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## Risks and Scenarios

### Overview

The forecasts presented in the *Economic and Fiscal Outlook* chapter incorporate judgements about how both the New Zealand and the world economies evolve. These judgements have a number of risks surrounding them. We have balanced these risks in arriving at our view of how the economy is most likely to evolve.

The first part of this chapter discusses these global and domestic risks in more detail. Global risks have the potential to alter world growth, particularly for our main trading partners, which would flow through to the New Zealand economy. Key global risks are:

- inflation in emerging Asia being significantly higher than forecast
- sovereign debt issues in Europe driving a deterioration in the financial system
- private sector ability to compensate as fiscal and monetary stimuli ease, and
- more robust recoveries in advanced economies and emerging Asia.

Domestic risks focus on the timing of the rebuild following the Canterbury earthquakes and the extent of consolidation by the private sector. The risks that the timing and size of the earthquake rebuild differ from the main forecasts are high, given we have no recent experience of the redevelopment required. Developments in Canterbury are fluid, with changing estimates of damage and required skills. The risks related to the private sector focus on the agriculture and household sectors. These risks are based on participants' comfort with debt levels over the forecast period, with any change from the main forecasts leading to either a more rapid or a more drawn-out profile for spending and investment.

Although we consider the main forecast presented in the *Economic and Fiscal Outlook* chapter to be the most likely outcome, two scenarios that illustrate different paths for the economy are presented in this chapter. These scenarios do not fully illustrate the range of possibilities, but they represent key risks. The upside scenario illustrates the impact of higher confidence levels and stronger domestic demand in the short term. GDP is higher in both real and nominal terms, driven by increases in private consumption and residential investment. The downside scenario models a sharp fall in export commodity prices, which flows through to spending and investment being lower than in the main forecasts and a weaker profile for real and nominal GDP. Changes in tax revenue are the key driver of the operating balance (before gains and losses) in both scenarios, with the operating balance returning to surplus one year earlier (2013/14) in the upside scenario and beyond the forecast period in the downside scenario.

## Risks and Scenarios

Economic and fiscal forecasts always involve a significant amount of uncertainty. The first part of this chapter outlines the key risks to the outlook, both global and domestic. The second part explains how two of the most likely risks could play out in alternative scenarios.

### Economic Risks

#### ***Key risks continue to surround the global economy...***

The robust growth in emerging market economies in 2010 led to a rebound in global commodity prices, especially when combined with supply constraints affecting some agricultural commodities. This increase in global commodity prices has been positive for New Zealand's terms of trade, but rising food and fuel prices also pose a threat to the global recovery. Inflation is already beginning to increase in both developed and developing economies and some countries, especially in emerging Asia, have started to tighten monetary conditions. Rising food and fuel prices also pose a threat to growth in that they reduce households' disposable income, especially in developing economies where these items account for a larger share of expenditure. A combination of high inflation and monetary tightening could cause an abrupt adjustment in emerging economies and is explored in the downside scenario below.

There are other risks to the global outlook as well. Sovereign debt remains a serious issue in the euro area with Portugal receiving assistance and increasing speculation of a restructuring of Greece's debt. Any deterioration in this issue would have implications for commercial banks in Europe given their exposure to sovereign debt.

There is still considerable need for fiscal consolidation in many advanced economies, in particular the United States, where there is no consensus yet on how best to reduce budget deficits. There is still some uncertainty about how sustainable the economic recovery is in some of the developed economies, particularly once monetary and fiscal stimulus is withdrawn. Labour and housing markets are still weak in many countries and will delay a recovery in private consumption.

So far, global imbalances have not been reduced significantly. While this is a longer-term issue, the lack of resolution may make the current recovery unsustainable. Political instability in the Middle East and North Africa has the potential to further disrupt oil supplies, leading prices to spike. There is uncertainty about the impact of the Japanese earthquake. We have assumed a short-term negative impact, largely offset by the subsequent recovery. There are also likely to be some benefits for a commodity exporter such as New Zealand as the reconstruction phase gets under way.

Other positive risks exist, although they are not as obvious or large. The global recovery is more assured than it was in 2010 as the recovery has become more strongly established. Emerging market economies are leading the recovery and their growth is particularly robust. Corporate balance sheets in the developed economies are stronger and industrial production data have generally been positive.

***...while domestic risks relate to timing issues around the Christchurch rebuild...***

The Canterbury earthquakes caused loss of life and damage on a scale not seen in New Zealand since the 1931 Napier earthquake. Judgement around the timing of the rebuild has been informed by studying similar events both here and abroad, and incorporating the latest information on frequently-revised damage estimates. Given the fluid nature of developments, the timing and extent of the rebuild are difficult to forecast with a high degree of confidence.

Our main forecasts assume construction grows strongly over calendar year 2012 and maintains a high level of activity throughout the forecast period and beyond. If the rebuild were to intensify sooner and more quickly than expected, residential and non-residential construction, imported goods and employment would all be stronger than in the main forecasts. The potential for skill shortages to be more acute than expected would manifest itself in higher wages and stronger-than-expected inflation, particularly for housing goods and services. In addition, a more rapid rebuild would boost confidence in the economy, providing a lift to consumer spending and business investment. Conversely, a slower rebuild would have the opposite effect, leading to softer economic outcomes in the short term. A slower-than-expected rebuild could be driven by a more drawn-out planning period, particularly if seismic activity increased in the near term, or capacity constraints are more binding than assumed in the main forecasts. A consequence of a slower rebuild is the potential for a net outflow of people from New Zealand in the first half of 2012, as departures continue rising and arrivals are pared back in line with weaker job prospects than in the main forecasts.

***...and the degree of consolidation by households and the agriculture sector***

There are other risks to the domestic outlook as well. Private consumption growth is expected to be tempered by weak house price growth and limited appetite, on the part of households, to increase debt. The risk is that a combination of increased willingness of banks to lend and households to borrow flows through to increased demand for housing and consumer spending. While this would drive a stronger economy in the near term, it would result in more subdued activity further out as the inevitable household rebalancing occurs. Conversely, the degree of consolidation over the next four years could be more intense than currently expected, with households unwilling to free up income for spending until debt is at a level that they deem to be sustainable. Such a scenario would lead to greater weakness in the near term but a stronger recovery later on, as household finances are more robust than in the main forecasts.

Similar to the household story above, the degree of consolidation by the agriculture sector could be more or less intense than assumed. In recent months, agricultural credit has fallen in absolute terms at the same time as commodity prices have reached historic highs. A more aggressive approach to debt reduction would slow growth in the near term, but would put the agriculture sector in a stronger position further out. On the other hand, there could be a more rapid pass-through of high export earnings to the rest of the economy, as commodity exporters increasingly consider that current returns for agricultural commodities are permanent. The perception of more persistent higher income would manifest itself in increased spending and investment, driving a more rapid recovery than assumed in the main forecasts, and is one of the drivers of the upside scenario outlined below.

There are also non-economic risks, particularly climatic events, that may impact on the economy. Over the past year, poor weather has adversely affected agricultural production,

both here and overseas, and is partly behind the current high level of our terms of trade. Finally, there is a risk that tax outturns are either higher or lower than forecast. The *Economic and Fiscal Outlook* chapter features a more in-depth discussion of these risks.

**Table 3.1** – Summary of key economic variables for main forecasts and scenarios

(Annual average % change, Year ended 31 March)	2010 Actual	2011 Forecast	2012 Forecast	2013 Forecast	2014 Forecast	2015 Forecast
<b>Real GDP (production measure)</b>						
Main forecast	-0.7	1.0	1.8	4.0	3.0	2.7
Upside scenario		1.0	2.0	4.7	3.0	2.5
Downside scenario		1.0	0.9	4.0	3.0	2.6
<b>CPI inflation<sup>1</sup></b>						
Main forecast	2.0	4.5	3.1	2.4	2.5	2.6
Upside scenario		4.5	3.4	3.2	3.3	2.9
Downside scenario		4.5	3.3	2.2	2.7	2.7
<b>Unemployment rate<sup>2</sup></b>						
Main forecast	6.0	6.8	5.7	4.8	4.8	4.6
Upside scenario		6.8	5.7	4.6	4.5	4.4
Downside scenario		6.8	6.2	5.5	5.1	4.7
<b>Nominal GDP (\$billion)</b>						
Main forecast	187	197	207	220	232	243
Upside scenario		197	207	223	237	249
Downside scenario		197	203	215	227	238

Notes:

1 Annual percentage change, 2011 is actual figure

2 March quarter, seasonally adjusted

## Upside Scenario

### *The domestic economy could recover more strongly than in the main forecasts...*

The upside scenario incorporates a stronger economic recovery led by domestic drivers. The upturn is triggered by increased confidence from both the agriculture and household sector, with commodity exporters anticipating permanently higher returns and households more confident in house price rises.

In this scenario, commodity exporters become increasingly confident that the terms of trade will remain structurally elevated over the long term. With strong export returns viewed as permanent, spending from the agriculture sector is greater than expected in the near term, providing a boost to retailers and multiplying through the rest of the economy more rapidly than assumed in the main forecasts. In this scenario, it is assumed that commodity exporters, in general, are comfortable with their current level of borrowing, particularly in relation to income, and focus less on debt reduction than in the main forecasts.

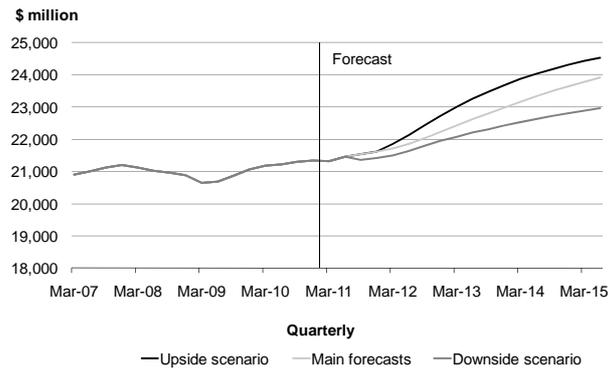
At the same time, house prices are slightly stronger, growing 5% by mid-2012, rather than 1.8% as in the main forecasts. Higher house prices in the near term reflect current low interest rates and developing housing shortages, lifting household wealth. Higher household wealth flows through to increased consumer spending and residential investment. Residential investment is significantly boosted over the second half of 2011

as investors and home buyers begin building before skill shortages rise as the Canterbury rebuild gathers momentum.

The combined effect of increased agriculture and household confidence is evident in the profile for private consumption. The upside scenario includes a stronger profile for private consumption, with growth 1.8% points and 1.1% point higher in the March 2013 and 2014 years respectively than in the main forecasts. Despite the stronger outturn, private consumption growth remains moderate relative to history, growing an average 3.0% over the five years to March 2015.

Increased private consumption and residential construction drive a stronger economic outlook than in the main forecasts and, consequently, the labour market also strengthens, with the unemployment rate falling to 4.4% by March 2015. The stronger-than-expected domestic economy means CPI inflation is around the top of the 1% to 3% band over the forecast period which, together with increased real activity, results in nominal GDP being a cumulative \$15 billion higher in March 2015 compared with the main forecasts.

**Figure 3.1 – Real private consumption**



Sources: Statistics New Zealand, the Treasury

***...returning the operating balance to surplus sooner than in the main forecasts***

Core Crown revenue is a cumulative \$6 billion higher in the domestic-led upside scenario, led by increases in various tax types. The significant boost to private consumption and residential investment flows through to higher GST revenue, which, at \$1.7 billion higher than the main track, makes the largest contribution to the higher tax take. Increased income driven off the stronger domestic economy lifts source deductions and corporate tax by about \$1 billion each, while the more rapid increase in interest rates lifts resident withholding tax higher.

The fall in core Crown expenses, at \$0.3 billion, is significantly lower than the rise in core Crown revenue described above, owing to the drivers of social assistance payments. With a stronger economy, Unemployment Benefit recipient numbers are lower than in the main case. However, benefit and superannuation payments are higher per recipient, with a higher annual indexation reflecting the more elevated track for CPI inflation.

In this scenario, the operating balance (before gains and losses) moves into surplus in the June 2014 year, one year earlier than in the main forecasts. Net core Crown debt as a proportion of GDP peaks at 27.3% of GDP over both the June 2013 and June 2014 years.

## Downside Scenario

### ***Growth in emerging Asia, particularly China, slows more rapidly than assumed...***

The downside scenario evolves from a more rapid reduction in growth across emerging Asia, particularly China, over the second half of 2011. Weaker-than-assumed activity flows through to New Zealand in the form of lower prices for key commodity exports, particularly dairy, meat and forestry products. In addition, growth in our largest single trading partner, Australia, slows as demand for hard commodities from emerging Asia lessens in the face of a weaker expansion. The consequences of this scenario highlight the increasing trade linkages in the Asia-Pacific region, with emerging Asia and Australia currently taking over half of New Zealand's goods exports.

In this scenario, the merchandise terms of trade fall sharply, down 7.3% in the March 2012 year, reflecting lower prices for export commodities, with the assumption that oil prices remain relatively elevated as advanced economies continue to recover. The lower terms of trade result in a more rapid deterioration in the current account balance. The current account deficit increases to 5.4% of GDP in the March 2012 year (compared with 4.1% in the main forecasts) and to 7.8% by March 2015. The exchange rate is lower throughout and the TWI falls to 52.1 by March 2015, around 4 points lower than in the main forecasts.

The rapid fall in the terms of trade sparks lower consumer and business confidence, resulting in a more subdued outlook for consumer spending and market investment. With the terms of trade remaining at a lower level, private consumption growth averages around 1.6% over the four years to March 2015, compared with 2.4% in the main forecasts and 3.2% in the upside scenario. In addition, lower confidence leads to a flat outturn for market investment in the March 2012 year, compared with around 4% in the main track.

Weaker domestic activity, combined with the softer terms of trade, results in nominal GDP being a cumulative \$20 billion lower through to March 2015.

### ***...leading to lower tax revenue while raising operating deficits and net debt***

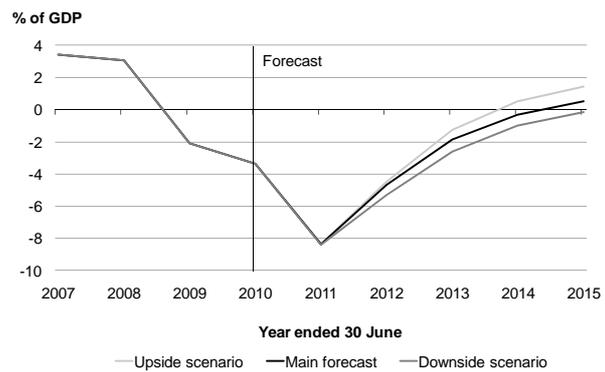
The fall in cumulative nominal GDP in the downside scenario (\$20 billion) is more than the rise in the upside scenario (\$15 billion). However, the impact on tax revenue is less in the downside scenario (-\$5 billion) than in the upside scenario (\$6 billion), reflecting the relatively strong tracks for consumer and residential investment price inflation in the downside scenario. In the near term, inflation is weaker in this scenario, but is stronger than the main forecasts over the last two years of the forecast period. The relatively strong track for inflation reflects a sharper fall in the New Zealand dollar, raising prices of imported goods, along with pressure remaining on construction costs. With stronger inflation, the profile for 90-day interest rates is also higher, raising interest earnings.

In line with changes to these economic drivers, GST revenue falls by \$1.1 billion, a significantly smaller change than in the upside scenario, while resident withholding taxes rise by \$0.3 billion relative to the main track, providing some offset to declines in other tax types. Source deductions are \$1.6 billion lower relative to the main forecast, reflecting the weaker labour market, and corporate and other persons tax are a combined \$2.0 billion lower, in line with softer prices for exports and generally weaker business conditions.

In the downside scenario, core Crown expenses are \$0.8 billion higher, as the weaker labour market flows through to increased Unemployment Benefit recipient numbers. With CPI inflation holding up over the forecast period as a whole, annual indexation of benefits is broadly similar to the main track, providing little offset in the form of lower annual adjustments.

In this scenario, the operating balance (before gains and losses) does not move into surplus within the forecast period (*Figure 3.2*) and, consequently, the profile for net core Crown debt as a proportion of GDP has not peaked by June 2015, reaching 32.7% at that time.

**Figure 3.2** – Operating balance (before gains and losses)



Source: The Treasury

## Fiscal Sensitivities

The scenarios set out alternative paths for the fiscal position based on plausible assumptions for specific drivers. In addition, Table 3.2 provides some “rules of thumb” on the sensitivities of the fiscal position to changes in specific variables without identifying the drivers of change.

**Table 3.2** – Fiscal sensitivity analysis

Year ended 30 June (\$million)	2011 Forecast	2012 Forecast	2013 Forecast	2014 Forecast	2015 Forecast
<b>1% lower nominal GDP growth per annum on</b>					
Tax revenue	(515)	(1,110)	(1,785)	(2,555)	(3,380)
<b>Revenue impact of a 1% decrease in growth of</b>					
Wages and salaries	(235)	(475)	(770)	(1,090)	(1,440)
Taxable business profits	(100)	(230)	(365)	(525)	(690)
<b>One percentage point lower interest rates</b>					
Interest income <sup>1</sup>	(52)	(149)	(136)	(78)	(88)
Expenses <sup>1</sup>	(37)	(279)	(427)	(521)	(604)
<b>Impact of interest rates on the operating balance</b>	(14)	130	291	444	517

Note: 1 NZDMO holdings only

Source: The Treasury