsidiary. This is likely to be done on a case-by-case basis rather than by a general, once-and-for-all rule.

A subsidiary may also be somewhat weaker than it appears. Although fund transfers to the parent are restricted, once done, it might be difficult to reclaim the assets from another country and legal jurisdiction even though they might have been transferred illegally, say, in anticipation of insolvency. In addition, any financial difficulties experienced by the parent bank may have adverse reputational spill-over to the subsidiary. Adverse reputational spill-over effects may be more important for subsidiaries in relatively small countries as large country suppliers of funds may view the country as being too minor to expend significant resources on differentiating between the foreign parent and the domestic subsidiary and even among domestic subsidiaries of different parents.

Perhaps most important is the issue of functionality for either a subsidiary or branch. Most banking organizations, whether they involve branch or holding company subsidiaries, are managed on a centralized and integrated basis. Major decision-makers, technical personnel, records and computer and telecommunications facilities are physically located at the home office or tightly under the control of the home office. From the point of view of the subsidiary, these services are effectively outsourced. Thus, without speedy access to these facilities, it may not be easy for the regulators to continue to operate a solvent subsidiary office of an insolvent foreign parent as a stand-alone facility without any or, at most, minor interruption, or to resolve an insolvent subsidiary and either maintain it in operation or liquidate it, as discussed earlier. A branch would be even more difficult to operate. Obtaining full and speedy access to the necessary facilities is difficult, even if all the bank operations are in the same country and under the same legislative, regulatory and judicial regimes. But it is far more difficult if the subsidiary or branch is in a different country than the parent or home office, where the

20 Hull (2002) attempts to quantify the importance of shocks in New Zealand and Australia on banks, branches, and subsidiaries

necessary management and facilities are likely to be housed, and under different legislative, regulatory, and judicial regimes.

How then, for example, do host country regulators provide for assured immediate transfer from the home or possibly even third country? I suspect no country is more aware of these problems than is New Zealand.²¹ Although no easy solution is evident, agreements to house some facilities that are nowadays required for redundancy purposes in the host country or where host regulators have immediate and guaranteed legal access appear doable and appropriate.

I would also wonder whether having 85 per cent of bank assets in banks owned by banks in only one other country that is considerably larger may not open the host country both to excessive potential spill-over effects from problems in that country and excessive political leverage that could impinge on the host country's regulatory independence and induce it to defer to the home country regulators more than otherwise. At the same time, the host country is tempted to rely even more on the competency of that country's regulators to maintain the financial health of the banking organizations headquartered there.²²

It is obvious that I have only scratched the surface of these last issues. In part, this reflects the fact that I come from a country in which these issues are not as pressing and thus not as much analyzed. The issues are complex and require greater quantification. Greater certainty regarding the rules of the game would benefit all participants over the long run - bankers, regulators and the taxpayers. I am happy to note that these issues have received, and are continuing to receive, serious attention at the Reserve Bank. The Bank, for example, is in the process of developing a strategy for resolving bank insolvencies, that it refers to as "bank creditor recapitalization" (or BCR) that includes many of the features that I spelled out in my four-point program above. The Bank is also involved in exploring ways of improving its ability to resolve foreign branch insolvencies as well as subsidiaries and to obtain the necessary functionality facilities. I hope

that my thoughts expressed here will be of help to the Bank in perfecting these strategies. Some of the ideas may require some re-thinking of long-held views, but my reading based on the few weeks that I visited is that New Zealand does not shy away from bold ideas or measures.

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²¹ Bollard, 2003.

²² New Zealand and Australia have recently announced their intentions to explore a closer integration of banking regulation, Reserve Bank, 2004.

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APEC Policy Dialogue on Financial Disclosure – Policy conclusions

1 Introduction

In February 2004, the APEC Finance Ministers' process held a Policy Dialogue on Financial Disclosure in Kuala Lumpur, Malaysia. The Policy Dialogue was co-chaired by Chile (the Ministry of Finance) and New Zealand (the Reserve Bank of New Zealand) and hosted by Bank Negara Malaysia. Its purpose was to provide a forum for exchanging views on the importance of high quality financial disclosure in the corporate and financial sectors and the means by which such disclosure can be promoted.

This article is a reproduction of the Policy Conclusions paper to be issued under the APEC Finance Ministers' process, summarising the main policy conclusions to emerge from the Policy Dialogue.

The views expressed in Policy Conclusions paper represent a consensual set of conclusions agreed by participants in the Policy Dialogue on Financial Disclosure. The paper does not necessarily represent the views of APEC finance ministers or governments, or those of the Reserve Bank of New Zealand.

The paper has the following structure:

- Section 2 summarises the reasons why high quality financial disclosure in the corporate and financial sectors of the economy is so important.
- Section 3 outlines the foundations for effective financial disclosure in the corporate and financial sectors. These are elaborated on in the remaining sections of the paper.
- Section 4 discusses the role of accounting standards and practices in underpinning effective financial disclosure.
- Section 5 discusses the role played by auditing standards and practices.
- Section 6 discusses the role played by corporate governance in promoting sound disclosure practices.
- Section 7 notes the importance of market-based incentives for high quality financial disclosure.

- Section 8 discusses the means by which investors, financial analysts, depositors and the news media can be encouraged to make more use of financial disclosures.
- Section 9 highlights some specific disclosure issues relevant to the financial sector of the economy.

2 Importance of financial disclosure

High quality financial disclosure is essential to the health of the corporate and financial sectors of a modern economy. Disclosure performs a number of important functions. Among them, it:

- **Encourages sound corporate governance and risk management.** Disclosure strengthens the incentives for corporate entities and financial institutions to establish and maintain sound corporate governance and risk management practices. It provides a mechanism by which the directors and senior management team are held to account for the sound stewardship of the company, and the means by which shareholders and creditors, and other stakeholders, can scrutinise the performance of the directors and senior management team.
- **Reduces information asymmetry.** Disclosure reduces the information asymmetry between the managers of a corporate entity and the investors and creditors of that entity, and thereby assists investors and creditors better to assess whether managers are acting in the interests of the company (and thereby in the interests of investors and creditors).
- **Facilitates supervision and reduces monitoring costs.** In countries with constrained resources for financial sector supervision, public disclosure by financial institutions facilitates market-based supervision of financial institutions and shares the cost of monitoring.

- **Facilitates sound investment decisions and resource allocation.** Disclosure helps to encourage better investment decisions by investors and creditors, enabling them to assess the risk/return trade-offs of particular investment opportunities and to identify risk-adjusted rates of return better. In the process, disclosure facilitates improved resource allocation across the economy, and thereby improves the potential growth rate of the economy.
- **Promotes a more robust financial system.** Disclosure can help to promote and maintain a sound financial system by strengthening the incentives for sound risk management within financial institutions and by improving the information which financial institutions use to make credit allocation decisions to the corporate sector. Regular disclosures made by financial institutions enable shareholders/investors, depositors and other creditors to make better informed decisions as to where to place their funds, thereby strengthening the market disciplines on the directors and managers of financial institutions to maintain sound risk management practices.

3 Foundations for effective disclosure

For financial disclosure to be effective, and to have maximum benefit for the corporate and financial sectors and for the wider economy, a number of foundations must be in place. In summary, these foundations include:

- Robust and credible accounting standards, which provide for meaningful recognition, measurement and disclosure of information by corporate entities and financial institutions.
- A willingness by government authorities to adopt high quality standards for their own financial reporting, based on best international standards and practice.
- Sound accounting practices, supported by a culture of fair, accurate and timely disclosure and ethical business practices. Accounting standards will be of only limited

effectiveness if not supported by sound accounting practices and business ethics.

- Robust and credible auditing standards and practices, supported by a culture of professionalism and ethical behaviour in the auditing profession.
- Effective monitoring and enforcement of accounting and auditing standards by bodies that have the authority, resources, independence and credibility to perform these functions effectively.
- Sound corporate governance practices play an important role in underpinning effective financial disclosure. In particular, there is a need for companies' management and directors to be legally responsible for the completeness and accuracy of their companies' financial statements and for directors and managers to maintain robust financial reporting systems and internal controls.
- Strong market-based incentives help to promote high quality disclosure. In particular, this suggests the need to ensure that company stakeholders (including shareholders and creditors) are not insulated by government from the consequences of their investment and lending decisions – being exposed to the risk of loss creates the incentives for stakeholders to monitor companies (including financial institutions).
- Structures and practices that encourage and assist the users of financial information to make greater use of financial disclosures, so that there is a strong demand for high quality and timely information.
- The legal framework underpinning corporate disclosure requirements should be flexible so that disclosure requirements can be adapted to changing circumstances without requiring new legislation.

Building the foundations for effective disclosure is an evolutionary process. Careful attention to the sequencing of reforms is required, including the linkages to other relevant reforms, such as in corporate governance requirements, commercial and securities law, contract law, and the design of the financial sector regulatory framework. The requirements for effective disclosure need to be assessed in

the context of these other elements, so that they integrate in a complementary manner.

It also needs to be remembered that the disclosure arrangements will vary from country to country, depending on the nature of their stage of economic development, and the size and nature of their economy and commercial sectors and legal frameworks, among other matters. A “one size fits all” approach should be avoided.

The foundations for effective disclosure, as outlined above, are discussed in greater detail in the remaining sections of this paper.

4 Accounting standards and practice

Accounting standards form the basis of an effective disclosure regime. They set out the frameworks for the recognition, measurement and disclosure of financial information. A system of robust and credible accounting standards requires a number of features, including the following:

- The standard-setting body needs to be well resourced, independent of conflicts of interest and capture by particular interests, and subject to robust and credible accountability and transparency arrangements.
- The standard-setting process should involve input from a wide range of relevant bodies, including user groups, financial statement issuers, accountants, economists, and financial analysts. Standard-setting should be conducted in an open and accountable manner, with all relevant interest groups being consulted.
- Accounting standards should be underpinned by a sound understanding of the needs of financial statement users and issuers, and of the needs of other stakeholders. Standard-setting should not be dominated by financial statement issuers.
- Accounting standards should reflect economic substance to the extent practicable, providing users with economically reliable and meaningful ways to monitor a corporate entity’s financial position, performance and risks.
- International financial reporting standards issued by the International Accounting Standards Board (IASB) provide an important base for national accounting standards. It is desirable that national accounting standards are compatible with corresponding international financial reporting standards, but with the scope to go beyond international standards, particularly in relation to disclosure requirements (rather than in respect of the accounting rules for measurement or recognition of assets and liabilities).
- For international accounting standards to have wide acceptability, it would be desirable for the IASB to be a truly international body, with representation from a wide range of national accounting bodies across all regions in the world. International standards should be subject to thorough international consultation before promulgation, and the standard-setting process should be transparent and accountable.
- International accounting standards are of greater value where they are supported by standardised guidance on their interpretation.
- In designing international and national accounting standards, the IASB and national standard-setting bodies need to have regard to the compliance burdens associated with standards and with the potential for standards to have unintended consequences for economic behaviour. Standards should be designed to avoid excessive compliance costs and distortions to economic behaviour.
- In designing international and national accounting standards, there needs to be a recognition that excessively detailed accounting standards can result in information overload, such that users are impeded in their ability to identify and understand important information about a corporate entity. Striking a sensible balance between the comprehensive disclosure of information and the presentation of key information in a clear and digestible form is essential.
- For accounting standards to be most useful, they must be supported by effective enforcement arrangements, including an independent, well-resourced and

accountable body responsible for monitoring compliance with accounting standards and taking actions in cases of non-compliance. A strong legal foundation is required for the enforcement of accounting standards.

- Accounting standards will only be effective if supported by sound accounting practices in the corporate and financial sectors. This requires a well-resourced professional accounting body dedicated to promoting sound and ethical accounting practice and high professional standards. It also requires high educational and ethical entry standards for the profession, and a reliable and credible system for disciplining breaches of these standards.
- High quality accounting practices require a corporate culture based on ethical behaviour and a strong belief in and commitment to accurate, fair, regular and timely financial disclosure. This can be fostered in a number of ways, including through corporate governance codes, enforced legal requirements relating to director responsibility for ensuring robust financial statements, and strong ethical leadership by government and business leaders.
- Sound accounting practices are also fostered through high standards of education in the accounting profession at all stages in the career cycle, including setting high entry standards for the profession and arrangements for continuing professional development. Accounting education should not be confined to the teaching of accounting concepts and standards, but should also include the teaching of professional ethics, the economic substance underlying financial disclosures and the informational needs of the users of financial statements.

5 Auditing standards and practice

Another essential foundation for effective disclosure in the corporate and financial sectors of the economy is the maintenance of sound and credible auditing standards and practices. Effective, high quality auditing of financial

information is essential if the information disclosed by corporate entities is to be, and be perceived to be, reliable and meaningful. This is especially the case where there is a strong degree of separation between the directors/managers of a corporate entity and its shareholders and creditors.

Sound auditing standards and practices require a number of features, including the following:

- The standard-setting body needs to be well resourced, independent of conflicts of interest and capture by particular interests, and subject to robust and credible accountability and transparency arrangements. There needs to be a credible degree of separation between the accounting profession and the auditing standard-setter.
- International auditing standards set by the International Federation of Accountants (IFAC) provide a useful base for national auditing standards. It is desirable that national auditing standards are consistent with the international standards on auditing issued by IFAC. However, there is scope for national auditing standards to go beyond those set by IFAC, having regard to the particular circumstances of the national accounting profession and institutional arrangements.
- For international auditing standards to have wide acceptability, there is a need for IFAC to be a truly international standard-setting body, with representation from a wide range of countries.
- International auditing standards should be subject to thorough international consultation before promulgation. National auditing standards should also be subject to a thorough process of consultation with all interested parties (and not just the accounting profession). The standard setting process should be transparent and accountable.
- For auditing standards to be effective, they must be subject to compliance monitoring and enforcement by a well-resourced, independent and accountable body with the authority and incentives to take appropriate disciplinary action for non-compliance with auditing standards.

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- Auditing requires a credible degree of independence for the auditor. Various options are available to encourage auditor independence, including mandatory rotation of audit partners, rotation of audit firms, minimum cool-down periods for auditors, separation between audit and non-audit activities, and disclosure of audit and non-audit fees paid to the auditor.
 - Regular peer review of audits by auditors from other audit firms can be an effective way to enhance standards in the auditing profession.
 - The company should have a strong culture of business ethics, accountability and transparency, with the board taking leadership in ensuring that this culture is strongly adopted and maintained throughout the company.
 - The board should maintain systems and structures to regularly oversee the company's financial performance and position, cashflow, risks, and risk management capacity. These systems and structures should be reviewed periodically by external parties with a credible degree of independence and expertise. The board should regularly assess the performance of the management team.

6 Corporate governance

Another important foundation for effective financial disclosure is sound corporate governance. Robust governance policies and practices in corporate entities help to foster a disclosure culture and encourage the systems and structures needed to produce reliable and timely disclosure. High quality and timely disclosure in turn helps to reinforce sound governance practices by reinforcing the incentives for the directors and senior managers of a corporate entity to ensure that their company has reliable systems in place to identify, monitor and control the business risks of the company.

There are many international and national codes on corporate governance that provide guidance on the key principles of good corporate governance, including the OECD Principles on Corporate Governance. In particular, the following elements of corporate governance are helpful in promoting sound disclosure practices:

- The board of a corporate entity should comprise directors with the skills, knowledge and experience necessary to have a sound understanding of the company's business and risks. Directors should be in a position to devote the time and attention required in order to perform their role effectively.
- The board should comprise a number of non-executive and independent directors capable of exercising careful scrutiny of management and of the company's dealings with related parties, including a controlling shareholder.
- The board should ensure that the company has a well resourced internal audit function, where the internal auditor has a capacity to report to the board audit committee or directly to the board.
- Management should report on a regular and comprehensive basis to the board, providing the board with the information needed to assess the company's performance and position, including in relation to its risks, risk management systems, breaches of risk limits, financial performance, balance sheet and off-balance sheet, among other matters.
- The board should take ultimate responsibility for the completeness and veracity of all financial disclosures issued by the company; disclosure statements should be signed off by the directors as being accurate, complete and not misleading.
- A board audit committee should oversee the internal and external auditing process and should be chaired by a non-executive, independent director and comprise only non-executive members of the board. The audit committee should regularly meet with the internal and external auditors without management or executive directors being present, and should formally assess the performance of the internal and external audit functions.
- The board should regularly assess its own performance as a board, including through the occasional use of external assessment procedures.

- Shareholders should have the ready capacity to appoint and remove directors.
- It is desirable for the non-executive directors of the board to meet regularly without executive directors or members of the management team being present, including for the purpose of assessing the performance of the senior management team.
- The board should regularly assess the adequacy of the company's financial and risk-related disclosures, including by reference to relevant professional standard, external benchmarks, peer group comparisons and through user group assessments.
- Market disciplines are likely to be encouraged in an environment where market prices are not excessively distorted by regulation, taxation or subsidies, such that they can adjust to demand and supply conditions quickly and with minimum friction. Equally, market disciplines will be more effective in situations where investors and creditors can move their funds readily into and out of particular companies or markets, with minimal transaction costs and other frictions.
- Market-based incentives for disclosure are likely to be stronger in situations where investors and creditors bear at least some of the consequences of their investment and funding decisions. Unlimited deposit insurance, government ownership of corporate entities, government guarantees or implicit government support of corporate and financial entities weaken the effectiveness of market discipline. In the case of financial institutions, it is especially important that deposit insurance schemes are structured with limits to the level and scope of deposits protected and that these limits be firm and credible. Given that the objectives of most deposit insurance systems include the protection of small and less sophisticated depositors, coverage limits can be set at relatively low levels and still protect the majority of these depositors. It is also important that central banks and supervisory authorities maintain the capacity to manage bank distress and failure episodes in ways that preserve or strengthen market disciplines. This can best be done by ensuring that the depositors and other creditors of failed banks are not protected from losses (other than in respect of deposit insurance applicable to insured deposits).

7 Market-based incentives for disclosure

Although accounting and auditing standards, and associated enforcement processes, are essential foundations for effective financial disclosure in the corporate and financial sectors, so too are market-based incentives. Strong market disciplines on financial statement issuers help to foster an environment conducive to high quality financial disclosure. Market disciplines on the accounting and auditing professions are also important factors in encouraging sound disclosure practices.

For market discipline to be effective, it requires stakeholders of companies to have the incentives and information to monitor the financial performance of companies, and the ability to exert discipline on companies, such as through a company's share price, price of credit or access to credit.

Market disciplines can be fostered in a number of ways, including the following:

- Market disciplines are generally fostered through contestable and competitive markets, including financial markets and in the corporate sector, and in the accounting and auditing profession.
- A competitively neutral regulatory framework, where "like" entities are regulated on the same basis, can help to promote a competitive environment and strong market incentives for disclosure.

8 Encouraging use of disclosure statements

Market-based incentives for disclosure are also strengthened by encouraging and assisting investors, creditors, depositors, financial analysts, the news media, among others, to see and understand financial disclosures. Options for achieving this can include the following:

- User-friendly formats for disclosures can assist investors, creditors and other stakeholders with limited time and expertise to access and digest financial disclosures. For example, short-form disclosure statements made available on web sites and/or in branches and other offices of a corporate entity or financial institution can facilitate access to financial disclosures.
- Disclosure of key financial and prudential ratios can also assist investors, creditors and other stakeholders to understand financial disclosures, by drawing to their attention the most salient financial and risk-related features of a corporate entity. This can be particularly effective when these ratios are disclosed in readily accessible format, such as short-form disclosure statements.
- Guidance material for investors, creditors and other stakeholders can help to promote a stronger understanding of financial information and assist in the interpretation of financial statements and key ratios.
- Encouraging the news media to take an interest in financial disclosures by corporate entities, including through the use of news media briefings and educational sessions, can also help to make financial disclosures more accessible to stakeholders.

9 Disclosures by financial institutions

Although financial disclosure is of fundamental importance in the corporate sector generally, it is of particular importance in the financial sector. This reflects the central role that the financial sector plays in the economy and the costs to the economy associated with financial instability. High quality, regular and timely disclosure by financial institutions can help to reduce the risk of financial instability and encourage sound risk management practices within the financial sector. It strengthens the incentives for the directors and managers of financial institutions to ensure that their institutions' risks are being controlled effectively. It also provides a basis for depositors and other creditors to make better

informed decisions as to where to place their funds, thereby strengthening market disciplines on financial institutions.

In addition to the standard features of high quality disclosure required in the corporate sector generally, particular disclosure requirements for the financial sector can include the following:

- Disclosure by financial institutions should desirably be relatively frequent, such as quarterly, given that a financial institution's risk positions can change significantly over a short period. Consideration can also usefully be given to requiring financial institutions to disclose positive or adverse material developments intra-quarter where these are sufficiently material as to be likely to affect an assessment of the soundness of the financial institution by investors, depositors or other stakeholders.
- Disclosure should desirably be in relation both to the licensed financial institution on a solo basis and the consolidated group of which it is part. Off-balance sheet positions should be included in the information disclosed by a financial institution.
- Disclosures should include comprehensive information on financial performance, financial position and risk positions, including liquidity risk, exchange rate risk, interest rate risk, equity risk, exposure concentration risk, exposures to related parties, sectoral risk positions, impaired assets, provisioning, capital adequacy, and other relevant risk-related information. Disclosures in relation to risk positions should ideally apply both at the end-of-period and on a peak or trough end-of-day intra-period basis.
- It can be useful to require financial institutions to disclose the results of stress tests, particularly in relation to stress tests for credit losses, interest rate shocks and exchange rate shocks.
- It can be desirable to require financial institutions to disclose their credit rating (if they have one), the name of the rating agency, and any changes to the rating in the previous two or three years.
- It is desirable to require financial institutions to disclose the structures and processes they have in place to

maintain high quality corporate governance and risk management systems, including the nature of any external review conducted of their corporate governance and risk management systems.

- It is desirable to require the directors and chief executive officer of a financial institution to sign their financial institution's disclosure statements and to be held liable, civilly and criminally, for the veracity of the disclosures.
- Disclosures should desirably be in forms that can be readily accessible and understood not only by financial analysts and professional investors, but also by the ordinary depositor. This might suggest the need for requiring financial institutions to issue disclosures in at least two forms – a comprehensive disclosure statement for the professional analyst/investor, and a short-form disclosure statement for the depositor. The latter could be made available in bank branches. Both could be made available on a financial institution's website and in hard copy.

10 Conclusion

Taken as a whole, the measures set out in this paper will go a long way towards promoting sound financial disclosure in the corporate and financial sectors of the economy. However, they need to be underpinned by a culture of transparency and high business ethics. And this needs to be instilled from the top, including in the day-to-day policies and practices of political leaders, national and local government, and in state-owned entities. Therefore, there needs to be a broad-based and sustained commitment to transparency and ethical conduct throughout the community – at all levels – in order for a culture of effective disclosure to take root and flourish in the corporate and financial sectors of our economies.

SPEECHES

Speech excerpt on the Reserve Bank's exchange rate intervention proposal

An address by Adrian Orr, Deputy Governor Reserve Bank, as part of a presentation to the Meat New Zealand Annual Conference in Whangarei

25 March 2004

I wish to make a few comments about the Reserve Bank's proposal to have the capacity to intervene in the foreign exchange market. These comments relate to what the proposal is, what it is not, and what it implies for business people.

There are two legs to the Bank's foreign exchange intervention objectives which are likely to be used in very different circumstances.

First, the Bank has a long standing objective to restore order to any actual or potential disfunction in the foreign exchange market. If, for some exceptional and disturbing event, liquidity in the New Zealand dollar exchange rate dried up, the Bank would be prepared to support liquidity until some sense of normality returned. This objective is not about bailing-out speculators, or facilitating 'hot money' flows. It is about ensuring that the foreign exchange market continues to function in an orderly manner and essential transactions can occur. To meet this objective, the Bank currently holds and manages a portfolio of liquid, high quality, foreign currency assets that would be used in exceptional times.

The Bank, last month as part of its ongoing legal commitment to advise the Minister of Finance on foreign exchange matters, recommended that the Bank hold more foreign currency reserves as 'insurance'. More reserves appear necessary because the foreign exchange market globally has grown significantly since 1984 - when the Bank's reserves level was largely set - as has the New Zealand economy. While it is an unlikely event for a well managed economy with a floating exchange rate, the New Zealand economy can not afford to face a situation of a non-convertible currency. Our foreign currency reserves need to be sufficient to ensure such a situation has a very low probability. The Minister of Finance has agreed with our advice and will be moving to increase

significantly the level of foreign currency reserves the Bank will manage for such 'insurance' purposes.

In addition, and again as part of the Bank's ongoing legal commitment to advise the Minister of Finance on foreign exchange matters, we recommended having the capacity to intervene in the foreign exchange market to affect the level of the exchange rate in certain circumstances. That is, we would contemplate intervening if the exchange rate is exceptionally and unjustifiably high or low, and we think an opportunity exists that would ensure such intervention was effective.

By exceptionally high or low, we mean when the exchange rate is nearing its cyclical extremes, as has been seen in New Zealand over recent decades on a 3 to 5 year cycle. By unjustifiable, we mean when the exchange rate has moved well in excess of any relevant economic fundamentals, such as relative productivity, commodity prices, growth, or inflation.

It should be noted that most of the time a floating exchange rate, like New Zealand's, performs important economic functions such as acting as a buffer against shocks to the terms of trade or relative business cycle pressure. We believe our floating exchange rate serves New Zealand well.

However, at times, the exchange rate has varied by far more than can be justified by relevant economic fundamentals. It is at these exceptional and unjustifiable levels of the exchange rate that the Bank would consider buying or selling foreign currencies for NZ dollars in an effort to influence the level of the exchange rate. There is no mechanical rule underlying this new objective - such decisions are made in context.

An important part of the Bank's consideration to intervene would be the dynamics of the foreign exchange market at the time and whether we feel our actions will be effective.

In other words, the Bank would intervene at opportune times, not when the currency's direction is being dominated by strong international trends or consensus opinions.

We do not intend wasting our reserves by defending a particular exchange rate level, nor do we intend standing in the way of strong market trends or beliefs. We also do not expect to attract speculators who think they can 'take the Bank on'. If we are not defending a particular level of the exchange rate, we have no mechanical rule, and we intervene consistent with our monetary policy objectives at opportune times, then it is unclear what nature of speculator would be attracted by our actions.

By way of example, we are not recommending a Bank of Japan style intervention, where they use significant funds with the aim of influencing the long-term trend of the exchange rate, or by standing in the path of strong trends in the exchange rate. And we are certainly not recommending defending a particular level of an exchange rate that is clearly over or under-valued. This was the case, for example, in many East Asian economies during the late-1990s Asian financial crisis.

Instead, the Bank believes strongly in the virtues of a floating exchange rate within a well managed economy. What we are recommending is intervening when the moment is justified and opportune, with the outcome of, at best, trimming the extreme tops and bottoms of the NZ dollar exchange rate cycle.

Such an intervention strategy would be consistent with the Bank's primary objective of achieving and maintaining price stability. Hence, foreign exchange intervention can be viewed as another instrument for the Bank, consistent with achieving our monetary policy objectives, albeit a very secondary instrument to our most powerful one of the Official Cash Rate. Intervention would be considered in reasonably infrequent circumstances, that is, when the exchange rate level is exceptional and unjustified by economic fundamentals, and when we believe an opportunity to be effective exists.

We do not anticipate having a substantial or large impact on the level of the exchange rate. However, we believe there will be positive benefits that exceed any of the relatively small

and manageable risks of such a policy. Given the prominence of the level and cyclical variability of the exchange rate in investment, output, employment, and inflation decisions, even a small impact from intervention on the exchange rate can have widely dispersed economic benefits.

The Bank's advantage in this intervention strategy is not its 'weight of money'. Instead it is the Bank's investment horizon, information, and alignment of policy objectives that brings advantages and opportunities. To be successful, we need to be in the business for the long-term. This is why we have appealed for multi-party political support of the policy.

That said, the Bank already has the ability - legal and operational - to intervene in the foreign exchange market, consistent with achieving and maintaining its primary goal of price stability. What we have requested from the Minister is additional foreign reserves for intervention purposes, over and above the minimum we recommended for avoiding dysfunction. In addition, we have requested that the Government inject additional capital into the Bank's balance sheet so that we can absorb any potential temporary, unrealised, marked-to-market losses in our foreign exchange positions. This is prudent management.

Such an intervention strategy, over the relevant medium-term horizon, should even prove profitable or, at the least, reduce the cost of holding foreign currency reserves for avoiding market dysfunction.

The Bank's intention to buy foreign currencies (sell NZ dollars) when the exchange rate is exceptionally and unjustifiably high, and to sell foreign currencies (buy NZ dollars) when the exchange rate is significantly and unjustifiably low, makes good portfolio management sense - as long as we are in the business for the long-term. On average, over the medium term we would anticipate having no exposure to foreign exchange swings.

The Reserve Bank's management of foreign reserves is a long-term business. It is very common for central banks internationally to manage their foreign currency reserves in such a manner - just as any fund manager or business in the game for the long-term would do.

Our assessment as to the benefits of foreign exchange intervention of the nature outlined is the result of considerable analysis over several years. This includes analysing experiences internationally, and academic and empirical literature. It is not a knee-jerk reaction to the recent level of the exchange rate, nor a response to political pressure. We take our operational independence seriously, and for this reason we have recommended that this new intervention policy operates under the Bank's own legal purposes, so that any intervention decisions are made within the Bank, and are consistent with our primary objective of achieving and maintaining price stability. We have not recommended such an intervention capacity lightly.

As part of our operational independence, we stand prepared to be held accountable for the outcomes, as we do with monetary policy in general.

But, exporters, importers and anybody else dealing with foreign exchange, need to be clear that ongoing and considerable cyclical variability in the exchange rate will continue even if our interventions are successful. Our intervention policy is talking about, at best, knocking the extreme tops and bottoms off the NZ dollar exchange rate cycle. By far the bulk of foreign exchange risk management responsibility remains in the hands of the businesses and individuals within New Zealand. We are not offering a panacea to these cycles, we are simply saying we think we can make a small positive difference that makes sense.

NEWS RELEASES

For the record: news and information releases issued by the Reserve Bank, March-June 2004

Reserve Bank orders withdrawal of "bank" name

19 March 2004

The Reserve Bank has ordered "SDC Bank" to stop using the word "bank" in its name or title. "SDC Bank" claims to operate from an office in Auckland, New Zealand and advertises for business on the Internet.

Reserve Bank spokesperson, Paul Jackman, said "A notice ordering "SDC Bank" to stop using the word "bank" in its name or title, has been issued under section 64 of the Reserve Bank of New Zealand Act, which prohibits financial institutions that are not registered as banks from undertaking any activity using a name that includes the words "bank", "banker" or "banking". "SDC Bank" is not a registered bank in New Zealand."

Reserve Bank Head of Operations appointed

24 March 2004

The Reserve Bank today announced the appointment of Dr Don Abel as the Bank's Assistant Governor and Head of Operations.

As Head of Operations, Dr Abel will have a general management function across the Bank, with particular responsibility for the Bank's financial, corporate, commercial and other internal functions.

Dr Abel comes to the Bank with an extensive background in general management and banking. Dr Abel is currently the General Manager, Direct Service and Sales at the National Bank.

Dr Abel takes up his appointment on 26 April 2004.

Reserve Bank foreign exchange intervention principles

30 March 2004

The Reserve Bank today released a letter from the Bank to the Minister of Finance outlining how it intends to

undertake foreign exchange market interventions. The letter is attached.

This follows the Reserve Bank recommending, and the Government resolving, that the Reserve Bank should have the financial capacity to undertake foreign exchange interventions designed to influence the value of the exchange rate.

Reserve Bank Governor Alan Bollard commented "This letter lays out the objectives and parameters that the Bank will apply when making decisions about foreign exchange intervention. An important consideration in preparing these principles was the preservation of the Reserve Bank's operational independence in relation to the implementation of monetary policy. In issuing this letter, the Reserve Bank is continuing its long standing practice of being transparent and accountable for its decisions."

In addition, the Reserve Bank and the Treasury later today will be placing on their websites (www.rbnz.govt.nz & www.treasury.govt.nz) their recent advice to the Minister of Finance on these matters.

Letter to Dr Cullen on foreign exchange market intervention policy under section 16 of the Reserve Bank of New Zealand Act 1989

30 March 2004

Hon Dr Michael Cullen
Minister of Finance
Parliament Buildings
Wellington

Dear Dr Cullen

FOREIGN EXCHANGE MARKET INTERVENTION POLICY
UNDER SECTION 16 OF THE RESERVE BANK OF NEW
ZEALAND ACT 1989

The Reserve Bank has been provided with the financial capacity necessary to undertake foreign exchange market

interventions designed to influence the level of the exchange rate. The Bank has operational independence, under section 16 of the Reserve Bank of New Zealand Act 1989 (the Act), to intervene in the foreign exchange market. This letter sets out the parameters within which those decisions will be taken, and the associated reporting and accountability arrangements.

1 Policy objectives

- (a) Foreign exchange intervention under section 16 of the Act is for the purpose of influencing the level of the exchange rate to reduce exchange rate variability when the exchange rate is exceptionally and unjustifiably high or low, consistent with section 8 of the Act, as expressed through the Policy Targets Agreement (PTA), and with such other of the Bank's functions and obligations under the Act as may be appropriate.
- (b) (Foreign exchange intervention under section 17 of the Act, for the purpose of restoring liquidity in a period of foreign exchange market dysfunction, is treated separately in a standing directive from the Minister of Finance.)

2 Parameters for the decision to intervene

- (a) Interventions should normally only occur when the exchange rate is exceptionally high or low - and when, in the Bank's assessment, that level is clearly unjustified by economic fundamentals.
- (b) Interventions will not attempt to influence the long-term trend of the exchange rate.
- (c) Interventions will in all cases be consistent with the PTA.
- (d) The Bank will intervene only when it assesses that there is a material prospect of influencing the exchange rate, and in ways that seek to avoid destabilising speculation.
- (e) We undertake that accumulated open foreign exchange positions under section 16 of the Act will be limited to an amount advised to the Minister of Finance. This limit may be revisited, as required, from time to time.

3 Financial and balance sheet implications

- (a) Over the medium-term, the Bank would aim to maintain, on average, a net zero open foreign exchange position. (Foreign exchange transactions by the Bank to close out open positions will in general take place when the exchange rate is no longer at exceptional levels, and in a manner designed to avoid influencing the exchange rate, where practicable.)
- (b) Gains and losses associated with revaluations of accumulated open foreign exchange positions will impact the Reserve Bank's net income and hence its capital.

4 Reporting, risk management and accountability

- (a) Holdings of foreign currency reserves, open foreign exchange positions, and associated gains and losses (whether realised or unrealised) will be reported regularly in accordance with the Act, the Public Finance Act, and New Zealand Generally Accepted Accounting Practice.
- (b) The Bank will maintain risk management systems so as to reliably identify, measure, monitor and control, to the extent practicable, all risks associated with its intervention activities.
- (c) The Bank will be held to account against the principles established in this letter and will make available such information as is required to ensure that accountability. However, it is understood that foreign exchange interventions of the kind proposed are likely to have only a relatively small effect on the exchange rate cycle - an effect that may be difficult to measure - and that opportunities to have the desired effect may not always be available.
- (d) Full explanation of the Bank's foreign exchange market interventions under section 16 of the Act will be provided as part of the Bank's normal reporting practices.

Yours sincerely

Alan Bollard

Governor

OCR increased to 5.5 per cent

29 April 2004

The Reserve Bank today increased the Official Cash Rate from 5.25 per cent to 5.5 per cent.

Commenting on the decision, Reserve Bank Governor Alan Bollard said "The New Zealand economy continues to perform strongly and this is being supported by further improvements in the global economy. However, domestic inflation pressures remain strong and annual CPI inflation looks set to rise over the year ahead, as we projected in our March Monetary Policy Statement. Moving interest rates to less stimulatory levels appears prudent to ensure inflation remains within the target range over the medium term.

"Looking forward, the Reserve Bank will continue to monitor the data to see what it implies for medium-term inflation. At this stage, it remains unclear whether the fall in the exchange rate over recent weeks will be sustained and thus what its impact on activity and inflation pressures will be. Within parts of the domestic sector, such as housing and construction, some data suggest a cooling in activity, but the evidence is mixed and pricing pressures remain strong. Given these uncertainties, a further adjustment to monetary policy cannot yet be ruled out.

"However, as noted in March, a number of factors are likely to have a dampening effect on inflation pressures over the next year or so, reducing the need for policy action. Two such factors would include a further fall in net immigration and the delayed effects of the recent high exchange rate on activity in the export sector.

"The Reserve Bank's next Official Cash Rate announcement will come with the release of a Monetary Policy Statement on 10 June 2004."

OCR increased to 5.75 per cent

10 June 2004

The Reserve Bank today increased the Official Cash Rate from 5.5 to 5.75 per cent.

Speaking at the release of the Reserve Bank's June 2004 Monetary Policy Statement, Reserve Bank Governor Alan Bollard said "The New Zealand economy has enjoyed strong

growth over an extended period. For some time, we have been expecting growth to slow due to a range of factors such as the high exchange rate and declining population growth. But activity has continued to prove stronger than expected, and stretched productive resources have caused inflation pressures to increase across a range of industries.

"There remain compelling reasons to expect that momentum in the economy will slow. However, improvements in global demand, rising commodity export prices, and the recent fall in the exchange rate to a less contractionary level point to stronger activity than we projected in March. Moving interest rates higher is thus appropriate to ensure that medium-term inflation remains within the target range. At this stage, further increases in interest rates look likely to be needed over the year ahead, but to a modest degree by historical standards.

"Although we expect medium-term inflation to remain consistent with the target range, the recent decline in the exchange rate and higher oil prices mean that we are now projecting annual inflation to rise temporarily above 3 per cent in 2005. This would not be a breach of the Policy Targets Agreement, as the Bank is now required to keep inflation between 1 and 3 per cent "on average over the medium term". Given that inflation is expected to fall in a reasonable time frame, it would not be appropriate to attempt to offset this short-term increase in inflation using monetary policy. However, we will need to remain alert to signs of more enduring effects that could arise if wage or price setting behaviour starts to change. Were that the case, additional monetary policy pressure might be required to keep medium-term inflation pressures in check.

"We will continue to update our view of inflation pressures and the policy outlook, as new data come to hand."

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