
Briefing on the Reserve Bank of New Zealand

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Introduction

This *Briefing* provides an introduction to the policy responsibilities and activities of the Reserve Bank.

It is organised into four chapters.

Chapter one summarises the Bank's broad mandate as established by the Reserve Bank of New Zealand Act 1989, and outlines the institutional structures within which that mandate is carried out. The Bank operates under governance arrangements that have been tailored specifically to provide the Governor of the Bank with a large measure of *operational* independence, but within broad *policy* parameters that have been prescribed in statute and/or are subject to ministerial agreement. Additionally, the Bank is subject to a number of accountability mechanisms. These involve the Bank's Board of Directors, the Minister, Parliament and the public.

The remaining three chapters are organised around the functions that the Bank performs to discharge the responsibilities that have been assigned to it.

Chapters two and three deal, respectively, with:

- monetary policy, which is directed to maintaining stability in the general level of prices; and
- oversight of the financial system, which is directed to maintaining the stability of the financial system, or avoiding significant damage to the financial system that could result from the failure of a registered bank.

Each of these chapters begins with an outline of the statutory framework for the function, with a particular focus on how the objectives and respective roles and responsibilities of the Minister and of the Governor are defined in the Reserve Bank Act. We then discuss the policy issues that pertain to each function.

In the case of **monetary policy**, our point of departure is a review of the performance of the New Zealand economy, and consideration of the place of monetary policy in promoting growth. Central to that role is the maintenance of price stability, and the inflation targeting framework under which the Bank pursues that objective.

We also discuss, however, how that inflation targeting framework has evolved since its formalisation in the Reserve Bank Act a decade ago. The key element in that evolution, as

inflation has become increasingly well anchored, has been a shift toward targeting inflation in a more medium-term context. This evolution has resulted in more attention being given to achieving a balance between inflation stability on the one hand and stability in interest rates, the exchange rate and real economic activity on the other.

The issues in the area of **financial system oversight** mostly have an international dimension. The local banking system is presently one of the strongest in the world.

The international dimension stems from a number of things. First, the fact that New Zealand's financial institutions are mainly foreign owned, and increasingly operated and managed from offshore, means that we need to keep well informed about banking and regulatory developments in their home countries.

Secondly, one of the international policy responses to the financial crises in emerging markets in recent years has been further codification of international standards for bank supervision and related matters. Our approach to bank supervision, which stresses market discipline, public disclosure and good governance, is directed to many of the same goals as those which the standards seek to achieve. However, in some areas we seek to achieve these goals in a somewhat different way, creating a need for us to work to ensure that our approach is adequately accommodated by the international standards.

Thirdly, one area of banking where a substantial reduction in risks can be achieved is in banks' settlements of their foreign exchange transactions. The volume of these settlements is very large, and they involve interbank risks which can last for some days at a time. International initiatives are under way to reduce these risks, and we are keenly pursuing opportunities for New Zealand to be included as soon as possible.

The fourth chapter of the *Briefing* outlines a number of other functions performed by the Reserve Bank. These have varying degrees of connection with the two main functions already mentioned. They range from responsibility for issuing notes and coins, which is core to our role as a central bank, through to providing the secretariat for the Overseas Investment Commission, which is a more peripheral role.

1 Institutional arrangements

1.1 Statutory functions

The Reserve Bank is New Zealand's central bank. Our role, at the broadest level, is to work to ensure that the New Zealand economy is supported by an efficient and effective monetary system that facilitates trade in goods, services and capital, to the economic benefit of New Zealanders.

The Bank's main statutory responsibilities all relate to that objective. They involve:

- **Formulation and implementation of monetary policy aimed at achieving stability in the general level of prices** (or, in other words, a stable unit of monetary value). The formulation of monetary policy mainly involves forming a view on emerging inflation pressures, based on economic projections, and the making of judgements about the level of interest rates required to maintain inflation in line with the policy objective. Monetary policy is implemented by setting the interest rate at which the Reserve Bank stands ready to provide funds to and take deposits from registered banks in the overnight market.
- **Promotion of the maintenance of a sound and efficient financial system.** This function is centred on the Bank's role as registrar and supervisor of banks – the institutions which comprise the largest part of the monetary system. It also involves the Bank in:
 - advice on banking law and other policy and regulatory issues that affect the financial system (not just banks);
 - oversight of the payments system;
 - where necessary, a role as lender of last resort for the financial system.
- **Issuance of currency.** The Bank issues currency to registered banks. In this function, the Bank acts as a "wholesaler" of currency. The retail network for issuance of currency to the public is provided by the registered banks.
- **Management of foreign exchange reserves.** Reserves are held to enable the Bank to intervene in the foreign exchange market should that be considered necessary, notably if illiquidity in the foreign exchange market should threaten to disrupt the convertibility of the New Zealand dollar.

- **Provision of core banking services to registered banks and to the government.** These comprise:
 - for banks, the provision of "exchange settlement accounts," across which the banks can exchange value to settle inter-bank clearings; and
 - for the government, the "Crown Settlement Account," which is the Crown's central "cheque account." (However, actual cheque processing and other transactional banking services for the government are provided by WestpacTrust, with balances being "swept" to the Crown Settlement Account at the Reserve Bank at the beginning and end of each day.)
- **Provision of depository and settlement facilities for wholesale market securities.** The Bank operates the Austraclear New Zealand system under a licence agreement with Austraclear Limited.

Two functions for which the Bank is responsible, but for which we are currently exploring out-sourcing options, are:

- collectors' currency services; and
- registry services for government, local authority and some private sector securities.

Two further functions are performed by the Bank as agent for other parties:

- provision of the secretariat for the Overseas Investment Commission; and
- management of aspects of the government's domestic debt raisings (as agent for the Debt Management Office of the Treasury).

1.2 Governance of the Reserve Bank

Governors

The powers of the Reserve Bank are exercised by the Governor. On a range of matters – notably those concerning monetary policy – the Governor can act independently, but within certain constraints, and subject to certain qualifications. The framework for the Governor's discretionary decision making includes:

- the provisions of the Reserve Bank of New Zealand Act 1989, and in particular:
 - the obligation under s.8 to direct monetary policy towards maintaining price stability;
 - the obligations under Part V to direct the exercise of the banking supervision powers to promoting a sound and efficient financial system, or to avoiding significant damage to the financial system from the failure of a registered bank;
- the terms of the Policy Targets Agreement (PTA) entered into with the Treasurer;
- any ministerial directives to override s.8 of the Act, given in accordance with the Act (there have been none to date);
- the fact that the exercise of certain banking supervision powers is subject to ministerial and/or Executive Council approval;
- the Funding Agreement agreed with the Treasurer; and
- a number of corporate obligations such as:
 - delivering an annual report and financial accounts to the Minister;
 - exercising the Bank's powers with a sense of social responsibility; and
 - being a good employer.

The Governor is appointed by the Treasurer, on the recommendation of the Bank's Board of Directors. The term of appointment is five years or, in the case of re-appointments, up to five years. In December 1997, Dr Brash was re-appointed for a term of five years commencing 1 September

1998. The Governor's remuneration is determined by agreement between the Treasurer and the Governor, after consultation with the Bank's Board of Directors. Removal of the Governor from office is by Order-in-Council, made on the recommendation of the Treasurer. The grounds for removing the Governor from office include, *inter alia*, inadequate performance by the Bank of its functions, inadequate performance in relation to the PTA, ineffective management of the Bank, incapacitation, or serious misconduct.

Deputy governors (up to two) are appointed by the Board, on the recommendation of the Governor. One deputy governor, currently Murray Sherwin, is designated as deputy chief executive. The other deputy governor is Dr Rod Carr. Their five year terms commenced, respectively, in June 1995 and July 1998. Removal from office is by Order-in-Council made on the recommendation of the Treasurer, on grounds relating to inadequate performance, misconduct, or hindering the Governor.

Board of Directors

The Bank has a Board of Directors which has mainly advisory and monitoring roles. Thus, the Board does not perform the same governance functions as does the board of a company. Rather, its formal functions are to:

- Monitor, on behalf of the Treasurer, the performance of the Governor. If the Board believes that the Bank's, and thus the Governor's, performance has been unsatisfactory, it can recommend to the Treasurer that the Governor be dismissed.
- Determine whether *Monetary Policy Statements* required to be made under the Act (s.15) are consistent with the price stability objective specified in the Act, and with the terms of the PTA.
- Keep under review the use of the Bank's resources.
- Appoint and determine the remuneration of the Deputy Governors, on the Governor's recommendation.
- Recommend to the Treasurer the appointment or re-appointment of the Governor, as necessary, and to advise the Treasurer on the Governor's remuneration.

The Board comprises not fewer than 7 and not more than 10 directors, comprising non-executive directors plus the Governor and Deputy Governors as executive directors.

The current non-executive directors of the Bank are listed in table 1.

Non-executive directors are appointed by the Treasurer, for five-year terms of office. When making appointments, the Treasurer is required to have regard to the person's knowledge, skill and experience, and to the likelihood of any conflicts of interest.

The removal of a non-executive director from office is by Order-in-Council, made on the recommendation of the Treasurer, on the grounds of non-performance of duties, misconduct, or having hindered the Governor in the performance of his or her duties.

The Board has established three Board committees: the Non-Executive Directors' Committee (chair: Bill Wilson); the Audit

Committee (chair: Alison Paterson); and the Registry Committee (chair: Lindsay Fergusson).

The establishment of a Non-Executive Directors' Committee stems from the presence of the Governor and two Deputy Governors on the Board and, in particular, the fact that the Governor is Chair. For these reasons the Board has delegated to the non-executive directors the primary role of monitoring the performance of the Governor in discharging the duties assigned to him or her under the Act and the Policy Targets Agreement.

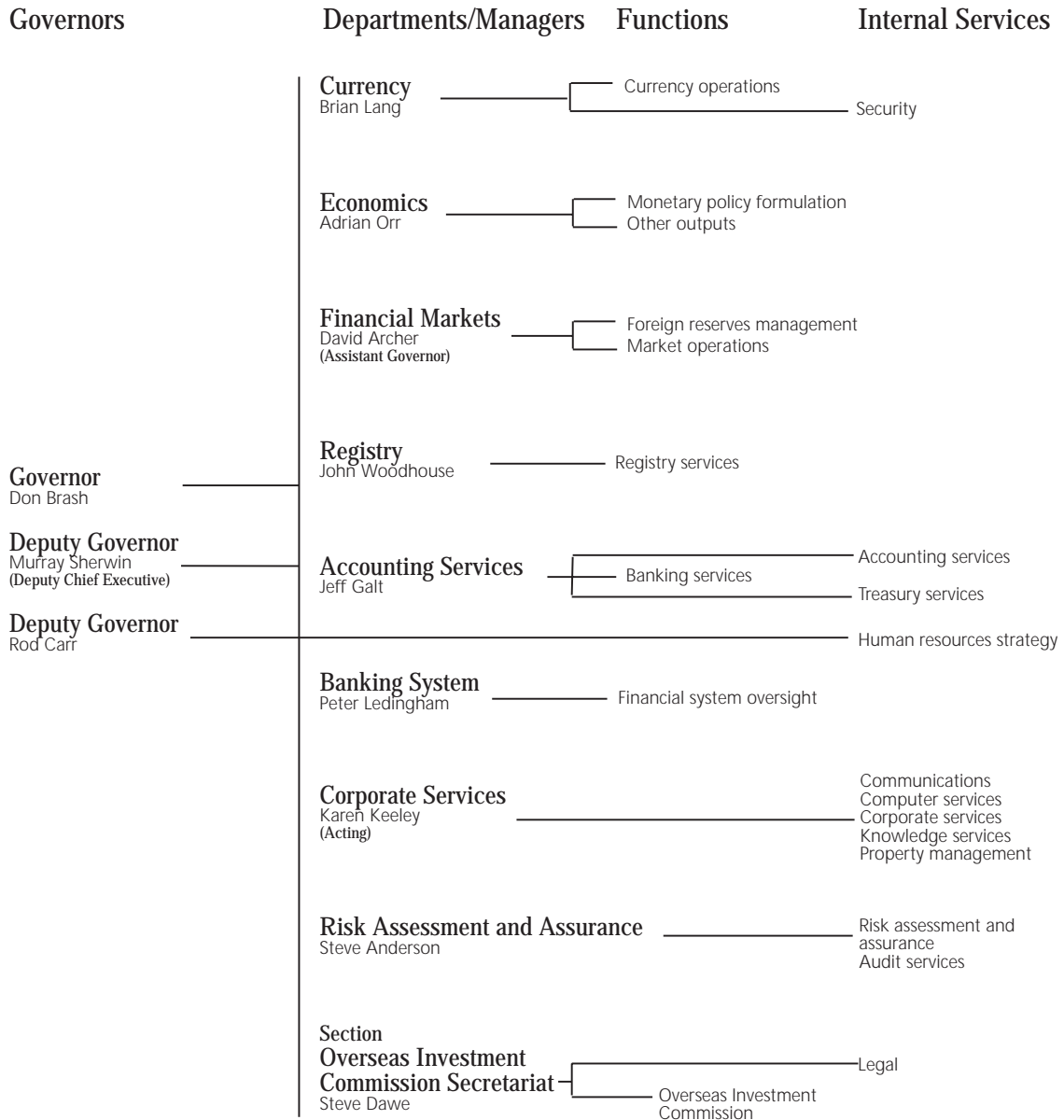
The Non-Executive Directors' Committee meets at least three times each year, and aims to meet directly with the Treasurer at least twice each year. Apart from its key role in monitoring the performance of the Governor, the Non-Executive Directors' Committee also handles those responsibilities of the Board that relate to the employment and remuneration of the Governor and Deputy Governors.

Table 1
Non-executive directors

	First appointed	Term expires
Paul Baines	1 July 1999	30 June 2004
Lindsay Fergusson	1 December 1988	31 January 2000
Professor Viv Hall	1 March 1992	28 February 2002
Alison Paterson	1 February 1995	31 January 2000
Hon Ruth Richardson	4 February 1999	3 February 2004
Gil Simpson	9 June 1997	8 June 2002
Bill Wilson	1 February 1990	31 January 2003

1.3 Organisation of the Bank

The current structure of the Reserve Bank is set out below.



An operational review of the Currency, Registry, Accounting Services, and Corporate Services Departments is currently

in progress. This is expected to result in some changes to the structure of those Departments.

1.4 Financial and risk management

As noted, responsibility for the Bank's financial management and use of resources rests with the Governor, with advice and oversight from the Board. The Audit Committee, comprising of three non-executive members of the Board, monitors the accounting practices and policies and internal control systems of the Bank on behalf of the Board of Directors. The Committee also reviews the internal audit function and has direct access to the internal and the external auditors.

The Bank's operating expenditure is funded out of its gross income, under terms established by the Act and a five-year Funding Agreement entered into with the Treasurer pursuant to s.159 of the Act. The Funding Agreement sets out the amount of the Bank's income that may be applied in meeting non-commercial operating expenditure.¹ It ensures that the Bank has adequate funding to discharge its responsibilities and thus protects its operational independence, but also makes the Bank accountable for its use of its resources. A copy of the current Funding Agreement is attached as Appendix 1 to this *Briefing*.²

Funding structure

The Reserve Bank's main source of income is the return on investments funded by the issue of currency in circulation and by the Bank's equity base. Currency in circulation effectively represents an "interest-free loan" from the public, the proceeds of which are invested in government bonds.

Net investment income and related "bottom-line" amounts do not provide a useful guide to the Reserve Bank's financial management, and may, in fact, be inversely related to policy performance. Net investment income tends to rise as inflation rises, because the Bank's assets earn more as interest

rates rise, while the cost of the Bank's principal liabilities (currency in circulation) remains unchanged.

Funding Agreements

The current Funding Agreement, signed in June 1995, covers the five years from 1995/96 to 1999/2000. The agreed current-year (1999/2000) funding amounts to \$40.2 million. We will be addressing the next five-year Funding Agreement with the Treasurer early in 2000.

The Act requires the Bank to calculate each year the amount of its income that exceeds the agreed level of operating expenditure in the Funding Agreement. The Treasurer, after receiving a recommendation from the Bank's Board, decides whether that surplus should be added to the Bank's reserves or paid to the government as a dividend. In addition, the Act provides that any expenditure savings made against the Funding Agreement level must be added to the Bank's reserves, while any over-spending must be deducted.

While, generally speaking, the Funding Agreement arrangements work well, there are two particular issues that we are keen to address in the next Agreement.

First, gross expenses related to a small number of activities are counted against the current Funding Agreement whereas the related income is not. From an accounting perspective, the recording of gross revenues and expenses is appropriate. However, in relation to the effect on operational decision-making, perverse incentives arise. An example is collectors' currency expenses. Even where our analysis demonstrates that investment in a new collectors' currency programme is likely to yield very attractive returns, the fact that the gross cost of that investment counts against the funding available to the Bank, rather than the net returns, could mean that the Bank chooses not to proceed. In that case, the Bank remains within its funding limit, but the Crown is worse off as a consequence.

Secondly, certain activities are currently excluded from the Funding Agreement according to the Act. In the past, we have agreed with the Treasurer that expenses associated with some of these activities should nonetheless be included in the Funding Agreement limits. In the next Funding Agreement, we will be seeking to achieve consistent treatment by

¹ The Registry services function has been excluded from the Funding Agreement.

² A minor adjustment to the amount of funding provided for under the Funding Agreement was made following the widening of the inflation target range in December 1996. This adjustment stemmed from the fact that the Agreement provides for the funding amount to be adjusted for inflation in terms of the inflation target (rather than actual inflation). The relevant correspondence accompanies the Funding Agreement in Appendix 1.

including all of the Bank's activities, including Registry services, in the Funding Agreement.

Expenditure structure and performance

Total operating expenses³ for the 1998/99 year amounted to \$44.2 million, 8.6 percent above the budgeted amount of \$40.7 million. At the same time, expenses covered by the Funding Agreement⁴ amounted to \$39.4 million, still slightly below the limit of \$40.2 million.

The cost of the introduction of polymer bank notes in 1999 meant that, for the first time since the Reserve Bank Act took effect in 1990, the Reserve Bank exceeded its budget for operating expenditure. Issuing a large volume of polymer notes just prior to the end of the financial year pushed expenses well above the amount budgeted for currency issuance expenses during the year. The new bank notes are more expensive than traditional paper bank notes, but are estimated to last four times longer. We also provided for payments to staff who will become redundant over the next year or so, as the volume of bank note processing diminishes.

Total operating expenses of \$44.2 million in 1998/99 compares very favourably with total operating expenses of \$62.6 million in the 1988/89 year. Staff numbers have decreased from 556 in 1988 to 283 (full-time equivalent) currently. For the most part, the reason for the reduction in real expenditure has been productivity gains, rather than any reduction in functions undertaken.

As the most obvious productivity gains were realised in the early part of this period, the trend over the past five years has been towards a more stable level of expenditure. There has been upward pressure on operating expenses in the most recent period due to: increased currency expenses; the hosting, on rotation, of an Asian-Australasian international central bankers' forum (last hosted by New Zealand 40 years ago); and the introduction of New Zealand's inter-bank real-time gross settlement system.

The transparency of the Bank's financial management is shown by the fact that our published *Annual Report* has

Figure 1
Operating expenses under the Funding Agreement

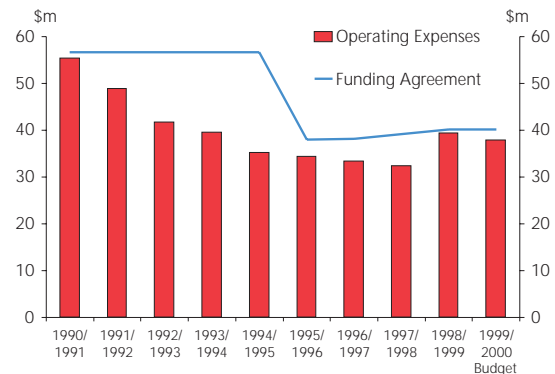


Figure 2
Operating expenses by function

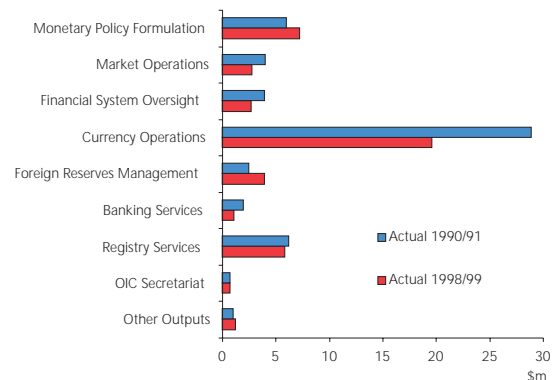
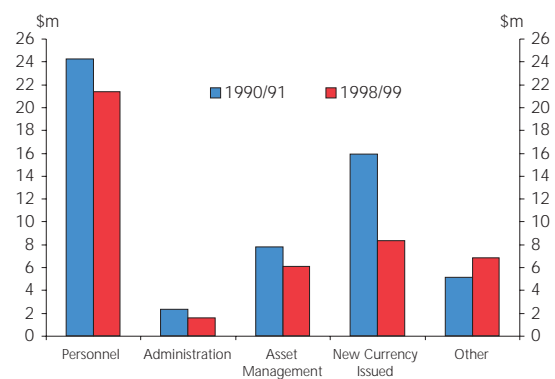


Figure 3
Operating expenses by type



³ Including the Registry services function.

⁴ Excluding the Registry services function

won awards from the Institute of Chartered Accountants of New Zealand (public sector non-commercial category) in five of the last nine years (including the most recent year).

Risk management

Risk management has received increasing attention over the past few years, and is now recognised as a specialist function of management in both the public and private sectors.

A Risk Management Committee consisting of senior management is responsible for advising the Governor on the

monitoring and management of all risks to which the Bank is exposed.

In addition, in March 1999, a Risk Assessment and Assurance Department was created (incorporating the existing internal audit responsibility). Its task is to monitor the management of the wide range of risks faced by the Reserve Bank.

In its financial activities, the Bank is subject to interest rate, credit, foreign currency, liquidity and operating risk. Comprehensive guidelines record the policies for managing these risks. These are further described in our 1999 *Annual Report*.

2 Monetary policy

Monetary policy in New Zealand is mostly associated with the inflation targeting framework under which the Bank operates. The framework provides the Bank with its objectives and with the limits to its decision-making discretion. Naturally, the focus of public and market attention is on the price stability objective and the Bank's progress in meeting that objective. But we need to remind ourselves periodically that the Act does not focus monetary policy on price stability through some conviction that price stability is all that matters. Rather, the ultimate objective of monetary policy, and the institutional framework within which it operates, is to contribute to economic growth and higher living standards for New Zealanders. With this point in mind, this chapter:

- summarises the statutory framework;
- reviews New Zealand's economic performance over the longer term, and discusses the main sources of economic growth, including how and where monetary policy can make a contribution;
- elaborates on the inflation targeting approach to monetary policy, and discusses how in New Zealand it has evolved since its inception a decade ago;
- discusses how monetary policy operated in practice during the latest business cycle; and
- identifies some ongoing issues.

2.1 The statutory framework

Policy objectives

Under the Reserve Bank of New Zealand Act 1989 (s.8), the Bank is required "to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices."

The Act (s.9) requires that a Policy Targets Agreement (PTA) be agreed when a Governor is appointed, for the term of the appointment. The Agreement can be modified at other times, on the mutual agreement of the Treasurer and the Governor.

One of the motivations for the framework for monetary policy established by the Act was to build public confidence that monetary policy would be conducted in a stable and pre-

dictable way over the longer term, and to help anchor expectations of on-going price stability. Frequent amendments to the PTA tend to undermine this objective.

The current policy target was agreed in December 1997 at the time of the reappointment of the Governor to his current term of office, which commenced on 1 September 1998. The Agreement covers his five-year term of office to 31 August 2003.

The key provisions of the current PTA are:

- A target rate of 12-monthly increases in consumer prices of 0 to 3 percent.
- Recognition that some events may *temporarily* push inflation outside the 0 to 3 percent target range. Key examples are significant movements in world commodity prices and changes in indirect taxes that have a temporary impact on the overall price level but do not reflect generalised demand pressures in the economy. (The relevant clauses in the PTA are often referred to as the "caveats" to the inflation target.)
- A requirement that the Bank be fully accountable for its judgements and actions in implementing monetary policy. In particular, when inflation is, or is expected to be, outside the target range, the Bank is required to explain why this has happened and what actions are being taken to ensure that inflation comes back within the target range.

The Bank is not proposing any amendments to the PTA at this time. The present PTA is a usefully simple and clear document. It:

- gives some emphasis to the medium-term focus of monetary policy;
- acknowledges that occasionally there will be breaches of the inflation target (which gives the inflation target range "softer edges" than in previous PTAs); and
- emphasises the importance of the Bank's explanations of developments, over mere compliance with the quantitative inflation target.

We do not see any tensions between this specification and the medium-term framework within which monetary policy

is being conducted today. The current PTA is reproduced in Appendix 2.⁵

Overriding the objective

Section 12 of the Act allows the Treasurer to override the Act's price stability objective and instruct the Bank to pursue a different objective. Such an override must be by Order-in-Council, must be published in the *Gazette* and tabled in Parliament, and can not stand for more than 12 months without being renewed. While this mechanism was incorporated in the legislation to enable the Government-of-the-day to pursue a monetary policy objective other than price stability, the Act requires full transparency about that choice (hence the Order-in-Council procedure, and the requirement that the override be tabled in Parliament).

Foreign exchange market intervention

The New Zealand dollar was floated in March 1985, and since then the Bank has not sought to influence the exchange rate by intervening in the foreign exchange market. While the Bank could use foreign exchange market intervention as a monetary policy instrument, our practice has instead been to implement policy by influencing interest rates in the domestic money market.

Under the Act, the Treasurer can instruct the Bank to intervene in the foreign exchange market to influence the exchange rate, or to fix the exchange rate. The instruction must be in writing (s.17), and an instruction to fix the exchange rate must additionally be given under the authority of an Order-in-Council, and be notified in the *Gazette* (s.18).

When these provisions were included in the Act, the free-float policy had not been long established, and institutional arrangements for exchange rate policy were devised to cover alternatives. Nonetheless, it was recognised that if the Government were to instruct the Bank to implement a particular exchange rate policy, this could compromise a monetary policy directed at maintaining price stability.

⁵ The definition of the consumer price inflation target was modified slightly on 28 October 1999 to take account of the introduction of a new Consumers Price Index. The details are set out in correspondence between the Governor and the Treasurer, which is attached to the PTA in Appendix 2.

Thus, the Act provides that if the Governor believes that an instruction to intervene in the foreign exchange market (under either s.17 or s.18) is inconsistent with the current PTA, but is still consistent with some reasonable interpretation of the price stability objective of the Act, he or she can request that a new PTA be drawn up. If the Governor believes that the foreign exchange intervention would be inconsistent with the price stability objective, he or she is not required to comply with the direction until the Treasurer has invoked the override of the price stability objective under s.12 of the Act.

Transparency and accountability

A key feature of the Act is the requirement that the Reserve Bank formulate and implement monetary policy transparently. *Monetary Policy Statements* are required to be published at least six-monthly. Each *Statement* is required, by s.15 of the Act, to address:

- the policies and means by which the Bank proposes to achieve the policy targets;
- the reasons for adopting those policies and means;
- how the Bank proposes to formulate and implement monetary policy during the next five years; and
- the implementation of monetary policy since the last *Statement*.

In practice, the Bank publishes a *Statement* approximately every three months. They are an important mechanism by which the Bank gives account to the public and the financial markets.

The Bank is also accountable in other ways for its performance in meeting its inflation objective. The formal mechanisms are:

- The Board of Directors.
 - As above.
- The Finance and Expenditure Committee.
 - *Monetary Policy Statements* and the Bank's *Annual Report* stand referred to Parliament and any parliamentary committee responsible for public sector financial management.

-
- The practice has been for *Monetary Policy Statements* to be reviewed by the Finance and Expenditure Select Committee and for the Governor to appear. However, the Committee has not felt it necessary to review and call the Governor to give evidence on every *Statement*.
 - Performance Audit.
 - Under the Act (s.167), the Treasurer can appoint an external party to assess the Bank's performance of its functions. A report arising from such an assessment stands referred to Parliament and any parliamentary committee responsible for public sector financial management.

2.2 Monetary policy and economic growth

How has New Zealand fared in recent times?

Figure 4 provides an overview of how the New Zealand economy has performed in the 1990s and the preceding three decades, compared with a selection of countries with which we typically compare ourselves.

On the basis of these charts, the following points can be made:

- Since about the early-to-mid 1970s, growth in New Zealand's GDP per capita has fallen significantly short of what has been achieved by other countries. In the late 1960s and 1970s, large falls in New Zealand's terms of trade, and lack of adjustment to that change in circumstance, are widely held to have been major contributing factors.
- Eventual structural adjustment, with the inevitable costs, extended the sub-par performance through the second half of the 1980s and into the early 1990s. From about 1992, growth in GDP per capita in New Zealand has improved, although it has remained slower, on average, than that recorded by the United States, the United Kingdom and Australia.
- Looking more closely at the graphic for GDP growth in the 1990s, New Zealand's performance for the decade as a whole has been close to that of the UK, but below that of Australia and the US. However, it has been a "game of two halves." In the first half of the 1990s, New Zealand had the second highest growth rate of those countries, but in the second half grew the least. This highlights that any assessment of differences in growth performance needs to take account of the factors specific to each country and period in time. Key reasons for the recent slower growth have been the Asian crisis and two consecutive droughts, on top of the lagged effects of monetary policy tightness in 1995-96.
- Unemployment in New Zealand largely mirrors the overall performance of the economy. Unemployment increased significantly (from a very low base) during the 20-year period of poor performance from 1970 to 1990, but has fallen significantly in the 1990s, albeit to a level

that remains high by New Zealand's historical standards.

- New Zealand has had large current account deficits for most of the last 25 years. The result is a level of exposure to foreign capital markets that is high by international standards. This places a premium on New Zealand maintaining sound economic policies, so as to retain the confidence of international capital markets, and to be able to weather any adverse external shocks.
- New Zealand's inflation performance was relatively poor in the 1970s and 1980s, but is now close to the average for industrial countries. In most developed economies there has been a return to price stability, which was the norm of former times.

Overall, while New Zealand in the 1990s has made some progress in arresting the decline in its relative economic performance, outcomes have fallen short of what was hoped for early in the decade. Growth has not been sustained at a rate sufficient for the gap between living standards in New Zealand and other developed economies, as measured by GDP per capita, to start closing.

What drives growth and where does monetary policy fit in?

In broad terms, there are two primary sources of economic growth. The first is tools and people, that is, the quantity of capital and labour. Secondly, economic growth can occur as a result of improvements in productivity; that is, more efficient and effective use of the available capital and labour.

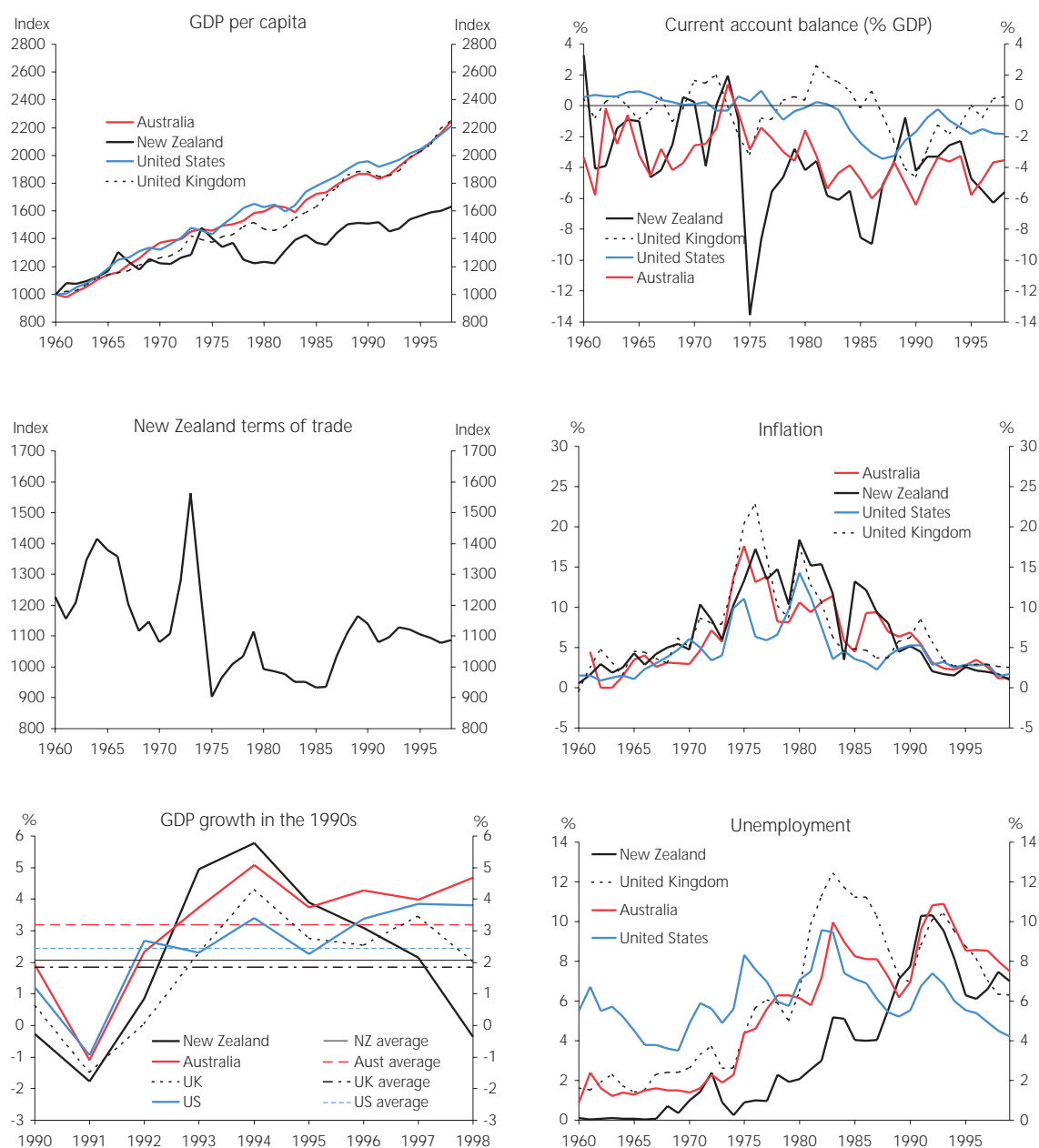
Table 2 shows the estimated contributions of capital, labour and productivity growth to overall economic growth in New Zealand in the 1980s and 1990s. These estimates are necessarily only approximate, but they suggest that in the 1990s contributions from labour supply growth and improvements in productivity have increased compared with the 1980s,

Table 2
Contributions to output growth*

	1980s	1990s
Capital contribution	1.73	0.92
Labour contribution	0.10	0.65
Productivity contribution	-0.30	0.71
Average GDP growth	1.53	2.29

* *The time series on which these numbers are based have been "cyclically adjusted" so as better to reflect the underlying trends.*

Figure 4
New Zealand's relative performance



while the contribution from capital growth has been smaller.

The increased contribution from labour supply reflects:

- growth in the working age population;
- reduced unemployment; and
- net immigration.

The smaller contribution from capital growth in the 1990s may seem surprising given that there has been a robust level

of investment in New Zealand for most of the last decade. However, there has also been a lot of capital scrapping: economic reform and structural change rendered a lot of capital obsolete, for example, in the meat processing, textiles and car assembly industries.

Although increases in the amount of capital and labour are the most obvious source of economic growth, these by themselves will not necessarily result in an increase in living standards. Simply adding more capital to a given stock of labour, or vice versa, is often subject to diminishing returns.

For example, a farmer may double his or her output by buying a tractor. However, buying a second tractor may add only another 20 percent to output, and so forth. The 10th tractor may, indeed, prove to be simply a nuisance.

Moreover, growth in the labour force that merely reflects population growth does not lift per capita income. For this to happen, the additional labour needs to come from those who were previously unemployed. The policy issues relevant here concern labour market flexibility and work incentives, as well as policies that foster growth more generally.

Account also needs to be taken of the source of capital used in producing output. When investment is financed from abroad, some of the returns will accrue to non-residents. The benefits from foreign-financed investment for New Zealand residents are those that come from additional local employment, and hence wage and salary income; additional taxes (including on non-resident investors' income); and the less tangible, but nonetheless very real, benefits from service and product enhancement, and exposure to skills and innovation.

Indeed, the most important source of economic growth that sustainably lifts living standards concerns the whole range of factors that determine how productively and well we use the available resources. The drivers here relate to:

- The efficiency with which resources are allocated. This concerns avoidance of distortions in areas such as taxation, regulation and external trade barriers.
- The quality of the resources available and how well we use them. This is about technology, skills, management, and entrepreneurship.

Policies in these areas directed at lifting New Zealand's productivity performance fall outside the Bank's area of responsibility. But two general points can be made.

First, experience strongly suggests that economies that are open to international trade and investment enjoy faster pro-

ductivity growth. Secondly, economic theory and experience suggest the possibility of virtuous circles in which economic growth fuels subsequent human capital improvements, through "learning by doing", re-engagement of unemployed labour, and pushing the technological boundaries, as currently in the United States.

Also important are the "institutions" and policy structures required for markets to function effectively. Tax regimes and social policies, legal structures, property rights, and competition policy all have implications for the level of productivity in the economy.

Amongst those necessary institutions is sound money. Economies work more efficiently, and equitably, in an environment of monetary stability. In order for the price mechanism – which is at the heart of the functioning of a market economy – to work, it is important that price signals be clear. It is also important that the accounting frameworks and conventions we use to measure economic results, and assess taxes, give measures that accurately reflect real economic performance. This requires that the monetary unit of measurement be stable. These things are a prerequisite for people to be able to contract, transact, work and invest with confidence. In other words, avoidance of inflation or deflation helps to mobilise resources to where they can be used to best advantage. Fundamentally, this is where monetary policy makes its greatest contribution to economic growth.

To some extent, the way in which monetary policy is conducted also matters for growth. The issue here concerns trade-offs between minimising inflation variability on the one hand, and minimising the variability of real output and financial market prices (interest and exchange rates) on the other. Short-run volatility in any of these things may impact negatively on the efficiency with which resources are used, and hence growth. Where to strike the balance has been a particular focus at the Bank during the last few years. We elaborate on these issues later in this *Briefing*.

2.3 Inflation targeting

Inflation targets are now common

As discussed above, the best contribution that monetary policy can make to maximising sustainable economic growth is by maintaining price stability. The notion that some additional growth can be “bought” and sustained by accepting a bit more trend inflation – as was often claimed in the 1960s and into the 1970s – is now widely agreed to have been misplaced.

Certainly, monetary stimulus can generate some additional growth in the short run. But, as supply constraints are approached, upward pressure is placed on prices and wages and, as these rise, the increase in real activity is choked off. In addition, once a higher rate of inflation becomes expected – and is built into wage and price-setting behaviours – an excessively expansionary monetary policy tends to be reflected only in inflation, without the benefit of even a temporary stimulus to real growth. This is very much the story of the “stagflation” experienced in many countries during the 1970s, when high inflation was combined with sluggish growth. Figure 5 illustrates New Zealand’s own experience in this regard.

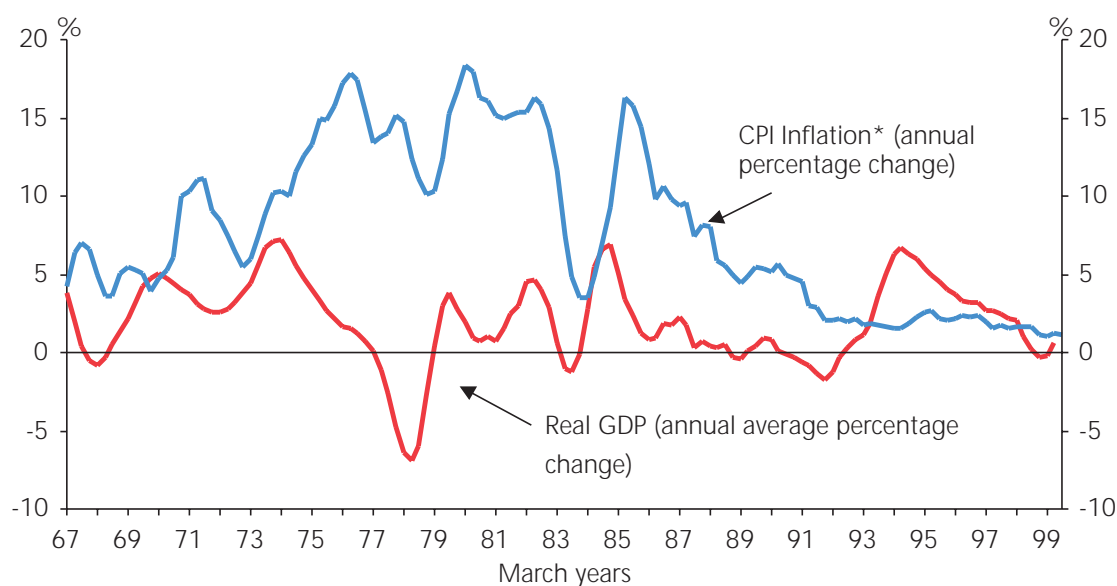
Central banks internationally began a serious effort to return to the norm of low inflation, or price stability, in the

late 1970s and early 1980s. A common approach was to adopt a monetary aggregate rule to anchor inflation. However, financial deregulation at the time resulted in a breakdown in the relationships that had been thought to exist between monetary aggregates and inflation.

For a period after that, most central banks resorted to more discretionary policies, often characterised by a “checklist” of indicators. More recently, many central banks have adopted the inflation rate itself as their policy target, under an approach to policy characterised in the economics literature as “constrained discretion.” In other words, on the spectrum of monetary policy approaches, inflation targeting fits between rigid rules and complete discretion.

New Zealand pioneered inflation targeting in 1988, with the adoption of a 0 to 2 percent annual consumer price inflation target. This target was subsequently, in March 1990, formalised in the first Policy Targets Agreement made under the Reserve Bank of New Zealand Act 1989. Since then, many other countries have adopted inflation targeting regimes that in many respects correspond with the New Zealand model. A summary of the regimes for a selection of countries is given in table 3. Inflation targeting is now an orthodox and widely-used approach to monetary policy.

Figure 5
Inflation and economic growth – the New Zealand track record



* Inflation has been calculated excluding the credit services component of the CPI and excluding the effect of GST

Table 3
A comparison of some of inflation targeting regimes

Country	Date adopted	Target	Target variable
Australia	1993	Average of 2% to 3% over the business cycle	'Underlying' Price Index up until October 1998; CPI thereafter
Brazil	July 1999	8% 1999 6% 2000 4% 2001 +/- 2% band	IPC-A (a broad national CPI)
Canada	February 1991	Midpoint 2% +/- 1% band	CPI
Euro area	January 1999	Less than 2%	Euro area Harmonised Index of Consumer Prices
Finland*	February 1993	2% no explicit band	CPI excluding indirect taxes, subsidies and housing-related costs
New Zealand	April 1988	0% to 3% (0% to 2% originally)	CPI (excluding interest)
Spain*	November 1994	2%	CPI
Sweden	January 1993	Midpoint 2% +/- 1% band	CPI
United Kingdom	October 1992	2.5% +/- 1% reporting range	Retail price index excluding mortgage interest payments

* Now members of the Euro area

Specification of the inflation target

The Reserve Bank Act prescribes the objective of monetary policy as being maintenance of stability in the general level of prices. This is operationalised in the current Policy Targets Agreement in terms of maintaining 12-monthly consumer price inflation between 0 and 3 percent. As can be seen from table 3, this inflation target is very similar to those that have been adopted by most other inflation-targeting countries.

The reasons for adopting an inflation target *range*, rather than a point target, are to:

- Recognise the inherent volatility in prices, notably for items like fresh fruit and vegetables;

- Recognise the inherent uncertainties in monetary policy (discussed more fully in section 2.5 below); but to
- Put in place limits which, if breached, require the Bank to explain inflation developments and the measures it has taken or proposes to take to ensure that inflation comes back within the range. This helps ensure that inflation expectations remain well anchored at about the mid-point of the range.

Our analysis suggests that the present 0 to 3 percent target range covers about 80 percent of the short-term variation in the inflation rate. In other words, even where policy is consistently directed at keeping inflation within the 0 to 3 percent range, annual consumer price inflation outcomes can be ex-

pected to fall outside that range about 20 percent of the time or, in other words, for about one year in five. We think this strikes an appropriate balance between the need for flexibility in the framework, and the need to anchor inflation expectations, which requires that inflation not breach the target too frequently.

The reason for adopting a range with a *positive mid-point* (that is, 1½ percent) is to take account of a positive bias in the CPI measure of inflation. This bias arises from a number of sources, the main two being that:

- many price increases are attributable to quality improvements (something that Statistics New Zealand cannot make full allowance for); and
- items which become relatively cheap, and whose importance in household budgets increases, are under-weighted in the CPI regimen, for example toll calls. (This source of bias will be less in the future, as the CPI regimen from here on is to be updated three-yearly instead of five-yearly as in the past.)

We have no way of estimating the measurement bias precisely. Estimates in other countries suggest it is in a range of ½ to 1 percent. On this basis, the 1½ percent mid-point for our target range translates into a “bias-adjusted” mid-point that is almost certainly slightly positive.

There are other grounds on which some advocate a slightly positive mid-point. Some argue that a still higher mid-point for the target would be appropriate, to help “grease the wheels” of the economy. The essence of the case is that a little inflation better enables real wages to adjust in those parts of the economy where there is a need for real wage cuts, but nominal wages are downwardly rigid. There is some evidence that inflation rates below about 2½ percent have tended to be associated with slower rather than faster growth.⁶

However, others argue that central banks should not depart from a true price stability objective. They claim that:

- The historical evidence relates to a period when infla-

tion, on average, was higher than today. As price stability becomes the common experience, nominal wages will probably become more flexible, downwards as well as upwards. That is, even if inflation below 2½ percent has been associated with constrained growth in the past, that is less likely to be the case today and in the future.

- Even if wages are rigid downwards, a required reduction in unit labour costs can be, and often is, achieved as the result of productivity improvements.
- Much of the most recent evidence does not support the hypothesis that very low inflation constrains growth. For example, inflation in the United States was around 3 percent in 1992, but by 1998 had fallen to 1.6 percent. Over the same period growth strengthened and unemployment fell from 7.5 percent to 4.5 percent of the labour force.
- Inflation, even at very low levels, causes people to make sub-optimal saving, investment and consumption decisions, and these have welfare costs. The interaction of inflation with the tax system introduces a bias against saving, and in favour of residential real estate investment. These distortions cause people to make choices that have welfare costs over their lifetimes. In particular, consumption is skewed toward the earlier years of people’s lives (leaving less for retirement) and towards housing (leaving less for other things).⁷

The question whether a little inflation helps growth therefore remains unsettled, and is quite controversial. The pragmatic view the Bank takes is that the 0 to 3 percent target established by the present Policy Targets Agreement covers the range of most views on the question. We also doubt that the “optimal” rate of inflation is something that can be identified with any more precision than a 0 to 3 percent range implies. Indeed, the consumer price measure of inflation we use is itself an estimate that is subject to a number of measurement and conceptual uncertainties. For this reason, we publish and monitor a range of inflation measures, and indeed that is encouraged by the PTA itself.

⁶ See Ghosh, A and S Phillips, *IMF Staff Papers*, Vol 45, No. 4, December 1998, although, note that the primary result of this study is evidence that higher inflation is definitely harmful to growth, and that the authors do not claim 2½ percent to be a precise estimate of a ‘growth optimising’ inflation rate.

⁷ Studies on the magnitude of these welfare costs have been done for a number of countries. Most estimates put the annual welfare cost at the equivalent of 0.3 to 1.6 percent of GDP. An estimate for New Zealand is 0.4 percent of GDP (Bonato, L (1998), “The benefits of price stability: some estimates for New Zealand,” *Reserve Bank of New Zealand Bulletin*, Vol 61, pp 212-220).

Another inflation measurement issue concerns whether asset prices, such as real estate and share prices, should be included in the inflation target index. One view is that asset prices are relevant only to the extent that they change wealth and, through that channel, influence demand for, and hence the prices of, goods and services. The contrary view is that fluctuations in asset prices often have monetary origins – in particular, that they are importantly influenced by conditions in credit markets – and that large swings in asset prices not supported by fundamentals (that is, “asset bubbles”) harm trend growth.

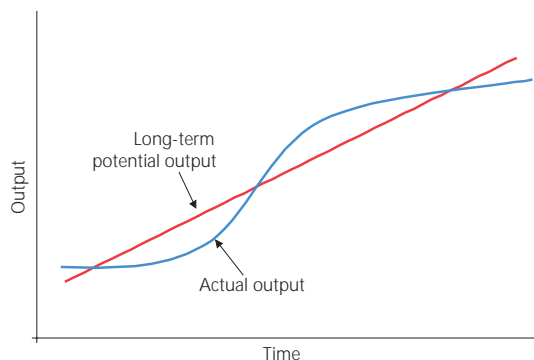
On this issue, too, we take an eclectic view. The consumer price inflation measure used in the PTA includes the cost of newly constructed houses and, given the close connection between the price of new houses and the price of existing houses, picks up asset price inflation to some degree. Monetary policy, therefore, tends to lean against asset – at least residential real estate – price inflation, but only to the extent that it is one of many elements that make up the consumer price measure of inflation. In addition, we watch for how demand pressures may alter as the result of changes in wealth in the economy.

Inflation targeting in a low-inflation environment

Where inflation expectations are well anchored, so that inflation is not a persistent, self-sustaining phenomenon, the primary driver of inflation (or deflation) is fluctuations in the level of overall demand relative to the economy's capacity to meet that demand sustainably. Long-run supply capacity is determined by the real factors discussed in section 2.2 above, such as labour, capital and productivity growth.

If actual demand exceeds, or falls short of, that supply capacity, inflation pressures rise or fall. This is illustrated, in a stylised manner, in figure 6. The straight line represents the economy's capacity sustainably to supply goods and services. It slopes upward as that capacity grows through time. The other line represents the level of overall demand in the economy. Demand is subject to cyclical influences from external events, government policies and the like. The task of monetary policy is to dampen rather than amplify the demand cycle, and thereby dampen rather than amplify the

Figure 6
The output gap



gap between supply and demand. It is this “output gap” that lies behind inflation and deflation pressures.

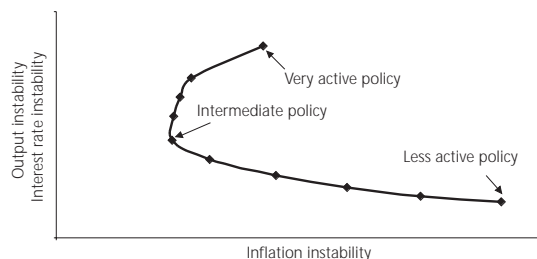
However, dampening the output gap is not something that can be done precisely. Shocks that cause demand to move above and below sustainable supply capacity are often not predictable, and monetary policy generally works with long and variable time lags. Attempts to manage policy in a way which would *eliminate* the resulting *short-term* fluctuations are likely to be unsuccessful and probably counterproductive. The degree of activism that would be required could see policy interacting with uncertainties and surprises in a way that could destabilise, rather than stabilise, both inflation and the real economy.

There is, therefore, a trade-off between, on the one hand, keeping inflation tightly tied to the inflation (price stability) target, and on the other hand, stabilising output and interest rates. This trade-off is illustrated in figure 7 (which is based on Reserve Bank model simulations). It can be seen that, over a range, moving from a less active to a more active, shorter term, policy enables inflation variability to be reduced to some extent, albeit at the price of more output and interest rate variability. But when policy becomes too active, output, interest rates *and* inflation variability all increase.

Shocks that can cause short-run disturbances to inflation come from a number of different directions.

Most obviously, there are unexpected events. These may come from abroad, such as the Asian crisis; from other policy changes, such as changes to immigration or fiscal policy; or from the vagaries of the weather.

Figure 7
Stabilising inflation, output and interest rates



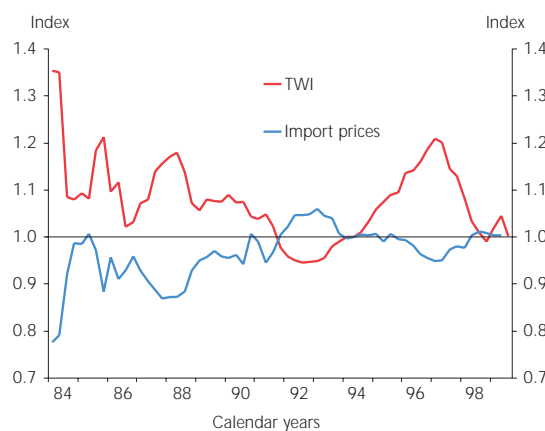
Less obvious, but no less important, are changes in the way the economy works. For example, in the early 1990s, one of the big uncertainties was how quickly and by how much the supply capacity of the economy would pick up as the result of the structural reforms implemented in the preceding five to six years. More recently, since about 1994, we have seen a marked reduction in the extent to which changes in the exchange rate feed through to the prices of imported goods (figure 8).

The time lag with which monetary policy works means that policy decisions have to be made well in advance of their impact being felt – by which time circumstances can be quite different from what was expected. Indeed, when policy decisions are being made, it is not possible even to be sure of what the *current* position is, since data on the economy become available only with a lag, and are frequently subject to revision.

A general point here is that the extent to which monetary policy can buffer all of the shocks that hit an economy is reasonably modest. Sometimes shocks will be offsetting, and sometimes they will amplify each other. The challenge for monetary policy is to discern the bigger, more medium-term trends in demand, supply capacity, and inflation. In this regard, it is often said that managing monetary policy is as much an “art” as it is a “science”. In other words, monetary policy needs to be as much concerned with managing risks and uncertainties as it is with attaining precisely-specified targets.

Against this background, the primary task for monetary policy is to contain inflation pressures *within bounds* that prevent inflation becoming embedded in expectations and thus in price-setting behaviour. In other words, the key is to keep

Figure 8
New Zealand import prices and the TWI
(Index base: 1994Q2=1)



inflation expectations anchored around price stability. Provided this can be achieved, some short-term variability in inflation need not be a cause for concern. On the contrary, as illustrated in figure 7, attempts to suppress inflation variability too much can be counter-productive.

How has inflation targeting evolved?

Trade-offs between short-term inflation stability and real economy and “instrument” stability have always been a feature of the inflation targeting framework. For example, the use of “caveats” in successive Policy Targets Agreements recognised that on occasion there will be sharp movements in important prices in the economy, and that to attempt to maintain strict price stability in the face of those “shocks” would involve excessive fluctuations in the real economy and in the policy instruments. Also, of course, the initial disinflation from the high rates of inflation in the 1980s was phased over a number of years. Additionally, the Bank reacted reasonably gradually to the breaches of the inflation target range in 1995-96, and explicitly acknowledged that returning inflation to within the target range would take several quarters.⁸

However, it is also fair to acknowledge that not all develop-

⁸ The Governor made particular reference to this point in a letter to the Treasurer dated 19 April 1996 (and published in the Bank’s June 1996 *Monetary Policy Statement*) in which he explained the breach of the inflation target in 1996, and the policy actions that the Bank intended to take to return inflation to within the target range.

ments have been in the direction of longer-term, less activist, policy. In the early 1990s, the early success in achieving the 0 to 2 percent inflation target encouraged a perception that inflation could be kept quite easily within that target range virtually all of the time. Based on experience from 1991 to 1994, this seemed to be the case. One of the factors that assisted this perception was the close connection then between the exchange rate and the prices of imported consumer items. Given the direct effect of monetary policy on the exchange rate, and of the exchange rate on the prices of imported items, it seemed possible to manage consumer price inflation quite precisely.

From about 1994, the relative importance of the direct link between the exchange rate and imported goods prices reduced. At the same time, domestic inflation pressures were rising. The focus of monetary policy thus shifted toward the indirect impact of the exchange rate on inflation via altering the demand for New Zealand products over the medium term. The indirect impact of the exchange rate on inflation is comparable to that of interest rates, with both working via medium-term effects on aggregate demand. These effects are summarised in the Bank's Monetary Conditions Index (MCI), which is a rule-of-thumb indicator of the medium-term influence of both the exchange rate and interest rates on demand, and hence, all other things being equal, inflation.

In mid-1997, the Bank began publishing in its *Monetary Policy Statements* a forward path for the MCI consistent with ensuring the inflation target was met over the one- to two-year-ahead horizon. For a period, the Bank also began using the forward MCI path as a means to guide the stance of monetary conditions between the quarterly *Statements*, by specifying bands within which the MCI was to remain. Given the turbulent exchange rate during the 1997-98 Asian financial crisis and the bands on the MCI, short-term interest rate volatility rose considerably.

Research at the Bank indicates that increased interest rate volatility from mid-1997 to mid-1998 (when the bands were relaxed substantially) was unlikely to have had much of an effect on macroeconomic outcomes. More important were the quarterly resets of the Bank's projected MCI to take account of new developments in inflation pressures. In this respect, it is clear that the decline in economic activity in

1998 had its "seeds sown" back in 1995 and 1996. At that point, monetary policy was necessarily tight given strong demand pressures, and was aimed at achieving a "soft landing" in economic activity (at around 2 percent GDP growth in 1998). This initial position, and the subsequent unanticipated consecutive droughts and the Asian financial crisis, caused the expected "soft landing" to turn into a sharper downturn.

The Bank also decided that some of the short-term interest rate volatility was more easily avoidable under a different implementation regime, namely the setting of an Official Cash Rate (OCR). Since its introduction in March 1999, the OCR regime has reduced the tendency for interest rates to respond immediately to developments in the exchange rate (although this link had already been reducing, as a result of the relaxation of the MCI bands in the second half of 1998). Importantly, the OCR provides the Bank the opportunity to focus as much on the question "why did the exchange rate move?" as on "where did it move to?" before deciding on an appropriate interest rate response. This is done at quarterly intervals.

Against this background, one of the main issues we have been facing in recent times concerns how strictly, or flexibly, the inflation target should be pursued in an environment of widespread and increasingly durable price stability. Behind this issue is the question whether price-setting behaviour – in product and in labour markets – is now based on expectations of continued price stability in a way that was not the case in the 1970s and 1980s.

Our conclusion, on the whole, has been to adopt a more medium-term approach, which attaches more weight to the desirability of stabilising output, interest rates and the exchange rate, while still aiming to keep inflation within the target range.

Steps that have taken policy in this direction have included:

- The widening of the inflation target range, from 0 to 2 percent to 0 to 3 percent, as the result of the Coalition Agreement of December 1996.
- A lengthening of the horizon at which policy responses to inflation pressures are directed, from 6 to 12 months to something more like 12 to 24 months. This means that, provided the medium-term inflation outlook is in

line with the target, near-term shifts in the price level are more likely to be accepted without policy reaction.

- As already mentioned, a corresponding shift in emphasis from the direct effect of exchange rate changes on the prices of imported goods and services, to the indirect, medium-term, effect of exchange rate changes on the competitiveness of the tradeables sector of the economy. In other words, more cognisance is taken of the way in which the exchange rate appreciation will eventually bear down on inflation in the medium-term by restraining activity in the tradeables sector of the economy. (And vice versa.)
- Some de-emphasis of the edges of the target range as “hard” and precise thresholds. This is matched with a

corresponding increase in emphasis on the other factors that need to be taken into account when assessing whether monetary policy settings and inflation outcomes can be taken as consistent with the Policy Targets Agreement. A related move was the decision, in December 1997, to cease regular calculation of a precise measure of “underlying inflation.”

- The shift from an MCI target to a cash interest rate instrument for implementing monetary policy. This change has lessened the need for frequent intervention in the financial markets, and has resulted in more interest rate stability.

2.4 The recent business cycle

This section looks back at the recent business cycle, which was the first test of the inflation targeting framework over a full cycle. We review the period from the 1990-92 recession, through the subsequent period of strong growth, to the recession in the first half of calendar 1998. Two features stand out: the strength of the demand pressures in the mid-1990s, and the amplitude of the exchange rate cycle.

Demand pressure and the policy response

From negative growth in mid-1992, the economy rebounded unexpectedly sharply, with year-on-year GDP growth reaching seven percent within one year (by the September quarter 1993). Factors that contributed to the strength of the recovery were stimulatory monetary conditions in 1992-93, an upturn in the world economy and in commodity prices, and strong investment growth following a period of structural reform and capital scrapping.

In response, monetary policy was tightened aggressively, with 90-day interest rates increasing from 4.7 percent in January 1994 to 9.5 percent in December 1994. With the benefit of 20/20 hindsight, however, it is apparent that the tightening was not sufficiently pre-emptive.

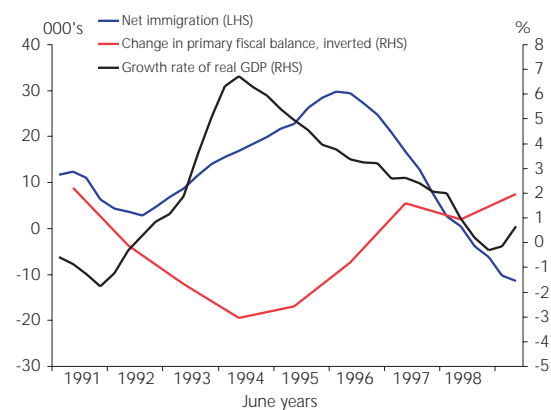
One of the reasons for the delay in tightening policy was that the exchange rate was already appreciating. This was thought to be a sufficiently disinflationary influence (through the direct effect on the prices of imported items). In fact, the exchange rate appreciation seems to have been mostly a market response to the strong rises in New Zealand's export commodity prices and terms of trade at the time. An additional factor in the delay in responding was underestimation of the positive response of the economy to the reforms implemented since 1984, in part due to initial GDP estimates that understated the strength of the recovery.

If monetary conditions had been moved back to a more neutral stance earlier in the recovery, and the rebound had been moderated, there would probably have been less inflation pressure in 1995 and 1996. Monetary conditions could then have been less tight during that subsequent period and the growth phase may have been sustained for longer.

But, importantly, as illustrated in figures 9a and 9b, there were a number of compounding shocks during the expansion:

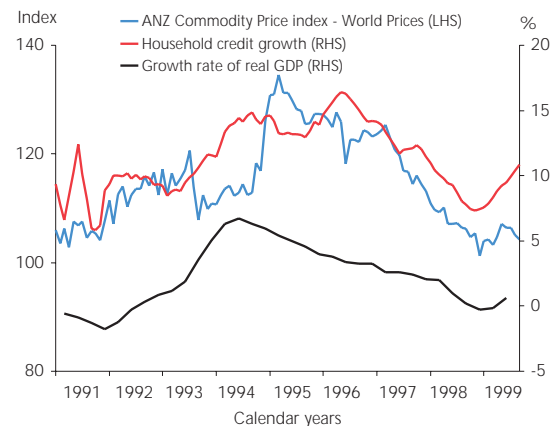
- the upsurge in immigration in the early-mid 1990s, which contributed to pressures in the housing market;
- a strong upsurge in household borrowing, as households took advantage of ready access to credit and the expanded range of goods and services available to them (including as a result of trade liberalisation);

Figure 9(a)
Immigration, fiscal policy, and GDP growth



* *Growth rate of real GDP is an annual average percentage change; the primary fiscal balance is the operating balance net of debt servicing costs, as a percentage of GDP.*

Figure 9(b)
Household credit growth, ANZ commodity price index, and GDP growth



* *Household credit growth is an annual percentage change, while the growth rate of real GDP is an annual average percentage change*

- a strong rise in house prices, which further fuelled demand pressure (that is, people felt wealthier as their assets increased in value);
- increased government spending as provided for in the Coalition Agreement that followed the 1996 election; and
- significant income tax cuts that were announced in February 1996, initially to take effect in 1996 and 1997 (though the second instalment was subsequently deferred in the Coalition Agreement for one year).

As a result, strong demand pressures were sustained into 1996, and the easing in monetary policy did not commence until the end of that year.

A question often asked is why New Zealand experienced tighter monetary conditions than Australia in the mid-1990s, and whether this difference explains why Australia has maintained faster growth in the second half of the 1990s than New Zealand.

In both economies monetary policy was tightened quite aggressively in 1994, as both rebounded from the 1991-92 recession. However, there were significant differences in the starting positions, in the developing circumstances, and in the policy response. Specifically:

- In New Zealand, there were a number of additional factors (as mentioned above) that propelled still stronger growth in demand.
- Australia, by contrast, was subject to a more mixed set of influences. Factors that moderated the rebound included their terms of trade remaining subdued for longer, and an “overhang” of unsold houses in the housing market, which constrained house prices and wealth perceptions.

The up-shot of the differences was that Australia in 1997 was at a better position in its business cycle to absorb the Asian crisis shock, since by mid-1997 monetary policy was easier and domestic activity more robust. That was not the case in New Zealand. As already mentioned, firm monetary conditions had been required for longer to restrain the stronger growth in demand, and so the “down-draught” from the Asian crisis and droughts in 1997/98 and 1998/99, caused a

projected “soft landing” to turn into a “hard landing.”

A general overview of how these factors played out differently in the two economies is provided in the panel graphs in figure 10, overleaf.

As to the more specific question of whether monetary policy in New Zealand might have been managed differently, we think the answer is mixed. At a technical level, we think it would have been preferable to have relaxed the MCI bands and/or moved to the OCR instrument earlier. On the more substantive matter of the policy judgements made, it is now evident, with the benefit of hindsight, that if we had taken more of a risk with inflation in the mid-1990s, that risk would have paid off, given the disinflationary influence of the Asian crisis, and the droughts in 1997/98 and 1998/99 that followed. However, inflation expectations in New Zealand in the mid-1990s were not particularly well anchored, and to have relied on unknown future events such as the Asian crisis or droughts to offset the strong demand pressures of the mid-1990s would have been risky indeed.

The exchange rate cycle

One of the most notable features of the 1990-98 cycle just sketched was the amplitude of the exchange rate cycle (figure 11). This raises important questions: did monetary policy work through the exchange rate, and thus impact on the tradeables sector of the economy, to an unusual degree? And, if so, why? Is a large exchange rate cycle a structural feature of our monetary policy framework?

Figure 11
The TWI over the cycle
(Index base: 1979 = 100)

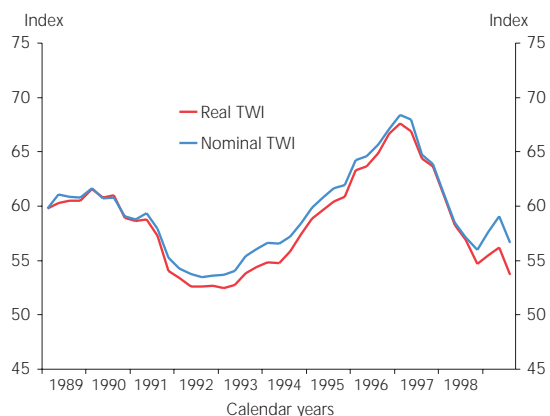
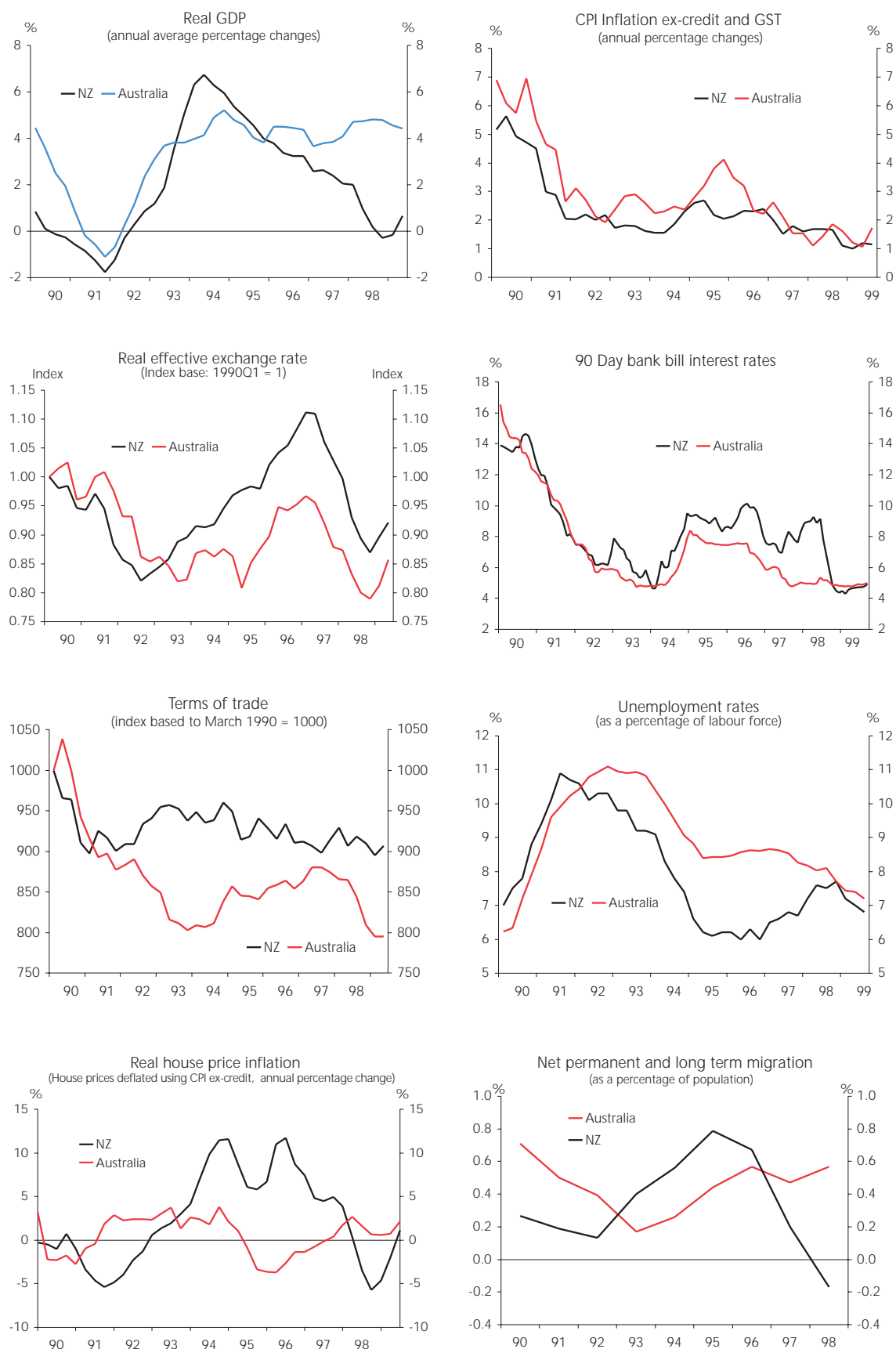


Figure 10
Australia and New Zealand compared



Behind these questions is a concern that monetary policy, through its effect on the exchange rate, might have an adverse impact on the tradeables sector over the longer term. We have given close attention to this concern in recent years. While an issue for on-going work, our conclusions at this stage are that:

- cycles, and potentially large cycles, in the real exchange rate are largely unavoidable;
- the move toward a medium-term inflation targeting framework may help to moderate future cycles, but only at the margin.

In a small open economy, a central bank can choose to control inflation by operating an independent monetary policy (that is, by setting interest rates), or it can choose to control inflation by “importing” the monetary policy of another country, by locking the value of its currency (the exchange rate) to the currency of that other country. Under the latter strategy, the inflation rate will be pulled, in the long run, toward that of the other country and, ultimately, will be anchored by that other country's inflation rate.

A policy option that is *not* available is to set interest rates to keep both inflation and the exchange rate stable simultaneously. When capital markets are as integrated internationally as they are today, capital responds very quickly to interest differentials, and in so doing moves the exchange rate. Thus interest rate movements directed at inflation pressures inevitably also move the exchange rate. Hence, monetary policy in an open economy is transmitted via both interest rates and the exchange rate.

Even the option of fixing the exchange rate, or adopting the currency of another (trading partner) country, does not result in real exchange rate stability. For one thing, New Zealand has no single dominant trading partner, so fixing the exchange rate to, or adopting the currency of, any one of them would still leave those trading with other countries exposed to an exchange rate cycle.

More fundamentally, there are two components to the real exchange rate: the nominal exchange rate, and relative inflation rates. As explained above, fixing the nominal exchange rate means relinquishing one's own monetary policy and hence control of one's inflation rate. Thus, even where a

country has a fixed exchange rate, or uses the currency of a trading partner, the real exchange rate can move, potentially substantially.⁹

For example, Hong Kong maintains a fixed exchange rate to the United States dollar under a currency board arrangement. Notwithstanding the fixed nominal exchange rate, over the period 1988 to 1998 the real value of the Hong Kong dollar appreciated by 55 percent on a trade-weighted basis. This appreciation arose from the fact that inflation in Hong Kong during the period averaged 8.3 percent, which was above the average inflation rate of its trading partners, and also that the United States dollar appreciated during this period.

In summary, interest rates can be directed to maintain *either* the inflation rate or the exchange rate at a stable level, but these goals cannot be achieved simultaneously.

In New Zealand we maintain an independent interest rate policy directed at maintaining price stability, and allow the exchange rate to float. As already mentioned, changes in interest rates relative to those prevailing abroad cause capital to move and, in the process, cause exchange rates also to move. But we have just one *instrument*, being interest rates, and more specifically, the Official Cash Rate.

With only one instrument, we cannot control how much of a monetary policy tightening or loosening comes from the exchange rate, and how much comes from the change in interest rates. If, as seemed to be the case in the mid 1990s, the responsiveness of domestic demand to a change in interest rates is relatively low, then correspondingly more of the effect of monetary policy will be felt by the tradeables sector of the economy by way of exchange rate movements. Factors which may explain why the responsiveness to interest rates in the 1990s was low include:

- Slow adjustment of high inflation expectations, particularly in real estate markets. This made interest rates appear low in real terms.

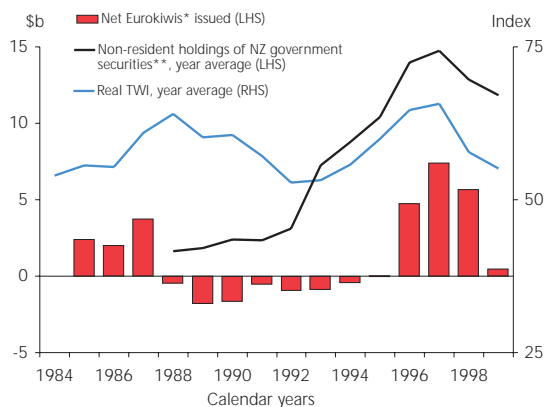
⁹ In response to public discussion about the merits of currency union between New Zealand and, say, Australia, or the United States, the Bank has undertaken some background work on the subject. See Hargreaves D and J McDermott, (1999) “Issues relating to optimal currency areas: theory and implications for New Zealand,” *Reserve Bank of New Zealand Bulletin*, Vol. 61, pp 16-29. It is not, however, a subject on which the Bank has taken a position.

- Local confidence in the outlook for the New Zealand economy, which, for a period in the mid-1990s, made investment attractive and also resulted in households increasing consumption, even though financing costs were relatively high.
- Overseas confidence in the New Zealand economy, which made New Zealand dollar investments attractive to overseas investors (figure 12). In other words, overseas investors required less of a risk premium to invest in New Zealand. Thus, a given interest differential resulted in more capital inflow and more exchange rate appreciation than would have been the case if risk perceptions had been less favourable. Also, during the 1990s, there were expanded opportunities for foreign direct investment in New Zealand.

Whether the next period of monetary policy tightening will result in a similar mix of monetary conditions will depend on the particular circumstances at the time. We certainly cannot rule out the possibility of another strong cycle in the exchange rate, and in this regard we note that the New Zealand experience in the 1990s was not at all unique; a number of other countries experienced similar cycles in their currencies (figure 13).

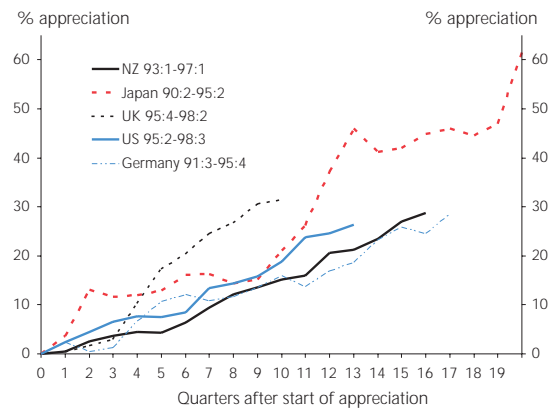
However, it is also possible that the next exchange rate cycle may be more muted, with interest rates playing a greater role in stabilising inflationary pressures. This could be the

Figure 12
Indicators of capital inflow



1999 Eurokiwi data is to 31 October, TWI data is to 30 June, government securities is data to 31 August. Eurokiwis are issues of New Zealand dollar securities by offshore borrowers for offshore investors.

Figure 13
Recent episodes of exchange rate appreciation



case if, because of the size of our current account deficit and already very high level of obligations to the rest of the world, rising interest rates do not attract such large capital inflows.

From time to time, the question is raised whether other instruments should be used to influence the mix of monetary conditions. Examples include foreign exchange market intervention to influence the exchange rate, or taxes designed to deter short-term foreign capital inflows.

Our analysis suggests that taxes designed to “put sand in the gears” of capital flows – such as, for example, a tax on foreign exchange transactions, or a “Chilean-style” tax on short-term capital flows – would either be easily circumvented or, if sufficiently draconian to be effective, would seriously damage New Zealand’s access to capital. This would be at a time when New Zealand is very heavily dependent on foreign capital. For these reasons, the Bank does not support the use of such instruments.

The analytical arguments for and against intervening in the foreign exchange market are more complex. However, it is clear that central banks cannot sustainably shift the level of the *real* exchange rate. At most, any influence is temporary.

Since the New Zealand dollar was floated in 1985, the Bank has not intervened at all in the foreign exchange market to influence the exchange rate. Our current view is that if foreign exchange market intervention were to have any effect, it would probably be only marginal. An exchange rate cycle of more than 20 percent from trough to peak could possibly be moderated by a percentage point or two, but probably no more. To be weighed against this benefit would be the

risks involved for the taxpayer from the foreign exchange positions that would be involved in such an intervention.

So what lessons are to be taken from the exchange rate cycle of the 1990s?

First, it is clear that the scale of demand pressures encountered by New Zealand in the mid-1990s made some stress inevitable. The only questions were where and how it would appear. We maintained a firm monetary policy to control inflation in the face of those demand pressures, which resulted in capital inflows and exchange rate appreciation.

An alternative would have been a less tight monetary policy, with the benefit of a lower nominal exchange rate, but this probably would have resulted in more inflation, and quite possibly an asset price bubble. The experience of a number of East Asian countries (which held their exchange rates down in the face of large-scale capital inflows and experienced de-stabilising asset price bubbles) is instructive in this regard.

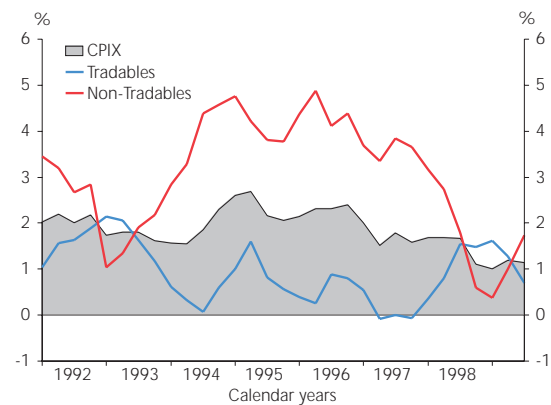
Secondly, it is important that those exposed to exchange rate movements are equipped and structured to cope with large movements in the exchange rate. In this regard, New Zealand has generally been well served. Even though New Zealand companies and banks have raised large amounts of funding offshore, they have been well hedged. Thus the large cycle in the exchange rate did not, of itself, cause serious balance sheet stresses in the financial or corporate sectors.

The main pressures from the exchange rate cycle in the 1990s came through pressures on trade competitiveness. Those firms in the tradeables sector that faced mostly local costs –

costs that remained stubbornly resistant to the effect of monetary policy – experienced a compression of revenues not fully matched by cost reductions. This is illustrated in figure 14, which shows how inflation in the tradeables and non-tradeables sectors diverged markedly over the cycle.

In sum, exposure to real exchange rate cycles is an inherent risk for firms that operate in the tradeable sector of the economy. Certainly an aim of monetary policy should be try to avoid amplifying these cycles, but it would be wrong to suggest that monetary policy can eliminate them.

Figure 14
Tradeables and non-tradeables inflation



2.5 Ongoing issues

In this section, we draw out important issues for the period ahead. They concern:

- How should monetary policy be managed so as to deal with the inherent uncertainty about future events? Which strategies provide the best chance of achieving consistently good outcomes?
- Are economies more “inflation-benign” than in the 1970s and 1980s, and, if they are, what does that imply for monetary policy? Can economies now grow faster without inflation pressures being generated?
- What are the implications of the current account deficit, and does monetary policy have a role in reducing it?
- What are the implications of fiscal policy for monetary policy?

Managing uncertainty

At its simplest, the task for monetary policy is to set the Official Cash Rate so as to steer inflation in the direction of the mid-point of the target range over the medium term. This involves asking the question:

Given the outlook for activity and other sources of inflation pressure, what interest rates will ensure that annual consumer price inflation moves toward the mid-point of the target range in one to two years’ time?

To answer this question, we have to:

- assess where the economy is today;
- understand the dynamic links between interest rates and inflation; and
- account for other factors that may impact on inflation outcomes in the interim.

This process is subject to tremendous uncertainties.

The Reserve Bank, and central banks globally, are attempting to deal with these uncertainties in two ways. The first has been to attempt to resolve some of the uncertainty by encouraging greater speed and accuracy in the collection of economic data, by conducting extensive research on the links between policy actions and inflation outcomes, and by devoting considerable resources to forecasting.

Secondly, much attention is being given to policy approaches that give the best medium-term outcomes; that is, the policy approaches that enable uncertainty to be *managed* most effectively, so that price stability can be maintained in an environment that best fosters sustainable growth.

The conventional wisdom has been that uncertainty implies being relatively cautious. Caution implies looking forward when considering interest rate changes, but adjusting the stance of policy only gradually while watching how the economy is developing.

Other research, however, suggests that caution may not always be appropriate. Indeed, a common observation is that central banks consistently adjust policy “too little, too late.”

These issues are probably the biggest issues that central banks are grappling with today. They largely boil down to questions about:

- the extent to which monetary policy should be set, on the one hand, on the basis of (inherently uncertain) inflation forecasts and, on the other, on the basis of current data (which, in practice, means data on what happened in the economy some months or quarters ago); and
- how cautiously, or aggressively, policy settings should be adjusted in response to demand shocks.

These are questions on which little consensus has yet been reached. However, some general observations can be made. These are drawn both from research and from the experience of other central banks.

First, simple policy guidelines under which interest rates are set in response to *both* current information and inflation projections appear to be robust to the different forms of uncertainty. (By “robust” we mean that the variability of outcomes, in respect of both inflation and the real economy, will tend to be minimised.) The Bank, for example, invests considerable effort in monitoring current developments as well as forecasting, so as to build a solid picture of how the economy is currently performing.

Secondly, where one is uncertain about how, and how fast, monetary policy will impact on the economy, it is better to err on the cautious side. The intuition here is that if one is uncertain about how responsive the car is to the accelerator

and the brake, it is better to tap them lightly than to press them to the floor.

Thirdly, when setting policy one should focus on the mistakes one most wants to avoid as well as what would be the right policy if the world was certain. For example, in the second half of 1998, when some were seeing a possibility of global deflation, the Bank eased policy aggressively. With the risks skewed toward deflation, there was less need to be concerned about the risk of policy being eased too much, too quickly.

Fourthly, as inflation expectations become better anchored, shocks to demand or to prices carry less risk of generating ongoing inflation. This is reflected in the more medium-term view we now take of inflation pressures.

In summary, it is more likely that better overall outcomes will be achieved, on average, from policies that are aimed consistently at achieving the price stability goal, but are also tempered by the associated uncertainties. This is why an inflation-targeting regime should be viewed as a form of “constrained discretion” rather than as a rigid rule: it provides scope for uncertainty to be taken into account, but subject to a well-defined medium-term objective.

These considerations are incorporated into how we currently conduct policy. For example, we:

- Revisit our economic projections every quarter, in order to account rigorously and formally for new information and unexpected events.
- Assess the risks each quarter with a view to making policy judgements that avoid what might be particularly bad outcomes.
- Publish our projections, thereby reducing one form of uncertainty (that is, how the Bank views the economy and what its future policy actions might be).
- Allow financial market prices to respond to relevant information as it emerges between formal interest rate resets. At times, movement in market rates may preempt and perhaps even obviate the necessity for a shift in the policy instrument. Indeed, if the market knows the Bank’s objectives, receives the same information, and understands how the Bank forms its views, then we

should expect financial market prices to behave in this way.

Is the world now more inflation-benign?

One factor that has assisted in the evolution of policy towards a more medium-term approach has been the emergence, in New Zealand and globally, of price stability. Price stability is now a much more established part of the landscape.

Beyond this, some countries (for example, the United States and Australia) seem to have been able to combine price stability with sustainably faster growth, and relatively relaxed monetary policies. This raises a question: have those countries found a way by which accommodative monetary policies can lead to *sustainably* faster growth, or has faster growth (in the supply capacity of those economies) enabled monetary policy to be accommodative?

While the jury has yet to give a final verdict on these questions, the predominant view seems to be that the primary source of faster growth has been improved productivity. This appears to be the result of two things: technological development, and consistent application of microeconomic and macroeconomic policies that have promoted efficient use of resources in a stable and predictable environment. Monetary policy has played a facilitating rather than causative role.

The potential for similar *sustainable non-inflationary* growth in New Zealand – at rates around, say, 4 percent per annum – is yet to manifest itself. Our assessment is that the supply capacity of the New Zealand economy is currently growing at about 3 percent per annum, and there can be no doubt that the growth rates of over 5 percent per annum recorded in the early and mid-1990s were not sustainable.

Having said that, with inflation now relatively well anchored, one of the conditions helpful to achieving higher sustainable growth is in place. The Bank will look for signs that the economic expansion we currently project (see the November 1999 *Monetary Policy Statement*) is supported by expansion of the supply capacity of the economy, as well as of demand. To the extent that is achieved, New Zealand will be able to enjoy sustainably faster growth without inflation.

Monetary policy and the current account deficit

In section 2.4 above, we described how, during the mid-1990s, a tight monetary policy was required to prevent demand pressures from leading to higher inflation. This meant higher interest rates, but also resulted in substantial inflows of external capital that pushed up the exchange rate.

In effect, the monetary policy reaction saw some of the excess domestic demand channelled into imports, and downward pressure on export demand. It worked out this way because of the willingness of New Zealanders to pay high interest rates in order to sustain domestic spending, and the willingness of foreign providers of capital to finance at those interest rates our increased net imports.

Does this mean that monetary policy has been the “cause” of our high current account deficit and, if so, can monetary policy contribute to narrowing it? The basic answers are “no” and “no.”

If monetary policy in the mid-1990s had been less tight, the nominal exchange rate would probably not have appreciated so much and, taken by itself, this would have supported exports. However, an easier monetary policy would have resulted in higher inflation and higher domestic demand for imports. Hence, even if the nominal exchange rate had not risen as much, the real exchange rate may not have been lower than it was and import demand would have been higher. The net effect on the current account of all these influences, at least over the longer run, is uncertain. With an easier monetary policy, the current account deficit might have been larger, smaller, or perhaps most likely, much the same.

The same conclusion holds for the future: monetary policy cannot bring about any sustainable improvement in the current account deficit. Indeed, monetary policy has at best only a temporary effect on the real exchange rate. Which begs the question: what are the factors that determine the current account?

Basically the current account deficit is the amount by which our spending (on consumption and investment) exceeds what we produce, plus the share of what we produce that accrues to foreign providers of capital as a return on their capital (less the amount earned by New Zealand investments over-

seas.) Abstracting from the cost of servicing foreign capital, which is not something we can influence directly, if the current account deficit is to be narrowed, then we must spend less and/or produce more. The factors that will have a bearing on the long-run outcome will be those same factors that influence our growth performance (in particular productivity) and those that influence our saving behaviour. To the extent that the latter is subject to the influence of policy, it is policies in the areas of social welfare policy (and in particular retirement income), taxation of capital income, and government saving (that is, fiscal policy) that are most relevant.

Where the current account would have implications for monetary policy would be if the willingness of foreigners to finance the deficit were to wane. In that event, the exchange rate would be lower than otherwise, and interest rates would need to be higher. The IMF noted this possibility in its 1999 review of the New Zealand economy. Its recommendation was that:

In those circumstances, the authorities should continue to be guided by their monetary policy framework, which would imply focusing on the impact of such shocks on inflation over the 6-8 quarter policy horizon, while accommodating some near-term volatility in inflation. Were the shocks to leave inflationary pressure over the policy horizon, and inflationary expectations, largely unchanged, no policy change would be called for. A less flexible approach that attempted to maintain actual inflation near the midpoint of the target range over shorter horizons would likely do more harm than good, by exacerbating output and interest rate volatility.¹⁰

The implications of a lower exchange rate and higher interest rates for economic activity and inflation pressures would depend very much on the nature of the transition (that is, how quickly increased net exports picked up relative to the slow-down in domestic spending). If, in the context of a gradual adjustment, net exports picked up as rapidly as domestic spending slowed, then stability in economic activity and inflation could be maintained. If however, the adjustment were to be forced by a sharp loss of confidence in the international capital markets, the cost would be more se-

¹⁰ International Monetary Fund (1999), “Staff Report for the 1999 Article IV Consultation,” Refer to the IMF website: <http://www.imf.org>

vere. We currently do not see that as a major risk. But it does underscore New Zealand's heavy dependence on foreign capital places a premium on policies that will help maintain investor confidence in New Zealand.

Fiscal Policy and Monetary Policy

The interaction of fiscal and monetary policy in shaping movements in aggregate demand is a perennial issue for governments and central banks.

Fiscal policy matters directly for monetary policy since it has an important influence on the level of aggregate demand, and hence inflation pressure. Changes in the level of government spending on goods and services influence demand directly, while changes to spending on transfers (for example, welfare benefits) contribute indirectly by affecting the spending capacity of the recipients of those transfers. On the other side of the ledger, tax changes can increase or reduce demand by changing the disposable income, and thus spending, of taxpayers.

The importance of fiscal policy for demand management stems from the size of the government sector. Central government outlays and revenues each amount to the equivalent of about 36 percent of GDP. Thus, relatively small changes in the government's spending, or tax revenues, can result in quite large changes in its net outlays (the fiscal balance). An analogy that can be drawn here is that of two large people (government spending and government revenue) in a small rowboat. Provided they remain positioned to counterbalance each other, stability is maintained. But a small movement by one not offset by the other can cause the balance (demand pressures) to shift markedly.

A point that bears highlighting is that for monetary policy it is the *change* in the fiscal balance that matters. For example, a reduction in a fiscal surplus will impart as much of a demand impulse to the economy as will an equivalent increase in a fiscal deficit.

The size and sign of the fiscal balance also matters but, in this case, for the long run sustainability of the fiscal position (for example, the sustainability of debt ratios), and for the vulnerability of the economy to shocks. It is possible to conceive of two people in the row-boat being positioned in a

way that makes it stable in very calm waters, but nonetheless very vulnerable to even quite small waves.

Fiscal policy in New Zealand operates within the framework of the Fiscal Responsibility Act 1994. The Act requires that fiscal policy choices be communicated to the public, and that the policies are geared towards medium to long-term goals, and in particular a prudent government debt-to-GDP ratio. This framework is helpful for monetary policy as it provides one degree of predictability and stability in a world where monetary policy must be forward-looking.

There is nonetheless a fair amount of flexibility in the framework. In particular, there are automatic fiscal stabilisers, such as welfare benefits and tax revenues that adjust automatically to changing macroeconomic conditions. These help to smooth the macroeconomic cycle and are also helpful to monetary policy.

Where issues may arise is when the Government is considering significant adjustments to its discretionary fiscal instruments. Recent examples include the tax cuts of 1996 and 1998, and the increase in government spending agreed in the 1996 Coalition Agreement. While discretionary fiscal policy decisions should, of course, be based primarily on their own merits, it helps monetary policy if, in deciding on the timing of their introduction, the state of the business cycle is also taken into account. For instance, if discretionary measures were to involve net fiscal stimulus, it would be preferable that they come into effect when the economy is slowing rather than on an upswing, as it is at present. Otherwise fiscal policy would tend to cause swings in interest rates and the exchange rate to be amplified rather than moderated.

3 Financial system stability

3.1 The statutory framework

Bank registration and supervision

Part V of the Reserve Bank Act contains provisions relating to bank registration, prudential supervision of registered banks and management of financial system crises. The powers under Part V must be exercised for the purposes of:

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

The framework prescribed in the Act is quite comprehensive, accounting for 90 of its 192 sections. In other words, most of the parameters within which the Bank conducts the bank registration and supervision functions are established by statute, and there is relatively little call for the involvement of the Treasurer. Exceptions are:

- Where policy changes are proposed that cannot be implemented within the existing statutory provisions. The possibility of a need for policy changes is envisaged by the Act to some extent, in that certain matters can be addressed under regulation-making powers.
- Where the Bank proposes to exercise certain “ crisis management ” powers (for example, the appointment of a statutory manager). Given the nature of these powers, checks and balances have been built into the Act, which mostly involve a requirement that the Bank obtain ministerial approval and/or an Order-in-Council.

Subject to the Bank being satisfied that certain criteria prescribed in the Act have been met, the Bank, acting alone, has the power to:

- register banks, and make registrations subject to conditions on a range of prescribed matters (s.69-75);
- vary or remove conditions of registration (s.74);
- issue guidelines on carrying on business in a prudent manner (s.78);
- require banks to undergo an independent assessment of credit worthiness or financial stability (s.80);

- prescribe the information that registered banks are required to publish in disclosure statements (s.81-83, 89-92);
- obtain information, data, forecasts and documents relating to the business, operation or management of banks, and require that the information be audited (ss. 93 and 94);
- require a report on a bank's financial and accounting systems and controls (s.95);
- investigate the affairs of a registered bank (ss.101-104); and
- require a registered bank to consult with the Reserve Bank (ss.111-116).

Additionally, in certain defined, crisis-related circumstances, the Bank can:

- issue directions to a registered bank, with the prior consent of the Treasurer (s.113); and
- recommend to the Treasurer, and the Treasurer to the Governor-General in Council, that a registered bank be placed in statutory management (ss.117-118).

Payments system oversight

The Act does not contain any formal powers relating to the oversight of payments systems. However, as the main participants in payments systems are registered banks, the Bank has some indirect authority over this aspect of the financial system.

Lender of last resort

Section 31 of the Act provides that the Bank shall, if it considers it necessary for the purpose of maintaining the soundness of the financial system, act as lender of last resort to the financial system.

3.2 State of the banking industry

The New Zealand banking industry is at present sound and competitive. Banks have come through a period where economic conditions (both domestically and overseas) have been more difficult, with little sign of any serious deterioration in the quality of their assets and with profitability broadly maintained. Some further rationalisation has occurred with the purchases of Trust Bank (by Westpac) and Countrywide (by the National Bank), but at the same time a number of new banks have entered the market in recent years to operate in particular niches. Competition remains intense, particularly in some areas of business such as mortgage lending, although it seems that banks may now be somewhat less willing to take on business at any price.

Internationally, there is much ferment about rationalisation in many countries, and a significant number of further mergers and takeovers seems likely. These have a number of different motivations:

- “within-market” mergers (for example, between two banks), where the primary motivation is to extract cost-savings through scale economies and the rationalisation of branch networks;
- “between-market” mergers, generally across borders, where scale economies and increased international/global “reach,” are also being sought, and
- the increasing formation of conglomerates, involving banking, insurance, managed funds and/or securities businesses, to facilitate cross-selling opportunities and “one-stop shop” service delivery to customers.

It seems very likely that we will see further action on all of these fronts, and New Zealand may well be affected by some of them. This depends crucially on how these forces work themselves out in the Australian market, given the substantial presence of Australian-owned banks in our economy.

While all this is going on, we are also increasingly seeing the emergence of new kinds of financial services providers and/or products, heavily rooted in new technologies and typically operating almost entirely electronically. These new providers are already providing significant challenges to old ways of doing things in some areas, mainly because they

can typically operate at much lower cost levels than traditional approaches. Also they are offering delivery channels that are seen as much more relevant by some customers. It remains to be seen how rapid their impact will be, and the process is likely to be uneven across different business sectors.

Existing banks and other providers are also responding actively to these initiatives, in some cases by moving to do the same kinds of things themselves. There has also been intensive “internal” rationalisation, often involving much more centralisation of internal services and functions (notably technology) and management structures, and outsourcing of some functions.

These various developments in the market will undoubtedly provide a number of new challenges to financial sector regulators, particularly as they often involve new or changing risk characteristics, increasing erosion of national borders, and governance arrangements which may not mesh closely with legal structures. While the regulatory framework in New Zealand is not yet under serious stress as a result, we will need to continue to watch developments closely to ensure that our approach remains relevant.

3.3 Current issues in bank supervision

Our current approach to banking supervision is aimed at the maintenance of the soundness and efficiency of the financial system. If a financial institution wants to call itself a bank, it must be registered by the Reserve Bank before commencing operations. Certain criteria must be met, which are designed to allow only institutions of sound standing to be banks in New Zealand.

Only a small number of prudential quantitative limits are imposed on banks. These are contained in a bank's conditions of registration, and include a minimum \$15 million of capital for a locally-incorporated bank, minimum capital adequacy ratios consistent with the Basel international standard, and a connected persons' lending limit. In managing a bank failure, the Reserve Bank has wide-ranging powers to respond to events that threaten systemic stability. The aim is not to protect individual banks or depositors but to ensure the orderly resolution of significant bank problems, which may include facilitating the orderly exit of a troubled bank.

The supervisory approach taken to promote soundness and efficiency in banking relies heavily on utilising inherent market disciplines in the financial sector as well as internal governance incentives. We require banks publicly to disclose financial and risk information quarterly. We also require bank directors to make personal attestations, with these attestations being focused on promoting sound banking behaviour. More generally, we monitor the financial system to keep abreast of trends, as well as any developments that may threaten the integrity and resilience of the financial system. Part of this task involves regular meetings with key participants in the financial system, including banks, their auditors, and both local and foreign financial market supervisors.

Internationally, the standard practice for bank supervision has been progressively codified by the Basel Committee on Banking Supervision. This committee, which formally reports to the Governors of the G10 central banks, started with a simple "Concordat" in relation to banks operating internationally, which essentially said that "all banks shall be supervised, and supervision shall be adequate." The Committee has progressively developed the international supervisory framework in a number of areas, including cod-

ification of the responsibilities of home country and host country supervisors and the development of a "Capital Accord", which sets out a basis for setting minimum capital requirements for banks.

In recent years, in the wake of the Mexican crisis and subsequent international banking problems, the Committee has actively sought to further extend and update this framework. Two important pieces of work which have emerged recently are a set of "Core Principles" for effective banking supervision, and an initial outline of proposed revisions to the Capital Accord.

The Core Principles are an attempt to set out minimum standards for bank supervision that should be aimed for by all countries. In many respects the principles are sound, and have our full support. However, some of the principles do cause some difficulties for New Zealand, for two main reasons.

First, our fundamental objectives differ from those in many other countries. Our purpose in conducting bank supervision is to help maintain the soundness and efficiency of the financial system and, in particular, we do not specifically seek to protect depositors and we have no deposit insurance scheme.

Second, we have made a deliberate decision to use market forces and strong internal governance incentives as the primary means of encouraging banks to conduct their affairs prudently. This contrasts with the approach in many other countries which relies on (at times) detailed supervisory rules and (at times) intensive monitoring by supervisors of the business of banks and their compliance with the rules.

Accordingly, it is not too surprising that while we are in broad agreement with most of the Core Principles, New Zealand cannot be said to comply with them in detail in the same way as other countries. In most circumstances this would not matter, as it is the right of every country to set its own policy goals and its choice of techniques. Unfortunately, however, the prospect now exists that compliance with these Principles (and some other standards being developed in other areas) will be used as criteria for assessing international country risks in a way which could impose significant costs on us. This risk is exacerbated by the possibility that compliance will be assessed by a rather mechanical "ticking of

boxes” based on what might be described as “international standard practice.”

We are confident not only that we have one of the strongest banking systems in the world, but also that we have put in place a supervisory regime which is very strong and “best practice” in our own particular context. It would be ironic indeed if this regime were judged to be deficient against a “one size fits all” international standard which demonstrably can be shown not to have prevented bank failures and financial sector problems elsewhere. Accordingly, we will continue to stress in our international discussions the need to interpret the Core Principles (and like documents) with an appropriate degree of flexibility, recognising that alternative forms of compliance may be at least as effective as more standard international approaches.

We will also be giving significant thought to another major recent initiative, the proposed reform to the Capital Accord. The existing Accord is based on a very crude method of measurement of banks’ credit risks (in some countries extended to include market risks), against which a minimum of 8 percent of capital must be held. While accurate measurement of banks’ risk positions will always be an elusive goal, there is little doubt that improvements can be made to the current formula, although there will be much debate before the detail is settled.

The Basel Committee says that its proposals are based on three pillars:

- the setting of minimum capital requirements;
- the supervisory validation of the measurement of capital adequacy; and
- market discipline.

We will be giving careful thought to each of these pillars as the review proceeds. Our general approach in recent years has been strongly based on keeping prescriptive rules to a minimum. While we have adopted the Basel standard approach to minimum capital requirements, we may need to reconsider whether judgments about capital adequacy are best made by the supervisor or by the market, particularly given the very diverse nature of the banks in our jurisdiction.

We have also sought to make abundantly clear that the pri-

mary responsibility for managing a bank, and its risks, lies with the directors and management of the bank itself. Supervisory monitoring and “validation” could easily undermine that responsibility if taken too far. And while we clearly support market discipline as an approach, we are aware that the “supervisory discipline” implied by the first two pillars may actually serve to prevent market discipline from flourishing.

While much of our focus is on the goal of maintaining a sound and efficient financial system, the Bank also has a statutory responsibility to minimise the damage to the financial system which could result from the failure of a registered bank. We also have an obligation to act as lender of last resort to the financial system when necessary.

While we think that the probability of a systemically-important bank failure in New Zealand is extremely low, we have been giving considerable thought to how we might deal with such a situation, and how our extensive powers might best be used to manage the disruption flowing from a bank failure. This thinking is still in progress, but it involves considering a number of possible scenarios, and trying to identify ways of dealing with problems which could keep the financial system functioning smoothly without putting taxpayer funds at risk. However, it is unlikely that there will ever be a single method of problem resolution which can be satisfactorily applied in all circumstances, so the emphasis will be on having a number of tools available which may be useful in certain situations.

One preliminary conclusion that we have reached in the course of this work is that we should modify our current policy, which allows foreign banks to choose freely whether they register in New Zealand as a branch or a subsidiary. We have embarked on consultations with banks on a proposal that local incorporation should be required for “systemically important” banks and banks with a significant level of retail deposits which are from countries that allow low levels of public disclosure or which give priority to home country depositors. The reasons for this policy change mainly concern a desire to be able to identify the assets of the New Zealand business with as much certainty as possible, to help ensure a close connection between the assets available in a crisis and those published in the bank’s disclosure statements, and to

ensure, for example, that, if we are required to place an entity into statutory management, there is a reasonably self-contained entity available for this purpose. We will finalise this policy following the conclusion of consultations.

Finally, it is worth noting that a number of countries (including the United Kingdom and Australia) have seen fit to restructure the way in which regulation is organised, and in particular have shifted the responsibility for bank supervision to new regulators with broader responsibilities. One of the arguments here is that as the barriers in the financial system break down, and financial conglomerates emerge, then it makes similar sense that the regulators involved should also merge. While we do not dismiss this argument, we do not think it is a particularly strong one, and believe that build-

3.4 Current issues in the payment system

The Bank's interests in the payment system are in some respects closely related to those arising from our bank supervision role, but there are some significant differences. It is self-evident that the payment system is a key element of our economic infrastructure, and it is used in some way by virtually every individual and business every day. It can also be a key mechanism for transmitting problems from one part of the system (or a problem institution) to other parts. It is thus of major "systemic" interest in its own right.

Some years ago we set out some basic objectives for the payment system, the most important of which were:

- that risks in the payment system should be reduced to acceptable levels, and managed appropriately;
- that any material risks should be underpinned by backup or failure-to-settle arrangements which are legally, financially and operationally robust; and
- that the legal status of payments should be certain at all times.

These goals continue to underpin our work in this area. Much has already been achieved: we have introduced a real-time gross settlement system, which was a major contribution to risk reduction; and Parliament has passed legislation giving certainty to netting arrangements in the financial sector,

ing a large new regulator to do everything has its own risks.

Moreover, experience in other countries has shown the importance of central banks retaining a close understanding of developments in the banking sector so that in the event of any problems they are well-placed to deal with them. The current New Zealand regulatory structure has coherent objectives and low administrative and compliance costs. There are also good communications amongst the regulators. On the whole, therefore, we believe the present structure is an appropriate one, although some elements of non-bank regulation are now dated and at some stage could be modernised and better integrated with the overall structure.

which can be used to make a large contribution to the reduction of remaining risks.

Probably the main area of risk which has not yet been dealt with is foreign exchange settlement risk (often called "Herstatt" risk after the collapse of Bankhaus Herstatt in Germany over 25 years ago). This risk arises because of the long time delays which can occur in foreign exchange trading between the payment made in the currency sold and the receipt of the currency purchased. A number of ways of dealing with these risks are now being actively developed internationally, and we will be doing our best to ensure that the New Zealand dollar, and New Zealand banks, are included in these arrangements as soon as possible.

In contrast to the bank supervision role, the Reserve Bank does not have any formal jurisdiction in the payment system, but has sought to make progress in these areas through co-operation with the banking industry. This co-operation has resulted in some useful progress, partly because the banks themselves have a common interest in reducing and managing payment system risks just as much as we do. We will be continuing to examine whether any significant risks remain in the system following the reforms which have already occurred. However, we will continue to confine our attention to the prudential and systemic aspects of the payment system. We have not sought to be drawn into the consumer issues which sometimes attract attention.

3.5 Year 2000

The Reserve Bank and the banking industry have been devoting considerable effort to preparing for Year 2000. The computer systems of individual banks, and those used in the payment system infrastructure, have been thoroughly checked to find and remove any problems that might occur with the imminent changeover to the new century or at other sensitive dates. We have no reason to believe that any significant problems will occur in the banking sector, although the possibility of some glitches occurring cannot be completely ruled out. Moreover, even if things do go very smoothly from a technical viewpoint, there may nevertheless be some disruptions if some people act in anticipation of possible problems.

The two issues we have been most concerned about in this respect are the possibility that financial markets might dry up over the critical period, and the risk that fear of possible problems could induce some people to withdraw large

amounts of cash from their banks. We have announced arrangements to help deal with each of these.

With regard to financial market liquidity, we have said that we will act outside our normal policy to provide liquidity if necessary, and will be prepared to lend without security in some circumstances. On the possibility of a run to currency, we have developed various contingency arrangements in association with the banks to ensure that much larger-than-normal volumes of currency can be distributed to the public if required; and we have also made considerable efforts to communicate to the public that there is no need for any alarm about the integrity of banks' systems and electronic records.

Our hope is that these measures will help to keep the end of the year relatively uneventful. However, we will be monitoring developments carefully from now on, and over the New Year period, in case any further action is required.

4 Other functions and activities

4.1 Reserve Bank Registry and Austraclear operations

Section 35 of the Reserve Bank of New Zealand Act 1989 enables the Bank to provide securities registry services under terms and conditions agreed between the Bank and the person for whom they are supplied.

The Bank provides these services as part of its role of promoting and maintaining a sound and efficient financial system.

The services provided can be divided into two broad categories:

- registrar and paying agent (registry) services; and
- securities clearing and settlement (Austraclear) services.

As these services are not included within the Funding Agreement and are provided on a commercial basis, the Bank has established a company (RBNZ Registry Limited) to separately account for the activity and ensure that it is transparent. RBNZ Registry Limited is subject to income tax on profits earned.

Registry services

Registry services are a specialist administrative function undertaken for organisations that borrow money by issuing debt securities. The service has competed with private sector providers of registry services since 1989 and has been offered to issuers meeting criteria relating to ownership, status, and credit rating. The largest customer is the Debt Management Office on behalf of the Crown. This service has been provided to the Crown since 1936 and covers the administration for Government bonds, Treasury bills, Index Linked Bonds and Kiwi Bonds.

Registry services involve maintaining the definitive record - the register - of the legal owners of the securities issued and recording changes of legal title on the presentation of appropriate formal documents. The paying agent role requires the collection of interest and repayments of principal from the issuers and then paying the investors after the deduction of any withholding tax obligations.

As of 30 June 1999, the Reserve Bank was registrar for securities with a face value of \$63.5 billion. We act as agent

for 150 issuers and provide services for 34,200 investors, who hold 71,000 separate investments. The total value of payments made to investors during the 12 months ending 30 June 1999 was \$60.8 billion.

After reviewing the provision of this service, the Bank announced in May 1999 that it intended to outsource the administration and systems operation. The Bank believes that other operators can do the processing and systems work more efficiently. The change will also avoid the need to upgrade our computer systems. The outsource arrangements are expected to begin in April 2000.

The Bank, however, will remain as registrar and paying agent and will continue to seek new business.

Austraclear services

This system is an electronic securities clearing and settlement service provided on a subscription basis to investors.

The system operates using a depository structure whereby investors (members) transfer security ownership to the Bank for safe custody. For this purpose the Bank has established a company, New Zealand Central Securities Depository Limited (NZCSD). This company is used to record details of all securities deposited in the Austraclear system by the members and operates as a bare trustee.

NZCSD will often appear in the top 20 registered holders in listed companies' annual reports. The Bank supplies to listed companies details of members' holdings and encourages companies to publish the names of Austraclear members whose individual holdings would make them a "top 20" holder. (However, this listing may not always identify beneficial ownership.)

Almost all securities in New Zealand are now in registered form and most institutional holdings are held in the Bank's Austraclear depository.

A trade is irrevocably settled on Austraclear once:

- the system has verified that the selling member has the securities;
- the buying member has access to sufficient funds; and
- the buying member's bank has sufficient cash to transfer to the seller's bank.

This process is known as Delivery versus Payment (DVP) and, when linked to the Real-Time Gross Settlement (RTGS) payment system, is the key factor in minimising the risks associated with settling financial market transactions.

As of 30 June 1999, there were 303 members of Austraclear. Securities deposited with NZCSD totalled \$83.1 billion (\$60.9 billion of debt securities and \$22.2 billion of equities).

The average value of each debt and cash transaction processed is approximately \$11.3 million, and \$0.25 million for the average value of equity transactions. Average daily transactions are 1,455, totalling \$11.6 billion.

Global developments

The Bank participates in a number of forums to keep abreast of developments.

The Bank is an active participant in the Asia Pacific Central Securities Depository Group (ACG). This group provides a forum where members can share ideas to improve efficiency in clearing and settlement, reduce risk and promote cross-border linkages.

The Bank has established a cross-border bilateral linkage with the Hong Kong Monetary Authority. This enables members of the respective systems to trade and settle securities, thereby reducing cross-border operating risk and cost.

The Bank is the local depository for the two international clearing and settlement systems (Euroclear and Cedelbank). This link provides a DVP service to enable participants in Euroclear, Cedelbank and Austraclear to settle trades in New Zealand dollar debt securities (mostly government bonds and Treasury bills) in a secure environment.

Prospective developments

By the end of November 1999, all securities held by NZCSD will have been 'dematerialised' meaning ownership will be evidenced by an entry in the register rather than by a physical certificate.

In a dematerialised world with real-time gross settlement, depository and registry functions make possible cost savings and risk reduction by eliminating duplication in recording and reporting transactions and holdings.

New technologies have reduced the marginal cost of communications and data storage, but high fixed costs are driving a wave of mergers between exchanges, depositories and registry companies in Europe, the United States, Hong Kong and Australia.

New Zealand has a single stock exchange (NZSE), a single derivative exchange (NZFOE), a dominant registrar of listed equities (Computershare NZ Ltd), and a single depository (Austraclear). Opportunities for both intra-and inter-market rationalisation may exist.

Within the next two years, the first transactional real-time gross settlement system for currencies is expected to be created by Continuous Linked Settlement Ltd (CLS) – a company, formed by 60 of the world's leading commercial banks, which is well advanced on a US\$150 million project to link the RTGS systems of a number of major central banks.

Within five years it is expected that the New Zealand dollar will be able to be settled through CLS Bank. The Reserve Bank is presently positioning its systems to facilitate entry and making representations to CLS Bank for admission.

4.2 Foreign reserves management

As indicated earlier, the Reserve Bank's empowering legislation enables the Treasurer to direct the Bank to intervene in the foreign exchange market, and also establishes the Bank's obligation to hold reserves to provide the capacity to implement such a directive. The need for such a directive would most likely arise in the context of a currency crisis and a resulting desire to inject liquidity into the foreign exchange market.

In the face of certain extreme shocks, there are reasonable grounds for believing that liquidity within our foreign exchange markets could contract dramatically. In particular, foreign exchange intermediaries do not buffer shocks within their own books to any significant extent. During normal times, these intermediaries quickly lay off, via a complex network of intermediaries, positions acquired from end-user customer business. During periods of market stress, these intermediaries may avoid exposures by withdrawing from the market, an action that impairs the ability of other intermediaries to lay off their positions. In other words, foreign exchange market liquidity problems are inherently contagious

A sustained period involving very illiquid foreign exchange markets would impose significant costs on the community. These costs would stem from dis-orderly exchange rate movements, business disruption costs, and an increased cost of foreign capital. Accordingly, the Bank holds the equivalent

of around NZ\$4 billion in foreign currency assets, which would be available should the need arise for the purposes of injecting liquidity into the foreign exchange market. Predominantly, the reserves are held in the form of high quality, marketable, securities issued by the governments of the United States, Germany and Japan.

Unlike most other countries, New Zealand borrows the foreign currency used to purchase our foreign reserves. This has some important risk minimisation advantages in relation to the Crown's finances. Specifically, the maturity and currency of individual foreign currency loans are closely matched by investments in the same currency and of similar maturities. This means that as exchange rates and foreign interest rates move around, any gains or losses on our foreign currency liabilities tend to be offset by equal and opposite gains and losses on our foreign currency assets.

Another implication of using foreign currency borrowing to finance our reserves is that it makes transparent the fact that, normally, holding reserves will entail some net cost. This arises because New Zealand can typically only borrow at higher interest rates than we can expect to earn by investing in highly liquid G3 government bonds. The cost fluctuates from year to year, but the annual cost to the Crown of maintaining New Zealand's current intervention capacity has averaged around NZ\$5 million in recent years, with a clear trend towards cost reduction.

4.3 Currency issue and management

The Reserve Bank Act (s.25) gives the Reserve Bank the sole right to issue bank notes and coins in New Zealand, and to determine the denominations, form, design, content, weight and composition of the notes and coins. Hence, there are no direct policy issues for the Government in this function. Nevertheless, currency has a high profile and sometimes gives rise to issues of public interest.

Newly-designed bank notes with updated security features were issued in 1992/93. A 1994 survey of public attitudes towards our currency indicated that over 80 percent of the population considered that the design of our currency is distinctively New Zealand and is attractive. The research also indicated that the overall quality was perceived to be acceptable and that the different denominations were easily recognisable.

The only significant area of concern was with the poor quality of the \$5 note. Also, during the Christmas period of 1997/98 reasonably good forgeries of our \$20 and \$100 notes appeared. These problems led the Bank to take a decision to replace all existing bank notes printed on the traditional cotton-based paper with a new flexible plastic polymer that has been used in Australia since 1992. The first of the polymer series was introduced into circulation in May 1999 and appears to have been readily accepted by the general public.

The polymer substrate has a number of advantages over paper. It is much stronger and non-porous, does not get dirty or tatty, and is much harder to counterfeit. Also, old or

damaged polymer bank notes can be recycled economically into manufactured items.

The change to polymer notes has enabled the Bank significantly to increase its reserve supply of notes to meet possible increased demand associated with Y2K concerns, at virtually no extra cost. The replaced paper notes have been stockpiled and can be re-issued into circulation if necessary. Normally there is about \$2 billion in face value in circulation at Christmas. In addition to this amount, the Bank will have approximately \$4.5 billion in reserve.

Despite the high usage of EFTPOS and credit cards in New Zealand, the value of currency in circulation continues to rise gradually. At the end of August this year, the total value of notes and coin in the hands of the public was \$1.978 billion, compared with \$1.854 billion at the same time last year, an increase of 6.7 percent. A longer-term issue may be the emergence of electronic banking, which has the potential to undermine the demand for Reserve Bank currency, and thus the value of seigniorage to the Crown.¹¹ Indeed, electronic means of payment already enjoy high levels of penetration in New Zealand compared with most other countries, and the ratio of currency on issue to GDP, though currently not declining, is very low by international standards.

Over the past few months the Bank has been in discussions with the commercial banks with a view to improving the efficiency of cash handling and processing. It is likely, in the year ahead, that the Reserve Bank will take a less prominent role in cash distribution.

¹¹ Seigniorage refers to the value accruing to the Crown from currency issue. Notes and coins on issue are, in effect, an interest-free loan by the public to the Crown. The note and coin liability on the Reserve Bank balance sheet is matched by assets in the form of government bonds. For the 1998/99 year, the value of seigniorage (that is, the earnings on those bonds) was \$141.7 million.

4.4 International relations

The Reserve Bank enjoys productive working relationships with a wide range of overseas central banks, international financial institutions and international forums. Our increasing interaction with overseas central banks and other agencies initially reflected international interest in our approaches to inflation targeting and banking supervision, which have been regarded as innovative. More recently the Asian crisis, and the international policy issues that have been generated by it, have necessitated a higher degree of international involvement by the Bank.

In the area of banking supervision, given that most of the banks operating in New Zealand are foreign, we attach considerable importance to maintaining close relationships with our main counterpart supervisors, and with the international groups where policy developments are discussed. This is done mainly through bilateral contacts as necessary, and through regular regional meetings. We also make submissions on Basel Committee proposals from time to time.

We also maintain a watching brief on matters relating to financial fraud, money laundering and suspicious financial activities in New Zealand, in co-operation with other relevant authorities. Occasionally we get involved in significant policy or operational issues in these areas. We have extended our activities into providing some advice, assistance and education in parts of the Pacific Islands, where a number of financial "scams" and other problems have appeared.

Recently, the Bank's international liaison has included active participation in a number of Asia-Pacific regional groups, namely:

- APEC (Asia Pacific Economic Co-operation forum);
- SEANZA (South East Asia New Zealand Australia central banks' forum);
- EMEAP (Executives' Meeting of East Asia and Pacific central banks); and
- The Manila Framework Group.

New Zealand assumed the chair of the APEC Finance Ministers' process in May this year and will remain in a co-chairing role with Brunei Darussalam until end 2000. During this period, the Bank has been working closely with the New Zealand Treasury and with APEC economies on a range of policy issues being advanced in the APEC Finance Ministers' process. In particular, the Bank is contributing to work within APEC in two policy areas:

- promoting a greater understanding within APEC of the benefits and risks associated with cross-border capital flows and the policies required for sustainable capital account liberalisation.
- encouraging the adoption of policies to strengthen financial markets within the APEC region.

SEANZA and EMEAP are central bank forums. The Bank has recently chaired the SEANZA group and maintains an active involvement in three working groups in EMEAP, on financial markets, banking supervision and payment system issues.

The Manila Framework Group is a regional grouping of central banks and treasury departments formed to monitor and discuss issues arising from the Asian financial crisis and to provide regional views on international financial policy issues.

The Reserve Bank also maintains ongoing relationships with the IMF, by contributing to New Zealand's input into policy issues advanced by the IMF and by providing information required by the IMF in its regular surveillance of the New Zealand economy. Similarly, the Bank maintains an ongoing relationship with the OECD in connection with its surveillance of New Zealand.

The Bank derives significant benefit from its international relationships, including improved access to information and research, greater participation in international policy formulation, and an enhanced capacity to exchange views and experience on policy issues. We also see our involvement as contributing to New Zealand's wider international relationships, particularly in the Asia-Pacific region.

4.5 Government debt management

The Reserve Bank undertakes a number of functions for the Treasury's Debt Management Office (NZDMO). These include selling Treasury bills, Government bonds and Index Linked bonds at competitive tenders, on a timetable and to amounts determined by the NZDMO under approvals from the Treasurer.

That the Bank undertakes these functions (rather than the NZDMO directly) reflects the Bank's experience in, and close relationship with, financial markets, and the importance of government cashflows for the cash position of the banking system.

In view of the overlapping and potentially conflicting interests of the Bank and NZDMO in relation to these aspects of the management of the government's cash position, the allocation of responsibilities and functions is made explicit in an Agency Agreement between the Bank and Treasury.

The Agreement reflects two basic understandings that have been in place for several years, and that have worked well: first, that the government "fully funds" its borrowing requirement by way of sales of debt instruments to the private sector, and second, that government debt sales will not be used as a vehicle for attempting to influence market interest rates. Full funding and the associated acceptance of market interest rates is crucial both to making clear to government the true costs of fiscal decisions, and to keeping monetary policy implementation independent of the political process.

Acceptance of market interest rates for government debt issuance does not imply that the costs of borrowing are entirely outside the control of the government. The volume of issuance will to some extent affect the interest rates that lenders demand before lending to the government. Additionally, at the margin, choices on the structuring of the borrowing programme can make a small but important difference to costs, with a programme suited to lenders' tastes potentially being a lower cost one than the alternative. The Bank, with its close contacts with financial markets, can thus offer a source of advice to NZDMO on programme structuring.

Ultimately, the government must balance its preferences against the market's – at least to the extent that fundamen-

tally different interests are involved. As the NZDMO is charged with identifying the best balance sheet structuring approach, given the government's policy objectives, the Bank's advice as to market preferences is one ingredient in the equation that determines how and what to borrow. Additionally, the Bank can at times offer alternative perspectives on what constitutes the best approach to structuring the Crown balance sheet structuring approach.

4.6 Overseas Investment Commission Secretariat

Under an agreement for services, the Reserve Bank provides the Secretariat for the Overseas Investment Commission.

The Governor of the Reserve Bank, or such officer of the Reserve Bank the Governor may nominate, is an *ex-officio* member of the Commission. The Governor has nominated Deputy Governor Dr Rod Carr as his representative on the Commission.

Appendices

Appendix 1

Funding Agreement

- 1 This is an Agreement between the Minister of Finance and the Governor of the Reserve Bank pursuant to section 159 of the Reserve Bank Act 1989. It supersedes and replaces the Agreement signed on 17 April 1991.
- 2 It is hereby agreed that the amount of the Bank's income to be applied in meeting the expenditure of the Bank needed to carry out the functions and to exercise the powers specified in section 159 shall be:
 - \$38,000,000 for each of the years commencing 1 July 1995 and 1 July 1996,
 - \$39,000,000 for the year commencing 1 July 1997, and
 - \$40,000,000 for each of the years commencing 1 July 1998 and 1 July 1999.
- 3 It is agreed, under section 159 (1) (f), to include within this limit expenditure on foreign exchange dealings, settlement banking and government banking as defined in Part II sections 16, 32 and 34 of the Act.
- 4 It is further agreed that -
 - (a) if the policy target for inflation agreed by the Minister and the Governor in terms of section 9 of the Act of 0 to 2 percent per annum is reviewed and a new policy target substituted, the agreed level of Bank expenditure as specified above will be adjusted to reflect any difference between the Bank's new and old path for inflation:
 - (b) if there is any material changes in the nature or extent of the work undertaken by the Bank in respect of any of the functions or activities covered by this Agreement, the Minister and Governor will redetermine the levels of expenditure set out in 2 above to reflect such changes:
 - (c) this Agreement may be suspended and renegotiated at any time by mutual agreement between the Minister and the Governor but any such renegotiation will require ratification by Parliament.

[Bill Birch]
Minister of Finance

[Donald T Brash]
Governor of the Reserve Bank

30 June 1995

30 June 1995

14 January, 1997

The Hon Winston Peters
Treasurer
Parliament Buildings
WELLINGTON

Dear Mr Peters

Funding Agreement

The Reserve Bank Act provides that the Bank and the Minister of Finance shall agree every five years on how much of the Bank's income may be utilised to meet its operating expenses over each of the succeeding five years. The last agreement was signed in June 1995 and applies until year ended 30 June 2000.

A copy of the existing agreement is attached.

Clause 4(a) of the agreement provides that if the policy target for inflation is changed, the agreed specified level of Bank expenditure is automatically adjusted to reflect this change.

While the Agreement is silent on exactly how the change in the inflation target should be reflected, the shift from 0 to 2 percent to 0 to 3 percent involves a 0.5 percent increase in the mid point of the inflation range and this appears to be the appropriate percentage to adjust the Funding Agreement.

The effect of this adjustment is as follows:

Year ended	Present Agreement	Adjusted Figure
30 June 1997	\$38,000,000	\$38,095,000 (1/2 year)
1998	\$39,000,000	\$39,195,000
1999	\$40,000,000	\$40,200,000
2000	\$40,000,000	\$40,200,000

In the overall context, these adjustments are negligible and I think it unlikely that the Bank will need to go above the previously agreed spending limits. However, the Act requires the actual agreed levels to be used in determining how much of any annual surplus or deficit is accrued to or met from the Bank's reserves.

No action is required on your part. The purpose of this note is to keep you informed.

Yours sincerely

[Don Brash]

cc Minister of Finance
Secretary to the Treasury

Appendix 2

Policy Targets Agreement

This agreement between the Treasurer and the Governor of the Reserve Bank of New Zealand (the Bank) is made under sections 9 (1) and 9(4) of the Reserve Bank of New Zealand Act 1989 (the Act), and shall apply for the balance of the Governor's present term and for his next five year term, expiring on 31 August 2003. It replaces that signed on 10 December 1996.

In terms of section 9 of the Act, the Treasurer and the Governor agree as follows:

1. Price stability

Consistent with section 8 of the Act and with the provisions of this agreement, the Bank shall formulate and implement monetary policy with the intention of maintaining a stable general level of prices, so that monetary policy can make its maximum contribution to sustainable economic growth, employment and development opportunities within the New Zealand economy.

2. Policy target

- a) In pursuing the objective of a stable general level of prices, the Bank shall monitor prices as measured by a range of price indices. The price stability target will be defined in terms of the All Groups Consumers Price Index excluding Credit Services (CPIX), as published by Statistics New Zealand.
- b) For the purpose of this agreement, the policy target shall be 12-monthly increases in the CPIX of between 0 and 3 percent.
- c) Notwithstanding clause 2(a), the Treasurer and the Governor may agree to use an alternative index of consumer price inflation following the implementation of the changes to the calculation of consumer prices proposed by the Government Statistician to take effect during 1999.

3. Unusual events

- a) There is a range of events that can have a significant temporary impact on inflation as measured by the CPIX, and mask the underlying trend in prices which is the proper focus of monetary policy. These events may even lead to inflation outcomes outside the target range. Such disturbances include, for example, shifts in the aggregate price level as a result of exceptional movements in the prices of commodities traded in world markets, changes in indirect taxes, significant government policy changes that directly affect prices, or a natural disaster affecting a major part of the economy.
- b) When disturbances of the kind described in clause 3 (a) arise, the Bank shall react in a manner which prevents general inflationary pressures emerging.

4. Implementation and accountability

- a) The Bank shall constantly and diligently strive to meet the policy target established by this agreement.
- b) It is acknowledged that, on occasions, there will be inflation outcomes outside the target range. On those occasions, or when such occasions are projected, the Bank shall explain in Policy Statements made under section 15 of the Act why such outcomes have occurred, or are projected to occur, and what measures it has taken, or proposes to take, to ensure that inflation comes back within that range.
- c) The Bank shall implement monetary policy in a sustainable, consistent and transparent manner.
- d) The Bank shall be fully accountable for its judgments and actions in implementing monetary policy.

[Hon Winston Peters]
Treasurer

[Donald T Brash]
Governor
Reserve Bank of New Zealand

DATED at Wellington, this 15th day of December 1997

22 October 1999

The Hon Bill English
The Treasurer
Parliament Buildings
Private Bag
WELLINGTON

Dear Treasurer

The current Policy Targets Agreement, signed by the Treasurer and me on my re-appointment as Governor on 15 December 1997 pursuant to section 9(1) of the Reserve Bank of New Zealand Act 1989, specifies (in clause 2(a)) that "the price stability target will be defined in terms of the All Groups Consumers Price Index excluding Credit Services (CPIX), as published by Statistics New Zealand".

Clause 2(c) of that Policy Targets Agreement notes that "notwithstanding clause 2(a), the Treasurer and the Governor may agree to use an alternative index of consumer price inflation following the implementation of the changes to the calculation of consumer prices proposed by the Government Statistician to take effect during 1999". This sub-clause was included in the Policy Targets Agreement because both parties were aware of the Government Statistician's intention to amend the Consumers Price Index during 1999 to exclude several items which, from a monetary policy point of view, would make that index a more appropriate measure of inflation.

The new Consumers Price Index will be published by the Government Statistician for the first time on 29 October 1999, covering the increase in prices between the June quarter of 1999 and the September quarter of 1999. The new index will update a number of the weights in the index, and will, importantly, remove interest rates and section prices from the index completely. The removal of interest rates makes the new index more similar to the CPIX index which is the focus of the existing Policy Targets Agreement, while the removal of section prices removes an asset price from the index which, in the Bank's view, is a desirable improvement in the index. (We have also argued for the exclusion of new house prices and the inclusion of imputed rentals instead, but at this stage the Government Statistician has not agreed to do this.)

I recommend that we agree that, with immediate effect, the price stability target in the Policy Targets Agreement be defined in terms of the new Consumers Price Index.

Because the Government Statistician will not be restating consumer price inflation in terms of the new index for any periods prior to the June quarter of 1999, the introduction of the new index raises a question about how best to calculate the "12-monthly increases" which, according to clause 2(b) of the Policy Targets Agreement, should be kept within a range of 0 to 3 per cent.

There is no perfect way of resolving this problem, but I recommend that, until it is possible to use four quarters of the new Consumers Price Index to calculate a "12-monthly increase" (in July 2000 for the year to the end of June 2000), we simply add the quarterly increases in the new Consumers Price Index to the quarterly increases in the old Consumers Price Index adjusted for the exclusion of interest rates and section prices. The two indices, even with the adjustments suggested, are not absolutely identical, so this is not a totally satisfactory solution. But I am advised that it is the best option available.

If you agree, I would be grateful if you would sign this letter indicating that agreement. We would propose to announce this minor technical change within the next few weeks, and in any case not later than the release of our next Monetary Policy Statement on 17 November 1999.

Yours sincerely

[Don Brash]
Governor