
Monetary Policy Statement¹

November 1999

This Statement is made pursuant to Section 15 of the Reserve Bank of New Zealand Act 1989.

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¹ Projections finalised on 3 November 1999. Policy assessment finalised on 15 November 1999.

1 Overview and policy assessment

The Reserve Bank has decided to increase the Official Cash Rate to 5.0 per cent. This means that, while monetary policy will remain stimulatory in the near term, it will be less so than previously. Using a motoring analogy which I have used before, the Reserve Bank's foot is easing back on the accelerator, but not applying the brakes, at least at this stage.

We foreshadowed a change of this sort in August, and financial markets have for some time factored it into interest rates. But the change may nevertheless surprise some of the general public, particularly in the light of the small fall in GDP in the June quarter. Certainly this fall in GDP was unexpected, and we had to look very carefully at the available data to assess its implications.

On balance, we judge that the small fall in June quarter GDP was an aberration, and we expect the economy to have bounced back strongly during the September quarter. Indeed, at this stage we think it likely that growth in the September quarter reached 1.3 per cent. We base that on a very wide range of indicators, including data on retail spending, credit growth, housing consents, exports, tourist arrivals, business and consumer confidence, capacity utilisation, hours worked, stock slaughtered, milk production, job advertisements, and increasingly widespread anecdotes of skill shortages. As this growth continues – and indications are that the economy is now growing at an annualised rate of around 4 per cent – the small amount of excess capacity in the economy, and associated downwards pressure on inflation, should disappear next year.

And this is not a surprise. The June quarter aside, the economy has been growing at a reasonably brisk pace since the middle of 1998. The world economy appears considerably stronger than it did even three months ago. And monetary conditions, which have been stimulatory since the middle of 1998, have become more stimulatory since the August *Monetary Policy Statement*.

More stimulatory since August? Interest rates have in fact increased somewhat since August, for both short and long terms. But, with the TWI averaging around 54 in recent weeks, the exchange rate has been not only some 6 per cent below the level assumed for the second half of 1999 in our August *Statement*, it has almost been back to the low point it reached in the early nineties. This has been providing strong

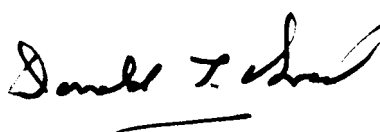
support to the export and importing-competing sectors of the economy. Indeed, on any reasonable definition monetary conditions have been easier recently than at any time in the last decade.

So on balance we are persuaded that monetary policy should be less stimulatory as we go into 2000. Despite that, we see growth continuing at close to 4 per cent per annum over the next two years. By making monetary policy somewhat less stimulatory now, we make our best contribution to ensuring that growth is steady and prolonged.

What of the future? With continuing strength in the international economy and robust growth domestically, we expect monetary conditions to move gradually to more neutral settings over the next year or so. That process is under way for a number of our important trading partners also.

But we are in a different environment to that of the eighties or even early nineties. In particular, with inflation expectations rather better anchored at low levels than was the case previously, we do not currently expect to see interest rates go back to the levels reached in the mid-nineties; still less to the levels reached in the mid-eighties. Moreover, even the gradual reduction in monetary stimulus now projected is of course conditional on how the economy actually evolves: any major slowdown in the world economy, for example, would change the picture substantially.

As a footnote, it should be noted that the increase in the Official Cash Rate announced today is unrelated to the projected rise in consumer price inflation to some 2.6 per cent early next year. That increase in inflation is the result of a series of one-off factors, such as the recent sharp increase in international oil prices, none of which reflects demand pressures within the New Zealand economy. For this reason, as well as the fact that this blip in inflation will have passed by the time monetary policy decisions taken today have any impact, it would be quite inappropriate to adjust policy in response to this development.



Donald T Brash
Governor

Figure 1
Consumer price inflation
(annual percentage change)

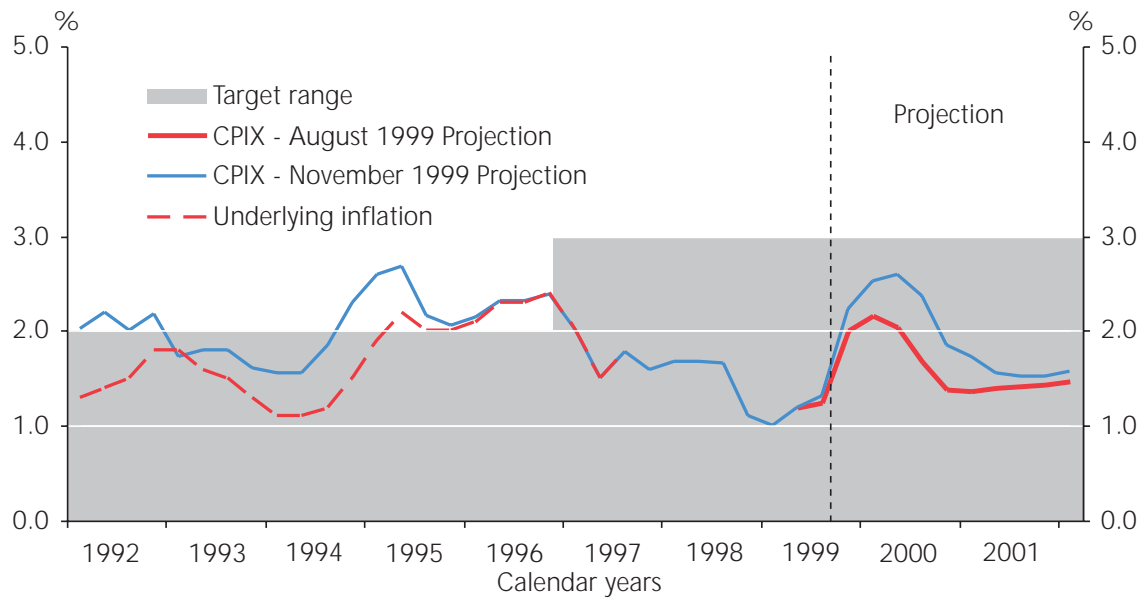


Table 1
Summary of economic projections

(Annual percentage change, unless specified otherwise)

March year	Actuals		Projections		
	1998	1999	2000	2001	2002
Price measures					
CPIX*	1.7	1.0	2.5	1.7	1.6
Wages	2.6	2.7	1.9	2.4	3.0
Import prices (in New Zealand dollars)	2.9	2.7	4.1	-2.0	0.0
Export prices (in New Zealand dollars)	4.9	-1.1	2.0	-0.3	0.7
Monetary conditions					
Nominal MCI (year average)	700	-50	-250	0	175
90-day rate (year average)	8.0	6.2	5.1	6.2	6.6
TWI (year average)	64.4	57.3	56.5	57.8	59.4
Output					
GDP (production, annual average % change)	2.0	-0.2	2.6	4.1	3.8
Output gap (% of potential GDP, year average)	0.7	-1.8	-1.5	0.0	0.8
Key balances					
Government operating balance (% of GDP, June year average)	2.6	1.8	0.0	0.5	1.2
Current account balance (% of GDP, year average)	-5.6	-5.7	-7.9	-6.4	-5.5
Terms of trade (annual average % change)	-0.6	-0.5	-1.6	-1.2	1.9
Unemployment rate (March qtr. s.a.)	7.1	7.2	6.9	6.4	5.8
Household savings rate (% of disposable income)	-0.1	0.6	-0.3	-0.2	1.1
World economy					
World GDP (annual average % change)	3.1	0.9	3.4	3.1	3.3
World CPI inflation	2.4	1.0	1.7	1.9	1.9
Quarterly projections					
(quarterly percentage change, unless specified otherwise)	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00
CPIX	0.5	0.6	0.9	0.5	0.6
CPIX (annual percentage change)*	1.2	1.3	2.2	2.5	2.6
GDP (production, s.a.)	-0.3	1.3	0.9	0.9	1.1

s.a. = seasonally adjusted

Notes for this table are in Appendix 4

* Up to and including the June 1999 quarter, the series is the annual percentage change in CPIX. From June 2000, the series is the annual percentage change in the new CPI. For September 1999 to March 2000, the series is calculated by adding the quarterly increases in the new CPI to the quarterly increases in the old CPI excluding interest rates and section prices.

2 Recent developments and current economic situation

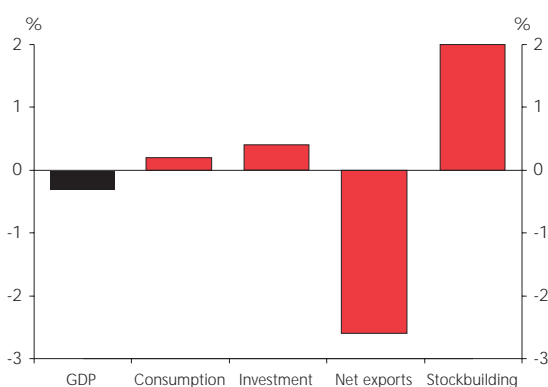
In the August *Statement*, the Bank noted that the international outlook had improved, the domestic economy was picking up, and the level of spare capacity was declining. While the likelihood of future increases in the OCR was foreshadowed, no change was made to the OCR. The Bank felt that significant question marks remained over the international outlook, and there was a suspicion that the domestic recovery was still in its early stages and confidence could be fragile. This chapter reviews developments since August, while the next chapter presents our updated medium-term projection in the light of these developments.

Current domestic activity

In the August *Statement*, the Bank expected growth to be below trend in the June quarter, but still positive, followed by a robust September quarter. In the event, June quarter GDP fell by 0.3 percent, surprising the Bank and most market analysts. However, the Bank believes that a reasonably strong bounce-back occurred in the September quarter, leaving the overall level of economic activity only slightly down on that anticipated in the August *Statement*.

While consumption and business expenditure were subdued over the June quarter, as expected, the surprising weakness was in the contribution from net exports (see figure 2). Export volumes of goods and services declined 4.8 percent and imports grew by 2.7 percent during the June quarter. In large

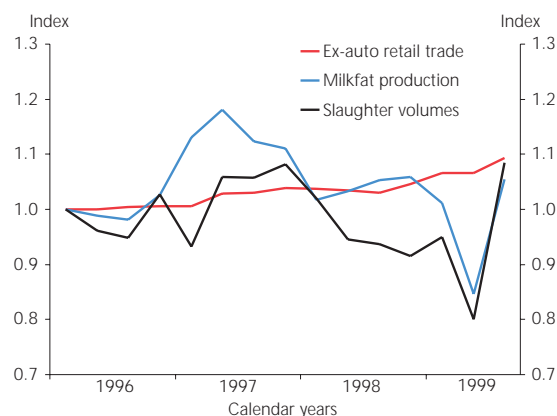
Figure 2
Contributions to June quarter GDP growth



part, the sluggish export performance reflected a temporary decline in agricultural volumes as farmers kept stock to take advantage of the mild and wet winter. Residential investment and stock-building were the only components of GDP that showed any significant growth.

The Bank estimates that GDP grew by about 1.3 percent in the September quarter. The major factors that have supported this bounce-back include strong growth in retail activity and a rebound in exports (due to a rise in pastoral production). September quarter retail sales figures are consistent with a consumption turn-around, while indicators of agricultural production have picked up strongly (see figure 3).

Figure 3
September quarter growth indicators
(seasonally adjusted: March 1996 quarter = 1)



Other indicators supporting robust growth during the September quarter and in the near term include:

- Business and consumer confidence remaining positive;
- Strong demand for credit by households (see figure 4);
- A high volume of dwelling consents being issued (see figure 5); and,
- Continued strong growth in tourism earnings.

Figure 4
Private sector credit, business and household credit growth²

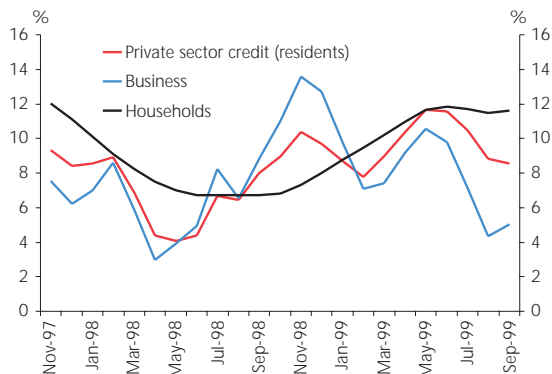
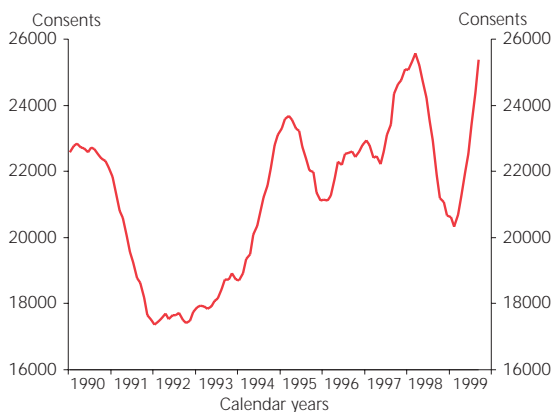


Figure 5
Residential dwelling consents



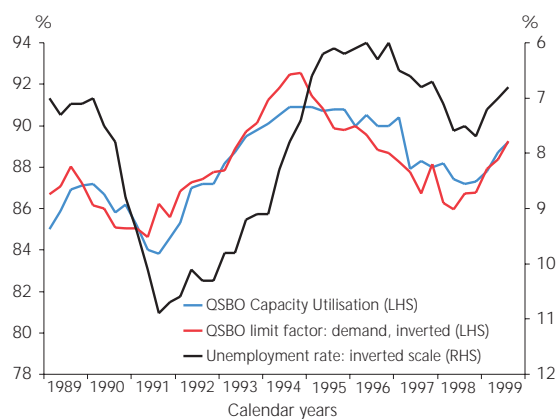
The agricultural sector is reaping the benefits of a mild winter, alleviating some of the drought problems of recent years. For example, lambing percentages have been higher than expected over spring, and, to date, milk production is significantly higher than for the same period last year. Although the latest long-range weather forecasts suggest this season may be drier than normal, farming conditions are expected to be better than during the last two summers.

As already indicated, the level of economic activity, averaging the June and September quarter GDP, is estimated to be slightly less than initially anticipated in our August *Statement*. This implies a slightly larger level of spare capacity in the economy.

² Data excludes repos and is seasonally adjusted. September quarter PSCR adjusted for securitisation. Calculated as annualised quarterly percentage changes. Source: RBNZ.

However, the level of spare capacity has not widened by the full extent of the June quarter GDP surprise. In part, this reflects an upward revision in the official GDP estimates for the March quarter. Furthermore, a variety of direct indicators suggest less spare capacity. For example, the rise in surveyed capacity utilisation suggests increased pressure on manufacturing production, while the recent decline in the unemployment rate may indicate more labour market constraints and more wage pressures than expected earlier this year (see figure 6). Overall, the Bank currently estimates spare capacity in the economy to have averaged around 1½ per cent of GDP in the September quarter.

Figure 6
Measures of spare capacity
(seasonally adjusted)



International developments since August

Global economic activity has continued to improve over recent months. Activity across non-Japan Asia has bounced back with surprising vigour following the region's recession in 1997-98. The persistent strength of the US economy, a revival in intra-regional trade, and a stronger yen have all helped to fuel Asian export growth.

The Japanese economy also grew slightly over the June quarter, after the strong March quarter, with a more significant contribution coming from household spending, supporting the recent strong fiscal impetus.

Activity levels in the United Kingdom and the core European economies have also risen, following the reasonably strong growth in the peripheral European economies. Meanwhile,

growth in the US and Australia, though moderating in the June quarter, has stayed robust, with estimates of third quarter growth being strong in both countries.

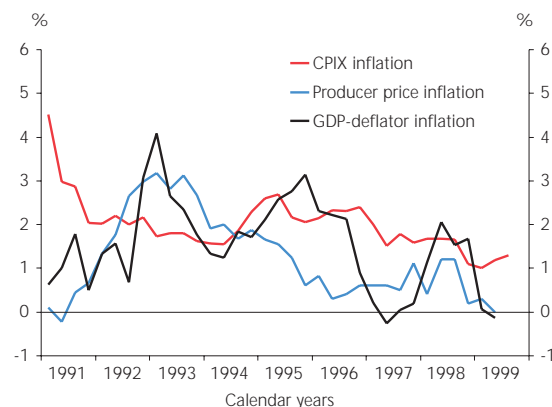
Despite this rise in activity, measures of inflation in most countries have been remarkably subdued. However, some traditional signs of capacity constraints are starting to emerge. These signs include rising inflation expectations, labour market pressures, and upward pressure on global commodity prices.

Although the global economy has picked up momentum and world commodity prices are starting to rise, the international prices of New Zealand's primary-based exports have yet to rise significantly. It is expected that these commodity prices will continue to struggle in the near term. Significant export subsidies on Western European and North American dairy products are likely to constrain world dairy prices, while a supply overhang from the Asian crisis will moderate the recovery of wool prices. It is not all bad news, however. Meat prices are expected to improve as the American beef industry enters a restocking phase, thus lowering US supplies. Furthermore, the current low level of the New Zealand dollar has helped to cushion the low international prices of New Zealand commodity exports.

The September quarter rise in the CPI was dominated by increases in petrol prices. In addition, there were significant one-off increases in government charges, such as vehicle registrations and local authority rates. Excluding these components and the volatile fruit and vegetables component, the CPI grew by only 0.2 percent.

Various measures of inflation pressure, such as producer prices, the GDP deflator (see figure 7), and measures of 'core' inflation (such as the weighted median and trimmed mean), indicate that annual inflation remains low. However, the most recent quarterly changes in the 'core' measures have shown an upward trend (see table 1).

**Figure 7
Inflation measures³**



Developments in inflation

Movements in the CPI were as expected, with a 0.6 percent increase over the September quarter. The Bank's target measure of annual consumer price inflation measured 1.3 percent in the year to September 1999 (see Box 1 overleaf).

Prices in the non-tradeables sector increased by 0.9 percent in the September quarter, with significant increases from government charges and housing-related components. Prices in the tradeables sector increased 0.4 percent in the September quarter, with the rise in petrol prices making the largest contribution to that increase.

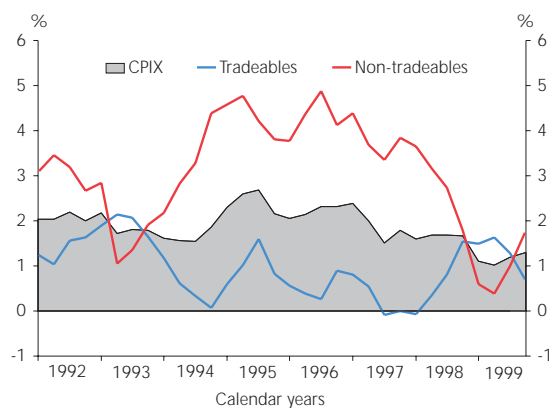
**Table 1
CPIX (CPI), Weighted median, Trimmed mean⁴**

	CPIX		Weighted median		10% Trimmed mean	
	QPC	APC	QPC	APC	QPC	APC
Dec-98	-0.1	1.1	0.0	1.2	-0.1	1.0
Mar-99	0.2	1.0	0.0	0.7	0.2	0.9
Jun-99	0.5	1.2	0.1	1.1	0.2	1.1
Sep-99	0.6	1.3 ³	0.4	1.3	0.5	0.7

³ CPIX inflation for the year to the September 1999 quarter is calculated using the new September quarter CPI and 3 quarters of the old CPI excluding interest rates and section prices. The historical series is annual percentage changes in CPIX.

⁴ QPC = quarterly percentage change. APC = annual percentage change.

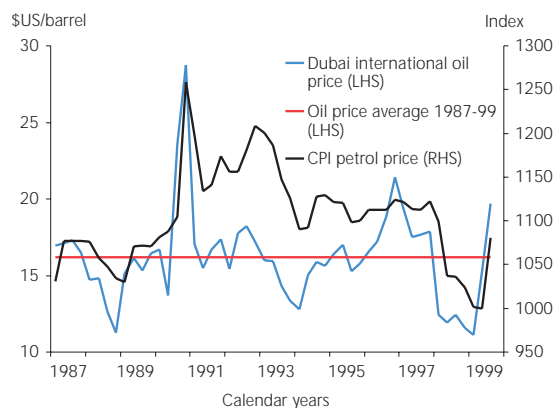
Figure 8
Tradeables and non-tradeables inflation⁵
(annual percentage change)



Short-term inflation outlook

The December quarter inflation figure is likely to be higher than that forecast in the August *Statement*, due to larger-than-expected increases in international oil prices. Since August, oil prices have increased by between \$US3 and \$US4 per barrel. That rise, combined with a weaker New Zealand exchange rate, has further pushed up the retail price of petrol (see figure 9). Overall, the Bank's estimate for the

Figure 9
International oil price and domestic petrol price



December quarter CPI has risen from 0.6 percent in the August *Statement* to our current estimate of 0.9 percent.

The recent rise in the CPI already reflects the immediate, direct, increase in domestic petrol prices. The Bank also anticipates that further indirect price effects from higher oil prices will start appearing in airfares, taxi fares, freight costs and other petrochemical-based products. These direct and indirect price developments coincide with a rise in surveyed

Box 1: Shifting to the new CPI measure

The current Policy Targets Agreement (PTA) between the Governor and the Treasurer specifies the Bank's inflation target as the annual change in the All Groups CPI excluding Credit Services (CPIX). Included in the PTA is an allowance for a change to the inflation target measure, following the implementation of changes to the calculation of the CPI by *Statistics New Zealand* as envisaged when the PTA was signed in December 1997.

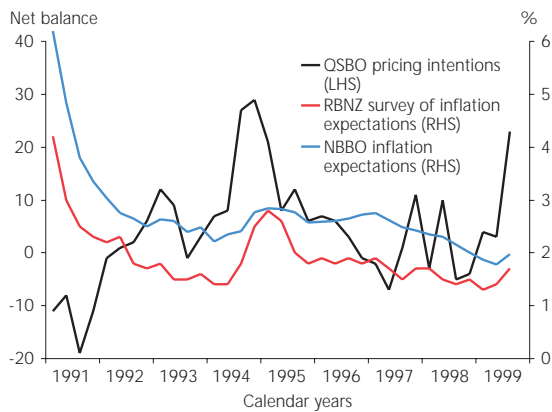
The most important change made to the CPI was the removal of interest costs. With this change, the new CPI is now very similar to the old CPIX that the Bank has targeted. The new CPI also excludes section prices as they are an asset price, rather than a consumption price. As a result of the changes, the Bank has agreed with the Treasurer to target CPI inflation from September 1999 onwards.

However, the new CPI will not be backdated, meaning the introduction of the new CPI raises a question about how best to calculate the annual increases which, according to the PTA, should be kept within a range of 0 to 3 percent. While there is no perfect solution, the agreed option is to use an index that is as near as possible to the new CPI until June 2000, when an annual change in this measure can be calculated. Consequently, our annual inflation target measure is now calculated by adding the quarterly increases in the new CPI to the quarterly increases in the old CPI series adjusted for the removal of interest rates and section prices. The latter index and percentage change are calculated and published by *Statistics New Zealand*.

⁵ See footnote 3.

inflation expectations and firms' pricing intentions (see figure 10), raising the risk that generalised (or second-round) inflation could arise. At this stage, as in our August *Statement*, the Bank expects these second-round effects to be insignificant, although we recognise there is a risk the judgement may be wrong. Box 2 (overleaf) addresses the issue of how monetary policy 'looks through' the relative price movements that could be anticipated from such a sharp movement in oil prices, while responding to any generalised inflation pressures.

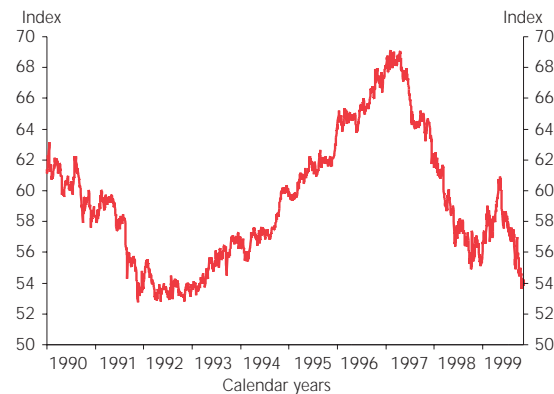
Figure 10
Inflation expectations and pricing intentions⁶



Financial market developments since August

The most notable development in New Zealand financial markets since the August *Statement* has been weakness in the exchange rate. The TWI has fallen from 57 in August to below 54 at times (see figure 11). Exchange rate weakness has dominated the MCI, reducing it from around -200 at the time of the August *Statement* to around -400 in early November. In terms of overall monetary conditions, an increase in New Zealand's interest rates, both short-term and long-term, has partially offset this currency weakness.

Figure 11
New Zealand trade weighted index



There are a number of factors that may have influenced this currency weakness. These include:

- The much weaker-than-expected June quarter GDP figure;
- Weak international prices of New Zealand commodity exports, despite sizeable increases in commodity prices more relevant to trading partners (metals and oil in particular);
- Export volumes remaining sluggish until recently; and
- Imports continuing to grow, contributing to expectations of a further widening in New Zealand's current account deficit.

There are also temporary factors likely to have put downward pressure on the New Zealand dollar. For example:

- A selling sentiment has generally dominated international bond markets and New Zealand in particular, as 'peripheral dollar bloc' markets tend to perform less well in such circumstances;
- Y2K considerations may cause international investors to be more than usually averse to investing in smaller markets (currency weakness has also been apparent in other countries, including Australia); and
- Uncertainty surrounding the forthcoming general election may also be having a dampening influence on the New Zealand dollar.

At this stage, the Bank is treating the exchange rate weakness as essentially transitory, and thus is not making a policy

⁶ RBNZ survey of inflation expectations and NBBO inflation expectations series are in annual percentage change. OSBO pricing intentions is net balance of survey respondents expecting to raise prices in the next quarter. Source: NZIER, NBNZ.

Box 2: Oil prices and monetary policy

Oil prices have risen sharply in recent months, explaining much of the rise in the inflation rate that the Bank expects to occur over the next few quarters. However, large changes in oil prices are **not** the sort of adverse shock that monetary policy should respond to. This is partly because shocks like this often affect prices more quickly than monetary policy can respond. More importantly, responding to a large, supply-induced, rise in a key price in the economy by reducing demand to drive down other prices would involve unnecessary real economic costs.

Instead, accommodating a **one-off** rise in the price level is generally the appropriate response. The Policy Targets Agreement acknowledges this, but also emphasises that the Bank must not let a one-off rise in the price **level** translate into permanently higher inflationary pressures.

There are several ways in which rising oil prices could affect the CPI. Some of these are easy to observe and others are not. Hence, there is inevitably a considerable degree of judgement involved. The overall direct impact of the recent oil price rise on the CPI can only be estimated, rather than calculated precisely. For example, estimating the impact of higher oil prices on other products that have petroleum inputs will involve considerable judgement. This is one of the reasons why, in 1997, we moved away from publishing a measure of underlying inflation.

The impacts of an oil price rise that are the easiest to observe and classify are the prices of petroleum products that appear directly in the CPI (eg retail petrol prices). The cost of the inputs has risen, and most or all of that will be passed through to the CPI. The Bank can forecast these **direct** price movements, based on past relationships. However, after the event, the amount of any price change directly attributable to the change in the world price of oil can still only be estimated. Exchange rate fluctuations, other costs, and domestic margin pressures are also constantly changing.

Harder both to forecast and measure *ex post* are the **indirect** price effects of the oil price shock itself. Changing oil and petroleum prices have a pervasive impact on the economy's cost structure. For some industries, for example aviation, fuel represents a large part of total costs. Airfares, which figure directly in the CPI, can be expected to adjust relatively

quickly. Other products appearing in the CPI in which oil is a major direct input include bus and taxi fares.

In most other cases, the effects will only be felt gradually. For example, cartage operators might put up their prices to recoup much of the impact of the rise in their costs, and that in turn flows through into the cost structure and pricing schedules of producers, distributors, and retailers.

Based on past experience, these effects could still be showing through as CPI rises a year after the initial rise in oil prices. Each of these **direct** and **indirect** effects is the sort of price rise the Bank should accommodate rather than responding with an adjustment to monetary policy.

The Bank must guard against two types of ongoing effects of an oil price rise. First, wage and salary earners could seek to recoup the loss of real purchasing power that inevitably results from the oil price rise. If wages and salaries do rise in response, that would be likely to set off a further round of price increases, as producers and retailers tried to pass through another round of higher prices.

A rise in the price of imported oil reduces the real income of New Zealanders. Trying to offset that by pushing up New Zealand money incomes in compensation only produces inflation (and possibly some redistribution of the loss of real incomes amongst New Zealanders).

Second, even without this type of behaviour, the CPI inflation rate will rise materially over the next year or so as a result of the one-off price level shift. If inflation expectations are substantially influenced by the current CPI inflation rate, there is a risk that people's medium-term inflation expectations could rise. The task facing the Bank to achieve its inflation targets would then be harder.

These **second-round**, or **generalised**, inflation effects were a major problem in New Zealand, and many other countries, following the (rather larger) oil shocks of the 1970s. The Bank is optimistic that they will not cause serious problems this time. Inflation expectations appear better anchored in a world of sustained price stability, and there is also a better appreciation of the required monetary policy response if generalised pressures do surface. However, the Bank will monitor closely the responses of firms and households to the oil cost rise.

response via interest rates. Over coming months, it is possible that the exchange rate will appreciate as the temporary factors mentioned above become less relevant. Alternatively, it may become apparent that the exchange rate weakness is well justified by external factors. Of course, if the currency weakness is enduring and not well justified by external circumstances, then, all else equal, it may be necessary for interest rates to eventually rise further than currently projected. Such action would be necessary to ensure that monetary conditions do not become excessively stimulatory (see Chapter 4).

The recent downward pressure on the exchange rate has been such that the currency did not receive noticeable support from the projected rise in monetary conditions in the August *Statement*. Rather, short-term interest rates rose as financial market

analysts moved forward their expectations of a rise in the OCR (see figure 12).

With the release of the August *Statement*, the Bank was seen to be moving ahead of other central banks in indicating future policy tightening. Since then, the central banks of most of our major trading partners have tightened policy because of rising inflationary pressures. The US Federal Reserve, the Bank of England, the European Central Bank, and the Reserve Bank of Australia have all increased their official interest rates over recent months (see Table 2). This may well signal the beginning of a reasonably broad-based rise in global interest rates. The associated rise in global official bond yields has also pushed up New Zealand bond yields.

In the August *Statement*, we described how Y2K issues appear to be having less impact on New Zealand's wholesale interest rates than in other countries. This continues to be the case. The Bank's relatively liberal approach to providing liquidity over the year-end is outlined in Box 3 (overleaf).

Figure 12
Three month forward interest rates⁷

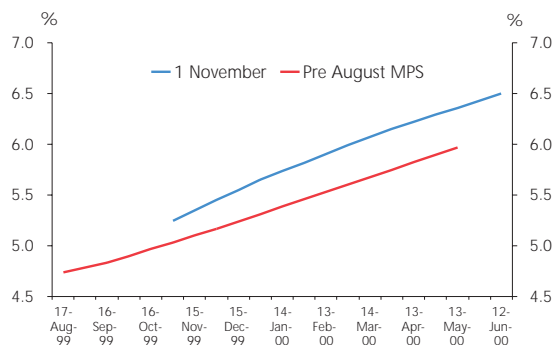


Table 2
International official interest rates

Central bank	Key rate	Current level	Date and size of last change (basis points)	
US Federal Reserve	Fed Funds Target	5.25	24/8/99	+ 25
European Central Bank	Refinance Rate	3.00	4/11/99	+ 50
Bank of England	Repo Rate	5.50	4/11/99	+ 25
Reserve Bank of Aust.	Overnight Cash Rate	5.00	3/11/99	+ 25

⁷ The lines run from the 3-month interest rate now, to the 3-month rate available in 7 months. For example, the return on 1 November (the blue line) for a 3-month deposit starting on 14 January (i.e. a forward) was 5.75 percent. This is 35 basis points higher than it was prior to the August *Statement*.

Box 3: Banking system liquidity and Y2K

In common with central banks around the world, the Reserve Bank has gone to considerable lengths to ensure that arrangements for providing liquidity to the financial system are adequate to cope with potential Y2K problems. Liquidity support arrangements have focused on two possibilities:

- The public's demand for notes and coins could increase markedly at the end of the year. Although this is unlikely, banks need to be confident of being able to meet such demand.
- In wholesale financial markets the level of trading activity is likely to fall away markedly in December, with market participants increasingly reluctant to do any transactions that are not absolutely necessary. In an uncertain environment like this, investors have been reluctant to lock in their funds for terms maturing around the end of the year, and banks have been keen to ensure that they have ready access to liquidity over that period.

Other things being equal, these effects would lead to a premium price being paid for funds for periods around the end of the year. Such a premium is not needed for monetary policy purposes. Moreover, we were concerned

that if banks had to aggressively build up their own holdings of liquid assets during the year, the availability of credit to the real economy might have been adversely affected.

To forestall this, and consistent with our confidence in the soundness of the banking system, the Bank announced in April a liberal approach to making liquidity available. Over the December/January period we would:

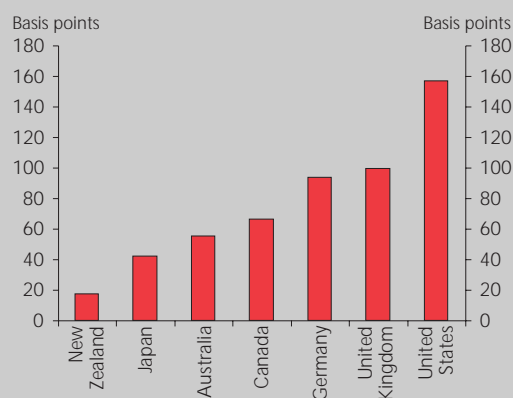
- Widen the range of collateral we accept when we provide funds to banks;
- Actively use foreign exchange swaps to inject liquidity. Using swaps also, in effect, widens the range of collateral we take; and
- Be willing to lend to banks unsecured and on-demand if currency demand rose by \$500 million more than normally expected, or earlier if there were 'material signs of stress' on market liquidity.

The 'Y2K blip' in New Zealand interest rates has generally been much lower than that in comparable countries. At its peak in early October, market rates for borrowing money for one month between December 1999 and January 2000 were about 60 basis points above the rates for the same periods either side. By contrast, in the United States that margin has typically been around 150 basis points.

The 'blip' widened in late September and early October, encouraging the Bank to bring forward the foreign exchange swaps originally intended for December. The Bank, by investing for three or four month terms to dates beyond the end of the year, has progressively helped diminish the extent of the Y2K liquidity pressure. In addition, it has provided an efficient source of funding for the Crown. By early November, the Bank had transacted around \$900 million of these longer-term swaps.

At this stage, the liquidity support arrangements appear to be working well. However, it is an uncertain period, and the Bank will continue to monitor closely both currency demand and developments in wholesale markets.

Figure 13
Y2K impact on forward rates⁸



⁸ As of 1 November 1999. The Y2K 'blip' is calculated as the implied forward rate for the December and January period, compared with the average of the two 1-month forward rates in November and January.

3 Medium-term macroeconomic outlook

The previous chapter discussed the developments since the August *Statement*, providing a starting point for assessing the degree of inflation pressure in the economy. Some of the initial influences on the medium-term outlook are:

- The spare capacity currently remaining in the economy;
- The current stimulatory monetary conditions, more so than assumed in August due entirely to a lower New Zealand dollar exchange rate; and
- An improved growth performance amongst our trading partners.

Given the lags between setting the OCR and its impact on inflation, the outlook for the economy over the next one to two years is very important. Of course, it is also very uncertain. The conditional nature of the projections and forward path for monetary conditions can not be over-emphasised. There will be shocks (eg changing weather patterns) or revisions to data that will necessitate changes to the Bank's view of the future path of the economy. Moreover, no one has a perfectly reliable understanding of how the economy works, or of the changing dynamics of the economy's behaviour. Monetary policy is thus formulated with a close eye on the

key risks and the consequences of misplaced assumptions. Some of these issues are discussed in Chapter 4.

In this chapter, we discuss the outlook for New Zealand and its major trading partners during the next two years. We then discuss the implications for domestic inflation pressures, and the expected path for monetary conditions consistent with achieving the Bank's inflation target.

Trading partner outlook

The *Consensus* projection is for a pick-up in global growth that becomes more balanced over the medium term. The consensus figures have been repeatedly revised up throughout 1999. New Zealand's overall trading-partner growth is now expected to be slightly over 3 percent per annum in both 2000 and 2001, up from around 2.7 percent in the August *Statement*.

In non-Japan Asia, stronger exports are expected to increase industrial production and, eventually, domestic demand. The UK and Europe are also expected to experience a recovery in output growth. Activity in Australia and the US is projected to slow to more sustainable rates, although to date, few signs

Table 3
Trading partner growth projections⁹
(calendar year, annual average percentage change)

Country	1998	1999p	2000p	2001p
Australia	4.8	4.1	3.5	3.5
United States	3.9	3.8	2.9	2.3
Japan	-2.9	0.9	0.4	1.9
United Kingdom	2.2	1.7	2.8	2.7
Germany	2.2	1.5	2.6	2.7
Italy	1.3	1.2	2.3	2.6
France	3.4	2.5	3.0	2.7
China	7.8	7.2	7.4	7.6
Hong Kong	-5.1	0.9	2.7	3.2
Indonesia	-13.7	0.1	4.0	4.3
Malaysia	-7.5	4.2	5.1	5.8
South Korea	-5.8	8.4	6.2	5.9
Taiwan	4.8	5.5	6.0	5.9
Thailand	-9.4	3.7	4.3	4.5
<i>14 country index</i>	<i>0.7</i>	<i>3.2</i>	<i>3.1</i>	<i>3.3</i>

p = projected

⁹ Based on *Consensus Forecasts* released in October.

of this have been seen. Meanwhile, activity in Japan is projected to rise gradually as domestic spending improves.

Ongoing increases in interest rates by several OECD central banks are expected over the medium term. Concerns swaying central banks towards tightening include a pick-up in global activity, labour market pressures, and strengthening commodity prices. In Australia, inflation expectations have also risen following a long period of sustained demand pressure. Influencing this rise, in part, may be the net fiscal stimulus scheduled for mid-2000, and the introduction of a 10 percent goods and services tax (GST) that will generate a one-off price level shift.

New Zealand growth outlook

Against this global background, and despite the negative June quarter GDP figure, our medium-term growth projections are little-changed from those in the *August Statement*. The Bank expects annual growth to average around 3½ to 4 percent over 2000 and 2001.

The export sector is expected to be a key source of growth. Manufactured and services exports are projected to remain strong as demand in Australia and the US is sustained, growth in New Zealand's other trading partners improves, and the New Zealand dollar exchange rate remains supportive. The Bank also anticipates primary sector exports to recover, with more favourable recent weather conditions allowing the primary sector to recover some of the output lost during the two previous years of drought. In addition, commodity prices are expected to rise broadly in line with New Zealand's trading partner growth (see figure 14).

The pick-up in activity will also be noticeable in domestic spending, albeit less so than exports. Neither private consumption or business investment slowed markedly during the 1998 recession, implying less need for a surge in 'catch-up' spending. This is unlike the 1993-95 experience, when consumption and business investment increased rapidly following the 1990-92 recession. Additionally, the projected rise in interest rates will increase the debt-servicing costs of a considerably expanded stock of household sector debt (see figure 15).

Figure 14
World commodity prices and trading partner growth¹⁰
(trading partner growth: annual average percentage change)

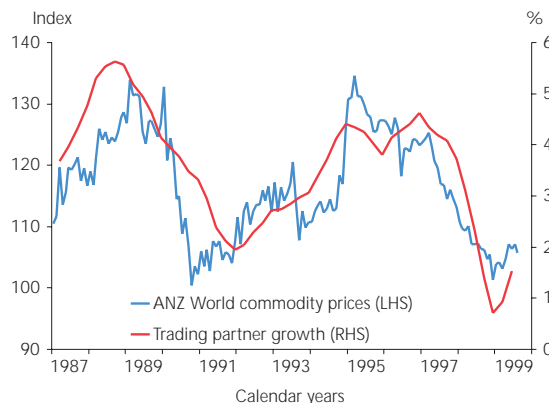
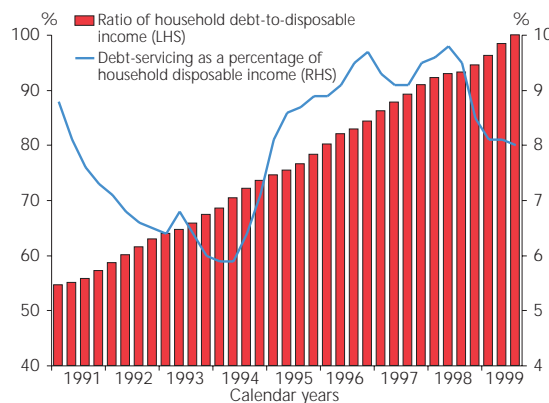


Figure 15
Household debt and debt servicing¹¹

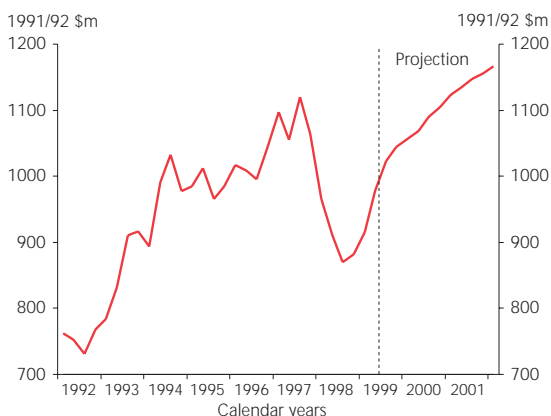


A tailing off in residential investment growth is expected over 2000, following the period of strong growth in 1999. Dwelling investment has already returned to its long-run trend (see figure 16 opposite), despite the recent slower population growth due to net emigration.

¹⁰ Our trading partner or '14-country' measure of world GDP is an export-weighted average of GDP forecasts for Australia, China, France, Germany, Hong Kong SAR, Indonesia, Italy, Japan, Malaysia, South Korea, Taiwan, Thailand, the United Kingdom, and the United States.

¹¹ RBNZ estimates. Source: RBNZ, SNZ.

Figure 16
Residential investment

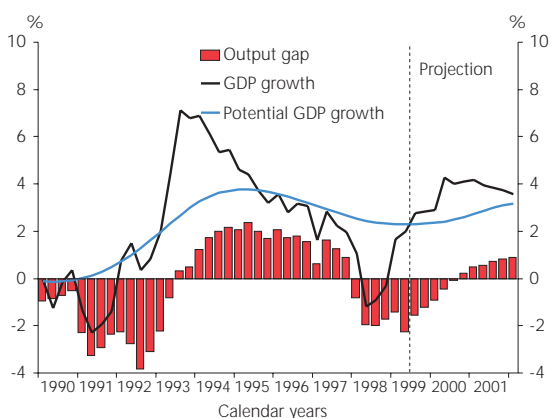


Productive capacity

Over the projection period, the Bank anticipates the growth rate of potential output to rise towards our long-run assumption of about 3 percent per annum. This rise is due to increases in business investment, the labour force, and productivity.

Given our projected GDP growth rate of around 3½ to 4 percent through the period, the spare capacity currently persisting in the economy is absorbed a little faster than previously projected (see figure 17).

Figure 17
GDP growth, potential GDP growth, and the output gap
(GDP growth and potential growth: annual percentage change; output gap: percent of GDP)



Inflation and monetary conditions

Our projected inflation profile shows a slightly more pronounced cycle than that outlined in August, largely due to the rise in oil prices. Nevertheless, inflation is projected to remain within the 0 to 3 percent target range. Annual CPI inflation is projected to peak at 2.6 percent for the year to the June quarter 2000, before declining to around 1½ percent through calendar 2001.

The Bank continues to see housing-related price pressures as an ongoing contributor to inflation pressures, albeit less so than in the mid-1990s. Although residential building activity has grown strongly over recent quarters, house sales have not followed the same trend. Consequently, while we expect housing-related prices to continue rising as resources are used, we do not expect house price inflation to reach the 10 to 15 percent annual rate of change seen through 1994-1996.

The level of excess supply or demand in the economy largely determines the medium-term direction of inflation pressures. However, a change in monetary conditions does not impact on demand, and hence the level of excess supply or demand, for at least two quarters. In addition, there is a lag between the demand response and inflation outcome. In total, this implies a lag of a year or more between altering the OCR and seeing the inflation outcome.

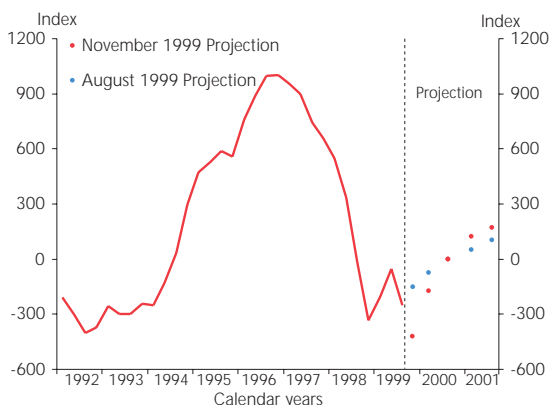
Of course, the timing of the relationship is approximate, and subject to considerable variation depending on both the type of shocks hitting the economy and the initial economic conditions. Hence, when setting the OCR, the Bank must be both forward-looking and cognisant of any relevant risks.

In these projections, the current level of spare capacity in the economy implies an initial weak outlook for domestic inflation. Throughout calendar 2000, the remaining spare capacity in the economy is gradually absorbed, thus steadily reducing the restraint on domestic inflation pressures. Towards the end of 2000 and through 2001, there will be a gradual rise in inflation pressure. Given the lags in monetary policy, monetary conditions would need to become less stimulatory from now on. In these projections, monetary conditions become firmer and are closer to a 'neutral' stance, by end-2000.

The forward path for monetary conditions shows a steeper rate of tightening than in the August *Statement*. This is partly because monetary conditions are currently considerably more stimulatory than in August, reflecting the weaker exchange rate. In addition, the spare capacity currently in the economy is expected to be absorbed slightly faster than projected in August, necessitating a slightly steeper rate of tightening.

The projected tightening is reflected in the 90-day rate and the TWI, with the 90-day rate rising 140 basis points to reach 6.6 percent by March 2002, and the TWI appreciating by almost 10 percent to 59.5. This takes the monetary conditions index from its current level of around -400 to around 200.

Figure 18
Nominal actual and projected MCI



Of course, such projections are highly conditional. The uncertainty surrounding the projected forward path for interest rates arises from the uncertain outlook for the economy and from the fact that the Bank has no influence over the eventual 'mix' of monetary conditions. The exchange rate has an important influence on inflation. However, the exchange rate is only in part influenced by monetary policy.

For the purposes of these projections, we have assumed that some of the current exchange rate weakness is temporary, for the reasons outlined in Chapter 2. Our forward path for the TWI has it appreciating to average 56 for the first half of 2000, from its current average level of a little over 54. *All other things equal*, the expected appreciation in the exchange rate implies a tightening in monetary conditions, thus partly reducing the pressure on interest rates. Of course, rarely does

all else remain equal. The exchange rate may rise or fall from its current level for a variety of reasons. Both what it does, and why, will matter for the future setting of the OCR.

Fiscal outlook

Overall, our projections assume the influence of fiscal policy on the economy to be broadly neutral over the projection period.

Our fiscal forecasts are based on those contained in the Treasury's Pre-Election Economic and Fiscal Update, adjusted for differences between our macroeconomic outlook and that of the Treasury. We are projecting the government's operating balance to be around zero in fiscal year 2000 after being temporarily boosted by the sale of Contact Energy in fiscal year 1999. We expect a small surplus to re-emerge in fiscal year 2001, and project this surplus to improve further in the following fiscal year. Net public debt as a percentage of GDP is projected to fall gradually over the projection period.

Balance of Payments

The large current account deficit is projected to narrow over 2000 and 2001 to reach around 5½ percent of GDP. This decline comes after a temporary increase in the deficit, to a peak of 7.9 percent of GDP in the year to March 2000, due largely to the increase in imported oil prices and the arrival of a second ANZAC frigate from Australia.

The trend reduction in the deficit is based on a forecast recovery in commodity prices, improved returns on services exports, and rising earnings on NZ-owned investments overseas. Rising world economic growth and the low New Zealand exchange rate will assist the projected deficit reduction.

Even with the projected narrowing of the current account deficit, its total magnitude remains large by any standards. While the current account deficit is not a direct monetary policy issue, the medium-term inflation implications of a possible external adjustment are important. For example, a sharp decline in the level of the exchange rate, or a contraction in domestic demand would both have implications for the inflation outlook. The Bank must therefore be alert to such developments and remain focused on the medium-term inflation outlook.

4 Uncertainties and policy issues

At its simplest, the task for monetary policy is to set the OCR so as to steer inflation in the direction of the mid-point of the target range over the medium-term. However, in performing this task we are faced with the complications of:

- Assessing how the economy is performing at present;
- Understanding the dynamic links between interest rates and inflation; and
- Accounting for other factors that may impact on inflation outcomes in the interim.

At present, the Bank is balancing two broad risks - the risk of being too slow to shift the OCR in the face of increased activity, against the risk of being too aggressive and stifling the recovery.

On the one hand, several factors suggest a need for a tightening of conditions.

The case for less stimulatory monetary conditions has strengthened over recent months. The Bank now believes the world economy is both stronger and better balanced. In addition, the *Consensus Forecast* of growth in our major trading partners has been consistently revised up throughout 1999. While the size of the upward revisions is declining, the Bank can not rule out further positive surprises regarding the strength of world activity. These factors suggest that monetary conditions should, perhaps, shift to a more neutral stance sooner than outlined in these projections.

There is also a risk that the recent increases in international oil prices are passed through into general inflation pressure. In this projection we have assumed that the oil price increase will not lead to general inflation, in the sense of permanently raising inflation expectations. This judgement is based on the fact that, to a large extent, the recent increase in international oil prices simply reverses a fall in oil prices in 1998, and on the belief that inflation expectations are anchored near the mid-point of the target range. While the Bank believes that this latter assumption is, on balance, appropriate, vigilance is necessary.

Meanwhile, some signs of inflation pressures have emerged globally over recent months, prompting a general tightening in policy around the world. The last period of global mone-

tary tightening, in 1994 and 1995, eventually saw conditions become stronger than anticipated. Hence, it remains to be seen just what the impact of rising world oil prices and a more balanced world economy will eventually mean for global inflation pressures.

Our projected tightening in monetary conditions is reflected in both higher 90-day interest rates and an appreciating exchange rate. The recent fall in the TWI, all other things equal, would also suggest raising the OCR by even more than currently projected. Obviously, if a lower than projected exchange rate proves persistent, and not well justified by the emerging data, the Bank may eventually have to look at raising the OCR further.

On the other hand, caution appears warranted.

The presence of uncertainty generally implies taking a cautious approach to interest rate changes. For example, some central banks, most notably the US Federal Reserve Board, proved reluctant to raise official interest rates despite evidence of the traditional precursors of inflation pressures. Nevertheless, they succeeded in maintaining low inflation in a high growth environment. With that experience in mind, what reasons exist to encourage a similarly cautious approach to raising interest rates in New Zealand?

First, pricing behaviour may have changed given anecdotal evidence here and abroad that inflation expectations are more firmly anchored than in the past.

Second, the factors leading to the recent exchange rate weakness are unclear. If the exchange rate depreciation proves temporary, or reflects an expectation of weaker world growth that is subsequently justified, an even steeper rise in the OCR would prove quite inappropriate.

Third, risks remain regarding the global economic outlook. A sharp correction in US equity prices might lead to a decline in US consumer spending and business investment. During recent years these have been key sources of global economic activity. Furthermore, despite the recent pick-up in Japanese economic activity, Japan's overall growth performance remains sluggish, heavily dependent on fiscal support, and threatened by a strengthening yen exchange rate. This places a question mark over the sustainability of the wider Asian economic

recovery. In addition, the recent cyclical rebound in Asia masks ongoing significant balance sheet and debt concerns that will continue to dominate the region's business scene, and will provide an ongoing risk to sustained growth.

Fourth, the Y2K issue is making the interpretation of recent economic data difficult. It is unclear whether Y2K concerns have led to a global build-up in inventories that will be unwound over 2000. Such a timing issue could lead to an abrupt slowdown in some sectors of the global economy in early 2000. Considerable investment in computer equipment has also occurred over recent years. Just how much of this spending was brought forward from 2000 is unclear.

Finally, another uncertainty is the actual strength of the domestic bounce-back from the June quarter GDP decline. For

these projections, the Bank estimates that the June quarter result was, in large part, an aberration. However, the actual outcome for September quarter GDP will not be known until late-December. The Bank is also aware that the recovery has been 'patchy' across various sectors of the economy. In particular, the agricultural sector has struggled following two recent droughts. A risk of a further drought this summer remains a concern.

Overall, the Bank believes that, with the projected shift to less stimulatory monetary conditions, the risks around the outlook for inflation are balanced. However, the Bank must continue to assess developments and alter our stance where new information suggests that it is necessary. This is why we emphasise the conditional nature of any projections.

Appendix 1: Chronology

Listed below are recent events of relevance to monetary policy and inflation.

1999

- 18 August: The Reserve Bank released its twenty-third *Monetary Policy Statement*. The news release accompanying the *Statement* is reproduced in Appendix 2.
- 24 September: Production GDP figures were released showing the New Zealand economy contracted 0.3 percent in the June 1999 quarter, and grew by 0.6 percent for the year to June 1999.
- 29 September: The Reserve Bank announced that it would leave the Official Cash Rate unchanged at 4.5 percent.
- 28 October: The Reserve Bank of New Zealand and the Treasurer announced the move to target the new CPI in place of the CPIX.
- 29 October: The September 1999 quarter CPI was released. The CPI rose 0.6 percent in the quarter. The Bank's target inflation measure rose 1.3 percent over the year to September.

Appendix 2: Reserve Bank statements on monetary policy

The following are reports or texts of official statements on monetary policy issues made by the Bank during the period under review in this *Monetary Policy Statement*.

OCR unchanged: may need to rise soon

18 August 1999

The Reserve Bank today left the Official Cash Rate (OCR) unchanged. However, it indicated that an increase before the end of the year is increasingly likely. This came with the release of the Bank's August 1999 *Monetary Policy Statement*.

Reserve Bank Governor Don Brash said: "The world economy is looking considerably stronger. As well, the New Zealand economy has been growing at about 3 percent per annum over the last 12 months and credit continues to expand briskly. Inflation pressures now appear likely to build earlier than we projected in the May *Monetary Policy Statement*.

"These factors, on their own, suggest that it is time for the Bank to begin to ease back on the monetary policy 'accelerator'.

"However, New Zealand business and consumer confidence still appears fragile, and there are some obvious questions hanging over the world economy, such as the possibility of a sharp fall in US share prices. As well, long-term interest rates, including fixed mortgage rates, have already risen quite sharply, which should begin to dampen demand.

"Balancing these factors, the Bank has decided to keep the OCR where it is for the moment, but also to signal that a tightening soon is increasingly likely, if events evolve as expected.

"This should not come as a surprise to financial markets, which for some time have been expecting a rise in the OCR in the next three to six months," Dr Brash concluded.

OCR unchanged at 4.5 per cent

29 September 1999

(no further statement)

Minor technical change to inflation target

28 October, 1999

A minor technical change to the way the Reserve Bank's inflation target is measured has been announced by Treasurer Bill English and Reserve Bank Governor Don Brash.

As of today, and as allowed for in the existing Policy Targets Agreement, the Reserve Bank's 0 to 3 percent inflation target is to be calculated in terms of the Consumers Price Index (CPI), instead of the earlier underlying inflation and more recent CPIX inflation.

The change has occurred because the CPI has recently been changed by Statistics New Zealand, and it is now formatted in a way that is suitable as an inflation target.

The next CPI announcement is on 29 October, and for the first time interest rates will not be in the CPI. Previously the Reserve Bank had to target CPI inflation with interest rates removed (CPIX). That was because when the Reserve Bank increased interest rates to constrain increased inflationary pressures, CPI inflation went up. If unmodified CPI inflation had been the Reserve Bank's inflation target then, perversely, this would have demanded a further interest rate increase, like a cat endlessly chasing its tail, hence the CPIX target. With interest rates now out of the CPI, this problem is solved.

Reserve Bank Governor Don Brash said: " This change will have no effect at all on the stance of monetary policy. For financial markets its significance is zero. However, for the public's understanding of how monetary policy works this is a great step forward. As of today, the Reserve Bank's communications task has been made easier."

The new CPI also sees the deletion of section prices, which means that the inflation result to be announced on the 29th will not be strictly comparable with previous CPIX results.

Appendix 3: Summary Tables¹

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Table A

CPIX inflation projections and monetary conditions

(CPIX is in percentage changes)

	CPIX * Annual	TWI	90-day bank bill rate	MCI	
				Nominal	Real
1995	2.2	61.7	9.0	600	575
	2.1	61.9	8.5	550	550
1996	2.1	64.2	8.7	750	750
	2.3	64.6	9.7	900	875
	2.3	65.6	10.0	1000	1000
	2.4	67.1	8.9	1000	1000
1997	2.0	68.4	7.5	950	1000
	1.5	68.0	7.2	900	950
	1.8	64.8	8.1	750	775
	1.6	63.9	7.9	650	700
1998	1.7	61.2	9.0	550	600
	1.7	58.5	9.1	325	375
	1.7	57.1	6.8	-25	25
	1.1	56.0	4.6	-325	-225
1999	1.0	57.6	4.5	-200	-100
	1.2	59.1	4.7	-50	25
	1.3	56.7	4.8	-250	-200
	2.2	54.3	5.2	-425	-500
2000	2.5	56.5	5.8	-175	-300
First Half Average					
Second Half Average	2.1	57.9	6.3	0	-75
2001	1.6	58.9	6.6	125	75
First Half Average					
Second Half Average	1.5	59.5	6.6	175	125

¹ Notes for these tables are in Appendix 4

* Up to and including the June 1999 quarter, the series is the annual percentage change in CPIX. From June 2000, the series is the annual percentage change in the new CPI. For September 1999 to March 2000, the series is calculated by adding the quarterly increases in the new CPI to the quarterly increases in the old CPI excluding interest rates and section prices.

Table B

World outlook

(Annual average percentage change, unless specified otherwise)

March year	Actuals										Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
World GDP	2.7	3.4	4.3	4.1	4.3	3.1	0.9	3.4	3.1	3.3			
World CPI inflation	2.7	1.9	2.2	2.4	2.6	2.6	1.4	1.2	1.9	2.0			
Domestic													
Import prices	6.7	-2.7	-1.8	-0.7	-3.4	0.8	3.7	3.0	-0.7	-0.8			
Export prices	9.3	-1.2	-2.1	-2.8	-4.2	0.1	3.3	1.3	-1.8	1.1			
Terms of trade	2.4	1.5	-0.3	-2.2	-0.8	-0.6	-0.5	-1.6	-1.2	1.9			
March quarter													
World 90-day rate (level, %)	3.6	3.7	6.5	5.7	5.5	5.5	4.7	5.8	5.8	5.6			
World bond rate (level, %)	6.7	6.2	8.0	6.4	6.8	5.6	5.1	6.4	6.4	6.2			

Table C

Composition of real GDP growth

(Annual average percentage change, unless specified otherwise)

March year	Actuals							Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Final consumption expenditure										
Private	0.3	3.4	6.0	4.2	3.8	3.1	1.3	2.1	2.8	2.7
Public authority	3.0	-1.1	-0.7	3.3	2.4	6.4	-0.4	6.4	-3.7	-1.0
Total	0.9	2.4	4.6	4.0	3.5	3.7	0.9	3.0	1.5	2.0
Gross fixed capital formation										
Market sector:										
Residential	2.8	17.1	12.2	-0.1	4.0	1.7	-15.0	14.4	7.1	5.0
Business	5.3	20.3	16.1	12.0	2.4	0.2	7.6	11.9	6.7	8.3
Non-market government sector	-3.1	8.5	37.0	14.3	30.0	6.9	-11.3	-7.7	10.4	5.1
Total	3.7	18.2	17.2	9.4	6.2	1.5	-0.3	9.6	7.2	7.3
Final domestic expenditure	1.3	5.1	7.0	5.1	4.1	3.2	0.7	4.4	2.8	3.2
Stockbuilding ⁽¹⁾	0.7	1.1	0.0	-0.7	-0.5	0.2	-1.0	1.0	-0.3	0.2
Gross national expenditure	2.0	6.2	6.9	4.3	3.6	3.4	-0.3	5.4	2.5	3.4
Exports of goods and services	2.5	7.9	8.4	2.6	3.5	4.0	2.1	3.8	7.8	5.4
Imports of goods and services	7.4	8.0	14.3	7.2	7.0	5.0	3.4	9.1	2.7	4.1
Expenditure on GDP	0.8	6.2	5.3	2.9	2.5	3.1	-0.8	3.5	4.2	3.8
GDP (production)	1.2	6.3	5.4	3.8	2.6	2.0	-0.2	2.6	4.1	3.8
GDP (production, March qtr to March qtr)	2.0	6.9	4.6	3.8	1.3	1.1	1.6	2.9	4.2	3.6
Potential output	1.5	2.8	3.6	3.7	3.3	2.7	2.4	2.3	2.6	3.0
Output gap (% of potential GDP, year average)	-3.0	0.3	2.0	2.0	1.4	0.7	-1.8	-1.5	0.0	0.8

⁽¹⁾ Percentage point contribution to the growth rate of GDP.

Table D
Household income and consumption
(Annual average percentage change)

March year	Actuals							Projections			
	1993	1994	1995	1996	1997	1998	1999e	2000	2001	2002	
Compensation of employees	2.4	4.4	6.4	5.9	6.1	3.6	2.4	2.9	5.1	5.6	
Entrepreneurial income	-2.4	13.5	8.7	10.6	1.3	2.5	-0.5	1.8	5.2	5.8	
Other income	-2.1	3.1	1.9	7.3	4.4	1.4	1.0	2.5	3.8	5.7	
Total income	0.3	5.2	5.4	7.0	4.9	2.8	1.6	2.6	4.7	5.7	
Less income tax	3.0	6.0	7.2	6.7	1.9	0.6	-5.4	0.8	3.4	5.7	
Nominal disposable income	-0.4	5.0	4.9	7.1	5.7	3.4	3.4	3.1	5.0	5.6	
Consumption deflator	1.7	1.7	2.0	2.6	1.8	1.0	1.4	1.8	2.2	1.5	
Real disposable income	-2.0	3.2	2.9	4.4	3.8	2.4	2.0	1.2	2.8	4.0	
Real household consumption	0.3	3.2	6.0	4.3	3.7	3.1	1.3	2.1	2.8	2.6	
Household savings rate ⁽¹⁾	3.4	3.3	0.4	0.5	0.7	-0.1	0.6	-0.3	-0.2	1.1	

e = estimate

⁽¹⁾ Percentage of disposable income.

Table E

Fiscal accounts (\$billion)

June year	Actuals							Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Revenue										
Direct taxation	16.6	17.6	19.8	21.3	20.5	21.3	20.3	20.9	21.8	23.2
Indirect taxation	9.2	10.1	10.4	11.0	11.4	11.7	11.9	12.3	12.8	13.2
Non-tax revenue	4.0	2.5	3.4	2.8	2.9	2.6	4.2	2.4	2.3	2.4
Total revenue	29.8	30.2	33.6	35.1	34.8	35.6	36.4	35.6	36.9	38.9
Total expenses	31.4	29.6	30.4	31.7	33.0	34.2	35.8	36.1	37.0	38.1
Revenue less expenses	-1.6	0.5	3.2	3.3	1.8	1.4	0.5	-0.5	-0.1	0.8
Net surplus attributable to SOEs and Crown entities	0.8	0.2	-0.6	0.0	0.1	1.2	1.2	0.4	0.7	0.6
Operating balance (% of nominal expenditure GDP)	-0.8	0.8	2.7	3.3	1.9	2.5	1.8	0.0	0.5	1.4
	-1.1	0.9	3.1	3.6	2.0	2.6	1.8	0.0	0.5	1.2
Net public debt (as at June 30) (% of nominal expenditure GDP)	37.1	35.4	32.6	28.6	25.3	24.1	21.7	23.4	24.0	23.5
	49.1	43.0	37.0	31.0	26.4	24.6	21.8	22.7	22.1	20.5

Table F
Investment
(Annual average percentage change)

March year	Actuals										Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
Plant and machinery (excluding computers)	15.6	25.8	19.4	11.1	2.1	9.7	12.0	19.9	6.3	6.4			
Transport equipment	14.6	25.0	13.7	6.5	-3.2	2.1	3.4	8.4	5.0	9.8			
Commercial buildings	25.4	21.0	11.0	3.6	12.7	-22.3	-1.8	11.2	2.4	8.1			
Other	2.1	26.0	26.9	26.4	-2.5	-4.2	1.7	-10.5	16.1	20.2			
	-30.7	-7.5	-7.4	6.8	-4.9	-5.2	3.2	-8.1	0.0	1.6			
Market sector business investment (excluding computers)	5.3	20.3	16.1	12.0	2.4	0.2	7.6	11.9	6.7	8.3			
	4.3	19.6	12.9	9.7	-0.2	-5.0	2.1	3.4	6.1	11.0			
Market sector residential investment	2.8	17.1	12.2	-0.1	4.0	1.7	-15.0	14.4	7.1	5.0			
Total market sector investment	4.6	19.4	15.0	8.7	2.8	0.6	1.8	12.4	6.8	7.6			
Government (non-market) investment	-3.1	8.5	37.0	14.3	30.0	6.9	-11.3	-7.7	10.4	5.1			
Total investment (excluding computers)	3.7	18.2	17.2	9.4	6.2	1.5	-0.3	9.6	7.2	7.3			
	3.0	17.5	15.0	7.4	4.0	-2.2	-4.4	3.7	6.7	8.4			

Table G

Trade volumes and the current account

March year	Actuals							Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Trade volumes (Annual average percentage change)										
Exports of goods	0.6	6.9	7.2	0.8	6.7	6.6	-0.7	2.2	8.5	6.1
Exports of services	9.5	11.3	12.5	8.1	-5.6	-4.4	12.3	8.9	5.8	3.0
Total exports	2.5	7.9	8.4	2.6	3.5	4.0	2.1	3.8	7.8	5.4
Imports of goods	8.1	12.1	15.6	7.0	7.5	5.6	3.6	12.0	2.2	3.8
Imports of services	5.1	-5.3	9.1	8.2	5.2	2.6	2.4	-3.1	5.4	5.6
Total imports	7.4	8.0	14.3	7.2	7.0	5.0	3.4	9.1	2.7	4.1
Current account (\$ billion March year annual total)										
Merchandise trade balance	3.4	3.1	2.1	0.9	1.0	1.4	1.5	-0.9	0.8	1.8
Services balance	-1.7	-0.9	-0.6	-0.1	-0.5	-1.1	-1.2	-0.2	0.0	0.0
Investment income balance	-3.9	-4.5	-6.0	-6.0	-7.3	-6.4	-6.4	-7.6	-8.1	-8.6
Transfers balance	0.2	0.4	0.3	0.3	0.8	0.6	0.5	0.6	0.5	0.5
Current account⁽¹⁾	-1.9	-1.9	-4.1	-5.0	-6.0	-5.5	-5.7	-8.1	-6.8	-6.3
(% of nominal production GDP)										
	-2.6	-2.3	-4.7	-5.5	-6.3	-5.6	-5.7	-7.9	-6.4	-5.5

⁽¹⁾ Errors in adding up the current account are due to rounding.

Table H
Labour market

March year	Actuals							Projections		
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Change in labour force:										
Natural increase (000's)	22.5	23.4	24.6	25.2	19.0	19.0	18.9	16.6	18.3	19.0
Net migration (000's)	2.8	6.5	9.2	13.0	9.1	-0.2	-6.4	-5.8	-0.6	4.8
Increase in participation (000's)	-13.8	28.2	9.4	30.5	0.4	-4.4	-2.1	1.6	16.3	9.8
Total change in labour force (000's)	11.6	58.1	43.2	68.7	28.5	14.4	10.4	12.4	34.0	33.6
March quarter:										
Population of working age (000's)	2624	2671	2723	2781	2824	2853	2872	2888	2915	2950
Labour force participation rate (%)	63.2	64.3	64.7	65.8	65.8	65.6	65.6	65.6	66.2	66.5
Total labour force (000's)	1660	1718	1761	1830	1858	1872	1883	1895	1929	1963
Total employment (000's)	1490	1555	1639	1711	1731	1732	1741	1759	1799	1843
Annual growth (%)	1.6	4.4	5.4	4.4	1.2	0.0	0.6	1.0	2.3	2.4
Unemployment (000's)	170	163	122	119	127	141	142	136	130	120
Unemployment rate	10.2	9.5	6.9	6.5	6.8	7.5	7.5	7.2	6.8	6.1
Unemployment rate (s.a.)	9.8	9.1	6.6	6.1	6.5	7.1	7.2	6.9	6.4	5.8
Total hours worked										
Annual growth (%)	3.4	3.8	6.6	4.8	-2.1	-0.6	1.4	0.7	2.1	2.4
Labour productivity										
Annual growth (%)	-0.9	1.7	-0.4	-0.5	0.9	2.1	-0.2	1.7	2.6	1.3
OES private sector wages (\$ per hour)	14.1	14.3	14.6	15.1	15.7	16.1	16.6	16.9	17.3	17.8
Annual growth (%)	0.7	1.4	2.1	3.7	4.0	2.6	2.7	1.9	2.4	3.0

Appendix 4: Notes to the tables

CPIX	Consumers Price Index excluding Credit Services. <i>Consumers Price Index</i> .
TWI	RBNZ. Nominal Trade Weighted Index of the exchange rate. Defined as: A geometrically-weighted index of the New Zealand dollar bilateral exchange rates against the currencies of Australia, Japan, the United States, and the United Kingdom, and against the euro.
90-day rate	RBNZ. Defined as: The interest yield on 90-day bank bills.
Nominal MCI	RBNZ. Defined as: $\{(90\text{day}-r_0) + (1/2)*[\log_n(\text{TWI}) - \log_n(\text{TWI}_0)]*100\} * 100 + 1000$ where 90day and TWI are nominal rates and r_0 and TWI_0 are corresponding averages of daily rates for the December 1996 quarter, where $r_0 = 8.91$ and $\text{TWI}_0 = 67.11$.
Real MCI	RBNZ. Defined as: $\{(R90\text{day}-R_0) + (1/2)*[\log_n(\text{RTWI}) - \log_n(\text{RTWI}_0)]*100\} * 100 + 1000$ where R90day and RTWI are the estimated real 90day interest rate and the real TWI exchange rate. R90day is calculated as the nominal 90-day rate less the annual (four-quarter) inflation rate in the CPIX. RTWI is calculated as the TWI multiplied by New Zealand's GDP deflator (interpolated from annual data) and divided by the trade-weighted average of GDP deflators of our trading partners. R_0 and RTWI_0 are base levels for the December 1996 quarter, where $R_0 = 6.5$ and $\text{RTWI}_0 = 1$ (normalised). All input numbers are rounded to one decimal place.
World GDP	Reserve Bank definition. 14-country index, export weighted. Projections based on <i>Consensus Forecasts</i> . Seasonally adjusted.
World CPI inflation	RBNZ definition and estimate: TWI trading partners' CPI inflation (euro-zone proxied by Germany), weighted by TWI weights. Projections based on <i>Consensus Forecasts</i> .
Import prices	Domestic currency import prices. <i>Overseas Trade Indexes</i> .
Export prices	Domestic currency export prices. <i>Overseas Trade Indexes</i> .
Terms of trade	Constructed using domestic-currency export and import prices. <i>Overseas Trade Indexes</i> .
World 90-day rate	RBNZ definition and estimate: 80:20 weighted combination of US and Australian 90-day interest rates. Projections based on <i>Consensus Forecasts</i> .
World bond rate	RBNZ definition and estimate: 80:20 weighted combination of US and Australian 10-year interest rates. Projections based on <i>Consensus Forecasts</i> .
Private consumption	<i>System of National Accounts</i> .
Public authority consumption	<i>System of National Accounts</i> .
Residential investment	RBNZ definition: Private sector and government market sector residential investment. <i>System of National Accounts</i> .
Business investment	RBNZ definition: Total investment less the sum of non-market investment and residential investment. <i>System of National Accounts</i> .
Non-market investment	RBNZ definition: The <i>System of National Accounts</i> annual nominal government non-market/market investment ratio is interpolated into quarterly data. This ratio is used to split quarterly expenditure GDP Government Investment into market and non-market components.
Final domestic expenditure	RBNZ definition: The sum of total consumption and total investment. <i>System of National Accounts</i> .
Stockbuilding	Percentage point contribution to the growth of GDP by stocks. <i>System of National Accounts</i> .

Gross national expenditure	Final domestic expenditure plus stocks. <i>System of National Accounts.</i>
Export of goods and services	<i>System of National Accounts.</i>
Imports of goods and services	<i>System of National Accounts.</i>
GDP (production)	<i>System of National Accounts.</i>
Potential output	RBNZ definition and estimate. Refer to: Conway, P. and B. Hunt, (1997), 'Estimating Potential Output: a semi-structural approach', <i>Reserve Bank of New Zealand Discussion Paper, G97/9.</i>
Output gap	RBNZ definition and estimate: The percentage difference between real GDP (production, seasonally adjusted) and potential output GDP.
Compensation of employees	<i>Household Income and Outlay Accounts.</i>
Other income	<i>Household Income and Outlay Accounts.</i>
Nominal disposable income	<i>Household Income and Outlay Accounts.</i>
Consumption deflator	<i>System of National Accounts.</i>
Real disposable income	<i>Household Income and Outlay Accounts.</i>
Real household consumption	<i>System of National Accounts.</i>
Household savings rate	<i>Household Income and Outlay Accounts.</i>
Direct taxation	Historical source: The Treasury. Defined as total personal taxation, total company taxation and total withholding taxes. Adjusted by the RBNZ over the projection period.
Indirect taxation	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
Non-tax revenue	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
Total expenses	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
Net surplus attributable to SOEs and Crown entities	The Treasury.
Government operating balance	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
Net public debt	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
Plant and machinery investment	RBNZ definition: Market sector plant and machinery investment. <i>System of National Accounts.</i>
Plant and machinery investment (excluding computers)	RBNZ definition: Market sector plant and machinery investment excluding computer investment. <i>System of National Accounts.</i>
Transport equipment	RBNZ definition: Market sector transport equipment investment. <i>System of National Accounts.</i>
Commercial buildings	RBNZ definition: Market sector non-residential building investment. <i>System of National Accounts.</i>
Other investment	RBNZ definition: Market sector other construction and land improvement investment. <i>System of National Accounts.</i>

Total market investment	RBNZ definition: The sum of total business investment and total residential investment. <i>System of National Accounts.</i>
Total investment	<i>System of National Accounts.</i>
Total investment (excluding computers)	Total investment less computer investment. <i>System of National Accounts.</i>
Export of goods	<i>System of National Accounts.</i>
Export of services	<i>System of National Accounts.</i>
Import of goods	<i>System of National Accounts.</i>
Import of services	<i>System of National Accounts.</i>
Merchandise trade balance	<i>Balance of Payments.</i>
Services balances	<i>Balance of Payments.</i>
Investment income balance	<i>Balance of Payments.</i>
Transfers balance	<i>Balance of Payments.</i>
Current account balance	<i>Balance of Payments.</i>
Natural increase	Defined as the change in the population of working age minus net migration.
Net migration	Net arrivals of working age (15-64). <i>External Migration.</i>
Participation rate	<i>Household Labour Force Survey.</i>
Labour force	<i>Household Labour Force Survey.</i>
Total employment	<i>Household Labour Force Survey.</i>
Unemployment rate	<i>Household Labour Force Survey.</i>
Total hours worked	<i>Household Labour Force Survey.</i>
Labour productivity	Defined as GDP (production) divided by HLFS hours worked. This series is smoothed by taking a four-quarter moving average.
Wages	Private sector ordinary time average hourly earnings. <i>Quarterly Employment Survey.</i>
House prices	Average house price index, Quotable Value New Zealand.
Construction costs (residential)	RBNZ estimate: component of the Housing Group, <i>Consumers Price Index.</i>
Quarterly percentage change	$(\text{Quarter}/\text{Quarter}_{-1}) * 100$
Annual percentage change	$(\text{Quarter}/\text{Quarter}_{-4}) * 100$
Annual average percentage change	$(\text{Year}/\text{Year}_{-1}) * 100$

Source: Unless otherwise specified, all data conform to Statistics New Zealand definitions, and are not seasonally adjusted.