2

Economic Outlook

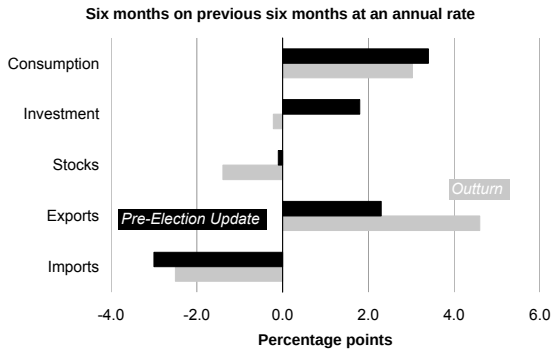
Recent Developments

Growth in the first half of 2002 was stronger than forecast in the* Pre-Election Update*…

Economic growth accelerated over the first half of the year, with production GDP expanding by 4.7% on an annualised basis, compared with 3.3% in the second half of 2001. Despite revising growth up in the *Budget Economic and Fiscal Update* and in the *Pre-Election Economic and Fiscal Update*, growth came in ahead of expectations.

After the strong 1.7% expansion in output in the June quarter, we estimate that the level of activity increased further in the September quarter, albeit at a slower pace than over the first six months of the year.

Figure 2.1 – Contributions to GDP growth – first half of 2002



Sources: Statistics New Zealand, The Treasury

The domestic economy was strong over the first two quarters of 2002 with solid growth in both private consumption and residential investment. We estimate that this domestic strength continued in the September quarter. A number of factors combined to drive growth over the first three quarters of 2002. Net migration for the year ended September 2002 was just over 37,000, providing additional stimulus to domestic activity. Increases in house prices of around 8% in the year to September have boosted household wealth. In addition, labour income increased above the level forecast at the time of the *Pre-Election Update*.

The external sector also grew strongly over the first half of 2002. The March and June quarters both recorded stronger export volume growth than expected, with services and dairy exports making substantial contributions to growth. Much of the growth in dairy exports came from a rundown of stocks that had built up in the previous few quarters, rather than increased production. Growth in imports was solid, reflecting the momentum

Table 2.1 – Economic outlook: central forecast[1]

(Annual average % change, March years)	2002 Actual	2003 Forecast	2004 Forecast	2005 Forecast	2006 Forecast	2007 Forecast
Private consumption	2.4	3.7	2.6	2.6	3.0	3.0
Public consumption[2]	0.4	3.9	4.1	0.2	0.4	3.4
Total Consumption	**1.9**	**3.7**	**2.9**	**2.0**	**2.4**	**3.1**
Residential investment	3.2	18.2	6.8	-1.6	1.8	2.4
Market investment	6.0	1.9	5.6	5.7	5.1	4.3
Non-market investment	-2.8	-0.9	6.2	7.3	2.9	2.8
Total Investment	**4.9**	**6.1**	**6.0**	**3.9**	**4.2**	**3.8**
Stock change[3]	0.1	-0.6	0.2	0.0	0.0	0.0
Gross National Expenditure	**2.6**	**3.5**	**3.8**	**2.4**	**2.8**	**3.2**
Exports	2.0	9.1	4.3	5.2	4.3	3.6
Imports	2.1	8.7	7.7	4.1	3.5	4.5
GDP (Production Measure)	**3.3**	**4.0**	**2.5**	**2.9**	**3.0**	**2.8**
- annual % change	4.1	3.8	2.4	3.0	2.9	2.8
Nominal GDP (expenditure basis)	6.4	3.6	5.0	4.9	4.9	4.6
GDP deflator	3.7	0.0	2.2	2.0	1.8	1.6
Employment[4]	2.5	2.4	0.9	1.6	1.4	1.3
Unemployment[5]	5.3	5.4	5.5	5.3	5.2	5.2
Wages[6]	3.5	3.2	3.8	3.4	3.3	3.3
CPI inflation	2.6	2.3	2.1	2.1	1.9	2.0
Export prices[7]	3.1	-12.8	-2.8	0.4	0.0	0.0
Import prices[7]	-0.9	-7.3	-2.0	0.0	-0.2	-0.1
Current account balance						
- $ million	-2,595	-4,412	-5,668	-6,525	-5,958	-6,397
- % of GDP	-2.1	-3.5	-4.3	-4.7	-4.1	-4.2
TWI[8]	51.6	56.5	56.5	56.5	56.5	56.5
90-day bank bill rate[8]	5.0	6.0	6.0	6.0	6.0	6.0
10-year bond rate[8]	6.7	6.5	6.2	6.2	6.2	6.2

Sources: Statistics New Zealand, Datastream, The Treasury

NOTES:

1. Forecasts finalised 21 November 2002. Text finalised 10 December 2002. Additional tables are available on the internet: www.treasury.govt.nz.
2. The forecast profile for public consumption is influenced by government defence spending.
3. Contribution to GDP growth.
4. Household Labour Force Survey, full-time equivalent employment.
5. Household Labour Force Survey, percentage of the labour force, March quarter, seasonally adjusted.
6. Quarterly Employment Survey, average hourly ordinary time earnings.
7. Overseas Trade Index basis, annual average percentage change, March quarter.
8. Average for the March quarter.

Assumptions Underlying the Central Forecast

The international outlook conforms to that presented in the November *Consensus Forecasts* and *Asia Pacific Consensus Forecasts.*

The forecasts assume no military conflict in Iraq. However, the impact of uncertainty about possible conflict is implicitly built into the *Consensus Forecasts* described above.

Our forecasts assume an equilibrium exchange rate of 56.5 on a Trade Weighted Index (TWI) basis and a neutral short-term interest rate of 6.0%.

The central forecast assumes a slightly below average growing season for the 2002/03 year, before returning to normal growing seasons further out.

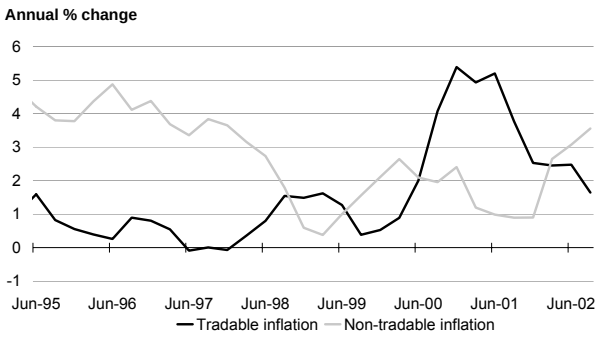
The change in the Policy Targets Agreement negotiated between the Governor of the Reserve Bank of New Zealand and the Minister of Finance does not to lead to any marked change in price-setting behaviour or inflation expectations.

in the domestic economy. However, the net external sector is estimated to have subtracted from growth in the September quarter. We estimate a fall of around 1.0% in exports in the September quarter, with most categories of exports declining. Dairy exports provide a partial offset with export volumes continuing to rise. A strong rise in import volumes is expected to compound the fall in exports, with the volumes of most of the major import groups having increased, with the exception of plant and machinery. The fall in plant and machinery imports is expected to contribute to a fall in market investment in the September quarter.

… and the labour market has remained tight

After the June quarter showed a picture of stronger employment and weaker wages than forecast at the *Pre-Election Update*, both came back towards the forecast in September. However, continued increases in hours worked left labour income above the level forecast at the *Pre-Election Update*. Net migration gains contributed to solid working-age population growth of 1.9% in the September 2002 year. With participation rates staying around recent-historical highs, the labour force grew a strong 3.0% in the year ended September 2002 and the unemployment rate increased slightly to 5.4% in the September quarter.

Figure 2.2 – CPI inflation



Sources: Statistics New Zealand, The Treasury

Prices and monetary conditions have been largely in line with the Pre-Election Update

The CPI increased 2.6% in the year to September 2002, a decline from 2.8% in the year to June 2002. The Reserve Bank of New Zealand (RBNZ) measure of non-tradable[2] inflation increased 3.6% in the year, while the prices of

[2] Non-tradables are items produced domestically with little direct foreign competition.

tradable[3] goods increased by 1.6%. The steady increase in non-tradable inflation is consistent with the sources of domestic growth, especially in construction, housing, retailing and other service sectors, and provides evidence of related capacity pressures.

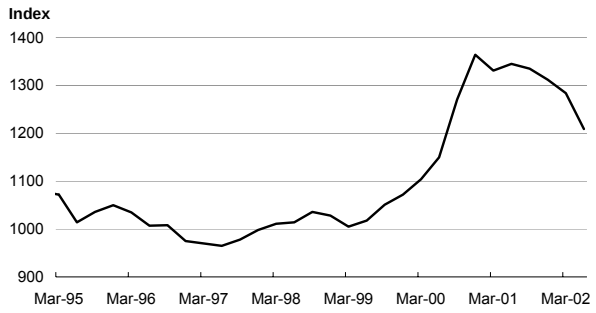
After falling to 52.4 in mid-August, the New Zealand TWI has rallied back up to 57.0, around the level forecast in the *Pre-Election Update*, and close to our assumed long-run equilibrium.[4] Subdued tradable goods inflation reflects in part the appreciation of the New Zealand dollar. In annual terms, tradable inflation has fallen from over 4% in early 2001 to below 2% in the September 2002 year.

The RBNZ lifted interest rates by 25 basis points to 5.75% at the July Official Cash Rate (OCR) review, but has since left rates unchanged. The 90-day rate has declined from just over 6.0% in mid-July to around 5.9% where it has remained since the beginning of August. With the fall in the exchange rate, monetary conditions as a whole were slightly more stimulatory than forecast in the *Pre-Election Update* but have recently moved back to expected conditions.

Export prices have been stronger than forecast in the Pre-Election Update*, but are beginning to reflect the downturn in world activity*

At the time of the *Pre-Election Update,* subdued global growth was expected to negatively impact on the world prices received for New Zealand's exports. Prices were expected to fall sharply, largely due to sharp declines in dairy prices and ongoing weakness in crude and manufacturing export prices. Combined with an appreciating TWI, the fall in export prices was expected to lead to a sizeable fall in export receipts, with farmers to feel the largest declines.

Figure 2.3 – Overseas Trade Index - export prices



Sources: Statistics New Zealand, The Treasury

Although the prices of most New Zealand export goods fell in the first half of 2002, the price falls of some commodities have not been as large as anticipated. Meat, wool and manufacturing prices all held up better than expected. Dairy prices have been an important exception, falling further than expected over the first half of 2002. On the other hand, import prices have been stronger than forecast in the *Pre-Election Update*.

Merchandise trade data and commodity price information suggest that export prices fell further in the September 2002 quarter, with dairy prices likely to record another sizeable fall as the decline in spot prices earlier in 2002 flows into export prices. Oil prices increased sharply in the September quarter with a "war premium" driving prices up and boosting import prices in the quarter. The terms of trade are therefore estimated to have fallen again in the September quarter.

---

3 Tradables are goods that are imported, have a large imported component or where production faces significant direct competition from overseas.

4 In broad terms the equilibrium exchange rate is the level at which the economy is in balance. The equilibrium exchange rate will tend to vary between forecasting rounds depending on what happens to other forecast variables, such as the terms of trade, relative inflation and desired external debt levels.

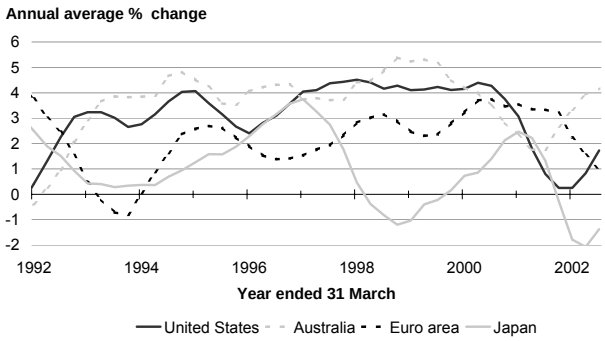
Growth in the nominal economy has been weaker than the real economy

Although the real economy recorded a 1.7% rise in the June quarter, nominal GDP fell 1.1%, driven by a 2.2% decline in the GDP deflator. A fall in export prices contributed to the fall in the deflator. Overall, nominal expenditure GDP, an important determinant of the fiscal position, rose 5.2% over the year to June 2002, lower than our *Pre-Election Update* forecast of 5.6%, and seemingly at odds with the strength of tax revenues. However recent data revisions suggest growth for the June year will be revised up (see *Stop Press* at the end of the chapter).

Growth in economic activity in most of New Zealand's trading partners has recovered, albeit modestly, over 2002 after a very weak year in 2001

Based on three quarters of data to September, GDP growth in the United States (US) is likely to be in excess of 2.0% in the 2002 calendar year, after growing at 0.3% in 2001. Household spending, which has remained robust, and an end to destocking have led the recovery in growth. Growth in Australia over 2002 has been resilient at 3.7% in the year to September, on the back of strong domestic demand. However, growth in the Euro area has slipped and is likely to be weaker than the 1.6% growth recorded in 2001. And while Japan looks likely to record negative growth again in 2002, growth elsewhere in Asia has been more resilient, with China and Korea leading the way.

Figure 2.4 – GDP growth



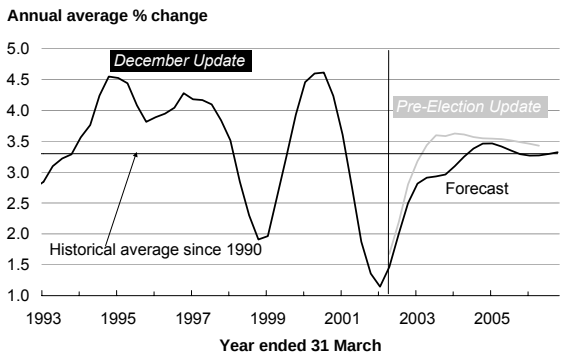
Sources: Datastream, The Treasury

However, sentiment around prospects has "flip-flopped" and expectations of a return to trend growth have been pushed out…

The months before the *Pre-Election Update* saw increasing optimism about the global economy as it looked like the US was accelerating out of its 2001 recession. More optimistic expectations were reflected in the *Consensus* based forecasts underpinning the *Pre-Election Update*, with trading partner growth expected to pick up to 2.9% in 2002 and 3.6% in 2003.

However, sentiment around the global economy, together with the flow of data, turned less positive from mid-year. The performance of international equity markets contributed to the changing mood. World equity markets recorded large falls in July through to early October. While the falls were led by US equity markets, most major equity markets in other parts of the world also recorded large falls.

Figure 2.5 – Trading partner growth



Sources: *Consensus Economics*, The Treasury

New Zealand's Recent Economic Performance in a Global Context

Over the last few years New Zealand has been one of the better performing OECD economies. Between December 1998 - when trading partner growth was at its lowest point following the Asian crisis - and September 2002 output has expanded 15.1% in New Zealand and 12% in Australia. The Euro area and the US have grown 10.2% and 9.4% respectively. The level of output in Japan is up only 2.4% on where it was in December 1998. While some of this difference in growth reflects the fact that countries were at different stages of their economic cycles at the start of the period, recent New Zealand performance has also been important.

This better growth performance has been mirrored in other aspects of economic performance. In New Zealand employment is up 9.1% since December 1998 and the unemployment rate has fallen 2.3 percentage points. Australia and the Euro area have also achieved similarly robust employment growth that has contributed to lower unemployment, whereas the US and Japan have experienced lower or negative employment growth and higher unemployment, albeit from low levels.

These developments have seen most of the spare resources available in the New Zealand economy absorbed back into productive use. As discussed in the main chapter, on many historically based measures the New Zealand economy is operating at around or above capacity. One summary measure of this is the "output gap". On OECD estimates New Zealand is one of a handful of countries operating with a positive output gap over 2002, suggesting New Zealand is operating slightly above capacity. Given the slow growth achieved by most OECD economies over 2000 and 2001, most are operating below potential. These relatively different cyclical positions are reflected in respective inflation rates and the stance of monetary policy. Less spare capacity and inflation running near the top of the monetary authority's objective help explain why policy interest rates are closer to neutral in New Zealand in contrast to a number of other OECD economies.

Figure 2.6 – Growth in real GDP

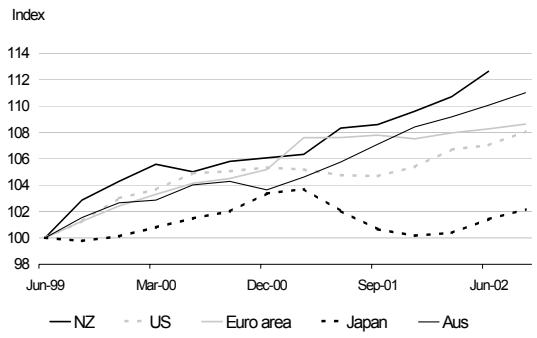


Figure 2.7 – Labour market developments

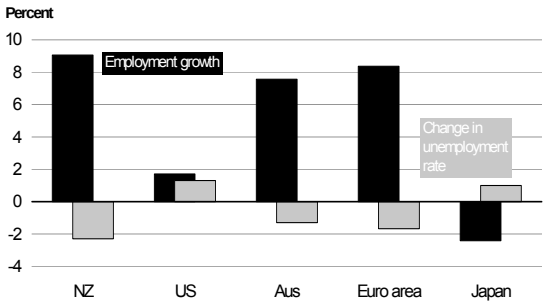


Figure 2.8 – Estimated output gap 2002

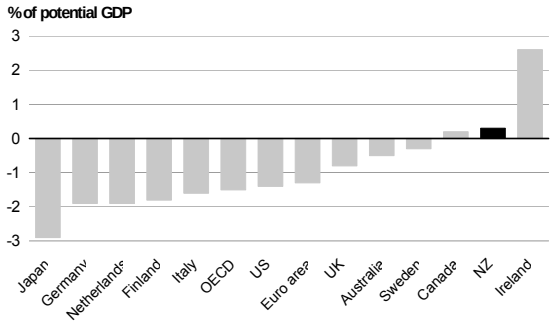
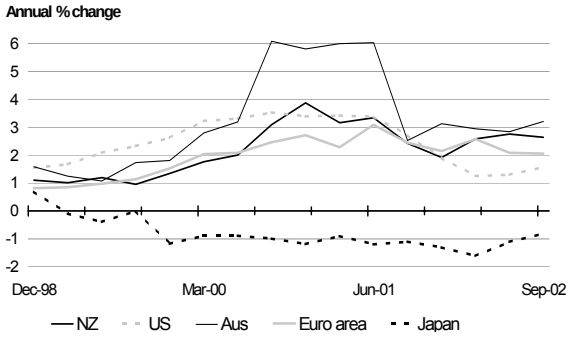


Figure 2.9 – CPI inflation



Sources: OECD, Datastream

Equity market falls have resulted in sizeable declines in household and corporate wealth, and have dented confidence. While equity markets have rallied somewhat in October and November there is still the risk of volatility and further falls.

International political events have also contributed to fluctuating views on the outlook for the world economy, with the possibility of military conflict in Iraq adding to uncertainty. While our forecasts assume no military conflict in Iraq, the trading partner growth outlook implicitly reflects the effect of uncertainty in global political events built into business and consumer confidence, and oil and asset prices. The possibility of conflict was a factor in oil prices rising towards the US$30 per barrel mark in September. Similarly, changing expectations have been at play in the subsequent decline in oil prices to around US$26 at present. We can expect oil prices to remain volatile as United Nations' weapons inspections in Iraq progress and as people assess and re-assess the possibility of conflict.

… and trading partner growth is expected to be weaker in 2002 and 2003 than at the time of the Pre-Election Update

November *Consensus Forecasts* point to trading partner growth of 2.5% in 2002 and 3.0% in 2003. Since the time of the *Pre-Election Update* major downward revisions to *Consensus* growth forecasts have occurred for the US, Australia and Europe, with the outlook for Asia holding up more favourably. Most of the revisions to *Consensus* US growth forecasts are for 2003 with the current forecast of 2.7% well below the 3.6% expected mid-year.

Several factors contribute to being cautious about a rapid return to vigorous global growth. Consumption is likely to stay weak in the Euro area and Japan, leaving the United States to provide the main global impetus. Additionally, business spending is being restrained by an effort to boost profits, the increased cost of equity capital, and uncertainty about war in the Middle East. Nevertheless, as the factors holding back business spending gradually dissipate, global growth is expected to gain momentum in 2003.

Forecast growth in Australia in 2002 has been revised down to 3.6% and to 3.3% in 2003. Severe drought conditions currently being experienced in some parts of Australia have contributed towards the downward revisions. The drought is expected to cut rural production and income sharply with the Reserve Bank of Australia suggesting that GDP growth could be directly cut by 1.0% as a result. Nevertheless, the domestic economy is expected to remain relatively robust, although the timing and magnitude of the expected slowdown in the housing cycle add uncertainty to the outlook.

Risks remain around the world outlook

Even with the revisions to trading partner growth, and downside risks around the world outlook are more easily identifiable than upside risks. The impact of wealth losses on activity is still uncertain and international political risks continue to weigh on sentiment. With these downside risks in mind, we have developed a low world growth scenario in the Risks and Scenario chapter of this document.

While most of the near-term risks to the global outlook are on the downside, we do not rule out the possibility that growth could be stronger than current *Consensus* expectations. The *Consensus Forecasts* do not see a substantial bounce-back in activity, with growth expected to be modest at around 3-3.5% for 2004-2006. It is possible that growth will surprise on the upside after the current period of sub-trend growth.

World Growth Assumptions

Trading partner growth forecasts using the November *Consensus Forecasts* are summarised below.

Calendar years	2001	2002	2003	2004-2006
Australia	2.7	3.6	3.3	3.7
Japan	-0.3	-0.9	0.8	1.1
US	0.3	2.3	2.7	3.2
Europe*	1.6	1.0	2.0	2.3
Non-Japan Asia**	1.9	4.8	5.0	5.6
Trading partner growth	1.4	2.5	3.0	3.4

* UK, Germany, Italy, France (weighted by export share)

** Korea, Taiwan, China, Malaysia, Hong Kong, Singapore (weighted by export share).

The Near-Term Outlook

The short-term economic outlook is driven by weighing up the impact of two competing forces:

- The flow-on from the fall in the terms of trade over 2002 and the prospect of only a moderate pick-up in global growth over 2003.
- The strength in the domestic economy.

In the *Pre-Election Update* we expected the decline in the terms of trade to begin to impact on domestic activity in the second half of 2002. However, the fall in export prices does not appear to have had a strong impact on domestic economic activity to date, and in the short term we expect the strong domestic economy to dominate developments. Economic growth in the first half of 2002 exceeded our expectations, and our central forecast sees a higher level of economic activity continuing over the second half of 2002 and into the beginning of 2003, with the impact of the falling terms of trade likely to take longer to flow through the economy than we expected at the time of the *Pre-Election Update*. GDP growth is forecast to fall over the 2003/04 year. The timing of the impact of the terms of trade fall on the rest of the economy is a key judgement underpinning the central forecast.

We expect a decline in the terms of trade of over 6% in the March 2003 year…

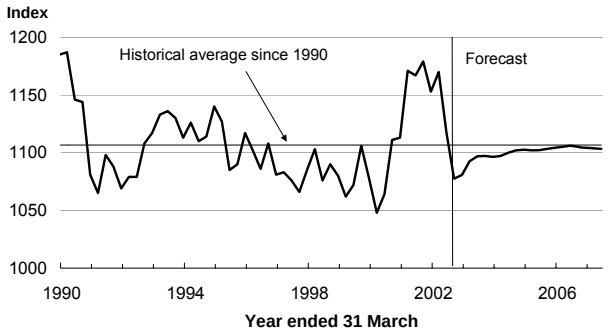
Ongoing weakness in the world economy is forecast to continue to put downward pressure on the world prices of New Zealand goods. However, the recovery in world dairy spot prices, measured in the ANZ Commodity Price Index in the latter part of 2002, should see dairy prices level off in the December quarter as spot price developments flow through to export prices. We expect world dairy prices to recover further over 2003 and 2004 but remain below the peaks of 2001.

Meat prices are also forecast to fall over the remainder of 2002 and into 2003. To date, meat export prices have held up above our *Pre-Election Update* forecasts, but spot prices have begun to ease. Increased slaughtering in the US and Australia is expected to exert downward pressure on prices over the next year, largely in beef prices. We expect the prices of crude materials and manufactured exports to fall, given a prolonged period of sub-trend world economic growth.

While oil prices eased somewhat in October and November after September's sharp increase, prices remain around 10% higher than at the end of last year. Oil price movements are likely to be reflected in higher mineral fuel import prices in the September quarter, but we expect prices to ease in the December quarter of 2002 and the beginning of 2003, before drifting lower over the rest of the forecast period. The weak world recovery is expected to push import prices of most other categories of goods down until late 2003.

The forecast export and import price developments combine to give a terms of trade fall of 6.4% in the year to March 2003. While the fall in the terms of trade is large, in a historical sense the terms of trade are forecast to remain at a relatively high level. The terms of trade recover a little in the 2004 and 2005 March years as export prices pick up and import prices trend downwards.

Figure 2.10 – Terms of trade



Sources: Statistics New Zealand, The Treasury

… but economic growth in New Zealand is forecast to hold up well in the short term, although not at the same rate as in the first half of 2002

As a result of the cold spring and NIWA predictions of a mild to moderate El Nino event, a below average growing season is built into the primary sector forecasts for 2002/03. However, in aggregate, ongoing productivity improvements and increased livestock numbers, particularly in the dairy herd, provide an offset. We expect a rebound in export volume growth in the December quarter after the fall in September. A positive contribution from dairy exports is an important factor with an ongoing rundown of stocks providing a further offset to some of the effects of adverse spring weather on primary production. Volume growth in the March 2003 quarter is forecast to be more subdued than December. A quicker or slower rundown of stocks over the first half of 2003 could provide a larger or smaller export contribution to growth than our central forecast.

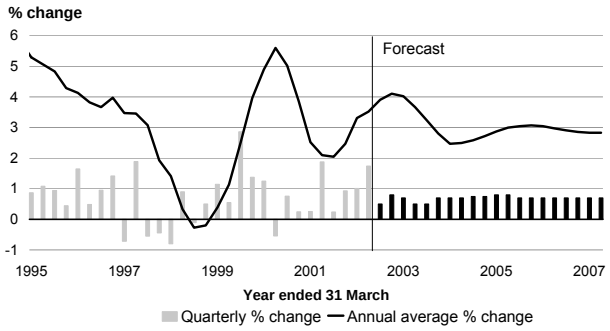
In the short term, manufactured exports' growth is forecast to be modest, but benefits from ongoing growth in Australia and especially in the housing sector, is providing a partial offset to weak growth elsewhere. Exports of wood and wood products are expected to be solid, with the Australian housing market and solid demand from Korea and China holding exports up, despite the delayed recovery in world economic activity.

Services' exports are forecast to provide a solid contribution to growth in the near term. Tourist arrivals have rebounded following the post 11-September fall and our central forecast is for ongoing growth. Exports of education services have provided a boost to export volumes recently and are expected to continue to support exports of services.

The December 2002 and March 2003 quarters see a slowdown in consumption growth compared with early in 2002, but continued robust growth in residential investment means the domestic economy is expected to make a solid contribution to growth. The central forecast also includes a pick-up in the growth of market investment, reflecting a rebound from the September quarter, but also a need for firms to invest to increase production with labour being relatively scarce. However, increased uncertainty around the global outlook

is a risk, and could see firms, particularly those in the tradable sector, defer investment plans. The momentum in the domestic economy sees the level of imports increase somewhat in the year to March 2003.

Figure 2.11 – Real GDP growth



Sources: Statistics New Zealand, The Treasury

Overall, real GDP growth of 4.0% is forecast over the year to March 2003. The corresponding increase for real expenditure based GDP is 3.6%. Nominal, or current price, expenditure GDP is forecast to increase 3.6% in the year to March 2003. The decline in export prices drives growth in the GDP deflator to zero and that sees growth in nominal expenditure GDP equal real expenditure GDP growth.

Inflation pressures are forecast to ease in the year to March 2003…

Measures of capacity utilisation, such as the New Zealand Institute of Economic Research (NZIER) measure of capacity utilisation in the manufacturing and building sectors, skill shortage indicators and the unemployment rate, amongst others, suggest that firms are operating at utilisation levels that are high historically. Our business talks also indicate that the labour market is tight with labour harder to find than previously. However, assessing the aggregate pressure on resources and particularly the spill-over to inflation is always a challenge. Estimates of trend output are difficult to estimate and subject to uncertainty. It is likely that trend growth has edged up in recent times with the growth in working-age population, a fall in the trend rate of unemployment and increases in labour force participation. Moreover, our forecasts suggest growth will track more in line with capacity over the second half of 2002/03.

Weak global growth via its impact on import and export prices, and the appreciation in the exchange rate are providing an offset to some of the domestically sourced price pressures in the aggregate. In addition, our business talks reveal little widespread intention by firms to accelerate how much they raise prices, with many constrained by competitive pressures. Reflecting these combination of factors annual CPI inflation is forecast to ease to 2.3% in the year to March 2003. The largest upward contributions to inflation are likely to come from non-tradable goods, including the housing and housing operations categories. Downward pressure on the rate of tradables inflation is forecast to continue. Non-tradable prices remain an area we will monitor over coming quarters given the scope for upside surprises if the domestic economy turns out stronger than forecast in the central track.

… and 90-day interest rates remain flat at 6.0%

With CPI inflation forecast to ease, and the prospect of weaker economic growth over 2003, interest rates are forecast to remain unchanged in the near term. With the TWI currently tracking around 57.0, close to our assumption of equilibrium, we have assumed an unchanged exchange rate path from that in the *Pre-Election Update*. History suggests that we could see more of a cycle in the exchange rate, either up or down, and this is a risk to our central forecast.

Net migration stays at high levels in the near term but eases over the rest of the forecast period…

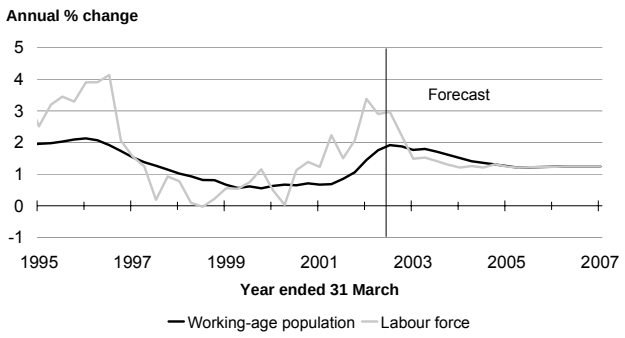
Net migration looks set to run above our *Pre-Election Update* assumption of 15,000 in the June 2003 year and we have revised our assumption up to 30,000 for the 2002/03 year. Net migration is assumed to fall back to 15,000 in 2003/04 with departures assumed to rise and arrivals falling away from the peak of mid-2002. Further out we assume permanent long-term net migration of 5,000 per year.

… and the labour market remains tight in the March 2003 year

With more momentum in the economy than we forecast in the *Pre-Election Update*, we expect more employment growth over the short term than previously. With solid working-age population growth and the participation rate remaining high, the labour force is expected to grow 2.4% in the March 2003 year. Employment growth is strong at 2.4% and the unemployment rate is forecast to be 5.4% in the March 2003 quarter.

Wage growth accelerates a little, with Quarterly Employment Survey wages forecast to grow 2.8% in the year to March 2003. Quarterly growth rates of around 1.0% are forecast in the near term on the back of a tight labour market.

Figure 2.12 – Working-age population and labour force growth



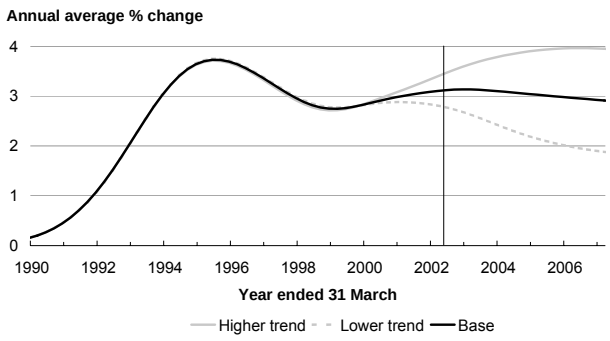
Sources: Statistics New Zealand, The Treasury

Trend Growth Developments

Trend growth of real GDP is the rate at which real GDP (aggregate output) rises over the medium term. Trend growth rates are closely linked to living standards. They are also important for policy settings. For example, they have implications for inflation and monetary policy. When actual growth is above trend the pressure on resources tends to raise inflation. The concept of trend output is also an input into assessments of the structural fiscal position. For example, estimates of trend growth are used in the calculation of the cyclically adjusted operating surplus discussed in the *Budget Policy Statement*.

A variety of techniques can be used to make estimates of trend growth, the use of which will depend on the purpose to which they are being applied. Some techniques will be better suited for some purposes than others. Statistical filters have been developed to extract the trend from real output data. The Hodrick-Prescott (HP) filter is probably the most well known filter; others include the Kalman filter and the multivariate (MV) filter.[5] A production function provides an alternative method, where trend output is broken into the accumulation of capital and labour, and total factor productivity (TFP), which captures the growth in the economy's ability to produce more output with a given level of inputs.

Figure 2.13 – HP Measure of Trend Growth



Sources: Statistics New Zealand, The Treasury

The Treasury uses a variety of techniques to estimate trend growth. Using our *December Update* forecasts of real GDP, both our HP and MV filter estimates suggest trend growth of around 3.1% at the moment. All methods have limitations and caveats around their use. For example, the HP filter is sensitive to the last observations fed into the filter. These observations are usually forecasts, so measures of trend today are strongly influenced by views about the future. Figure 2.12 illustrates this by showing the effect on the current estimate of trend with alternative forecasts ±1% to our central forecast.

We have recently added to the methods we use by looking at "on-trend" methods, following the approach the UK Treasury uses to estimate trend growth[6]. "On-trend" points represent the dates where actual output is believed to have been at the trend level implying no change in the degree of inflationary pressure in the economy. A range of survey and other information is used to determine when the economy is "on-trend"[7]. For past cycles, "trend" output growth is the annual average growth rate between two (half-cycle) or three (full-cycle) on-trend points.

The on-trend approach does not suffer the "end-point" problems associated with some statistical filters, nor do survey indicators tend to be revised leading to some additional certainty about the on-trend dates once these are decided on. However, a drawback is that

5 The MV filter incorporates structural economic information into the filtering process.

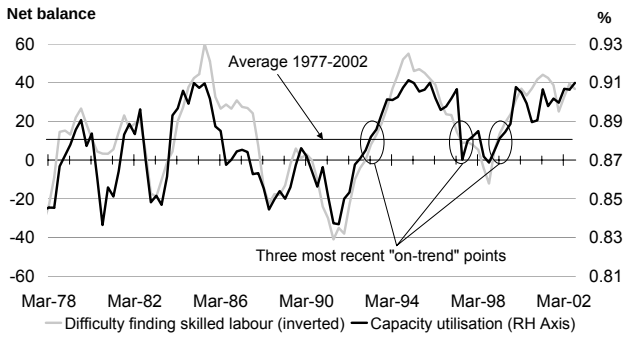
6 *Trend Growth: Recent Developments and Prospects*, HM Treasury, April 2002.

7 The survey information we have used is the NZIER measure of capacity utilisation and skill shortage indicators.

the results are sensitive to the dating of on-trend points. This can be illustrated from figure 2.13 where taking a different long-run average to that shown (for instance, using a series of shorter periods) would lead to different on-trend points.

Once the "on-trend" points are identified estimates of trend growth can be decomposed into its components: labour productivity growth, employment rate growth, average hours worked growth and working-age population growth[8].

Figure 2.14 – Dating of "on-trend" points



Sources: NZIER, The Treasury

Using the "on-trend" points identified in the table below, our estimates suggest trend growth rates, and the relative contribution of each component to trend growth, have fluctuated over time. For example, trend growth is estimated to have been only 0.7% in the full-cycle covering the 1984-1993 period, but 3.5% in the 1981-1984 full-cycle and 3.4% in the 1993-1999 full-cycle.

Hours based decomposition of trend growth

	Trend labour productivity		Trend average hours[2]	Trend employment rate[2]	Trend working age population	Trend output[3]
	Underlying[1] (1)	Actual (2)	(3)	(4)	(5)	(6)
Over full economic cycles						
1981q3 to 1984q1	0.5	1.3	0.9	-0.4	1.7	3.5
1984q1 to 1993q1	-0.2	0.4	0.1	-0.8	1.1	0.7
1993q1 to 1999q1	1.8	1.3	-0.4	1.0	1.5	3.4

[1] Underlying trend labour productivity (output per hour) is calculated as trend actual labour productivity (2) +0.5 x trend employment rate growth (4). The 0.5 ratio is taken from the HM Treasury analysis.

[2] Lags between output and employment are allowed for. Employment is assumed to lag output by around three quarters.

[3] Sum of columns (2), (3), (4) and (5). Figures independently rounded.

As well as understanding what factors have contributed to trend growth in the past, the "on-trend" approach allows forward looking estimates of trend growth to be built-up from projections of the components. Looking at how the components of trend growth might be changing provides another way of thinking about the extent of pressure on resources.

Labour productivity growth has been around 1.4% in the period since our last estimated on-trend point in 1999. "Underlying" labour productivity, or actual productivity adjusted for changes in the employment rate, will be higher than measured productivity if new people entering the workforce take time to become as productive as the established workforce. Since 1999 there has been a trend decline in the unemployment rate and the participation rate has moved up. Both of these factors have pushed the employment rate up and

8 Labour productivity is total output divided by total hours worked, the employment rate is total employment divided by the working age population and working age population is defined as everyone over the age of 15.

contributed to trend output growth. Working-age population growth is being boosted by net migration at the moment, further contributing to trend growth. All of these factors are providing support to trend growth and offsetting some of the pressure on resources in the economy.

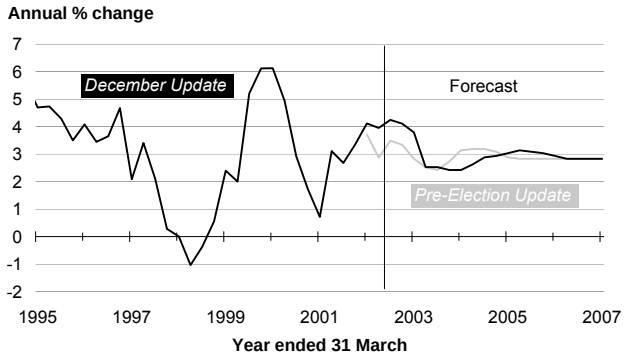
Labour productivity growth will be an important determinant of trend growth looking forward. Our forecasts show labour productivity growth averaging around 1.5%, a little above our estimate of trend over the 1993-99 cycle, but below possible estimates of "underlying" labour productivity. Further falls in the trend unemployment rate or rises in the participation rate would provide additional contributions to trend growth in the future. Our forecasts assume a roughly constant trend unemployment rate and trend participation rate. A continuation of recent developments would see some upside to trend growth from both these sources. Statistics New Zealand population projections suggest a slowing contribution to trend growth from working-age population growth in the future, but the contribution is dependent on net migration. Our migration assumptions see the contribution of working-age population growth towards trend growth falling from 1.9% in 2002/03 to around 1.2% by 2006/07.

Outlook for 2003/04 and Beyond

GDP growth is expected to slow in 2003, as the effects of the terms of trade fall flow into domestic activity, before rebounding in 2004…

While the central forecast sees growth holding up in the near term, the impact of slow trading partner growth, falling export prices and declining export revenues is expected to be increasingly felt during 2003. Real GDP growth of 2.5% is forecast for the year to March 2004, before recovering to 2.8-3.0% over the rest of the forecast period. Farmers are likely to face the biggest declines in income as the falls in the price of meat, but particularly dairy, exports flow into farm-gate revenue. Farm incomes nevertheless remain high by historical standards. The assumed decline in net migration also contributes to the slowing in the pace of growth.

Figure 2.15 – Real GDP growth



Sources: Statistics New Zealand, The Treasury

… consumption and residential investment slow as disposable income growth falls

Private consumption is forecast to grow at 2.6% in 2003/04 and 2004/05 years, down from 3.7% this year. Slower population and disposable income growth, including the declines in farm revenue, drives the slowdown. Likewise, the pace of residential investment growth is forecast to fall from the 18.2% growth expected in the 2002/03 year. Households are forecast to smooth through some of the slowdown in disposable income growth, such that consumption growth does not fall as much as the fall in disposable income growth and household savings fall this year and next as a result. There are a number of upside risks to this component of our central forecast. If migration holds up more than we expect or

consumers are more resilient to lower income growth, then consumption and residential investment growth could be stronger than forecast here.

Export volume growth is weak early in 2003 but recovers later in the year as the world economy picks up

The sizeable rundown in dairy stocks that boosts export volumes in the second half of 2002 is expected to be less prominent over 2003/04 and there is a pullback of dairy exports as production growth is hampered by cold weather late in the spring of 2002. Meat exports are forecast to be weak in the second half of the 2003 calendar year, with production growth limited by an expected decline in sheep and beef cattle numbers and a fall in average slaughter weights, while a high lambing percentage provides some offset and boosts exports. A very dry summer associated with the El Nino weather pattern New Zealand is experiencing is a risk to primary sector production, but the central forecast assumes that New Zealand does not experience severe drought conditions.

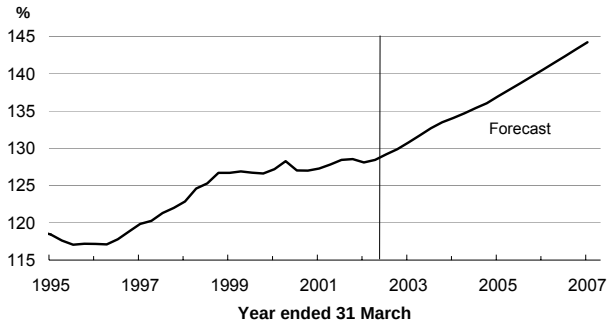
Manufacturing growth is forecast to pick-up from the middle of 2003 as the world economy recovers. Wood and wood products' volume growth is also robust. However, total export volume growth falls to 4.3% in the March 2004 year before recovering to 5.2% in the 2005 year. The outlook for the world economy is a key risk for manufacturing exports as is the exchange rate. A pronounced cycle in the exchange rate is likely to have an impact on demand for New Zealand exports, particularly manufacturing, and consequently impact on the pattern of growth.

Import volume growth is forecast to fall to 7.7% in 2004 and 4.1% in 2005, with the slowing domestic economy reducing the demand for imports. The import penetration ratio picks up, reflecting the trend increase in the last 15 years.

Investment growth picks up momentum as the economy recovers

Market investment growth is forecast to be 5.6% in the year to March 2004 and remains reasonably strong over the forecast period after the muted 1.9% growth in the March 2003 year. With the unemployment rate remaining relatively low over the forecast period, firms will need to look towards capital investment to increase productive capacity. This results in a period of capital deepening, with an increasing capital to labour ratio, after the strong employment growth over 2001 and forecast into the March 2002/03 year. Our recent business talks indicate that the balance sheets of many firms are in good shape and this should help underpin investment growth. The corporate tax take over 2002 is also consistent with the view that firms have had a number of good years.

Figure 2.16 – Capital to labour ratio



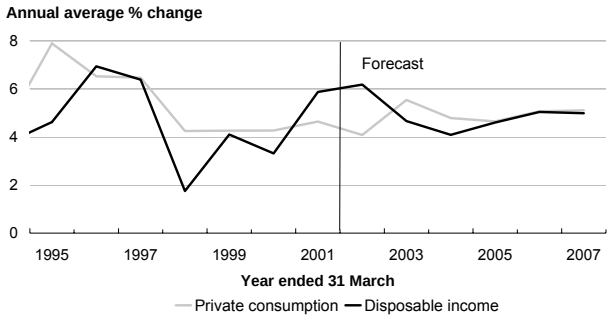
Sources: Statistics New Zealand, The Treasury

The period of capital deepening enables firms to increase capacity and relieve pressure on resources, without large increases in prices or wages.

Recent Household Sector Developments[9]

New Zealand households' saving rate has been declining for the past two decades, with the saving rate in negative territory since 1994. The rate of dis-saving looks to have reduced somewhat in 2001/02, largely on the back of strong farm and labour income. However, our forecasts of income and spending imply a partial reversal of this improvement over the next two years. The forecast decline in farm income and slower employment growth are the main drivers on the income side. At the same time households have increased their consumption spending, and are forecast to continue to do so, albeit at a slower rate of growth than in the recent past.

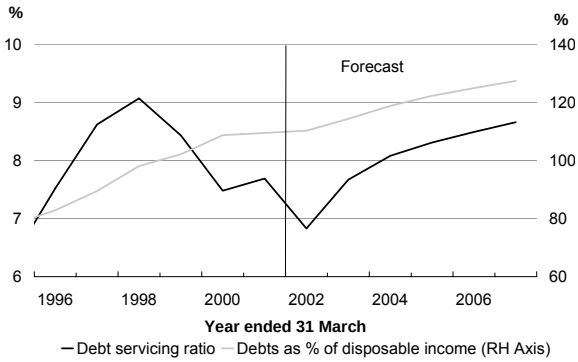
Figure 2.17 – Nominal private consumption and disposable income growth



Sources: Statistics New Zealand, The Treasury

Residential investment is also increasing strongly in the 2002/03 year. As a result household debt levels have continued to rise. Between 1990 and 2002, our estimates suggest household debt levels have risen from 47% to 110% of disposable income. Our forecasts show this ratio increasing towards 130%. Households' debt servicing ability (as measured by interest payments as a percentage of disposable income) improved in recent years, owing to a combination of lower interest rates and higher disposable income growth, but is forecast to increase this year and beyond.

Figure 2.18 – Debt servicing debts to disposable income ratio



Sources: Statistics New Zealand, Westpac Household Savings Indicators in association with NZIER and Morningstar, The Treasury

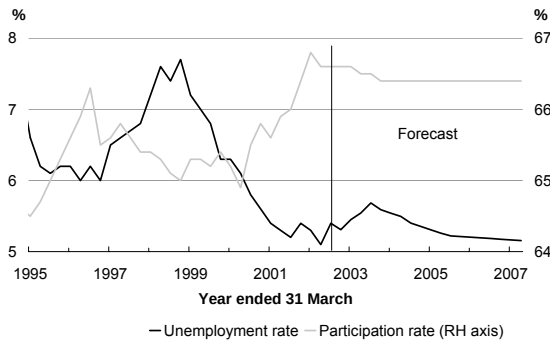
Our forecasts show a household sector increasingly exposed to both changes in interest rates and shocks to income. In the absence of adverse shocks our judgement is that households will continue to increase their indebtedness, alongside moderately rising net worth. However, at the debt/income levels forecast, household balance sheets will be in relatively uncharted territory, and a greater or lesser willingness to "gear-up" is certainly possible. As a rule of thumb, household disposable income decreases by around 1.0% for every 1.0% increase in interest rates.

9 This box was finalised before the release of the National Accounts for the March 2002 year. The 2002 year figures used in the graphs are therefore our estimates rather than official data.

Employment growth slows but the labour market remains tight over the forecast period

With economic growth slowing in 2003/04, employment growth is forecast to slow to 0.9% after three years of growth in excess of 2.0%, as firms look to increase productivity. Capital deepening facilitates productivity growth of around 1.5% over most of the forecast period.

Figure 2.19 – The unemployment rate and participation rate



Sources: Statistics New Zealand, The Treasury

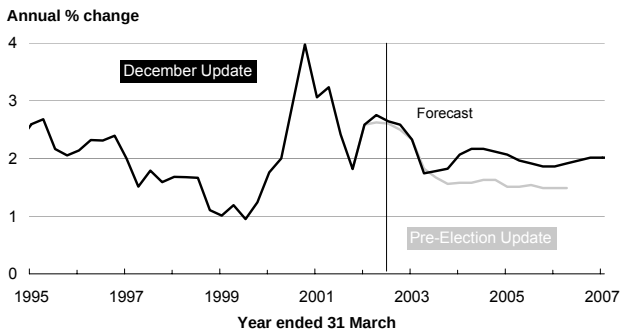
The labour market participation rate is forecast to fall back from its current peak but remain high in an historical sense. Together with the assumed slowing in net migration, the fall in participation means that labour force growth slows over the forecast period. Over 2003/04 the unemployment rate rises to around 5.7% early in the year as economic growth slows. The subsequent pick-up in GDP growth sees a pick-up in employment growth in the 2005 year and the unemployment rate falls back to 5.2% by the end of the forecast period.

The tight labour market sees the nominal Quarterly Employment Survey wage measure growing between 3.0% and 3.5% from 2004 onwards. However, in quarterly terms the rate of growth is below the rates forecast in early 2003 with the slowdown in economic growth taking some of the pressure out of wage growth over the 2003/04 year.

The inflation rate hovers around 2.0% and monetary conditions are likely to remain around current levels

After falling to 2.3% in March 2003, annual CPI inflation is forecast to continue to ease over 2003. Real GDP growth below potential next year and import prices falling over the forecast period, exert some downward pressure on inflation. Increasing unit labour costs as wages rise acts in the other direction.

Figure 2.20 – CPI Inflation



Sources: Statistics New Zealand, The Treasury

Annual CPI inflation is forecast to average around 2.0% over the latter part of the forecast period compared with around 1.5% in the *Pre-Election Update*. The recent changes to the Policy Targets Agreement are not expected to lead to any marked change in price-setting behaviour. This is an issue we will monitor closely.

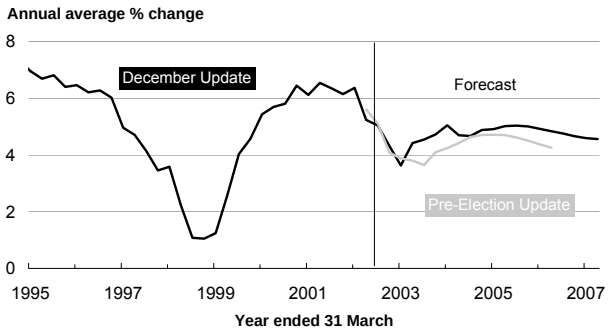
With CPI inflation forecast to be comfortably inside the 1% to 3% target range short-term interest rates are forecast to remain around current levels over the forecast period. The risks around the central forecast for interest rates are balanced. In the event of the world economy taking longer to recover than in the trading partner growth forecasts

underpinning the central forecast, there may be room for the RBNZ to cut interest rates. However, if domestic economic activity and capacity constraints prove stronger than forecast then interest rates may need to rise to counteract inflationary pressure.

Growth in nominal GDP picks up after the slowing in 2002/03

Higher consumption price inflation on average over the latter part of the forecast period sees nominal GDP growth track above that of recent forecasts. After low growth in the 2002/03 year on the back of falling export prices, nominal GDP is expected to grow at around 5.0% from the March 2004 year onwards.

Figure 2.21 – Nominal expenditure-based GDP growth

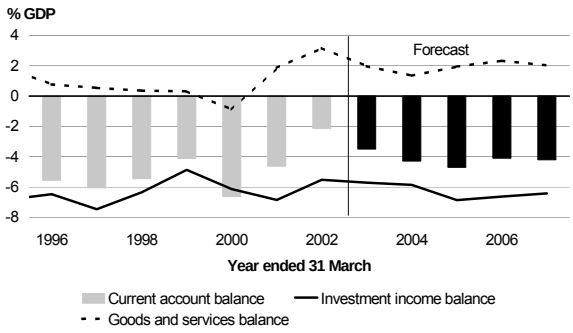


Sources: Statistics New Zealand, The Treasury

The current account deficit widens

The downturn in export prices in 2003 and modest export volume growth over 2004 see the current account deficit widen over the forecast period. The goods and services balance deteriorates, despite improvements in the balance on services, with the terms of trade fall eroding the goods and services balance in 2002/03 and 2003/04. The current account deficit is forecast to widen to 3.5% of GDP in March 2003, compared with 2.1% in 2002, and troughs at 4.7% in 2005, before recovering somewhat to around 4.0%.

Figure 2.22 – Annual current account balance



Sources: Statistics New Zealand, The Treasury

The current account in 2002 has benefited from the reclassification of the education of foreign students' expenditure as exports of services rather than private consumption. The central forecast assumes that the "levels gain" from this reclassification is maintained.

Stop Press

The National Accounts: Year Ended 2002 were released on Wednesday 4 December. This release date was outside our timeframe for incorporation into the *December Economic and Fiscal Update.*

Nominal expenditure on GDP was $122.4 billion in the year to March 2002, increasing 7.4% on the previous year. This represents a revision to previously published data of close to $1billion with almost all of the revision occurring in Public consumption. Prior to this release Statistics New Zealand had already taken the opportunity to revise up nominal GDP for the year to March 2002 by $1.4 billion with the June quarter GDP release at the end of September. In this release the bulk of the revisions for the year to March 2002 occurred in Private consumption.

The release on 4 December also provided the first estimate of the income measure of nominal or current price GDP for the 2001/02 March year of $122.2 billion, and revisions to earlier years, a 7.4% increase on 2000/01. Growth was evenly spread between Compensation of Employees (essentially labour income) and Net Operating Surplus (pre-tax profits before net interest payments) with 7.8% and 8.1% respectively. Strong growth in primary and related sectors was a feature of the growth in operating surplus. Another feature of the release was very large increase in net national saving, which increased from 2.3% of national disposable income in 2000/01 to 5.9% in 2001/02.

The revision to nominal expenditure on GDP represents a higher starting base for our projections. While the release does not change our view of real or nominal GDP growth going forward, the revision would be carried through our numbers leading to a higher level of nominal GDP over the forecast period.