Monetary Policy Statement[1]

May 2001

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

Contents

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[1] Projections finalised on 30 April 2001. Policy assessment finalised on 15 May 2001.

1 Overview and policy assessment

We have decided to reduce the Official Cash Rate again, by 25 basis points to 5.75 per cent.

It is easy to see why virtually all commentators have been expecting another easing of monetary policy. The economies of many of our major trading partners, and particularly Australia, the United States, Japan, and non-Japan Asia, have grown quite slowly in recent months, and a more prolonged slowdown than that expected a few months ago is possible. Central banks in Australia and the United States have eased policy substantially over the last four months in response.

At home, business and consumer confidence have fallen, and investment spending has slowed. There is no sign of any widespread increase in asset prices (with the exception of the prices of some rural land), and growth in money and credit remains relatively weak. The drought which has affected significant parts of the country may reduce next season's agricultural production, tempering growth in income and spending in the rural economy.

But the inflation outlook is less clear than these factors alone would suggest. The problem is not that we expect June quarter inflation to be much higher than that in the March quarter. Both the slight fall in the CPI in the March quarter and the appreciably higher figure we expect in the June quarter are the result of one-off or temporary factors to which monetary policy should not respond.

Rather, what makes the outlook for inflation less clear than that suggested by a simple reading of today's headlines about the world economy – or the currently more subdued state of business confidence – is a number of other factors.

To begin with, although it is easy to imagine scenarios where the world economy slows a lot further, it is not yet by any means clear that growth in our main trading partners will continue to be weak next year, the time most relevant to what we do with monetary policy today. *Consensus* forecasts continue to suggest that the world economy will pick up again next year, while in recent weeks world financial markets also seem to be responding to that prospect.

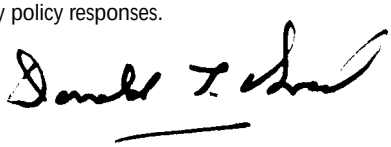
Secondly, while any prolonged period of slow growth would almost inevitably lead to excess capacity in the global economy, and produce disinflationary pressures in New Zealand requiring a further monetary policy response, it is not at all clear that a relatively mild slowdown in the world economy will produce significant downwards pressure on inflation in New Zealand. So far, the world prices of many of New Zealand's commodity exports have held up surprisingly well, despite the slowdown in the growth of our trading partners. In other words, one of the major channels through which a weaker world economy typically affects New Zealand does not yet appear to be operating as previous experience would suggest.

Thirdly, and again atypically, we go into this period of relatively slow growth in our trading partners with the New Zealand dollar at historically very low levels. This low exchange rate is providing useful insulation against the slowing world economy. Although to date the low exchange rate does not appear to have produced as much growth in net exports as we would have expected, it still seems likely that the low exchange rate will eventually produce reasonably strong stimulus to the export and import-competing sectors of the economy – in a way fully consistent with the many anecdotes we are hearing of growth in industries such as pastoral agriculture and tourism. Indeed, if historical relationships were to reassert themselves, a continuation of the low exchange rate would almost inevitably require higher interest rates to keep the pressure on resources from generating future inflation.

Fourthly, although the increase in wages and salaries has, to date, been broadly consistent with a continuation of low inflation, unemployment is currently near 13-year lows, with many reports of employers finding difficulty finding staff. Similarly, some measures of capacity utilisation suggest little scope to increase output substantially without an increase in inflation.

Finally, while much has been made of the decline in the business sector's confidence about the outlook for the economy in general, it is important not to lose sight of the fact that most businesses continue to be relatively optimistic about their own future.

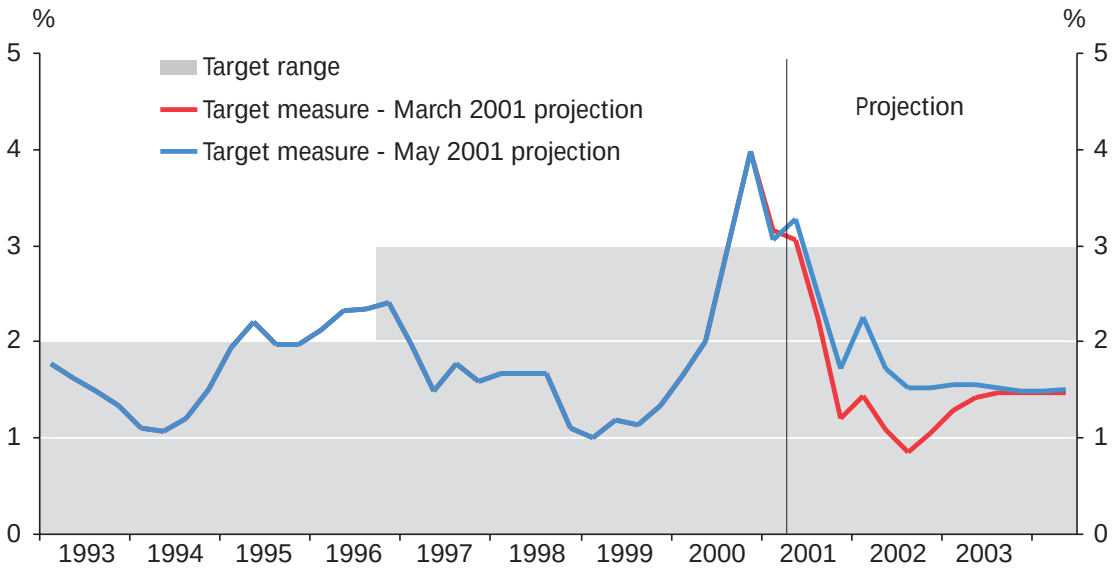
This *Statement*, and indeed previous ones, have highlighted the tension between contradictory influences on the future path of inflation in New Zealand. In such an environment, it is prudent to adjust policy cautiously as we observe the evolving balance of those influences. At this stage, we see inflation settling back near the middle of our target range with something close to the current interest rate settings. But it is not difficult to identify outcomes that are rather less benign – in either direction – and that would require more vigorous monetary policy responses.



Donald T. Brash

Governor

Figure 1
Consumer price inflation[2]
(annual percentage change)



[2] The target measure shown is annual underlying inflation until the September quarter 1997, annual CPIX inflation from the December 1997 quarter until the June 1999 quarter, and annual CPI inflation thereafter (adjusted to exclude interest and section prices from the September 1999 quarter to the June 2000 quarter).

Table 1

Summary of economic projections

(Annual percentage change, unless specified otherwise)

	Actuals	Projections			
March year	2000	2001	2002	2003	2004
Price measures					
CPI*	1.7	3.1	2½	1½	1½
Wages	2.0	2½	3½	3	2½
Import prices (in New Zealand dollars)	11.2	9½	-4	-4	0
Export prices (in New Zealand dollars)	9.6	20	-10	0	1
Monetary conditions					
90-day bank bill rate (year average)	5.2	6.6	6	6	6
TWI (year average)	56.1	50.4	50	52	53½
Output					
GDP (production, annual average % change)	4.6	2½	3	3	2½
GDP (production, March qtr to March qtr)	5.5	1	3½	3	2½
Output gap (% of potential GDP, year average)	0.2	0	0	½	0
Labour market					
Total employment (annual % change)	1.4	2½	1½	1½	1½
Unemployment rate (March qtr, s.a.)	6.4	5½	5½	5½	5
Labour productivity (annual average % change)	2.6	1	½	2	1½
Key balances					
Government operating balance (% of GDP, year to June)	1.4	1	2	2½	3
Current account balance (% of GDP, year to March)	-6.9	-5	-5	-4½	-4
Terms of trade (annual average % change)	-0.1	3½	-1½	1	2½
Household savings rate (% of disposable income, year to March)	-4.1	-3	-3	-3	-1½
World economy					
World GDP (annual average % change)	4.4	3½	2½	3½	3½
World CPI inflation	2.0	2½	1½	1½	2

Quarterly projections	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01
CPI (quarterly percentage change)	1.4	1.2	-0.2	0.9	0.6
CPI (annual percentage change)	3.0	4.0	3.1	3.3	2.5

e = estimate.
s.a. = seasonally adjusted

* This series is annual CPIX inflation until the June 1999 quarter, and annual CPI inflation thereafter (adjusted by SNZ to exclude interest and section prices from the September 1999 quarter to the June 2000 quarter).

Notes for this table are in Appendix 5.

2 Recent developments and the current economic situation

Looking back at the latest business cycle

For some time now, New Zealand has experienced unusually favourable conditions in several dimensions that are normally important to economic performance. We have had a low exchange rate since late 1998; strong global demand, at least until late 2000; good international prices for many key commodities — especially over the last year and a half; and favourable agricultural growing conditions over the last two seasons. Absent restrictive fiscal policy or other restraining influences, these factors would normally drive the New Zealand economy into a rapid growth phase. Coupled with a tightening labour market and high utilisation of existing plant and equipment, this combination of circumstances would traditionally provide compelling reasons to keep monetary policy tight to offset growing inflationary pressures.

However, although we experienced a brief period of rapid growth in the second half of 1999, before many of these expansionary influences had come fully into play, since then growth has been moderate rather than exceptional. As a consequence, the potential for inflationary pressures to build beyond a level consistent with our inflation target has not, thus far, been realised. While some of the factors that capped the expansion phase at mid-cycle are obvious, the full story is not yet clear.

In the middle of last year, business and consumer confidence plunged sharply. Concerns about the introduction of the Employment Relations Act, changes in the operation of the Accident Compensation Corporation, the causes and consequences of the depreciation of the NZ dollar to historical lows, a higher tax rate on earnings over $60,000, rising petrol prices, and an increase in interest rates all combined to create considerable nervousness. The drop in confidence clearly took steam out of the economy and lowered the inflation risk. But the degree to which confidence fell was surprising, given the strong fundamental conditions present at the time.

As confidence returned in late 2000, with the strong fundamentals still in place, the inflation outlook began to assume a less benign aspect. Export and import-competing sectors, already operating close to capacity, were still being stimulated by a low exchange rate, and there was every prospect that strong income growth in those sectors would soon spill over into the rest of the economy. In addition, a sharp increase in consumer prices — caused by increased energy prices, increased tobacco excise taxes, and a lower exchange rate — threatened to increase inflation expectations.

By the close of 2000, inflation risks seemed to dominate. However, we recognised there were also downside risks. In particular, there were already signs that the world economy – parts of which had been defying economic gravity for a considerable period – were beginning to slow and might slow by more than most forecasters had allowed for.

While the tone of our *Statements* through this period tended to alternate as these various influences on inflation emerged and then dissipated, our uncertainty about the persistence of the relevant influences persuaded us to keep interest rates steady while we waited to see how events unfolded. Since interest rates were somewhere near neutral, we were comfortable about waiting a bit longer before moving. With hindsight, keeping interest rates on hold proved appropriate.

In the first half of 2001, we have moved into yet another phase. The same tensions between stimulatory and contractionary forces are at play, but the balance has shifted somewhat. There has been accumulating evidence that world economic growth has slowed, particularly in the United States but also in Australia and Asia. As a result, the stimulus coming from world demand has been reduced. Even the positive influence of favourable weather conditions that New Zealand benefited from last year has begun to dissipate, as more of the country suffers drought conditions.

With some of the stimulus removed, we took some insurance against a slowing world economy. That insurance took the form of successive 25 basis point reductions in the Official Cash Rate in March and April. For several reasons, these moves were characterised as cautious, and not necessarily the start of a more general monetary policy easing cycle. In part, caution was warranted because the extent of the world economic slowdown was difficult to gauge. But perhaps more importantly, two other stimuli to the external sector of the New Zealand economy – relatively strong world prices for

our exports and a low exchange rate – were, and remain, present to a surprising extent.

As things now stand, we have been left with an unusual configuration of influences. Growth in the United States and Australia has slowed, without being replaced by acceleration elsewhere. Yet prices for many of New Zealand's commodity exports have remained relatively strong. It is also unusual for New Zealand to have a low exchange rate well in advance of the world entering a slowdown phase. Thus, although aggregate global demand has eased back, New Zealand's exports are relatively competitive, and the income earned from those exports is, in some cases, at record highs. On the other hand, the low exchange rate has also restrained consumer's purchasing power.

In principle, it is possible that the favourable price incentives facing New Zealand exporters (high export prices in world currency terms coupled with a low exchange rate) will dominate a slowdown in global demand, especially a slowdown that merely returns world growth back to its long-term trend. Indeed, New Zealand's 'normal' historical patterns would suggest that export growth should now be accelerating. The same reasoning applies to import-competing industries.

This raises a question about why indicators of external sector activity have been pointing in the opposite direction (more on this soon). One explanation is that most of the relevant international trade price rises have occurred only over the last year or so. While the positive incentives may be there, firms in export and import-substitution sectors may not have had time to respond to them yet. Alternatively, New Zealand exports may not be as sensitive to these price incentives as we think. For example, exports are often supply constrained and our industry may have limited scope to engage in import substitution.

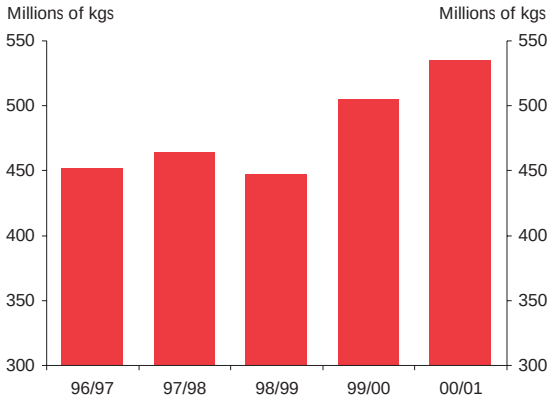
Whatever the explanation, this unusual configuration of influences and the absence to date of the 'normal' response means that it is particularly important to monitor current data for indications of what is going on. The remainder of this chapter reviews economic developments since March for the purpose of assessing where the economy is at in the current business cycle, and how inflationary pressures are likely to evolve. Chapter 3 suggests some possible paths which the New Zealand economy may take given the current configuration of influences.

Current activity

Over the first half of 2001, the economy is estimated to have expanded by 1.2 per cent – slightly below our assessment of its potential growth rate. However, this growth has not been evenly distributed. The widely divergent circumstances that exist at present mean that economy-wide measures may not look terribly relevant to the specific circumstances that individual firms and households find themselves in. Similarly, monetary policy decisions that we take on the basis of 'average' circumstances may not give the impression of being appropriate to specific industries.

Of the sectors of the economy growing much faster than the national average, the farming and tourism sectors stand out. The dairy industry, in particular, has had a great season (figure 2). This season's milk-fat production is expected to have been almost 6 per cent ahead of last year, with the 'shoulder' of the season providing over double the daily quantities processed last year. Moreover, this season's Dairy Board payout may be as much as 40 per cent higher than last season's payout of $3.35 per kg of milksolids. The combination of higher volumes and prices means that farmers' receipts from dairy production are expected to have been nearly 50 per cent higher than last season.

Figure 2
Milkfat production by season – August to March[3]



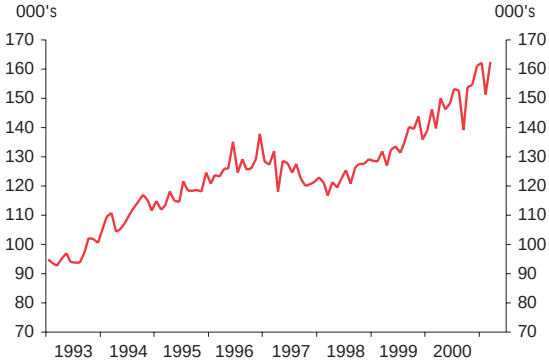
Lamb and beef farmers have also had an excellent season. World meat prices have increased sharply in recent months as beef supplies tightened in the United States and lamb prices spiked following the outbreak of foot and mouth disease in the United Kingdom. More recently, falling demand for red meat in Europe has started to take the top off prices in this

3 Source: New Zealand Dairy Board

market, but significant volumes of product were apparently able to be sold at exceptionally good prices.

As for the tourism industry, the low exchange rate has continued to give a boost to volumes and spending (in New Zealand dollar terms). There has been an abundance of anecdotes suggesting that resources in the tourism industry have been stretched, with difficulties in obtaining rental cars leading the list. Moreover, data on visitor arrivals (figure 3), tourist expenditure, and hotel occupancy rates are all at very high levels.

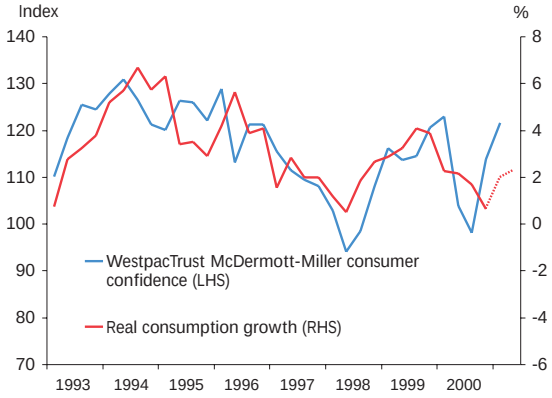
Figure 3
Monthly overseas visitor arrivals
(seasonally adjusted)



Consumer demand has been boosted by favourable income developments in the agricultural and tourism sectors, offset, in part, by reduced household purchasing power stemming from higher import prices. Thus far, improved job prospects (notwithstanding the media attention given to job losses from recent corporate closures) and declining mortgage interest rates have kept consumer confidence upbeat and this has supported consumer spending in the first half of 2001, estimated to have grown by around $1^1/_2$ per cent (figure 4). This contrasts to the second half of last year when consumption expanded by only $^1/_2$ per cent. How long consumption demand will remain reasonably robust is a subject for later discussion, but it is worth noting that recent consumption activity has probably been affected by specific factors, including:

- higher rural sector incomes (especially dairy), where income pay-outs are bunched; and
- The distribution by the Auckland Energy Consumers' Trust of $152 million to its 256,000 customers (generally in $560 cheques).

Figure 4
Real consumption growth and consumer confidence
(Real consumption growth: annual percentage change, first half of 2001 are RBNZ estimates)



With relatively high confidence and declining mortgage interest rates, activity in the housing market seems to have bottomed and started to pick up. Eventually, this should encourage activity in the construction sector, allowing residential investment to make a modest positive contribution to GDP growth. Moreover, with the remarkable expansion in the Australian economy having slowed, the number of New Zealanders leaving for Australia to seek work there will probably decline, reducing the net outward migration flow of over 12,000 people (in the year to March 2001) that held back residential investment.

Given the strong fundamental drivers that were in place for most of last year, we would have expected to see some sectors grow rapidly, and for this expansion to spread progressively across more sectors. The strong growth of the dairy and tourism industries, and the mild pickup in consumption and housing sales, are consistent with this expectation.

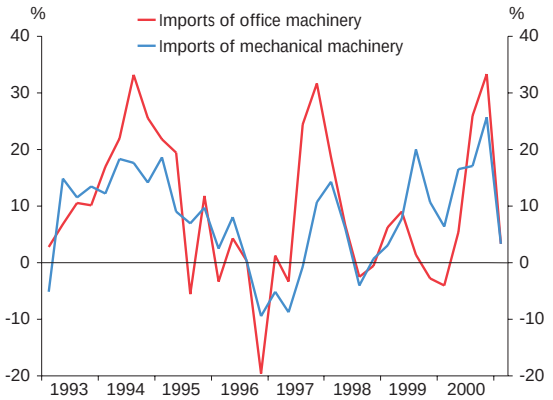
But the overall story is by no means perfectly consistent with this expectation. Incoming data indicates the pace of economic activity has actually softened a bit compared to the forecasts we presented in the March *Statement*. Despite the stimulatory level of the exchange rate, it has clearly not been boom times in all parts of the export sector.

In the March *Statement* we expected the volume of exports of goods and services to have expanded by around 8 per

cent in the year to June 2001. Given the strength of the stimuli experienced by the externally-focussed sectors of the economy throughout last year, in our view this was a modest expectation. To our considerable surprise, we have been forced to revise this expectation to around only $2^1/_2$ per cent. Most of this weakness is in the exports of goods, particularly non-commodity exports. But there are also some commodity exports facing difficulties. For example, demand for New Zealand timber has been adversely affected by the slowdown in the New Zealand and Australian construction industries, and weak demand from key Asian markets.

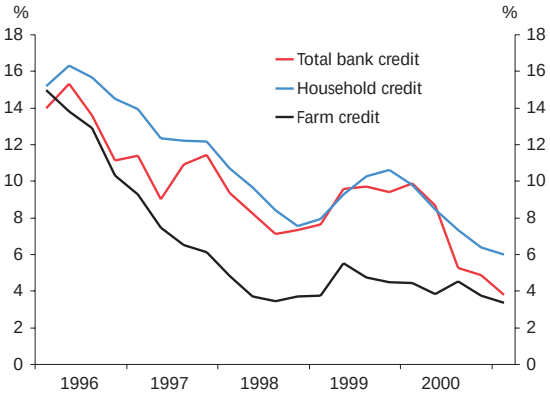
Business investment is also estimated to have fallen about 2 per cent in the first half of this year. Imports of mechanical and office machinery were down sharply at the start of this year, indicating that investment in plant and equipment has probably fallen (figure 5). With the positive influences already discussed, we might have expected that there would have been some investment in export and import-competing sectors. That did appear to be the case in calendar 2000 when, notwithstanding the reported slump in confidence, business investment is estimated to have grown briskly, even abstracting from the substantial investment in telecommunication equipment. But rather than accelerating, investment in plant and equipment has started to slide.

Figure 5
Imports of machinery
(annual percentage change)



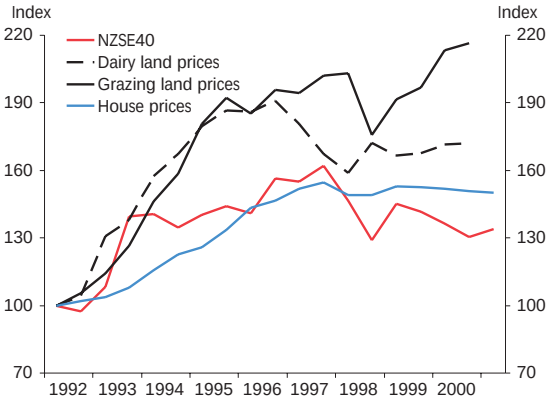
Growth in total credit remains relatively subdued at around 4 per cent per annum. Growth in household borrowing, half of total credit, is slower than it has been for more than two decades, although it is still running at about 6 per cent. Growth in farm borrowing has been trending down for several years, with repayment of debt evident following two good seasons for most farmers. Non-farm business credit, which was very volatile through 2000, has subsequently grown at a moderate pace by historical standards. These aggregate statistics are confirmed by our discussions with bankers. Overall, there are few signs in the credit data of strength in the economy (figure 6).

Figure 6
Household, farm and total bank credit growth[4]
(annual percentage change)



Asset prices are also showing no signs of pressure, although some farmland prices have increased sharply reflecting increased financial returns from this asset (figure 7).

Figure 7
New Zealand asset prices[5]
(1992 H1 = 100)



[4] Total bank credit is ex-repo, resident, private sector credit, adjusted for securitisation. All data is annual percentage change of quarterly averages.

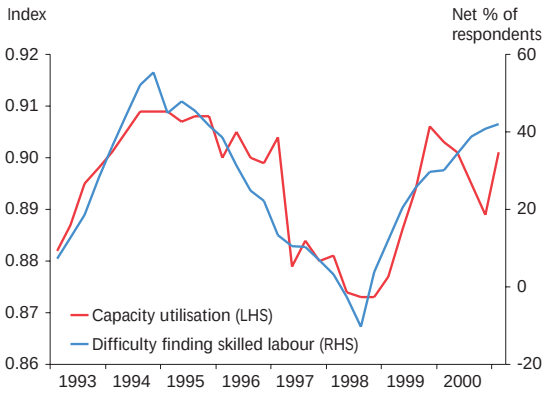
[5] Source: Quotable Value New Zealand.

The economy's cyclical position

Clearly there are quite stark differences in economic temperature across the economy, differences which are cloaked by aggregation. Estimating the average degree of stress on productive resources – one of the key factors that determine the inflation outlook over the next year or two – is especially difficult in these circumstances.

As noted, growth appears to have slipped back slightly over the last half year or so, from a position of no obvious stress or slack in terms of the productive resources available to support growth. Despite this, survey indicators of capacity utilisation suggest that the economy's resources are stretched (figure 8). So far, emerging evidence on the labour market – job advertisements and reported skill shortages – indicate that the labour market is taut. While the labour market has been stretched for some time, surveyed measures of capacity utilisation have increased more recently and are now at above-average levels, indicating increased pressure on capital resources.

Figure 8
Measures of capital and labour market tightness[6]
(seasonally adjusted)



It is possible that we have been over-optimistic about the non-inflationary 'speed limit' for the New Zealand economy. That is, our assumed growth of potential supply could be too high. But there are few signs of an emerging inflation dynamic of the type that would be consistent with an economy that is running beyond its normal capacity. This would suggest that the economy has not been overheating. That our estimates of output relative to potential supply contrast with our assessment of pressures on the economy based upon direct indicators adds to the puzzle of what has been going on.

Several other explanations might be ventured for the surprising lack of economic strength when the fundamental drivers seem so encouraging. Individually each of these explanations seems inadequate, but perhaps in combination they do account for the muted response.

The simplest explanation is that the lags between the favourable pairing of a low exchange rate with good export prices and a widespread expansion of exporting activity may be longer than typically allowed for. The lags may be long because there is value in waiting to see if export prices and the exchange rate will remain at levels that make investing in new plant and machinery profitable. The lags may also be long simply because of the biological constraints that exist on expanding most of our commodity exports, which still form the lion's share of our export base.

Another explanation is that the 200 basis point increase in interest rates and increases in import prices, particularly oil prices, were restraining domestic consumption and investment spending, even while the low exchange rate was stimulating external demand. However, this explanation would be more consistent with weak consumption and booming exports.

Another explanation is that the aggregation of our trading partners' exchange rates into a trade-weighted index may be overstating the effective stimulus. While the exchange rate is low on a TWI basis, much of this is because the NZ dollar – along with many other currencies – is extremely low against the US dollar but not so low against most other currencies. Our exchange rate might not be providing an unusual amount of stimulus for exports into most countries, despite clearly providing an unusual stimulus to firms which export to the United States. Even in that regard, however, the ability to actually tap opportunities in the US market may be less than the competitiveness of the NZ dollar suggests, because of competition from other countries with low exchange rates, high set-up costs and lack of proximity.

Another possibility is that the diffusion process from thriving

[6] Source: New Zealand Institute of Economic Research

sectors of the economy to other sectors may take longer than expected. It may take time before increased farm incomes result in higher incomes in rural towns, and then even longer before the increased rural town incomes spill over into higher urban incomes.

Still another possibility is that, as import penetration ratios increased through the 1990s, New Zealand manufacturers retrenched in the face of stiff competition from imports in their domestic market. This 'hollowing-out' of the manufacturing sector may mean that, as conditions have returned to more favourable settings, there is simply less capacity left to respond, and the set-up cost for new firms and their necessary supporting suppliers might be larger than it would have been for an existing firm to expand.

Yet another explanation is suggested by recent confidence surveys, that report firms are becoming more wary about the future. This fall in confidence possibly reflects concerns about the global economy and how that will impact on the New Zealand economy. This nervousness may have been heightened by concerns over recent high-profile business closures. However, this explanation seems incomplete because, while general business confidence has waned, businesses' confidence about their own activity has remained high.

The current world slowdown may also be impacting rather faster than we had anticipated, either because growth in the United States and Australia slowed earlier than we had previously allowed (which it probably did), or because New Zealand exporters have been affected by that slowdown particularly quickly. This might be especially true of the slowdown in Australia, where the slump in the construction sector has had a visible impact on New Zealand exports. In addition, excess capacity in Asia may be adversely impacting on our exports. If exporters are feeling the impact of slowing world demand, then their willingness to invest will be subdued.

Finally, for the last two decades, New Zealand households have been accumulating debt to finance spending on both consumption and housing. While this process was under way, interest rates needed to be set higher than would have been the case if household debt (relative to income) had remained stable. However, the debt/income ratio is now near levels of other advanced countries, and households' tolerance for additional debt may be waning. If this is the case, inflation-adjusted interest rates may not need to be as high through the current business cycle as they were through the last business cycle. By implication, current interest rates may be more constraining than we have allowed for. However, it is worth reiterating that consumption growth appears to have held up thus far. This potential household balance sheet influence may therefore be more of an issue for the future – as indeed we have been expecting for some time – than for the immediate past.

Over previous business cycles, our assessment of the pressure on the economy's resources has been a useful indicator of the inflationary pressure. However, with the current uncertainties over why the economy seems to be responding in a more muted manner than we would normally expect, we need to treat such indicators with particular caution. In fact, we may be better to break down the factors bearing on inflation directly. This we do in the next section.

Developments in inflation

Headline inflation fell from 4.0 per cent in the year to December 2000 to 3.1 per cent in the year to March 2001, in line with our March *Statement* forecasts. The rapid fall from the peak of 4.0 per cent was largely due to the substantial impact of the shift to income-related rents by Housing New Zealand and to a fall in petrol prices during the quarter. These factors helped to offset the otherwise-dominating effects of the large increases in petrol prices and the increase in tobacco excise that occurred last year. However, as table 2 illustrates, even when these temporary factors (petrol, tobacco and rents) have been removed, inflation was 2.8 per cent in the year to March.

The one-off nature of the large price changes in petrol, cigarettes, and rental accommodation has, to a significant extent, distorted the signals on underlying trends in inflation. To illustrate, if it were not for the significant downward contributions of dwelling rentals and petrol prices, inflation in the March quarter would have been in the vicinity of 0.7 per cent. While not quite the 1.2 per cent seen in the December 2000 quarter, at that quarterly rate CPI inflation is above the average recorded since 1991.

Table 2
Annual percentage change in CPI and derivative series

	1999	2000				2001
	Dec	Mar	Jun	Sep	Dec	Mar
CPI	1.3	1.7	2.0	3.0	4.0	3.1
CPI ex petrol[7]	0.9	1.2	1.3	2.1	3.3	2.9
CPI ex petrol and cigarettes	0.9	1.2	1.0	1.4	2.7	2.2
CPI ex petrol, cigarettes and HNZ rentals	0.9	1.2	1.0	1.4	2.7	2.8
CPI ex food, petrol and energy	1.3	1.4	1.6	2.1	3.2	2.5
CPI non-tradables	2.1	2.6	2.1	2.0	2.4	1.2
CPI tradables	0.5	0.9	2.0	4.1	5.4	4.9
CPI weighted median (of annual price change)	0.5	1.7	1.3	1.7	2.6	2.8
CPI trimmed mean (of annual price change)	0.9	1.2	1.8	2.3	3.4	2.8

It is possible to construct measures of inflation that exclude such extreme movements in order to uncover underlying trends. There are several potential approaches to constructing these inflation measures, each with their strengths and weaknesses. The 'CPI ex-' measures listed in table 2 are an approach that deals well with clearly identifiable special factors. Underlying measures of inflation, such as trimmed means and weighted medians, remove or moderate the impact of extreme price movements, giving a better view of the trend or persistent components where the transient influences are limited to a few index items that are individually extreme.

The majority of the measures listed in the table point remarkably consistently in the same direction – toward persistent component of inflation being only a little below 3 per cent. But this remarkable consistency is something of an illusion, as will be revealed when we attempt to separate the direct influence of past exchange rate depreciation on local prices from other (mainly domestic) core drivers of inflation. Isolating the direct exchange rate influence is especially important at this juncture because recent monetary policy settings have to some extent been based on the idea that the exchange rate is not going to continue to depreciate. Moreover, policy has assumed that the direct exchange rate influence on inflation will also turn out to be transitory, and that its temporary presence will not alter inflation behaviour elsewhere in the economy.

In the March *Statement,* we noted that we would not be surprised to observe increasing direct exchange rate pass-through into local prices, given the scale and duration of depreciation since 1997. We also discussed the difficulties involved in isolating the influence of the depreciation and current low exchange rate on the CPI, and the numerous places in the value-chain that price fluctuations can be absorbed. Despite the tenuous statistical connections between the CPI, PPI, and import prices, this absorption is hinted at in the fact that annual consumer prices increased 4.0 per cent in the year to December 2000, less than PPI output prices at 6.8 per cent, which rose less than PPI input prices at 10.2 per cent, which in turn increased less than merchandise import prices at 16.9 per cent (table 3, overleaf).

Until 1994, import prices in New Zealand dollars (as measured by the Overseas Trade Indices (OTI) moved in tandem with the exchange rate (as measured by the Trade Weighted Index (TWI). However, this relationship broke down after 1994 and there was less than full pass-through at this first stage of the value-chain. But first stage pass-through seems to have returned. Over calendar year 2000, the TWI depreciated about 12 per cent while OTI import prices (ex-oil) rose by 17 per cent. It seems clear that the normal state of affairs is for changes in the TWI to fully pass through to OTI import prices within one or two quarters, and that exchange rate changes are no longer being absorbed by most foreign suppliers of our imports. The fact that the rise in non-oil OTI import prices was rather larger than the exchange rate depreciation probably reflects some profit margin recovery on the part of foreign suppliers, who had previously absorbed exchange rate depreciation in order to hold New Zealand dollar prices unchanged.

[7] This series excludes only the petrol subsection of the CPI regimen. That is, no adjustments have been made to exclude price movements in diesel, other motor fuels, airfares and all other petrol-related items.

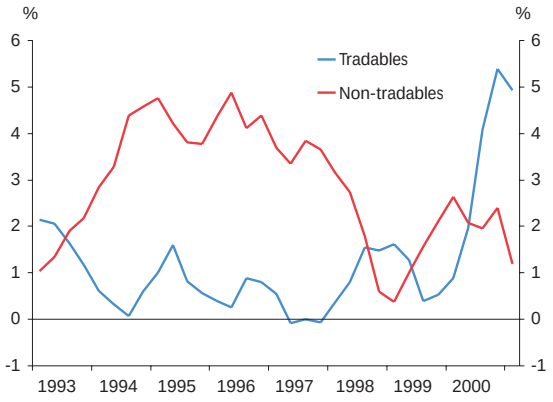
Table 3
Annual percentage change in other price measures

	1999	2000			
	Dec	Mar	Jun	Sep	Dec
Consumption deflator	0.2	1.0	1.1	2.2	3.4
GDP deflator (derived from expenditure data)	-0.7	0.5	1.8	2.1	5.0
PPI: outputs	2.0	3.3	3.9	5.6	6.8
PPI: inputs	2.8	4.9	5.5	8.0	10.2
Merchandise import prices (excluding petrol)	1.9	5.3	8.3	13.2	16.9

The relationship between the TWI and CPI inflation is very much weaker and has been weakening over time. Our assessment is that the current rate of second-stage pass-through (from import prices to consumer prices) is low. Increases in import costs have been, in part, absorbed by the falling margins and improved efficiency gains of New Zealand firms. (For a comparison of New Zealand's pass-through experience relative to Australia's, see Box 1.)

Notwithstanding the absorption of some of the price pressures by domestic importers, by wholesalers, and by retailers, consumer prices are now clearly showing the influence of exchange rate depreciation. Higher tradables inflation has been evident for the last three measured quarters, although a portion of this reflects the influence of higher international energy prices and the increases in cigarette taxes (figure 9).

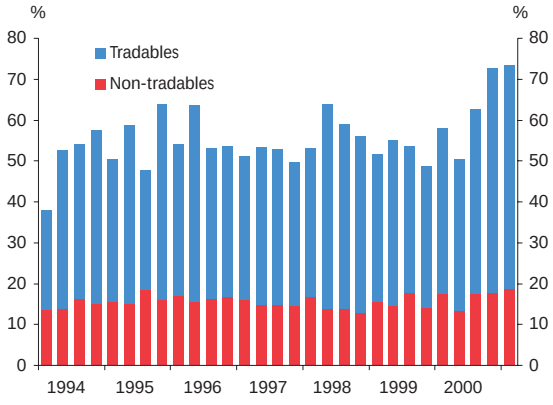
Figure 9
Tradables and non-tradables inflation
(annual percentage change)



Exchange-rate-related inflationary pressure can also be seen in broader price measures such as the GDP deflator (where the exchange rate influence has more to do with the local price of exportables than with import prices) and the consumption price deflator. For example, the deflators for GDP and consumption expenditure – calculated by comparing estimates of nominal and real spending – show inflation increased sharply over calendar year 2000.

That price changes have been quite widespread can be seen in the distribution of price increases across the regimen. For both the December 2000 and March 2001 quarters, around 74 per cent of regimen items increased in price, higher than recent history (figure 10).

Figure 10
Items in the CPI basket whose price increased[8]
(per cent of total number of items in the CPI basket)



Were exchange-rate-related price increases spilling over into more general price increases, the outlook for inflation would be less benign than we have recently been allowing. But other indicators of domestically-generated inflation – the

[8] Statistics New Zealand calculate the per cent of items in the CPI that increased at a higher level of disaggregation than the RBNZ. However, both measures show the same pattern.

component that tends to be very persistent – suggest that the pressures being exerted on prices by domestic activity are very limited.

- For a start, our estimates of the gap between the level of demand and the economy's capacity to produce without generating inflation suggest little or no pressure on resources.
- The annual rate of CPI inflation, excluding the estimated impact of import prices, rose through calendar 2000 but only to an extent that takes this indicator of domestically-generated inflation back to historically normal levels (following a period where it was at very low levels due to the influence of the Asian crisis and the drought conditions present in the late 1990s).
- Unit labour costs (measured by the labour cost index) have remained stable, growing around $1^1/_2$ per cent per annum for the last two years or so (figure 11).
- Asset prices, apart from the price of certain types of rural land, have not shown signs that might indicate the presence of fundamental inflation pressure.
- And surveyed measures of expected costs and selling prices have retreated for two quarters in a row (figure 12).

Figure 11
Domestic sources of inflation
(annual percentage change)

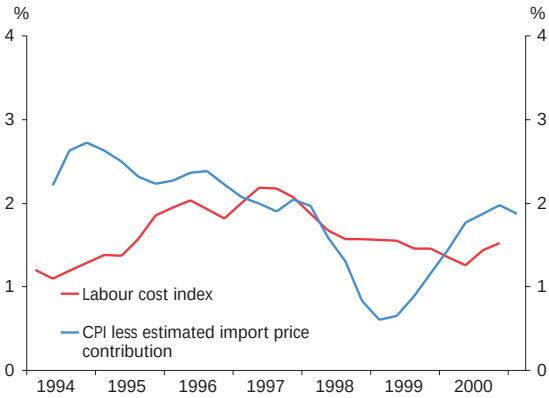
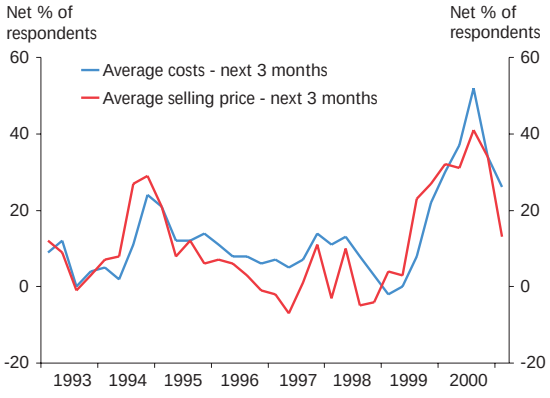


Figure 12
Economy-wide expected cost and selling price intentions[9]
(net percentage expecting increase)



Overall then, although the existence of competing perspectives on the underlying or core trend of inflation makes one cautious in reaching judgements, there are few signs of fundamental, persistent, inflation pressure. What we are observing is the expected pass-through of past exchange rate depreciation, with the apparently widespread nature of price increases reflecting the pervasive influence of the exchange rate, rather than generalised spillover. This issue, among others, will be explored further in the next chapter.

[9] Source: New Zealand Institute of Economic Research

Box 1

Exchange rate pass-through experiences of Australia and New Zealand

Despite substantial currency movements over the last decade or so, inflation outcomes have remained relatively steady, at least thus far. However, the relationship between exchange rate movements and inflation tends to be quite unstable over time, making exchange rate pass-through particularly difficult to forecast.

Both during the appreciation of the NZ dollar in the 1994 to 1996 period, and during the ensuing depreciation, neither import price inflation nor CPI inflation changed as much as previous experience and ratios of imports to gross out-

Figure 13
Import prices excluding petrol and the TWI (inverted) – New Zealand
(annual percentage change)

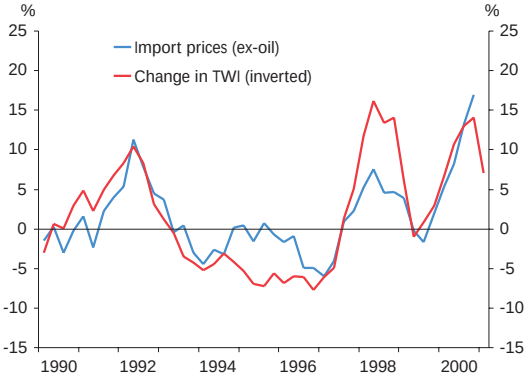
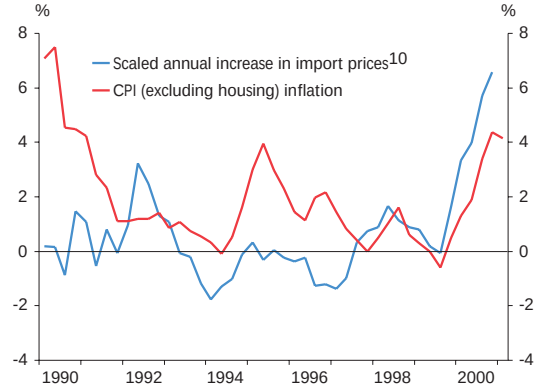


Figure 14
Import prices excluding petrol and the CPI excluding housing – New Zealand
(import prices: scaled annual percentage change; CPI: annual percentage change)



[10] Scaled by the period average import to GDP (expenditure) ratio.

Figure 15
Import prices excluding mineral fuels and the TWI (inverted) – Australia
(annual percentage change)

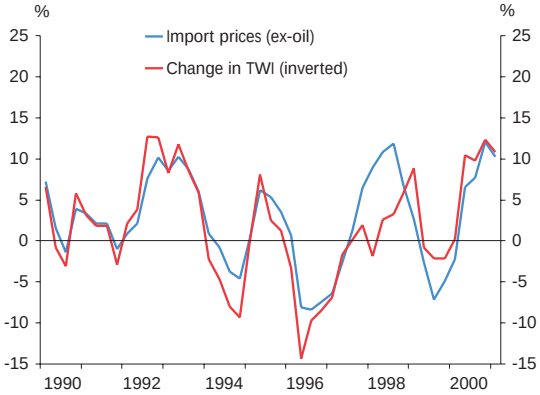
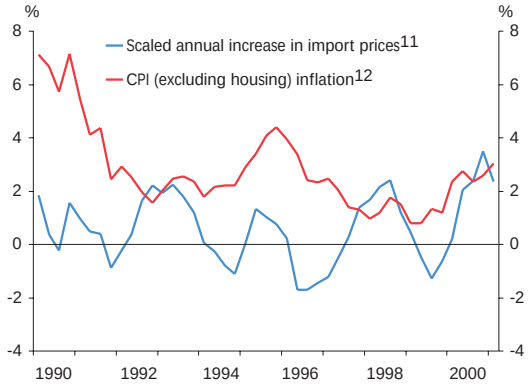


Figure 16
Import prices excluding mineral fuels and the CPI excluding housing – Australia
(import prices: scaled annual percentage change; CPI: annual



[11] Adjustment has been made for the GST impact in 2000 Q3.

[12] Scaled by the period average import to GDP (expenditure) ratio.

put would have indicated. As the exchange rate appreciated or depreciated, our foreign suppliers, domestic importers, and/or retailers allowed their profit margins to expand and contract, in order to avoid disrupting markets by passing the effect of the changing exchange rate into lower or higher consumer prices.

That is, until very recently. Figure 13 suggests that while the first stage of pass-through (from the exchange rate to import prices measured in New Zealand dollars) was very much dampened between 1994 and 1999, it seems to have returned in the third and fourth quarters of 2000.

At the second stage of pass-through (from import prices to consumer prices), the pass-through relationship in New Zealand is even less clear, as illustrated in figure 14.

A look at other countries around the world suggests that New Zealand's pass-through experience has not been unique. Other countries, including Australia, have also seen a perceptible reduction in pass-through. However, New Zealand's experience appears to differ in at least one respect to that of Australia. While New Zealand's first stage pass-through 'went missing' from 1994 to 1999, Australian first stage pass-through remained undisturbed (figure 15). However, like New Zealand, Australia has also experienced a very weak pass-through relationship from import prices to consumer prices (figure 16). In both countries, the short-run pass-through from import prices into consumer prices has been estimated to be no higher than 10 or 15 per cent throughout the 1990s, significantly lower than the pass-through of the 1980s.

While overall the two countries seem to have had similar experiences, this comparison does beg the question as to why New Zealand's first-stage pass-through experience was different to Australia's. It may simply be a measurement issue, or it could stem from foreign suppliers operating country-specific pricing-to-market strategies with, for example, retailer rebates in some countries and direct price reductions in others.

For the future, the question is whether the dampened pass-through will persist or whether it was simply a transitional phase. In New Zealand, we have seen first stage pass-through return, and the risk is that second stage pass-through behaviour could revert to pre-1990s historical patterns. However, it is also possible that the 1990s pattern of behaviour remains, but that the magnitude of the depreciation simply pushed importers' and retailers' margins beyond a threshold of sustainability. If this is the case, then second stage pass-through in the future should remain muted.

3 Medium-term macroeconomic outlook

This chapter presents projections for growth, inflation and monetary conditions over the next three years. As always, it is important to stress three things at the outset.

First, our growth and inflation projections are conditional on our projections for monetary conditions – interest rates and the exchange rate. The inverse is also true: our projections for interest rates are conditional on our projection for inflation pressures (which in turn depends on our projection for growth) and our assumptions about the exchange rate.

Second, while our projection for interest rates is driven by what is needed in order to keep inflation consistent with the target, given the projected inflation pressures, there are other interest rate paths that would likewise keep inflation within target.

Third, the world changes. When we revisit our forecasts in a few weeks time, the picture may look different, as may the interest rate path needed to keep inflation under control.

As was the case in March, the most important factors shaping our view of the future course of inflation pressure are changes in the international trading environment, and the recent spike in headline inflation to 4 per cent – and the implications this may carry for future pricing behaviour. Before discussing these factors, we first take a look at how financial markets are viewing the future.

Financial market developments

As the outlook for world economic growth has evolved over the past few months, so too has the view of financial market participants as to the future of inflation pressures in New Zealand, and therefore of interest rates. Market expectations of future 90-day interest rates fell following the December *Statement* and continued to fall following the March *Statement*, at least until quite recently.

The key reason behind the continuing fall in interest rate expectations is that there has been increased focus on developments in trading partner growth prospects, assisted to some extent by the focus that we ourselves placed on such developments in our March *Statement*. Indications of further downward revision to trading partner growth forecasts, and local events that might be reflecting these developments, have been the main drivers of expectations of future interest rates. For example, interest rate expectations were revised down sharply following news that surveyed business confidence has been waning. Both market prices and commentators' commentaries reflect expectations of further interest rate cuts, with commentators' views having mostly caught up with the view implicit in market prices (figures 17 and 18).

Figure 17
Mean OCR expectations by analysts[13]

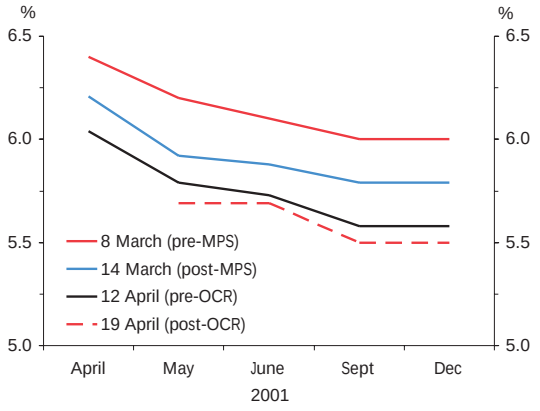
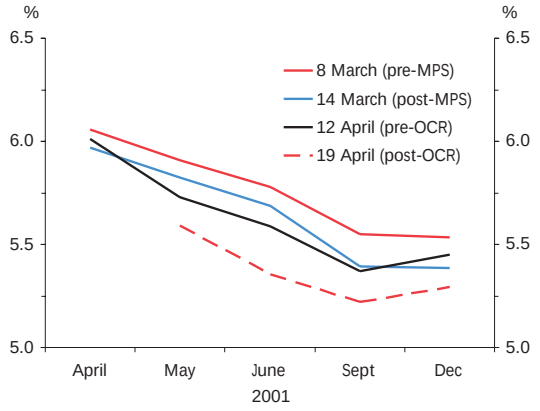


Figure 18
OCR expectations implied by market prices



13 Source: Reuters

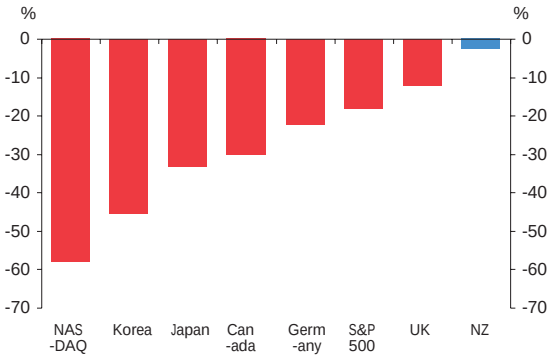
Table 4
Official interest rates

	Level as at 31 Dec 2000	Level as at 7 Mar 2001	Level as at 30 Apr 2001	Total change (basis points)
United States	6.50	5.50	4.50	-200
Australia	6.25	5.50	5.00	-125
Canada	6.00	5.25	4.75	-125
New Zealand	6.50	6.50	6.00	-50
United Kingdom	6.00	5.75	5.50	-50
Euro area	4.75	4.75	4.75	0

In addition, offshore central banks have been in easing mode (table 4). As official interest rates have been cut, markets have increasingly expected us to follow suit – albeit at a slower pace than most other central banks.

For a period, falling international equity prices (figure 19) fuelled speculation that monetary policy easings would continue, especially in the United States. The fall in these prices since their peaks in 2000 has been large relative to historical experience – particularly in the United States – and such movements have typically been associated with prolonged periods of declining economic growth. This equity market weakness and associated downward revisions to earnings growth expectations encouraged a view that equity market behaviour was a key factor behind the actions of the Federal Reserve and perhaps other central banks which have eased.

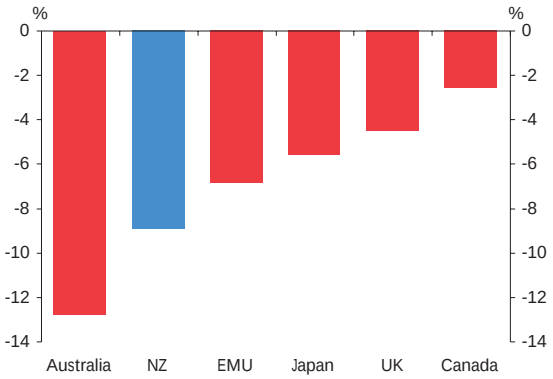
Figure 19
International equity market declines
(per cent movement from 2000 peak until 30 April 2001)



However, more recently, global interest rate expectations have stabilised. Financial markets have begun to behave as if world growth will recover over the coming year – generally consistent with the V-shaped recovery profile that has been embedded in *Consensus* forecasts. Interest rates suggest that investors expect a tightening in monetary policy in the United States and Australia as soon as early next year. Yield curves in many countries have shifted strongly in the direction of being upward-sloping; such circumstances have in the past signalled a pick-up in economic growth rates in the future. In addition, equity markets have bounced back significantly from their troughs in early April, which could be consistent with a recovery in growth and an end to the global easing cycle.

Since the beginning of the year, and in particularly over the period following the March *Statement* when investors were becoming increasingly gloomy about prospects for the US economy, the New Zealand dollar fell back towards its previous lows against the US dollar (figure 20). Somewhat ironically, gloom about US prospects did not weaken the US dollar – if anything the opposite occurred, for reasons that we do not fully understand. The New Zealand currency also fell on a trade-weighted basis (bottoming out at around 48.2), but not by as much as against the US dollar. Part of the explanation for the relatively better performance on a TWI basis rests in US dollar strength; part also rests in weakness of the Australian dollar as bearishness about Australian prospects took hold.

Figure 20
Movements in currencies against the US dollar
(per cent change from 31 December 2000 until 30 April 2001)



Subsequently, as global (and in particular US) interest rate expectations stabilised, the NZ dollar has recovered some of the lost ground against the US dollar. At the same time, views as to the relative prospects of Australia and New Zealand have oscillated. The consequence has been that the New Zealand dollar has fallen back against the Australian dollar, as investors started to wonder just how insulated from the world slowdown the New Zealand economy could be.

On a trade-weighted basis, the New Zealand dollar is currently between 5 and 10 per cent above its 2000 third quarter low point, but still around 15 per cent below its 10 year average.

The international environment

As a convenient starting point, our medium-term projections for growth in New Zealand's main trading partners are based on international *Consensus* forecasts released in April (table 5).

There have been some downward revisions to the forecasts of our main trading partners' growth since the projections for the March *Statement* were finalised in mid-February. While to date there have been only very small revisions to growth forecasts for 2002 – which continue to show a recovery relative to 2001 – it is quite possible that there will be further downward revisions to those forecasts as analysts start focusing on the 2002 year more carefully. Having said that, the picture is by no means clear:

- The mixed data coming from the United States has created a high degree of uncertainty about the future growth profile in the United States, and therefore to some extent for the rest of the world. Many experienced analysts still expect further weakness to develop, while financial market participants are collectively beginning to behave as if economic recovery is imminent.
- Weak business and housing investment dragged down growth in Australia late last year and has reduced growth expectations for this year. But here also there are quite mixed views as to whether the worst is over. Moreover, inflation has increased of late in Australia as the exchange-rate-related price increases (which may have been delayed by pressures against price increases piggy-backing on the introduction of GST) are beginning to show through.

Table 5
Trading partner growth
(calendar year, annual average percentage change)

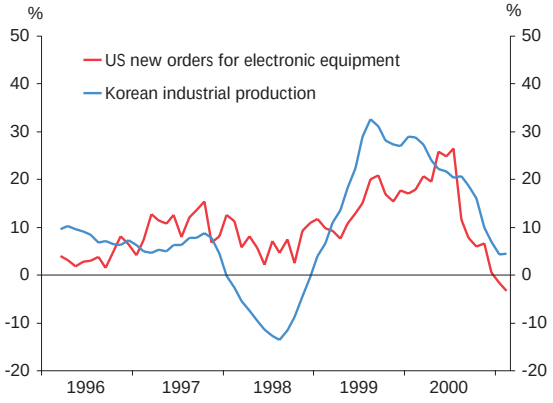
Country	1999	2000	2001f	2002f
Australia	4.7	3.7	1.8	4.0
United States	4.2	5.0	1.7	3.1
Japan	0.8	1.7	0.9	1.6
Europe-4[14]	2.0	3.0	2.4	2.7
Asia ex-Japan[15]	6.1	8.1	4.6	5.6
14 country index	3.7	4.4	2.3	3.6

[14] Includes Germany, France, Italy, and the United Kingdom.

[15] Includes China, Hong Kong, Indonesia, Malaysia, South Korea, Taiwan, and Thailand.

- The growth outlook in Europe has been moderating, especially in Germany, where business confidence has fallen markedly and the number of jobless has increased for three straight months.
- The Japanese economy continues to perform below par and there is little optimism in financial markets that policy initiatives to date will shore up demand. Indeed, official Japanese forecasts have recently been revised down. The appointment of a new Prime Minister does, however, seem to have given financial markets some hope that long-called-for structural reforms will be enacted.
- Growth in non-Japan Asia has also slowed significantly, with the slowdown in the US electronics sector having a considerable impact on activity in the region (figure 21).

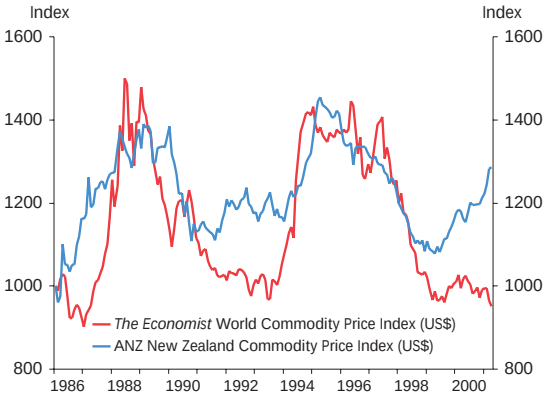
Figure 21
US new orders for electronic equipment[16]
(3 month moving average, annual percentage change)



For obvious reasons, the prices of commodities that are traded on world markets typically follow cycles in global demand. That seems true enough, on average, in this cycle also (with prices for oil possibly continuing to be an exception). But, within the global average, average New Zealand commodity prices are holding up significantly better (figure 22). Indeed, aggregate New Zealand commodity prices have increased 14 per cent in the year to April, according to the ANZ commodity price index. Some commodity prices have been increasing particularly sharply. Meat and dairy prices (in world price terms) are up 22 and 24 per cent respectively in the year to April.

[16] Source: Datastream

Figure 22
New Zealand and world commodity prices[17]
(Jan 1986 = 1000)

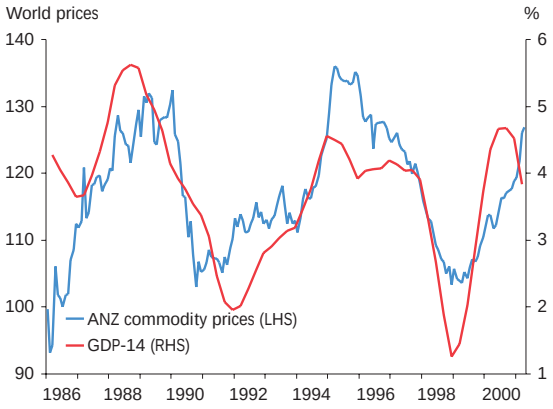


The strength of New Zealand's commodity prices in foreign currency terms, together with the weak exchange rate, has been providing an offsetting influence to slowing world demand. Were our commodity prices to remain strong, and the exchange rate to remain weak, significant parts of the New Zealand export sector might be well and truly insulated from the weakening global economy. However, we can also see reasons why commodity prices may begin to decline quite rapidly. For a start, the current strength is unusual, largely as a result of special factors affecting some of our export commodities. In the dairy industry, world prices have been shored up by a one-off reduction in European subsidies. As markets adjust to a new equilibrium, price increases are likely to slow, or perhaps reverse if world demand falls. While initially the price of New Zealand lamb in the UK rose sharply in response to the foot and mouth outbreak, we are now seeing signs of easing prices in the European market, due to a fall in demand for red meat. There is a risk that this fall in meat demand may be long lasting.

Thus, we see reasons why aggregate world demand might turn out to affect New Zealand commodity prices in line with what historical relationships would suggest (figure 23). Worse still, world demand could turn out weaker than we are assuming, bringing all trade prices lower.

[17] Source: *The Economist*, ANZ Banking Group Ltd.

Figure 23
ANZ commodity prices[18] and GDP-14 growth
(ANZ commodity prices: world prices; GPD-14 growth: annual average per cent change)



Fiscal policy

Based on the Treasury's forecasts prepared for the *Budget Policy Statement*, we do not anticipate that the effect of fiscal policy on the profile of economic growth and hence inflation prospects will be material over the horizon used in our projections. The Government operating balance (adjusted for revaluations and accounting changes) is projected to be in surplus through the projection period.

Judgements underpinning the projections

Overall, our May projections are set against a backdrop of slowing growth in world demand, with central banks around the world cutting interest rates. Usually, it might have been expected that we would follow these other central banks to offset the impact of weaker world demand on the New Zealand economy, and therefore eventually on domestic inflation pressure. Indeed, that type of response was illustrated in our March *Statement* by a comparison of our alternative scenario with the central scenario. The alternative scenario involved a further slowing in world growth (relative to world supply capacity), with a consequential need to cut interest rates in New Zealand to keep inflation on target. But in a number of respects we are working in unfamiliar territory – highlighted by the unusual strength of some of our major commodity prices in the face of international weakness on the one hand, and continued exchange rate weakness combined with those strong commodity prices on the other hand. This unusual configuration was not allowed for in the alternative scenario presented in March.

The main issues faced when forming these projections relate to:

- the unusually muted response from the external sector to the stimulus that has been there for quite some time now;
- future world demand, world commodity prices, the exchange rate, and how important they are relative to each other for the future of inflation pressures in New Zealand;
- the amount of exchange rate pass-through to be allowed for; and
- the degree of margin rebuilding by importers, distributors, and users of imported inputs to be allowed for in the context of some assumed exchange rate appreciation.

In addressing these issues, we have produced a central projection that is similar in many respects to that outlined in our March *Statement*. While the projections are similar, the opposing influences on the projection (weaker world demand but strong export prices) have intensified, as will be illustrated later in this chapter.

Medium-term outlook

As will already be abundantly obvious, drawing together the threads of the various influences at work on the New Zealand economy is especially difficult at the moment. In doing so, we have generated an outlook for economic activity that is marginally weaker than that contained in the outlook that we presented in our March *Statement*, but which has a higher track for inflation over the year ahead and slightly lower interest rates throughout (see table 1).

Although the differences between this outlook and that presented in March are small, the nature and direction of some of those differences will no doubt cause some surprise. That economic activity is weaker, yet inflation higher will be a source

18 Source: ANZ Banking Group Ltd.

of initial surprise. That interest rates are lower while inflation is higher will be a source of additional surprise. That interest rates are not nearly as low as the track depicted in the alternative scenario presented in March, while external demand has moved noticeably in the direction represented in that alternative scenario, may be a source of further surprise.

The explanation for these outcomes lies largely but not wholly in the points we have already made about the nature of the changes to the external environment. Thus far, at least, the various channels of influence on the New Zealand economy from the rest of the world have been flowing in contradictory directions. There are reasons to doubt the ongoing relevance and power of some of the stimulatory channels, but it would be dangerous to ignore entirely the existence of some strong offsets to the slowing in global demand, and we have not. Hence, in our projections, export growth is supported. Perhaps more importantly, import growth is now projected to be weaker than we previously allowed, as the effects of higher import prices – in New Zealand dollar terms – impact on consumer behaviour, reinforcing the effects on consumption of households that are becoming increasingly cautious about taking on more debt.

Turning now to some of the specifics, the weaker international outlook, as reflected in the *Consensus* forecasts track, clearly influences our view about New Zealand's medium-term outlook. But although the near-term international outlook has deteriorated since our last projections, the scale of the adjustment to *Consensus* is not large. Indeed, even the trough in global growth in 2001 represents reasonably robust growth. Meantime, although the exchange rate is assumed to appreciate over the next three years, it remains clearly stimulatory throughout most of the period, providing support to export sectors. For these reasons, and because the incentives generated by the shift in the relative price of tradables to non-tradables should start to have an increasing impact as time goes by, export growth is not expected to deteriorate much further (notwithstanding the impact of the drought on commodity exports). The possibility that a worse outcome eventuates, consistent with the potential for *Consensus* forecasts to turn out to be too optimistic about the proximity of global recovery, is explored later.

The current drought conditions are likely to have an adverse impact on next season's primary production and thus on commodity exports. It seems likely that some breeding stock will have to be slaughtered early due to a shortage of winter feed. Increased short-term stock slaughter boosts output in the near-term, but reduces it in the rebuilding phase, concealing underlying production trends. Not surprisingly, extreme weather conditions, such as droughts, have in the past tended to induce volatility in primary production (see Box 2).

Current levels of imports are low, reflecting subdued business investment due to an uncertain global outlook. However, recovering demand and an appreciating exchange rate see import growth in the year to March 2002 sufficient to keep the trade balance roughly the same as projected in March.

While consumption growth picks up over the year ahead as households respond in a lagged fashion to lower interest rates, higher farm incomes, and relatively good job and real wage prospects, it does not reach the peaks of the last business cycle. In Chapter 2, we suggested that households may be reaching their maximum tolerance for debt in relation to income. We have partly incorporated this view into the consumption profile. In addition, whereas through part of the last decade household consumption was boosted by increases in household wealth, for the last three years wealth has been flat. The implications of changing wealth on households' behaviour is discussed in Box 3.

Just as households are assumed to spend more cautiously throughout the next few years than was previously the case, businesses are also portrayed as reacting cautiously to unfolding events. Business investment appears to have slowed markedly in recent months, even though the incentives for resource switching (from non-tradable sector production to tradable sector production) have remained in place. While resource switching is clearly taking place, as evidenced for example by the scale of dairy conversions underway, in the aggregate such investment growth is offset by areas where the hatches have been battened down. We think that modest investment growth will resume if corporate incomes turn out to be better than many currently fear, but it seems unlikely that an investment spending boom is imminent.

Overall then, after having slowed in the March year just gone, GDP growth is projected to recover to around, or a little faster than, the pace we believe is consistent with potential growth. That bounce-back is not strong, but it is in keeping

(continued on p 26)

Box 2

The effect of drought on output

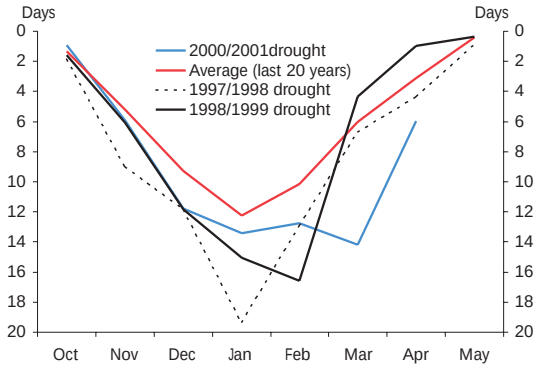
New Zealand has suffered droughts in three of the last four summers. In combination with a negative external shock (the Asian financial crisis), the 1997/98 and 1998/99 droughts contributed to ending the expansion phase of the last business cycle. The National Institute of Water and Atmospheric Research (NIWA) has indicated that the 2000/01 drought is, in parts of the country, more severe than either 1997/1998 or 1998/1999.

Does the coincidence of drought and a negative external shock again threaten to have a significant negative impact on the New Zealand economy? The short answer is that it is still too early to say. Moreover, the connections between climatic conditions, output and inflation are not straightforward, as the short-term impacts can be quite different from the longer-term effects. This box explains some of the factors that create this uncertainty.

While parts of the country are indeed in extreme drought conditions, the same is not true for the country as a whole. Areas north of a line from Taranaki to Hawkes Bay have had average to above-average rainfall, and exceptionally good growing conditions. As a significant proportion of New Zealand's dairy herd is located in this area, aggregate dairy production has not to date been adversely affected. Indeed, in parts of the Waikato, compared with last year (in what was a more normal weather pattern), late season milkfat production volumes are currently 300-400 per cent higher.

For the country as a whole, therefore, the soil moisture deficit was not as bad at the height of summer as was the case in the previous two episodes. However, the dry spell has continued longer than was the case in the two previous droughts (figure 24).

Figure 24
Days of soil moisture deficit
(average per month)[19]



Even in the dry South Island, milk production is up over 10 per cent for the season, with the Nelson area reputedly the only one with a shortfall relative to the last season. This illustrates that the timing of the onset of dry conditions has been less damaging to the current season's production than was the case in other drought episodes.

NIWA have estimated that, if the drought-affected areas get at least their average rainfalls over the next two months, then soil moisture will be returned to normal levels. But the problem could become severe if the drought continues, a very real concern since only average to below-average rainfall has been forecast for the coming months. In any case, most of the impact of a drought normally falls on the following year's production, for various reasons.

First, grass growth in the winter and spring sets the scene for lambing and calving percentages, and the early season's milk output. Second, the availability of winter feed is affected by the previous year's growing conditions and the demand on that feed through the winter. In parts of the South Island winter feed prices have already increased sharply. Third, animal body-weight growth in spring has an effect on average weights at slaughter. Fourth, anticipating difficulties, farmers cut back on stock numbers including, if necessary, on breeding stock. And fifth, as climatic conditions improve in the following season, animals may be held back from slaughter in order to re-stock.

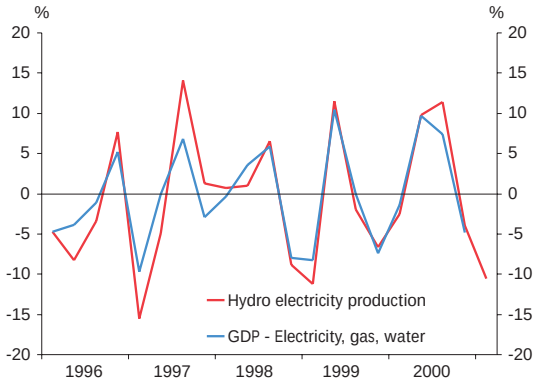
Consistent with the theme of the delayed impact of drought, short-term increases in slaughtering temporarily boost out-

[19] Source: National Institute of Water and Atmospheric Research Ltd.

put, and this can have a noticeable effect on aggregate production GDP statistics. (Early "drying-off" of dairy herds can offset this boost by reducing milkfat production, but that has not happened much this time around.) Subsequently, production slumps for the reasons outlined. The magnitude of the effect depends considerably on the timing and scale of winter rains, which we have yet to see.

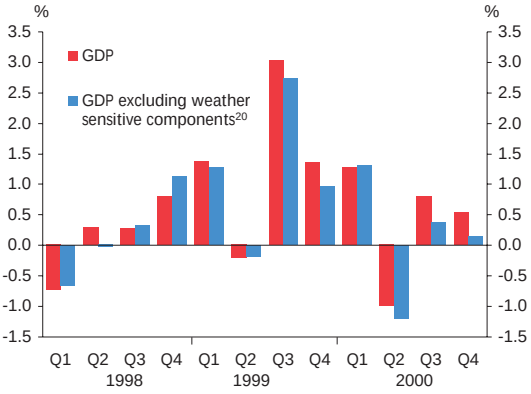
Measured GDP is affected by these timing considerations both directly through pastoral sector output, and indirectly, through related sectors such as primary food manufacturing and transportation. A less obvious impact of droughts is that it reduces measured electricity production. As drought conditions intensify, lake levels fall, diminishing the amount of potential hydro electricity generation. Electricity companies are forced to substitute thermal generation for hydro generation. Since thermal energy inputs are more expensive than the inputs used for hydro generation, electricity generated using thermal energy has a lower value-added component compared to hydro generation. That is, when drought reduces hydro electricity production, the total measured value added in electricity production tends to fall, and this has a noticeably adverse impact on production GDP statistics in the same year as the drought (figure 25).

Figure 25
Hydro electricity production and production GDP electricity, gas and water
(quarterly percentage change)



Not only do droughts hinder economic growth, they tend to increase the variability of that growth as well (figure 26). Components of GDP that are significantly affected by the climate are around 30 per cent more volatile than other components of GDP. This of course makes forecasting GDP a difficult exercise. Climate-sensitive components are, however, still relatively small in scale by comparison with the other components.

Figure 26
Measures of GDP growth
(quarterly percentage change)



Finally, even if the effect of drought on growth were clear, the effect on inflation probably would not be. Drought initially affects the supply side of the economy, with an indirect effect on demand. A drop in production does not therefore automatically translate into an easing of inflation pressures.

20 GDP excluding agriculture and hunting, primary food manufacturing, transport and communication & electricity, gas and water

Box 3

Inflation and household wealth and debt

Households' perceptions of their wealth, and how much of their disposable income is absorbed by debt payments, can affect their consumption behaviour, and hence inflation pressures. When their wealth is rising rapidly, households tend to spend more of their income than when net wealth is steady or falling.

One way of understanding this is to think of households as having a target for the amount of wealth they carry into retirement, or pass on to future generations. If household wealth is then increasing because assets are rising in value, less needs to be saved from disposable income. More of current disposable income can be consumed while still satisfying the wealth target. The bars in figure 27 show, in real terms, the value of housing and net financial assets as a ratio of household disposable income. Increases in the ratio indicate that net wealth is increasing faster than income. In the nineties in particular, as real wealth gains were made from home ownership, the household saving rate, already low, fell further. This pattern of a falling household saving rate as wealth gains accelerate is also evident in the United States from the mid-nineties, when equity gains there began to add substantially to household wealth. In New Zealand, housing has been the main driver of changes in household wealth.[21]

Households' real housing wealth gains were substantial in the first half of the eighties, and again in the five years to 1997. In the eighties, people hedged against high inflation by investing in housing. In the mid-nineties, strong immigration and income growth were significant in generating housing wealth gains. Real house prices fell back following both episodes of rapid growth in the real value of housing wealth. In the mid-1980s, the ensuing levelling off of the ratio of total net wealth to income was accompanied by an increase in the household saving ratio. Thus far, the post-1997 reversal in households' wealth fortunes has coincided with a levelling off, rather than reversal, in the fall in the household saving rate.

Figure 27
Ratio of wealth (housing and net financial asset values) to household disposable income (in real terms)

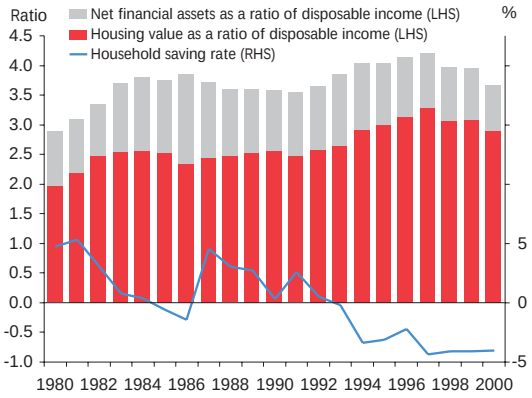
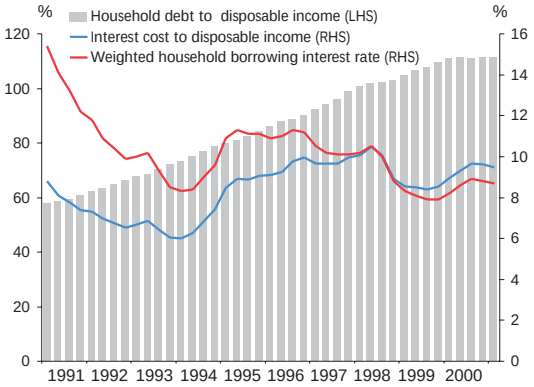


Figure 28 shows *net* wealth, that is the gross value of household assets after deducting household debt (both in real terms). The mid-nineties rise in housing values was accompanied by large increases in household debt. Figure 28 shows that over the nineties, households roughly doubled their debt, expressed as a ratio of disposable income, to levels similar to those of the more indebted household sectors of OECD economies. This increase in the ratio of debt to disposable income has not doubled servicing costs, because nominal interest rates have almost halved in the period. Nevertheless, in the last five years the debt ratio has risen from 85 to over 110 per cent of annual disposable income. The relatively greater debt burden makes households more sensitive to changes in their borrowing interest rates, as any given interest rate rise, for example, will require a larger amount of interest to be paid. Figure 28 shows that total household debt interest payments as a ratio of disposable income have increased sharply since the last tightening cycle in 1999, and for almost a year have been near levels last experienced in the mid-nineties boom.

[21] Household wealth as discussed in this box does not include the value of farm and business assets. Disposable income, used in calculating wealth ratios as at December, and the saving rate are for the year to the following March. March 2001 disposable income and saving rate are estimated.

Figure 28
Household debt, interest rates and interest servicing costs



Over the year to March 2001, we estimate that the ratio of net debt to personal disposable income ceased to climb. As recently as three years ago, households increased their rate of borrowing in response to sharp falls in interest rates, driving the debt-income ratio from around 100 to 111 per cent by March 2000. With these relatively high levels of gearing, the decline in servicing costs, just beginning to show now in figure 28 as interest rates fall, may not kick off as sharp a burst of borrowing as occurred in the last easing. Falling real wealth levels for the past few years, mainly because of falling real housing values together with high levels of leverage, may encourage households to borrow less and save more. This should constrain spending growth and, in turn, provide an environment somewhat more conducive to high rates of investment without generating current account deficits or inflationary pressure.

Table 6 provides a view of the numbers behind the recent developments in the debt and wealth ratios described above. Two recent three-year periods, with contrasting experience for household wealth accretion, are compared. During the first period, the value of housing increased 30 per cent, while over the three years to December 2000 there was no change. Net household *financial* wealth fell slightly over both periods. (In real terms, net household financial assets have fallen almost 20% since 1994.) Total net household wealth, boosted by the buoyant housing market conditions, increased over 20 percent in the first period, but has been flat since 1997.

Table 6
Household wealth[22]

December years
$ billion

	1994	1997	three year change	2000	three year change
Currency and deposits	38	45	*7*	47	*2*
Equities and managed funds	50	59	*9*	71	*12*
Other	8	8	*0*	8	*0*
Total financial assets	96	112	*16*	126	*14*
Liabilities	42	60	*18*	77	*17*
Net financial wealth	54	52	*-2*	49	*-3*
Housing value	141	184	*43*	184	*0*
Total net wealth	195	236	*41*	233	*-3*
Rate of growth of total net wealth			21%		-1%

[22] Financial data from Reserve Bank surveys and estimates. Source: Reserve Bank, New Zealand Institute of Economic Research.

with the idea that some of the recent strong income growth in the rural sector will flow through to spending in the rest of the economy. As a result of past exchange rate developments, more of that spending than normal will be on locally produced goods and services, with import growth remaining moderate. This general picture remains relevant in the outer two years of our projection, although some of the driving forces evolve over that period. In particular, following *Consensus* forecasts, we presume that world growth will recover, but the effect of that is offset somewhat by a reversion of key New Zealand commodity prices towards their historical trend levels.

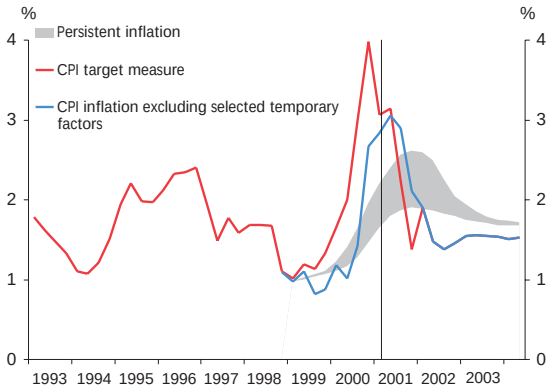
Meanwhile, because the pace of economic activity is presumed to grow at around the same speed as the economy's capacity to produce goods and services, no additional stresses are placed on resources. In essence, the economy remains balanced 'mid-cycle'.

Inflationary prospects

In Chapter 2, we discussed the three influences shaping the inflation profile – one-off factors, exchange-rate-related factors, and domestic factors. At present there is little pressure from domestic factors, which makes our job easier since these factors tend to be sources of more persistent inflation. The recent spike in inflation is projected to dissipate rapidly, given that it was caused primarily by specific, clearly temporary, factors, and by developments in the exchange rate that should also prove to be temporary. The one-off factors, such as the rise in petrol prices and increase in cigarette excise taxes that caused a large jump in the CPI inflation figure in the September quarter of last year, conceal the underlying trends in inflation. If we exclude these temporary factors, then the peak in inflation will probably occur in the middle of this year (figure 29). As these temporary factors drop out of the annual numbers in September this year, headline inflation falls rapidly.

That inflation is still spiked upwards, even after these temporary factors have been excluded, is due to exchange-rate-related price increases following the exchange rate depreciation over 2000. One of our technical assumptions is that the exchange rate will gradually appreciate over the next few years. If this assumption is validated by events, there should be a fall in the landed prices of imports in NZ

Figure 29
Decomposition of inflation projection
(annual percentage change)



dollar terms and a fall in the NZ dollar price of exportables over the next year or so . Both will place downward pressure on inflation. However, in assessing how much of this assumed exchange rate appreciation will pass through into lower consumer prices, we have been deliberately conservative. It seems reasonable to expect that the profit margins of New Zealand importers, distributors and producers for the domestic market, which have been squeezed by exchange rate depreciation, will expand again as the exchange rate appreciates. Hence pass-through of any appreciation may be relatively weak. Moreover, it would be potentially risky to allow the forward inflation path, and hence the forward interest rate path, to be swung around too much on the basis of an assumption as fragile as a given rate of exchange rate appreciation.

Not knowing how much direct price pass-through has occurred in response to past exchange rate depreciation certainly complicates the assessment of likely inflation developments. For one thing, it creates difficulties in working out what is likely to happen as the exchange rate appreciates. For another thing, it makes it difficult to isolate the persistent from the transitory elements of current inflation – something that we would ideally like to do since policy ought to respond to the former but not the latter.

One attempt to isolate these elements is presented in figure 29. Dealing with some of the transitory elements is straightforward. Inflation excluding the effects of petrol prices, tobacco taxes and Housing New Zealand rentals is shown by the blue line in figure 29.

But instead of seeking to estimate exchange rate pass-through, in order to isolate that part of the transitory group, we have taken a different approach.

In principle, the most persistent parts of the inflation process are associated with the state of the business cycle – the degree of stress on resources – and with the state of inflation expectations. Indeed, it is the expectations component that is fundamentally of greatest concern from the perspective of inflation control. Expectations are important because they anchor inflation to a given level. When firms are setting prices and people are negotiating wages they usually take into account what they think inflation is currently, and what it will be over their planning horizon. If everybody thinks inflation is high, they will increase their prices and wages accordingly. Thus, even in an economy where aggregate demand perfectly matches potential supply, inflation pressure is ultimately determined by expectations. This is why the fundamental role of monetary policy is to ensure that expectations of inflation are anchored to the target rate.

One of the economic models that we use separately allows for each of these two persistent components (stress on resources and expectations). While there is no assurance that this model perfectly captures these persistent influences, we can still use it to develop a reasonable range of profiles for persistent inflation that are consistent with what we have observed to date, and with our central projections. That range for the profile of persistent inflation is captured by the shaded area in figure 29.

This range of persistent inflation profiles has been generated by varying within the model, the degree to which domestic core inflation is driven by inflation expectations derived from the history of headline CPI. If one believed that short-term inflation expectations were likely to have been affected by the spike in headline inflation, then one would expect persistent inflation to increase along with headline inflation. That view would imply a track somewhere near the top of the shaded area in figure 29. Alternatively, if one believed that inflation expectations were well grounded and would not respond very much to headline inflation, then one's assessment of persistent inflation would be somewhere near the lower end of the shaded area.

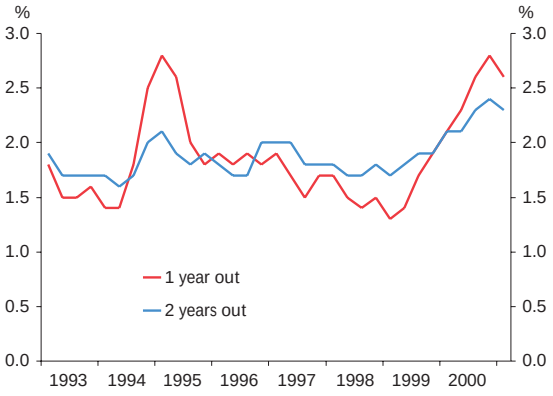
Either way, in our projections, persistent inflation returns near to the mid-point of the 0 to 3 per cent target band within the next two to three years. (It remains above the mid-point because import prices are assumed to fall as the exchange rate appreciates, keeping CPI inflation at the mid-point.) Clearly an outcome near the upper boundary of this shaded area would be less benign than an outcome near the lower boundary. The risks of a new inflation shock taking inflation outside the target range would be higher if the upper boundary represented an optimistic view of the persistent inflation pressures currently in the pipeline.

How reasonable is the view that outcomes higher than the upper boundary are unlikely? In other words, how reasonable is the view that persistent inflation pressures remain benign?

As discussed already, there is mixed evidence on the degree of stress that is currently being placed on productive resources. Capacity utilisation indicators, the low unemployment rate (by recent historical standards), and reported shortages of skilled labour suggest that there is indeed stress. On the other hand, our calculations of the 'output gap' and our contacts with the business community suggest that there is neither much stress nor any real slack.

What about the expectations component of persistent inflation? Although inflation expectations are impossible to measure directly, we can use surveys as a gauge. The Reserve Bank of New Zealand's survey shows inflation is expected to be over $2^1/_2$ per cent in a year's time, reflecting the impact of the recent spike in inflation (figure 30). Our judgement is that this increase in expectations may have increased the persistent element of inflation to above 2 per cent, but that this will unwind slowly as inflation expectations fall, in line with headline inflation.

Figure 30
RBNZ survey of inflation expectations
(annual percentage change)



So there is some possibility that the persistent component of inflation has risen somewhat above the middle of the inflation target band. Correspondingly, there is some possibility that this component of inflation will, over the next few quarters, track closer to the top than to the bottom of the shaded range in figure 29. But, were this to be the case, the amount of pass-through from past exchange rate depreciation must have been very small indeed. By deduction, the amount allowed for exchange rate pass-through is represented in figure 29 by the gap between one's preferred estimate of persistent inflation and the blue line. The upper boundary of the shaded area in figure 29 makes very little allowance at all for pass-through. It seems unreasonable to assume that pass-through was virtually non-existent, especially in light of the indicators of tradables inflation developments discussed in Chapter 2.

The interest rate profile

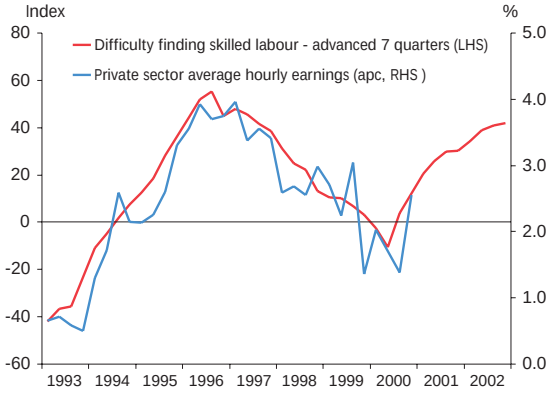
We have discussed the opposing forces influencing our central projections for growth and the degree of pressure being placed on productive resources and hence inflation, namely the international environment and near-term pricing pressures. And we have discussed the risks around our view that the current inflation spike does not contain strong danger signals in relation to persistent inflation. When these opposing influences and judgements are factored into the projections, they produce a relatively flat interest rate profile. This profile is finely balanced and there are many influences that could easily alter this situation.

For example, in contrast to our technical assumption that the exchange rate will gradually appreciate to a more normal level, it may remain low for the foreseeable future. In this case, domestically-focussed firms which have been under significant margin pressure, particularly those whose inputs include a significant imported content, may be forced to increase prices.

Even if the exchange rate does appreciate as assumed, there might be more pass-through of the past depreciation yet to come. Having said that, our judgement is that the peak of pass-through is probably already behind us, given the relative absence of pass-through in some exchange-rate-sensitive components in the March quarter CPI numbers, given trends in surveyed pricing intentions, and comments from businesses. Nevertheless, constrained pass-through of exchange rate depreciation also suggests constrained pass-through of exchange rate appreciation as firms rebuild their margins.

Another possibility is that the reported shortage of skilled labour may cause wages to accelerate and feed through into domestically-generated inflation. However, the low unemployment rate and high level of skill shortages do not yet seem to be generating much in the way of wage response and, at least for the moment, wages look reasonably restrained. Still, the historical relationship between labour market pressure and rapid wage growth suggests the lags are long and pressure might be building up in the pipeline. Partly for this reason, we have been conservative in our allowance for wage growth – assuming that wage growth will accelerate to $3^1/_2$ per cent per annum in the year to March 2002.

Figure 31
Difficulty finding skilled labour and private sector earnings[23]



In short, despite the fact that headline inflation is currently high (and excluding special factors is yet to peak), we remain confident that the core and persistent elements of inflation are well under control. Even if there are further direct price effects from past exchange rate depreciation yet to show through, the likelihood of mild exchange rate appreciation from here means that such direct effects should also prove to be a temporary influence. Meantime, we do not think there is evidence that long-term inflation expectations have been noticeably disturbed by the recent spike of headline inflation to 4 per cent.

Consequently, inflation should fall back over the next few quarters to around the middle of the target range, as depicted in these projections. To be sure, average inflation over the year to March 2002 is likely to turn out higher than we forecast in March, but that probability does not fundamentally change the basic profile. Higher New Zealand dollar prices for internationally-traded goods and services are the main reason for the difference in the near term outlook, and such higher prices are unlikely to be sustained. Looking further ahead, the balancing of the various influences on growth that we have allowed for in our projections is expected both to keep pressure off productive resources and avoid the creation of significant slack in the economy. Hence, within these projections, the future track of interest rates remains fairly flat, near current settings.

Throughout the discussion within this *Statement*, considerable attention has been drawn to competing considerations, and the awkwardness caused by the confluence of unusual circumstances. At such times, any projection should be viewed as indicative at best. In setting interest rates, as much focus needs to go on the characteristics of the risks and uncertainties around the range of possible outcomes as on the 'most likely' outcome at any one point in time. On balance, our assessment is that the risks and uncertainties are probably biased towards lower inflation pressures, but not so obviously that a strong easing of interest rates to avoid undesirably low inflation is immediately called for.

[23] Source: New Zealand Institute of Economic Research, Statistics New Zealand

Annex

Our central projection is finely balanced among a number of plausible alternative outcomes. For that reason, we have interwoven a discussion of the risks and uncertainties around the projection into our main story, rather than treat them separately. Given the uncertainties that confront us, this annex tests the judgements used in arriving at our central projection. Initially, we explore the sensitivity of our projections to changes in assumptions about world growth, commodity prices, and responses to external price signals. Of course, examining key assumptions from a given framework is not the only way in which to test our thinking. We can also use alternative frameworks. This we also do by showing the suggested interest rate paths of a simply monetary rule that does not require any forecasting input on our part.

Throwing additional light on our projections

In the March *Statement,* we presented an alternative scenario where the slowdown in global growth left the level of world demand nearly 1 per cent below trend by early 2002. The scenario was presented in order to delve into the implications of a more serious global slowdown than allowed for in the central scenario. We think we are experiencing a larger slowdown than the March *Statement's* central scenario allowed for, but not yet as serious a slowdown as in that *Statement's* alternative scenario.

But that is not all that is going on. Our current projections, and the policy view that we have adopted, take into account a range of other important developments. In order to throw light on what is important to the evolution of our view, we illustrate the implications of changes in trading partner growth assumptions, commodity prices, exchange rates, and the responsiveness of export growth to these stimuli.

As a reference point, the range between the March *Statement's* central and alternative scenarios is shown by the shaded area in the following sequence of graphs. Each pair of graphs shows the world 'output gap' (loosely speaking, the extent to which output has fallen below or risen above trend), and the corresponding path for the New Zealand 90 day interest rate, given everything else the same as in our current projection unless otherwise indicated.

Our current projection has the level of world demand falling nearly $^1/_2$ per cent below trend this year but recovering to trend by the end of 2002 (figure 32). That is, our central projection still embodies a V-shaped recovery rather than a U-shaped recovery. Our corresponding interest rate track for the current projections is temporarily lower than the March central track, but only by about 50 basis points (figure 33).

The figures on the next page illustrate how the interest rate track changes as we alter our underlying assumptions. For example, if we had used the March *Statement*'s alternative growth assumption (as shown in figure 34), we see that interest rates do not need to fall as far as indicated in the March *Statement*'s alternative scenario (figure 35). The key reasons for the slightly higher interest rate track are that commodity prices have remained higher and the exchange rate has remained lower than was allowed for in the March *Statement*'s alternative scenario.

This issue can also be examined by considering where the interest rate track would be if our current central scenario were modified by the difference between the central and alternative world growth tracks from the March *Statement*. This is shown in figure 36, where the distance between the two lines in the world output gap is the same as the distance between the top and the bottom of the shaded area. In this case, notwithstanding the higher commodity prices and the lower exchange rate, interest rates would need to be even lower than those depicted in the March *Statement's* alternative scenario (figure 37).

On the other side of the coin, although export and import-competing performances to date have been relatively subdued, we might be underestimating the stimulus coming from the shift in the relative price of tradables and non-tradables. It may be that the lags are longer than we have allowed for and the response from the externally-focussed sectors is already in the pipeline. That is, when all the lags work themselves out, we may be surprised by the strength of exports and the growth of the import competing sector. In order to illustrate this risk, figure 39 sets everything to be the same as in our current central projection, except that the responsiveness of external sector production is more in line with historical norms, rather than the more muted response rate assumed in this and the previous two *Statements*. If this turned out to

Figure 32
World output gap
(per cent of potential output)

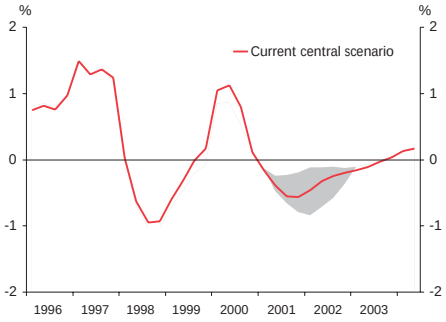


Figure 33
Nominal 90-day interest rate

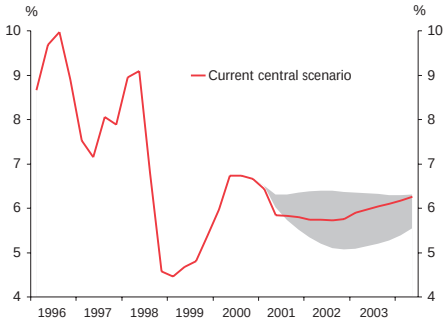


Figure 34
World output gap
(per cent of potential output)

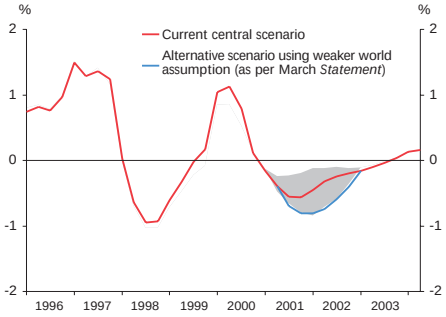


Figure 35
Nominal 90-day interest rate

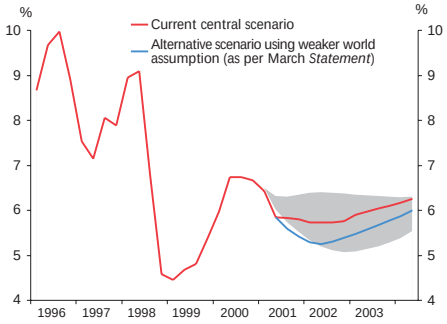


Figure 36
World output gap
(per cent of potential output)

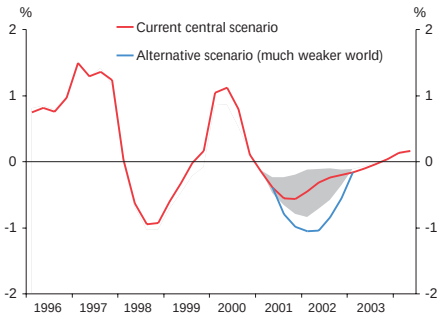


Figure 37
Nominal 90-day interest rate

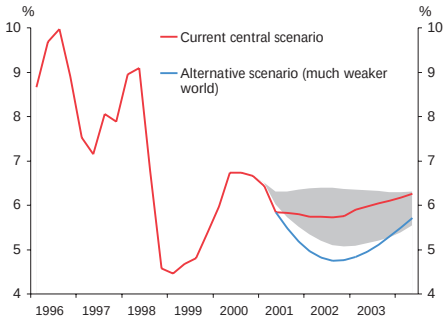


Figure 38
World output gap
(per cent of potential output)

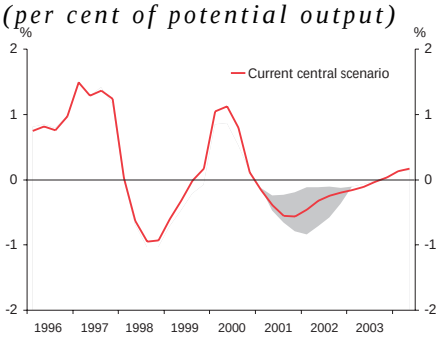
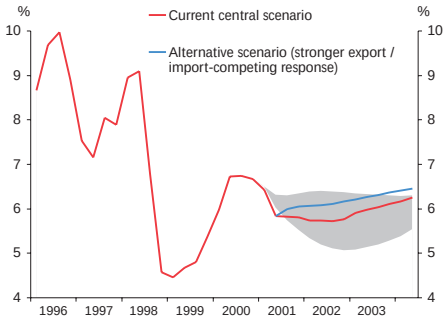


Figure 39
Nominal 90-day interest rate



be the case, these projections would imply a need for a flat-to-rising track for interest rates.

The Taylor Rule: A cross-check on interest rate settings

John Taylor, an American economist, suggested that the US Federal Reserve's desired interest rate settings can be remarkably well represented by a simple 'rule'. That simple rule involves setting interest rates according to a formula based on how far current inflation is from target and how far current output is from trend (or 'potential').

Such a simplistic approach is highly unlikely to capture the real dynamics of monetary policy. Nonetheless, over time and across many countries, Taylor rule calculations have followed actual official interest rates reasonably well. Calculations for New Zealand suggest likewise. While that may seem surprising given the large role that the exchange rate sometimes plays, the exchange rate influence is felt both on the output gap and inflation. And while that may seem especially surprising given New Zealand's inflation-only targeting approach, stresses and strains evident in today's output gap are important determinants of inflation pressures in the future. Inflation targeting is best done in relation to the future path of inflation.

To the extent that Taylor-rule calculations have shown an historical ability to track interest rates, they have the potential to act as a cross check on current interest rate settings. In doing so, they might prompt policy-makers to ask relevant questions.

Figure 40 depicts a range of Taylor-rule calculations for the 90-day interest rate. These calculations use four different definitions of current inflation (headline, headline ex-petrol prices, median, and non-tradable excluding the effects on the March 2001 quarter of the Housing New Zealand rental adjustment) and four different assumptions about the neutral real 90-day interest rate ($3^1/_2$, 4, $4^1/_2$ and 5 per cent). The actual 90-day interest rate is plotted in bold, for comparison.

As can be seen, the range of Taylor-rule-suggested 90-day interest rates is quite wide. The Taylor-rule calculations that seem to have followed the 90-day interest rates the most closely are the variants based on non-tradable inflation.

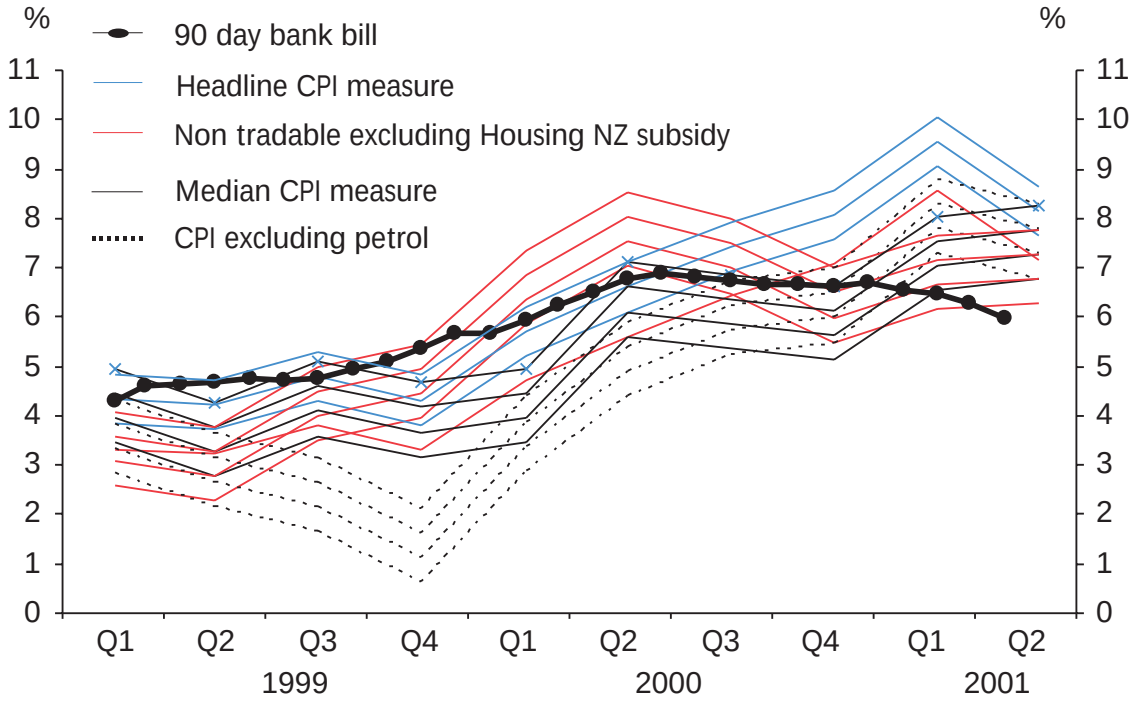
In general, actual 90-day interest rates have followed a smoother path than the Taylor-rule calculations suggest would have been appropriate. And the calculations suggest that the 90-day interest rate should be higher than it currently is.

Rather than throwing additional light on the policy judgements we are presently making, this outcome instead nicely illustrates the nature of the current judgements. That the majority of the Taylor-rule calculations depicted in the chart lie above the current 90-day rate reflects two inter-related considerations. First, the higher Taylor-rule lines use measures of inflation that contain temporary components. The headline measure is most strongly affected by temporary inflation events; the headline ex-petrol measure has but one specific factor removed; and the underlying measure is affected by direct pass-through of past exchange rate depreciation, an effect that we also believe is temporary.

Second, the Taylor rule utilises *current* information only, whereas in setting interest rates we attempt to look forward. As explained in the body of this *Statement*, for various reasons we have in recent months hesitated to react fully to forces that would normally have placed upward pressure on inflation, particularly the very stimulatory exchange rate. We have been concerned that those forces were not likely to last, or were not likely to have their normal effect. In looking forward, we have taken a different view of likely inflation pressures than the view implicitly embedded in current inflation and output gap estimates.

As noted, the Taylor-rule estimates that most closely resemble the actual track on inflation are those based on non-tradables inflation. That is no accident. It is non-tradables inflation that probably best captures the most persistent components of the inflation process, which are the components that we most focus on when looking forward. What the range of these Taylor-rule calculations remind us is that, in taking this focus, we are indeed making important judgements about the future and the nature of the inflation process.

Figure 40
Taylor rule suggested 90-day interest rate



Appendix 1
Chronology

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

2001

14 March	The Reserve Bank released its twenty-ninth *Monetary Policy Statement*, reducing the Official Cash Rate from 6.5 per cent to 6.25 per cent. The news release accompanying the *Statement* is reproduced in Appendix 3.
30 March	Production GDP figures were released showing that the New Zealand economy expanded 0.5 per cent in the December quarter.
18 April	CPI statistics were released for the March quarter showing that the CPI fell by 0.2 per cent over the quarter, and increased by 3.1 per cent over the year to March 2001.
19 April	At the intra-quarter review, the Reserve Bank cut the Official Cash Rate from 6.25 per cent to 6.0 per cent. The accompanying news release is reproduced in Appendix 3.

Appendix 2
Companies and organisations contacted by RBNZ staff in the last week of March 2001

ANZ Banking Group (New Zealand) Limited

Arthur Barnett Ltd

ASB Bank Limited

ATCO Controls Ltd

Bank of New Zealand

Benchmark Building Supplies Ltd

Bluebird Foods Ltd

Canterbury Ltd

Canterbury Manufacturers' Association

Chamber of Commerce Tauranga Region Inc

City Forests Ltd

Comalco New Zealand Limited

Cryovac Sealed Air (New Zealand) Ltd

Donaghys Industries Ltd

Employers' & Manufacturers' Association (Northern) Inc

Employers' and Manufacturers' Association (Central) Inc

Farmlands Trading Society Ltd

Federated Farmers of New Zealand Inc

Financial Services Federation Incorporated

First National Real Estate Network Ltd

Fisher & Paykel Industries Ltd

Foodstuffs (Auckland) Limited

Foodstuffs (South Island) Ltd

GL Bowron & Co Ltd

Glovers Food Processors Limited

Goodman Fielder Milling & Baking New Zealand Ltd

Grasshopper Properties (NZ) Ltd

Hawkes Bay Chamber of Commerce Incorporated

Hemisphere Traders Limited

Hubbards Foods Ltd

J Ballantyne & Company Ltd

Krone (NZ) Technique Ltd

Lichfield International Ltd

Napier City Council

Naylor Love Properties Ltd

New Zealand Business Supplies Group

New Zealand Council of Trade Unions

NZ Employers' Federation

P.D.L Holdings Ltd

Paper Plus New Zealand Ltd

Port of Tauranga Limited

Pyne Gould Corporation Ltd

Radiola Corporation Ltd

Retail Merchants Association of New Zealand Incorporated

Richmond Ltd

Sinclair Knight Merz Limited

Stagecoach New Zealand Trustee Ltd

Tait Electronics Ltd

Tamahine Holdings Ltd

Tecpak Industries Ltd

The National Bank of New Zealand Limited

Topsco International NZ Ltd

Vision 20/20 Incorporated

Vita New Zealand Ltd

Weldwell New Zealand

Westpac Banking Corporation (New Zealand division)

Wrightson Property Holdings Limited

Appendix 3
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.

RBNZ reduces OCR to 6.25 per cent
14 March 2001

The Reserve Bank today announced that it was reducing the Official Cash Rate (OCR) from 6.5 per cent to 6.25 per cent, as inflation pressures in the medium term now seem more likely to ease than build.

This came with the release of the Bank's March 2001 *Monetary Policy Statement*.

Reserve Bank Governor Don Brash said "While most inflation measures have been accelerating, recent events suggest that by the time today's monetary policy settings have an effect, inflation pressures will actually be easing.

"For one thing, it now seems likely that headline inflation will retreat from 4 per cent quite quickly, reducing the risk of a spill-over into wage- and price-setting behaviour.

"For another, and more importantly, the international economy is slowing down faster than we previously thought. That slowdown will in time impact on our strongly performing export sector, and consequently ease inflation pressure."

Dr Brash warned that today's reduction had been a finely balanced decision and further reductions were not inevitable, as there were still risks that inflation would turn out to be more persistent than projected in today's *Statement*.

"At this stage, we do not know how severe the international slowdown may be, or how long it might last. ... If the slowdown turns out to be relatively brief, or if New Zealand's export prices hold up despite that slowdown, any substantial easing of monetary policy in New Zealand would be quite inappropriate."

Dr Brash noted that there were particular factors within New Zealand that had made the Reserve Bank especially cautious.

"Significant parts of the economy are operating at close to capacity. Fuelled by a still-stimulatory exchange rate and relatively buoyant commodity prices, many companies are stretched."

Dr Brash stated that the balance of risks was currently tipped marginally in favour of easing inflation pressures but "it is by no means inevitable that today's reduction will be quickly followed by further reductions."

What central banks can and can't do
30 March 2001

Reserve Bank Governor Don Brash is urging people to be realistic about what monetary policy can achieve.

Speaking to the Trans-Tasman Business Circle in Sydney, Dr Brash said that "In recent years ... the public have come to believe that central banks can achieve very much more than they can, in reality, deliver."

The risk, he said, was that, when economies failed to perform to expectations, "Central banks will receive far more than their fair share of blame."

Dr Brash said the goal of price stability was "extremely important", in terms of the economy, and in addition "In many ways, keeping the value of money broadly stable makes a bigger contribution to social justice than it does to economic growth".

Monetary policy targeted at price stability also reduced the economic and social dislocation caused by booms and busts, he said.

However, Dr Brash warned of unrealistic expectations about things that central banks could not achieve, as "There has been a tendency to attribute to monetary policy and central banks an influence on the economy out of all proportion to the reality."

"Central banks can not have any substantial effect on trend growth in output or trend growth in employment," and "central banks cannot solve regional, or sectoral, problems," as monetary policy must relate to "the economy as a whole".

Dr Brash said it was the policies of governments that had a material influence on growth and employment, some of the issues being taxation rates, property rights, education, and whether markets were distorted or not.

"More fundamentally ... trend growth in output and employment are both a function of culture and social attitudes."

Dr Brash said examples of those attitudes were how much people valued education, independence from the state, private property rights and consumption in the future over consumption in the present and "none of them have much relation to monetary policy".

Reserve Bank cuts OCR to 6 per cent

19 April 2001

Reserve Bank Governor Don Brash today cut the Official Cash Rate from 6.25 per cent to 6 per cent, but in doing so he indicated that there were strong grounds for being cautious about further cuts.

Dr Brash said: "The main reason for cutting the OCR again is slowing growth in New Zealand's main trading partners. This slowdown in global growth will have an adverse impact on demand for our exports, and is likely to reduce inflationary pressures in New Zealand.

"However, world prices for our commodities remain robust, and the exchange rate has fallen back since March. These unexpected developments, if they persist, could take much of the disinflationary sting out of weakening global demand.

"In addition, significant parts of the economy are operating near to capacity and the labour market is relatively tight.

"It is for these reasons that we are only cautiously moving the OCR in the same direction as official interest rates in other countries. We will be assessing the emerging data carefully and will next review the OCR at the May *Monetary Policy Statement* to be released on 16 May," Dr Brash concluded.

Appendix 4
Summary Tables[1]

Table A
CPI inflation projections and monetary conditions
(CPI is in percentage changes)

		CPI* Annual	TWI	90-day bank bill rate
1995	Mar.	1.9	59.8	9.4
	Jun.	2.2	60.8	9.1
	Sep.	2.0	61.7	9.0
	Dec.	2.0	61.9	8.5
1996	Mar.	2.1	64.2	8.7
	Jun.	2.3	64.6	9.7
	Sep.	2.3	65.6	10.0
	Dec.	2.4	67.1	8.9
1997	Mar.	2.0	68.4	7.5
	Jun.	1.5	68.0	7.2
	Sep.	1.8	64.8	8.1
	Dec.	1.6	63.9	7.9
1998	Mar.	1.7	61.2	9.0
	Jun.	1.7	58.5	9.1
	Sep.	1.7	57.1	6.8
	Dec.	1.1	56.0	4.6
1999	Mar.	1.0	57.6	4.5
	Jun.	1.2	59.1	4.7
	Sep.	1.1	56.7	4.8
	Dec.	1.3	54.4	5.4
2000	Mar.	1.7	54.1	6.0
	Jun.	2.0	53.4	6.7
	Sep.	3.0	50.1	6.7
	Dec.	4.0	47.7	6.7
2001	First Half Average	3	49 1/2	6
	Second Half Average	2	50 1/2	6
2002	First Half Average	2	51	5 1/2
	Second Half Average	1 1/2	52	5 1/2
2003	First Half Average	1 1/2	52 1/2	6
	Second Half Average	1 1/2	53 1/2	6

[1] Notes for these tables are in Appendix 5.

* This series is annual underlying inflation until the September quarter 1997, annual CPIX inflation from the December 1997 quarter until the June 1999 quarter, and annual CPI inflation thereafter (adjusted by SNZ to exclude interest and section prices from the September 1999 quarter to the June 2000 quarter).

Table B

Composition of real GDP growth

(Annual average percentage change, unless specified otherwise)

	Actuals						Projections			
March year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Final consumption expenditure										
Private	6.1	3.5	3.8	2.0	2.0	3.4	1½	3	3	2
Public authority	1.1	4.9	1.7	8.2	-1.3	4.4	-3½	1½	1½	4
Total	4.9	3.8	3.3	3.4	1.2	3.6	½	2½	3	2½
Gross fixed capital formation										
Market sector:										
Residential	12.6	0.9	6.1	2.1	-15.1	21.9	-16	0	7	5
Business	17.3	16.2	5.3	-2.8	5.5	3.6	10	3½	5½	4½
Non-market government sector	22.9	5.7	29.8	8.8	-11.5	6.3	3	4½	4½	6½
Total	16.3	10.9	7.5	-0.4	-1.8	8.0	2½	2½	5½	5
Final domestic expenditure	7.1	5.3	4.2	2.6	0.5	4.6	1	2½	3½	3
Stockbuilding [1]	-0.2	0.0	-0.4	-0.1	-0.7	1.4	-½	0	0	0
Gross national expenditure	6.8	5.3	3.8	2.4	-0.2	6.0	½	2½	3½	3
Exports of goods and services	8.4	1.8	4.6	3.7	2.2	6.8	5	4½	4½	3½
Imports of goods and services	14.3	6.6	6.5	3.2	2.2	11.6	½	3	4½	5
Expenditure on GDP	5.3	3.8	3.2	2.6	-0.1	4.5	1½	3	3½	2½
GDP (production)	5.3	4.1	3.0	1.9	0.4	4.6	2½	3	3	2½
GDP (production, March qtr to March qtr)	4.7	4.0	1.7	0.5	2.7	5.5	1	3½	3	2½
Potential output	3.8	3.9	3.5	2.9	2.6	2.6	2½	3	3	3
Output gap (% of potential GDP, year average)	1.8	2.0	1.4	0.4	-1.7	0.2	0	0	½	0

e = estimate

[1] Percentage point contribution to the growth rate of GDP.

Appendix 5
Notes to the tables

CPI	Consumers Price Index
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, the United Kingdom, and the euro.
90-day bank bill rate	RBNZ. Defined as: The interest yield on 90-day bank bills.
World GDP	Reserve Bank definition. 14-country index, export weighted. Projections based on *Consensus Forecasts*. 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 *Consensus Forecasts*.
Import prices	Domestic currency import prices. *Overseas Trade Indexes.*
Export prices	Domestic currency export prices. *Overseas Trade Indexes*.
Terms of trade	Constructed using domestic-currency export and import prices. *Overseas Trade Indexes.*
Private consumption	*System of National Accounts.*
Public authority consumption	*System of National Accounts.*
Residential investment	RBNZ definition: Private sector and government market sector residential investment. *System of National Accounts.*
Business investment	RBNZ definition: Total investment less the sum of non-market investment and residential investment. *System of National Accounts.*
Non-market investment	RBNZ definition: The *System of National Accounts* 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. *System of National Accounts.*
Stockbuilding	Percentage point contribution to the growth of GDP by stocks. *System of National Accounts.*
Gross national expenditure	Final domestic expenditure plus stocks. *System of National Accounts.*
Export of goods and services	*System of National Accounts.*
Imports of goods and services	*System of National Accounts.*
GDP (production)	*System of National Accounts.*
Potential output	RBNZ definition and estimate. Refer to: Conway, P. and B. Hunt, (1997), 'Estimating Potential Output: a semi-structural approach', *Reserve Bank of New Zealand Discussion Paper*, G97/9.

Output gap	RBNZ definition and estimate: The percentage difference between real GDP (production, seasonally adjusted) and potential output GDP.
Current account balance	*Balance of Payments.*
Total employment	*Household Labour Force Survey.*
Unemployment rate	*Household Labour Force Survey.*
Household savings rate	*Household Income and Outlay Accounts.*
Government operating balance	Historical source: The Treasury. Adjusted by the RBNZ over the projection period.
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. *Quarterly Employment Survey*.
Quarterly percentage change	$(Quarter/Quarter_{-1} - 1)*100$
Annual percentage change	$(Quarter/Quarter_{-4} - 1)*100$
Annual average percentage change	$(Year/Year_{-1} - 1)*100$

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