3

Risks and Scenarios

Introduction

As presented in the *Economic and Tax Outlook* chapter, the main forecast relies on a number of judgements about how both the New Zealand and the world economies evolve. There is substantial uncertainty about those judgements, especially regarding how the world economy and the US financial crisis will evolve over the next few years. In the *Budget Update*, we noted that there were significant downside risks to the main forecast, reflecting the turmoil in international financial markets. We also developed an alternative scenario in which the finance costs faced by New Zealand would be higher than the main forecast because of a more prolonged and deeper global financial crisis.

Since the *Budget Update*, global developments have been more in line with the alternative scenario than the Budget forecast and global financial and economic conditions have worsened significantly. On the domestic front, finance companies have continued to face reduced debenture funding and more finance companies went into receivership or moratorium in the past three months. The speed and magnitude of the slowing in domestic demand has been more abrupt and greater than forecast in the *Budget Update.*

Reflecting these recent international and domestic developments, we have made significant downward revisions to our growth forecasts in this *Update*. However, the financial turmoil has intensified since the finalisation of our economic forecasts. As a result, we have seen the downside risks to our growth forecasts increase markedly, particularly in the years to March 2010 and 2011.

The first part of this chapter identifies major risks to the main forecast and describes how the various forces would affect the economy if these risks were to eventuate. The second part of this chapter presents two alternative scenarios for the economy. The third part of this chapter considers the implications of the alternative scenarios for the fiscal position, while the fourth part examines how sensitive the fiscal position is to changes in specific variables.

Economic Risks

Risks to the global outlook remain skewed to downside

Most of the downside risks to the global economy identified in the *Budget Update* which have started to materialise, are still compelling in this *Update*. As mentioned above, the turmoil in international financial markets has worsened significantly since the *Budget Update*, with increased risk aversion and investor uncertainty in financial markets.

The key downside risks concerning the global growth outlook are:

- The credit crisis that originated in the US in 2007 could be deeper and longer than incorporated in the main forecast. The International Monetary Fund (IMF) projected that losses on mortgages and mortgage-related securities could amount to US$500 billion and total credit-losses could potentially cost up to US$1 trillion if loans and securities related to commercial real estate, consumer credit and corporations are included. The uncertainty about the losses depends on how deep and protracted the US housing recession will be and how far house prices will decline. Furthermore, the turmoil could be more prolonged owing to the uncertainty created by lack of transparency of securitised products and derivatives.
- A further tightening of lending conditions and reduced credit availability is likely to raise the prospect of a self-reinforcing process of debt reduction. As it becomes harder to raise capital, firms and households in the US and other developed countries with large current account deficits are being forced to reduce debt and save aggressively, which in turn leads to an economic slowdown. An economic slowdown will exacerbate this process as borrowers with unsustainable amounts of debt will fail.
- A significant slowing in growth in developing economies. So far, China and emerging markets have escaped the credit crisis relatively unscathed. With exports accounting for half of China's GDP and most of these directed to Europe and North America, there is greater uncertainty about the extent of the impact of negative financial shocks in the US and Europe on the Chinese economy. A severe US recession could cause China's growth to decline to 8% or below.

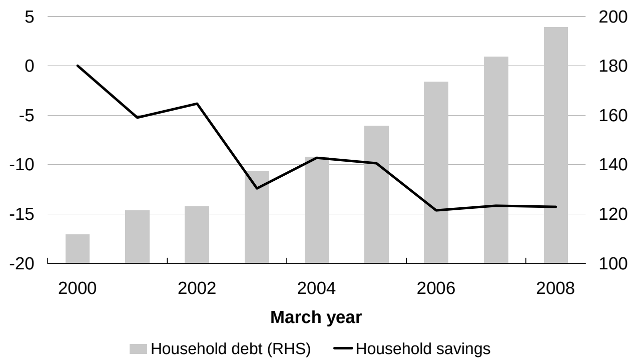
As the credit crisis has become more severe and persistent, the global growth outlook may prove weaker than anticipated in the main forecast. A worse-than-foreseen slowdown in world growth could affect the New Zealand economy further through lower export prices, higher costs of funding and, possibly more importantly, increased risk aversion and investor uncertainty. This would also provide downside risks to the rebound in export growth built into the main forecast even if the exchange rate was lower than the main forecast. A lower exchange rate could arise from rising global risk aversion which could cause large exits in carry trade positions.

Households have finally entered a period of consolidation

In the past eight years, New Zealand has experienced a dramatic fall in its household savings rate: the household savings rate has declined from 0% to -14% of household disposable income over the period from 2000 to 2008 and the ratio of household debt to annual disposable income increased from 112% to 196% over the corresponding period (Figure 3.1). The increasing trend of dis-saving is not unique to New Zealand. Many developed economies such as the US and Australia have experienced a similar phenomenon. To some extent, the fall in the saving rate over this period is partly owing to a long period of stability with interest rates falling to low levels. This may have led households into thinking that they were permanently operating in a low-cost and low-risk environment. As a result, households were encouraged to take on more debt and invest in housing which in turn caused house prices to rise. Higher house prices encouraged households to invest more in housing and increased house prices further, creating a positive feedback loop.

The decline in households' saving contributed directly to rising current account imbalances: the current account balance has deteriorated from a deficit of 6.4% of GDP in 2000 to a deficit of 7.8% of GDP in 2008 with the current account deficit peaking at 9.2% in the March quarter of 2006. Such a high level of external indebtedness makes New Zealand dependent on overseas investors' willingness to lend at affordable rates. It appears that the current financial turmoil has triggered the long-awaited adjustment of external imbalances and households have finally begun to consolidate their balance sheets since the beginning of this year by cutting spending.

Figure 3.1 – Household savings and debt as % of disposable income

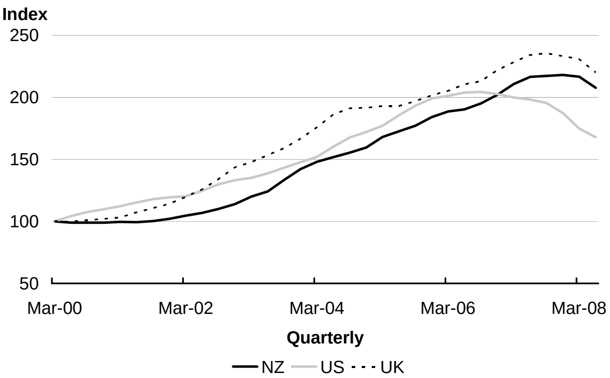


Sources: Statistics New Zealand, RBNZ and The Treasury

In the main forecast, consumption and residential investment growth forecasts are much weaker relative to the *Budget Update*, reflecting the judgement that households decide to lower their debt-to-income ratio relative to the *Budget Update*. However, the pace and depth of consolidation will depend on what happens to house prices, credit availability, the level of net migration and the employment outlook.

In particular, there is considerable uncertainty about the extent of the house price fall in the forecast. In the main forecast, we assume an 11% fall in nominal house prices from their peak. Some developed countries which started their housing cycles earlier than New Zealand have seen their house prices fall sharply. In the US, average house prices nationwide rose by 90% between 2000 and 2006 and have since fallen by 20%. Although there are differences in housing market conditions between the US and New Zealand, a larger decline in New Zealand house prices is possible (Figure 3.2).

Figure 3.2 – House prices



Sources: QVNZ, S&P/Case Shiller and Halifax

A further point we can touch on here concerns the link between changes in house prices and consumption. There is greater uncertainty on the extent of the impact of wealth on consumption. Therefore, if households attempt to consolidate their balance sheets more aggressively and the estimated wealth effect is larger than assumed, we could see private consumption growth weaker than forecast.

The economy could be stronger in the near term

On the upside, while the international growth outlook has deteriorated, the domestic economy may be showing signs of having turned the corner: the business outlook improved according to the National Bank Business Outlook and the Westpac McDermott Miller measure of consumer confidence rebounded strongly to 104.8 for the September quarter from the 18-year low recorded in the June quarter. The renewed optimism is mainly attributed to falling petrol prices and expected further interest rate cuts. During the time of writing, WTI oil prices fell below $US100 per barrel at one stage from their recent peak of US$146 per barrel. Historically, the New Zealand economy, especially consumer spending, was very sensitive to changes in petrol prices. If petrol prices are lower than forecast, this will result in an upside risk to the consumption growth forecast in the near term.

In addition, higher consumer sentiment, lower petrol prices and expected further interest rate cuts together could spur households to spend more of their tax cut than is the case in the main forecast. As a result, this could see GDP growth slightly stronger in the near term than forecast.

From a medium-term perspective, the economy may be more resilient to weather the global economic storms now than in the late 1990s because of a stronger fiscal starting position and a better monetary framework. The main forecast incorporates a weak response of export services to the falling exchange rate to reflect a more protracted recovery in the world economy. It is possible that demand for our goods and services from Asia could be stronger if the Asian economies undergo only a mild slowdown and the exchange rate depreciates more sharply than incorporated in these forecasts. Finally, the fall in residential investment may not be quite as large as predicted in the main forecast because we do not have a large inventory of unsold houses as in the US.

Risks for inflation remain tilted to the upside

The balance of risks for inflation continues to be tilted to the upside even with a weaker GDP growth outlook and the recent drop in oil prices. Annual inflation is now expected to peak at around 5% in the September 2008 quarter. The Consumer Price Index (CPI) spike, driven by petrol and food price increases, could cause households and firms to revise up their inflation expectations in the medium term which in turn could lead to more sustained inflationary pressures. With implementation of the ETS, there are risks that the emissions price is higher than assumed in the forecast and the second round effects of the ETS could be greater than incorporated in the forecast. In addition, the ETS could have a larger effect on business investment than assumed in the forecast.

Besides inflation, the key drivers of the nominal economy are world export and import prices. In view of the weaker global growth outlook, the balance of risks to international prices for export and import goods is somewhat to the downside in the medium term, with the impact on the terms of trade dependent on whether it is export or import prices that are most affected.

Last, but not least, any extreme weather patterns such as drought and flooding could have a profound but temporary impact on the New Zealand economy.

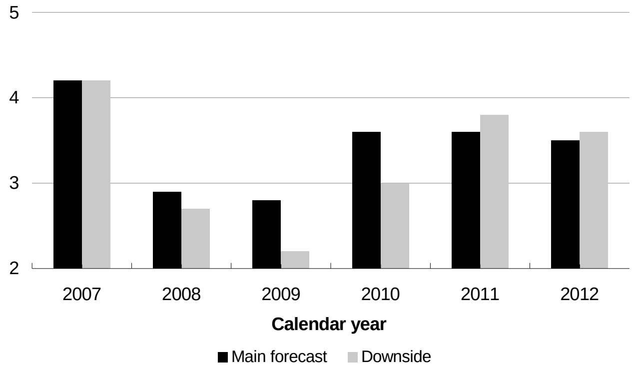
Economic Scenarios

Given the number of risks and unusual uncertainty, two scenarios which simulate the impact of alternative judgements on the economy are presented.

A deeper recession

The first scenario (downside) is based on a weaker outlook for world growth where credit risks and conditions in the US and Europe become more severe relative to the main forecast. Amid financial fears, firms are reluctant to invest and households reduce consumption further. As a result, there is a deeper and more prolonged slowdown in the US and Europe which significantly dampens economic growth in China and other Asian economies. Under this scenario, trading partner growth decelerates sharply to 2.2% in the 2009 calendar year and rebounds to only 3.0% in the 2010 calendar year (Figure 3.3). Against this backdrop, New Zealand house prices fall by 25% from peak to trough which negatively impacts on consumer confidence.

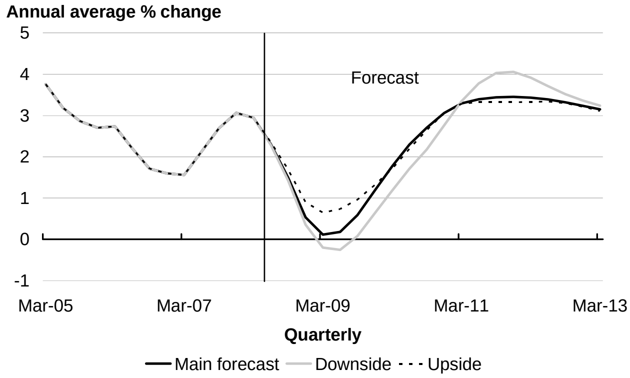
Figure 3.3 – Trading partner growth



Sources: Consensus Economics, The Treasury

Model simulations indicate that the combined effect of these judgements would reduce real GDP growth by 0.3 percentage points and 0.6 percentage points in the March 2009 and 2010 years respectively (Figure 3.4). Relative to the main forecast, we see households spend less and save more, in response to the larger house price slump and tighter credit conditions. With slower growth, businesses not only decrease investment expenditure but also cut back on employment, with the unemployment rate rising to around 6.1% in 2010 and staying at that level until the March 2011 quarter.

Figure 3.4 – Real GDP



Sources: Statistics New Zealand, The Treasury

As global risk aversion heightens and the world economy slows, commodity prices fall more than in the main forecast. In such an environment, the NZ dollar also depreciates sharply to 57 in March 2009 on a TWI basis. Although the exchange rate declines faster than in the main forecast, CPI inflation is around 0.9 percentage points weaker than in the main forecast in March 2010 because of subdued domestic demand (Figure 3.5). With lower inflationary pressure throughout the forecast period, a more accommodating monetary policy stance is required with 90-day interest rates reaching 5% in the March 2010 quarter, almost 200 basis points lower than in the main forecast (Figure 3.6).

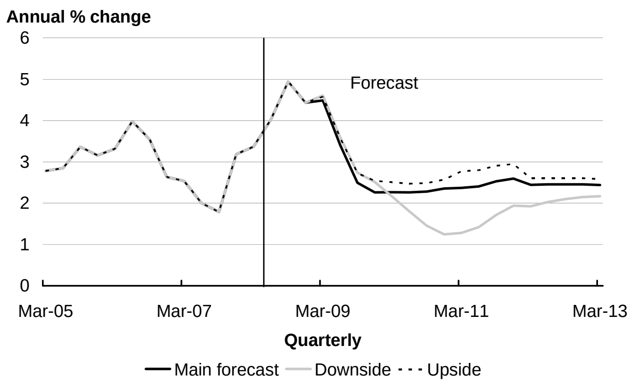
Lower interest rates encourage a recovery in both business and residential investment in the March 2011 and 2012 years but consumers do not regain their confidence until the March 2012 year. As a result, economic growth picks up speed from June 2010 onwards. Overall, weaker real activity combined with subdued inflationary pressures results in nominal GDP growth being lower than in the main forecast for the entire forecast period with a cumulative impact of around $12.1 billion.

Stronger short-term outlook

The second scenario (upside) presents a growth path for the economy where three key judgements are slightly different from the main forecast – (1) stronger near-term growth outlook owing to a larger impact on private consumption of the tax cuts; (2) a slightly stronger housing market and (3) higher inflationary expectations.

With respect to real GDP, the overall profile in this scenario is very similar to that in the main track, apart from the first year of the forecast period (Figure 3.4). In this scenario, real GDP growth in the March 2009 year is 0.5 percentage points higher than forecast in the main track. As the impact of the personal tax cuts on consumer spending is larger than assumed in the main forecast, this altered judgement increases consumption growth by 0.2 to 0.3 percentage points for the first three years of the forecast period.

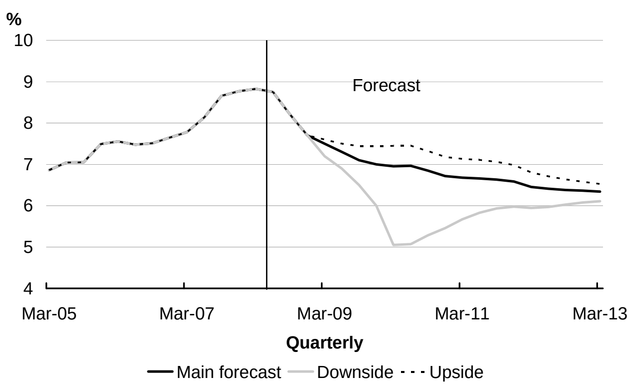
Figure 3.5 – Inflation



Sources: Statistics New Zealand, The Treasury

Model simulations show that inflation holds up higher than in the main forecast as inflation expectations remain high (Figure 3.5). In addition, stronger near-term domestic demand also puts further pressure on non-tradable inflation. In this scenario, the Reserve Bank continues to lower the Official Cash Rate (OCR) with 90-day interest rates reaching 7.5% in June 2009 and holds the OCR at this level for a year. As inflationary pressures abate, the Reserve Bank begins the easing cycle again in June 2010 with 90-day interest rates reaching 6.5% by the end of the forecast period.

Figure 3.6 – 90-day interest rates



Sources: Statistics New Zealand, The Treasury

Higher output and inflationary pressures, relative to the main forecast, lead to higher nominal GDP. As the price level is permanently higher than in the main forecast, the divergence in the level of nominal GDP between this scenario and the main forecast increases over the forecast period with the greatest difference of $2.2 billion in the year to March 2013. Relative to the main forecast, the total nominal GDP gains amount to $7.4 billion across the forecast period.

Fiscal Scenarios

The fiscal position is strongly influenced by the economy. The major economic determinants, and how they impact on the fiscal position, are listed below.

- Nominal GDP – higher GDP levels are reflected in higher tax revenue, which increases the operating balance and lowers the Government's net debt.
- Interest rates – higher interest rates lead to increased debt-financing costs, although this would be partially offset by higher interest-based revenue on assets.
- The level of unemployment – higher levels of unemployment translate to an increase in spending because the number of unemployment beneficiaries rises. This decreases the operating balance and raises net debt levels.
- CPI inflation – as most benefits are indexed to CPI movements, higher inflation results in increased benefit costs. This reduces the operating balance and increases debt.

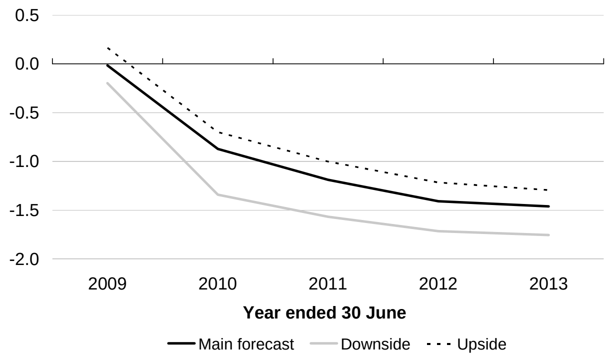
Of the two alternative scenarios, the differences from the main forecast are much greater in the downside scenario, reflecting the asymmetric risk profile of the main forecast. In the downside scenario, the fiscal position deteriorates markedly over the forecast horizon:

- The deficit of the OBEGAL (excluding the NZS Fund retained revenue) is greater than the main forecast throughout the period with the largest difference of 0.5 percentage points of GDP occurring in 2009/10. The deficit ranges from 0.2% of GDP in 2008/09 to 1.8% of GDP in 2012/13 (Figure 3.7).
- GSID is 26.2% of GDP at the end of the forecast period compared with 24.3% of GDP in the main forecast (Figure 3.8).

Under the upside scenario, the overall impact of higher nominal GDP is a small improvement in the fiscal position relative to the main forecast:

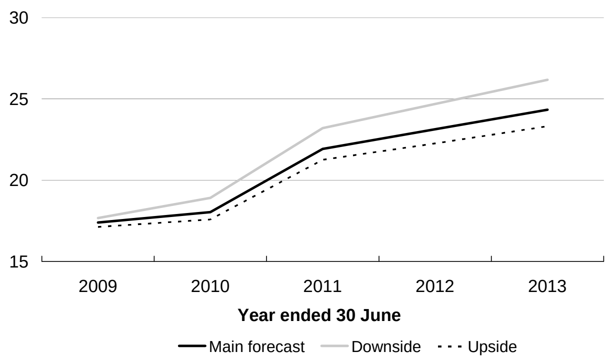
- The OBEGAL is higher by around 0.2 percentage points of GDP throughout the forecast period relative to the main forecast.
- GSID is 23.3% of GDP at the end of the forecast period.

Figure 3.7 – OBEGAL (excluding NZS Fund retained revenue)



Source: The Treasury

Figure 3.8 – Gross sovereign-issued debt (excluding Settlement Cash)



Source: The Treasury

Fiscal Sensitivities

Table 3.1 provides some "rules of thumb" on the sensitivities of the fiscal position to changes in specific variables. It is important to note that this analysis does not take into account the fact that some tax types such as corporate tax and other persons tax have a larger variability than nominal GDP over business cycles. This difference in variability exists because firms can build up losses in the downswing of the business cycle and utilise these losses in the upswing.

Table 3.1 – Fiscal sensitivity analysis

Year ending 30 June ($million)	**2009 Forecast**	**2010 Forecast**	**2011 Forecast**	**2012 Forecast**	**2013 Forecast**
1% lower nominal GDP growth per annum					
Revenue	(549)	(1,106)	(1,691)	(2,332)	(3,040)
Addition to financing costs	18	69	158	280	436
Impact on the operating balance	**(567)**	**(1,175)**	**(1,849)**	**(2,612)**	**(3,475)**
Revenue impact of a 1% decrease in the growth rates of:					
Wages and salaries	(250)	(515)	(795)	(1,100)	(1,455)
Taxable business profits	(135)	(275)	(435)	(600)	(775)
One percentage point lower interest rates					
Interest income	(84)	(26)	(50)	(65)	(39)
Expenses	(88)	(148)	(218)	(305)	(393)
Impact on the operating balance	**5**	**122**	**168**	**240**	**354**

The forecasts of capital contributions to the NZS Fund are sensitive to the rate of return assumed on the Fund's assets.

Table 3.2 – NZS Fund contributions sensitivity analysis

Variable	**Marginal change**	**Effect on net return after tax**	**Effect on capital contribution ($million)**			
	(%age points)	(%age points)	**2009/10**	**2010/11**	**2011/12**	**2012/13**
Expected gross rate of return	-1	-0.76	231	243	256	269