3

Risks and Scenarios

Introduction

The forecasts presented in the *Economic and Tax Outlook* chapter incorporate a number of judgements about how various forces affecting the economy will evolve. These judgements reflect the balancing of a number of positive and negative risks facing the economy to arrive at our best assessment of how it is likely to develop. Some of these judgements are related to the cyclical drivers of activity and some are related to the structural characteristics of the economy. The path taken by the economy will deviate from the *Half Year Update* forecast if events turn out differently from our assessment.

The first part of this chapter, Economic Risks, outlines the main risks to the economic outlook. Although we believe the forecast presented in the *Economic and Tax Outlook* chapter is the most likely outcome, two scenarios that illustrate different paths for the economy are presented in the second part of this chapter, Economic Scenarios. These two scenarios focus on different paths for the terms of trade, which are a key area of uncertainty. However, these scenarios are only two of a number of possible outcomes so do not show the full range of possibilities and should not be considered as upper or lower bounds.

The third part of this chapter, Fiscal Scenarios, considers the implications of the economic scenarios for the fiscal position, while the fourth part, Fiscal Sensitivities, examines how sensitive the fiscal position is to changes in specific variables.

Economic Risks

The chief uncertainty in these forecasts is the terms of trade …

The terms of trade, the ratio of export prices to import prices, are at their highest level in over 30 years and are expected to increase further in coming quarters before easing back. However, there are key risks to the terms of trade on both the upside and downside. The terms of trade could stay elevated for longer than expected or could decline more sharply than expected, largely depending on commodity prices, particularly for dairy products.

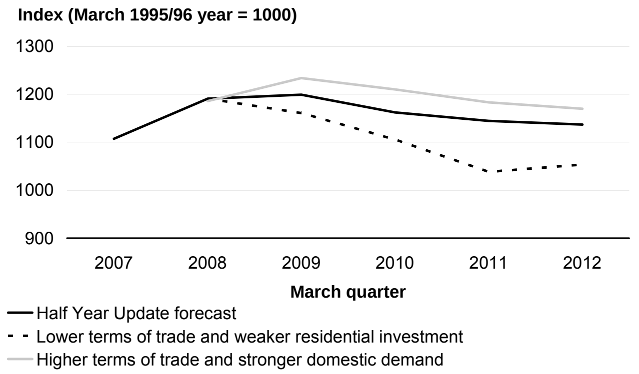
Changes in international commodity markets can have a large impact on the New Zealand economy. A range of demand and supply factors have caused world spot prices for dairy products to more than double since mid-2006, and the resulting higher export receipts will boost domestic incomes, especially in the agricultural sector. However, predicting prices for dairy products involves uncertainties with regard to both world demand and supply.

Demand for dairy products has been driven higher by rising incomes in developing nations (eg, China) coinciding with shifting preferences towards high-protein foods. However, there is uncertainty as to the extent demand will respond to the rise in prices, with less reaction likely for staples such as milk compared to other products such as cheese, yoghurt and ice-cream. Prices for dairy products, and for other commodities, would also be negatively affected in the event of a marked slowing of world growth.

A range of factors has limited the supply of dairy products (eg, in Australia, Europe and the United States). How these factors evolve are key judgements, as is the ability of other parts of the world to raise production, including South America for exports and China for their own domestic consumption.

An additional uncertainty is that, while information is available on world spot dairy prices, much of New Zealand's dairy exports are pre-sold at agreed contract prices. As a result, judgements have to be made as to how a given change in spot dairy prices impacts on the price received by New Zealand exporters. It is also possible that New Zealand's other commodities could enjoy larger price rises in response to the factors lifting dairy prices.

Figure 3.1 – Total terms of trade index



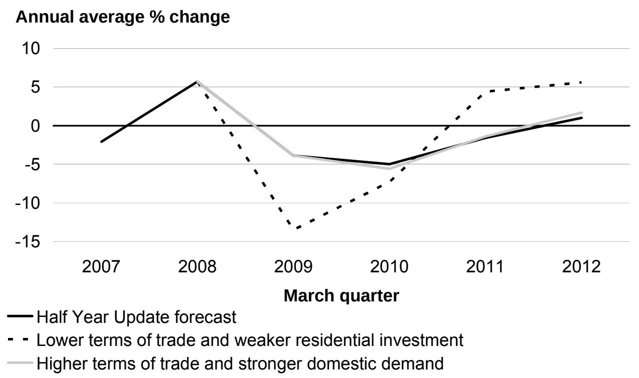
Sources: Statistics New Zealand, The Treasury

Given risks associated with the terms of trade on the upside and downside, two scenarios are developed below that focus on these risks (Figure 3.1). Alternative scenarios involving differences in the terms of trade show the consequences for the economy and implications for tax revenue and other fiscal indicators.

… and there are risks around the strength of domestic demand in the near term

Domestic demand experienced an upturn in late 2006 and early 2007, but a number of factors that contributed to this strength have turned: house price growth has slowed, fuel prices have risen and net migration has declined. In addition, 2007 has seen further increases in interest rates, including for mortgages, and finance company collapses. As a result of these factors, growth in domestic demand appears to have eased in the second half of 2007, but there is much uncertainty about the extent of this apparent easing and how long it will endure.

Figure 3.2 – Real residential investment



Sources: Statistics New Zealand, The Treasury

Residential investment is forecast to weaken and house price growth is expected to slow further from late 2007 (Figure 3.2). Based on leading indicators (eg, house sales), there is a risk of a sharper fall in residential investment and house price growth in the coming year, as has happened in the United States in the past year. Such a housing downturn has the potential to have a large impact on the labour market given the high employment growth in construction and property services since 2002.

Not all risks to domestic demand are on the downside. Although retail trade data point to a slowing in consumer spending since high growth in early 2007, data such as electronic card transactions and consumer confidence suggest there is still momentum left. Higher domestic demand could occur if more of the income boost expected from the higher terms of trade is spent, or if higher wage growth results from the tight labour market.

Consumers Price Index (CPI) inflation is forecast to rise to 3.1% in the year to March 2008 and stay near the top of the Reserve Bank target band (1% to 3% per annum) for much of the forecast period. Additional domestic demand strength would put further upward pressure on non-tradables inflation. Rising food and oil prices are other upside risks to inflation.

Risks to the global economy have heightened over the course of this year …

The world economy has experienced a strong expansion during the past three years, with real Gross Domestic Product (GDP) growth among our trading partners averaging around 3.6% per annum. Trading partner growth is forecast to continue at a broadly similar rate, but risks to this outlook are concentrated on the downside.

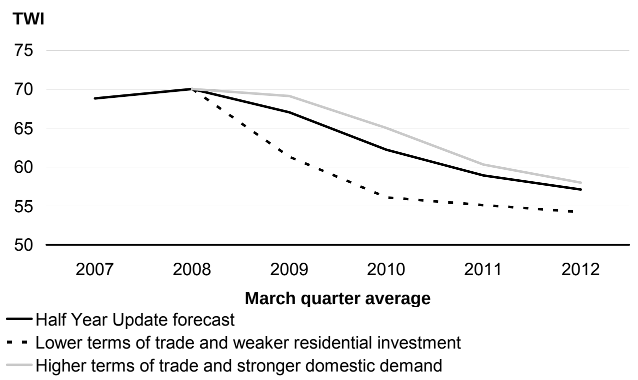
Global financial markets have experienced a high degree of volatility in recent months. A downturn in the United States housing market led to concerns about sub-prime mortgages (riskier loans made to those with poor credit histories) and uncertainty among investors as to where associated losses would be felt. These events triggered financial market turmoil in August 2007 and a generalised rise in risk aversion. The situation stabilised in September and October, but there has been renewed uncertainty since the forecast was finalised.

The *Half Year Update* forecast reflects a view that recent developments in global financial markets and the United States housing market will not cause a marked slowing of growth in the world economy. There is a risk that further fallout in the housing market weakens growth in the United States and slows world growth, which would make conditions more difficult for firms and households in New Zealand, particularly if it reduced the availability of credit.

… the exchange rate has been volatile in recent months …

The exchange rate has been volatile in 2007. The Trade Weighted Index (TWI) of the New Zealand dollar rose to a post-float high of 77 in July, but turmoil in global financial markets resulted in widespread risk aversion that saw the TWI fall to 66 in September. A return of market confidence led to a rise back above 70, largely as a result of weakness in the United States dollar.

Figure 3.3 – TWI exchange rate



Sources: Reserve Bank of New Zealand, The Treasury

The *Half Year Update* forecast assumes the exchange rate remains around its current level until mid-2008, before falling in response to lower interest rates and commodity prices (Figure 3.3). However, the New Zealand dollar exchange rate is always a major uncertainty in economic forecasts and recent volatility highlights how quickly sentiment can change. Recent events also illustrate the role of the exchange rate in buffering the New Zealand economy from shocks.

The exchange rate could fall sooner than assumed in our main forecast, especially if there is renewed risk aversion among financial market participants that results in an unwinding of the carry trade (ie, borrowing in nations with low interest rates such as Japan to invest in countries with higher rates such as New Zealand). Other factors that could lead to a sharper fall in the exchange rate are a large fall in commodity prices, a downturn in domestic demand, or concern over the size of the current account deficit. A sharp fall in the currency would raise tradables inflation, but the exact impact depends on the extent to which importers pass on higher costs or absorb them through lower margins.

Conversely, renewed appetite for risk among financial market participants, a resurgence in domestic demand or higher commodity prices could lift the exchange rate back to the post-float high reached in July 2007. An appreciation of the currency is most likely against the United States dollar given the greater risk of economic growth slowing in the United States. A rise in the New Zealand dollar would postpone a recovery in exports and would likely result in stronger domestic demand.

… and the world price for oil has increased to historic highs

Our oil price assumption is generally based on futures prices. The oil price track incorporates a West Texas Intermediate (WTI) price of US$90/barrel in the December 2007 quarter. However, oil prices have been volatile; since the forecast was finalised, the WTI oil price peaked at almost US$100/barrel on 21 November and fell back below US$90/barrel in early December. There is a risk that oil prices may fall further or once again move higher.

Potential growth depends on growth in the labour supply and labour productivity

There are some risks specific to the labour market. The labour force participation rate rose to a record high in mid-2007 but has been volatile. This volatility continued after the forecast was finalised, with a large fall in the participation rate from 68.8% in the June 2007 quarter to 68.3% in the September 2007 quarter.

Other risks to the labour supply are a further fall in average working hours and a continued easing of net permanent and long-term migration owing to rising departures. Lower growth in the labour supply would imply a lower potential growth rate for the economy and thus greater inflation pressure for a given level of output.

Annual average growth in labour productivity (GDP per hour worked) rose to 1.5% at June 2007, partly reflecting the economic upturn since late 2006 (labour productivity growth tends to rise in upturns as inputs are used more intensively). Higher productivity growth may also reflect high levels of business investment in recent years. A key judgement in these forecasts is that labour productivity growth averages 1.5% to 2% per annum. If this assumption is incorrect and it falls back to average around 0.5% per annum, as in 2005 and 2006, the potential growth rate of the economy will be lower.

There is uncertainty as to the exact impact of policy changes and other events

The forecasts include an assumption of a $1.5 billion revenue reduction contingency, but additional uncertainty arises because the exact impact on the real economy, inflation and interest rates will depend on the precise nature of the revenue reduction and not just the overall size.

As discussed in the *Economic and Tax Outlook* chapter, the forecasts do not incorporate impacts from a decision to proceed with an Emissions Trading Scheme (ETS). The exact impacts of such a scheme are uncertain, but it would likely result in higher inflation owing to higher costs faced by consumers of energy.

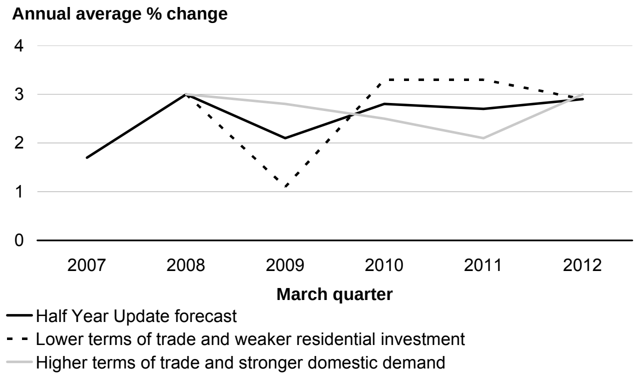
There are many non-economic risks that would have a large impact on the economy. For example, climatic events and agricultural diseases can affect agricultural production, both in New Zealand and in competing supplier countries, with beneficial or adverse effects on returns to New Zealand producers. Market perceptions arising from concerns about climate change may also affect the demand for New Zealand products.

Economic Scenarios

The following scenarios show how the growth path of the economy might evolve if some of the key judgements in the main forecast are altered (Table 3.1). The scenarios are two of a large number of possible examples, and do not represent upper or lower bounds for the main forecast, with more extreme paths possible. They represent what we assess to be the key risks to the *Half Year Update* forecast and illustrate the impact of relatively small changes in the assumptions on key variables, especially the fiscal aggregates. Although not the most likely outcome, we consider that there is a realistic prospect that these scenarios could occur.

The first scenario is entitled "Lower terms of trade and weaker residential investment". In this scenario, there is a larger fall in the terms of trade and weaker domestic demand led by residential investment. This scenario leads to lower real GDP growth initially (Figure 3.4). Non-tradables inflation also falls, but total inflation is higher as a lower exchange rate drives up the price of imports and thus tradables inflation in the short term. Compared to the main forecast, interest rates are not cut as early because of high inflation and the current account deficit does not narrow as much because of the lower terms of trade.

Figure 3.4 – Real GDP



Sources: Statistics New Zealand, The Treasury

The second scenario, entitled "Higher terms of trade and stronger domestic demand", incorporates stronger terms of trade owing to higher export prices throughout the forecast period. In this scenario, there is stronger growth in consumption and market investment relative to the main forecast, which raises real growth in GDP in the near term, but also increases inflationary pressures.

Table 3.1 – Alternative scenarios: summary

	2007	**2008**	**2009**	**2010**	**2011**	**2012**
	Actual	**Estimate**	**Forecast**	**Forecast**	**Forecast**	**Forecast**
Real production GDP (annual average % change, year ending 31 March)						
Half Year Update forecast	1.7	3.0	2.1	2.8	2.7	2.9
Lower terms of trade and weaker residential investment	1.7	3.0	1.1	3.3	3.3	2.9
Higher terms of trade and stronger domestic demand	1.7	3.0	2.8	2.5	2.1	3.0
Nominal expenditure GDP (annual average % change, year ending 31 March)						
Half Year Update forecast	4.7	7.3	5.4	4.1	4.2	4.6
Lower terms of trade and weaker residential investment	4.7	7.3	3.9	3.9	3.8	4.2
Higher terms of trade and stronger domestic demand	4.7	7.4	6.7	4.4	3.8	4.5
OBEGAL ($billion, year ending 30 June)[1]						
Half Year Update forecast	5.3	6.6	4.3	4.1	4.0	3.9
Lower terms of trade and weaker residential investment	5.3	6.4	3.1	3.0	2.3	2.0
Higher terms of trade and stronger domestic demand	5.3	6.6	5.2	5.0	4.6	4.6

Note: 1 Operating balance before gains and losses.

Sources: Statistics New Zealand, The Treasury

Lower terms of trade and weaker residential investment

The first scenario illustrates a situation in which the terms of trade fall sooner and by more than assumed in the main forecast and – in conjunction with an assumption of a greater impact on housing from recent increases in interest rates – there is weaker residential investment (Table 3.2).

Table 3.2 – Lower terms of trade and weaker residential investment

Annual average % change, year ending 31 March	**2007 Actual**	**2008 Estimate**	**2009 Forecast**	**2010 Forecast**	**2011 Forecast**	**2012 Forecast**
Private consumption	2.4	3.8	1.1	1.6	1.8	1.3
Residential investment	-2.1	5.7	-13.5	-7.3	4.4	5.6
Market investment	-3.3	5.6	4.5	-0.6	3.5	3.7
Gross national expenditure	0.7	4.7	1.4	1.7	2.6	2.2
Exports of goods and services	3.0	1.6	2.6	3.6	3.7	4.1
Imports of goods and services	-1.4	6.1	3.1	-1.0	1.8	2.3
Real GDP (production measure)	**1.7**	**3.0**	**1.1**	**3.3**	**3.3**	**2.9**
Real GDP per capita	0.5	2.0	0.2	2.3	2.3	1.9
Employment growth	1.9	1.9	0.6	0.9	1.0	0.3
Unemployment rate[1]	3.7	3.8	4.1	4.0	4.3	4.6
90-day bank bill rate[2]	7.8	8.5	8.5	8.3	8.2	7.5
TWI[2]	68.8	70.0	61.3	56.1	55.1	54.2
CPI[3]	2.5	3.1	3.0	3.1	2.6	2.6
Current account balance (% GDP)	-8.3	-7.3	-7.0	-8.0	-8.4	-8.6
Nominal GDP (expenditure measure)	4.7	7.3	3.9	3.9	3.8	4.2

Notes: 1 Percentage of labour force, March quarter, seasonally adjusted.
2 Average for March quarter.
3 Annual percentage change, March quarter.

Sources: Statistics New Zealand, Reserve Bank of New Zealand, The Treasury

In this scenario, the terms of trade fall more sharply as export prices reverse much of their recent rise. This scenario envisages a sharp fall in world dairy prices to levels prevailing in 2005/06, prior to the current boom. Such a fall would likely involve some slowing of world growth, particularly in the United States, and a larger negative reaction to the recent increase in dairy prices, especially for products that are relatively price elastic (eg, yoghurt and ice-cream). A faster rise in dairy production, in response to previous increases in dairy prices, would likely be another important contributor to a fall in world dairy prices.

The exchange rate falls more quickly in this scenario because of lower prices for New Zealand exports. Over the first two years of the forecast period, the TWI is approximately 10% lower than in the main forecast at 61.3 in the March 2009 quarter and 56.1 a year later. The exchange rate then levels off but it is still slightly below the *Half Year Update* track towards the end of the forecast period because of the lower terms of trade.

Residential investment is much lower initially in this scenario, falling by 13.5% in the March 2009 year and 7.3% the next year. Although this is a large fall, it would not be unusual relative to previous downturns (eg, 2000/01) and the recent experience of the United States. The larger fall in residential investment in this scenario is caused by a greater reaction to recent increases in interest rates than is incorporated in the main forecast. Furthermore, interest rates are high for longer in this scenario because of the inflation pressure that results from a faster fall in the exchange rate. Relative to the main forecast, market investment is also lower as a result of the weakening in domestic demand, a lower New Zealand dollar raising the cost of imported capital, and higher interest rates.

Private consumption growth is around one percentage point lower than in the main forecast in the years to March 2009 and 2010 as a housing market downturn reduces perceptions of household wealth and reduces the ability of households to borrow against their home. Higher costs of imported consumption goods, owing to the weaker dollar, also act to weaken private consumption growth.

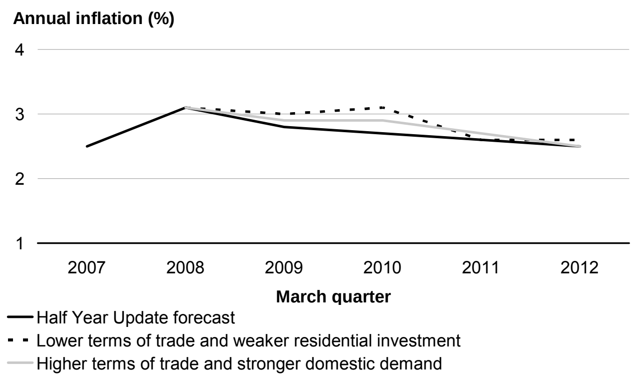
Weaker domestic demand results in slower growth in imports over the years to March 2009 and 2010, including a fall in import volumes over the March 2010 year. In the final two years of the forecasts, import growth is higher than in the main forecast as domestic demand strengthens again. Export volumes, particularly export services, grow by more in this scenario than in the *Half Year Update* forecast because of the lower exchange rate.

Growth in real GDP of 1.1% over the year to March 2009 is much lower than in the main forecast, but stronger export growth relative to import growth leads to higher growth in real GDP of 3.3% in each of the following two years.

Employment growth is lower through much of the forecast period as firms utilise a lower level of labour input in response to weaker demand. The unemployment rate is higher as a result, rising to 4.6% by March 2012. Wage growth is weaker throughout the period, compounding the weaker private consumption and residential investment growth.

Consumer price inflation is higher than the *Half Year Update* forecast because of the pass-through from the sharp fall in the exchange rate. Annual inflation rises to 3.1% at March 2008, as in the main forecast, but remains at or above 3% in the following two years (Figure 3.5). Monetary policy is loosened later than in the *Half Year Update* forecast, with 90-day rates staying above 8% until the final year of the forecasts.

Figure 3.5 – CPI inflation



Sources: Statistics New Zealand, The Treasury

The current account deficit narrows initially as growth in imports slows in response to weaker domestic demand. However, the current account deficit is larger throughout the period compared to the main forecast because of lower export prices.

Despite high consumer price inflation, the initial lower rate of growth in real GDP means the level of nominal GDP is lower throughout the forecast period by a cumulative total of approximately $15 billion. This brings a reduction in tax revenues, as discussed in the Fiscal Scenarios section.

Higher terms of trade and stronger domestic demand

In this scenario, the terms of trade are assumed to be higher across the forecast period relative to the *Half Year Update* forecast (Table 3.3). It is also assumed there is greater confidence as a result of the higher terms of trade and more momentum in the economy than in the main scenario. This scenario is similar to one of the scenarios that was outlined in the *Budget Update 2007*.

Table 3.3 – Higher terms of trade and stronger domestic demand scenario

Annual average % change, year ending 31 March	**2007 Actual**	**2008 Estimate**	**2009 Forecast**	**2010 Forecast**	**2011 Forecast**	**2012 Forecast**
Private consumption	2.4	3.9	3.2	2.5	1.1	1.0
Residential investment	-2.1	5.7	-3.9	-5.6	-1.4	1.7
Market investment	-3.3	5.6	8.7	3.7	-1.6	1.6
Gross national expenditure	0.7	4.8	3.9	3.1	1.0	1.7
Exports of goods and services	3.0	1.6	2.6	3.3	3.4	3.7
Imports of goods and services	-1.4	6.1	5.7	4.7	0.2	0.2
Real GDP (production measure)	**1.7**	**3.0**	**2.8**	**2.5**	**2.1**	**3.0**
Real GDP per capita	0.5	2.0	1.8	1.6	1.1	2.0
Employment growth	1.9	1.9	1.1	1.5	0.9	0.7
Unemployment rate[1]	3.7	3.8	3.6	3.7	3.9	4.0
90-day bank bill rate[2]	7.8	8.5	8.8	8.3	7.9	7.4
TWI[2]	68.8	70.0	69.1	65.0	60.3	58.0
CPI[3]	2.5	3.1	2.9	2.9	2.7	2.5
Current account balance (% GDP)	-8.3	-7.3	-6.2	-7.1	-6.8	-6.1
Nominal GDP (expenditure measure)	4.7	7.4	6.7	4.4	3.8	4.5

Notes: 1 Percentage of labour force, March quarter, seasonally adjusted.
2 Average for March quarter.
3 Annual percentage change, March quarter.

Sources: Statistics New Zealand, Reserve Bank of New Zealand, The Treasury

This scenario assumes the terms of trade remain higher throughout the period relative to the main forecast. The terms of trade are still forecast to fall, but not as sharply as in the main forecast (they are assumed to fall back to the same long-run level after the end of the forecast period). The driver of the higher terms of trade could be stronger world demand, a more sustained increase in international dairy prices, a large rise in the price of other commodities, or a greater flow-through from the recent commodity price increases to the price received by New Zealand producers. Higher export prices are assumed to be offset slightly by higher oil prices (as oil would likely be influenced by some of the same factors keeping the price of food commodities high). As a result of higher export prices, the New Zealand dollar is assumed to be 3% higher than the main forecast in the March 2009 quarter and 5% higher a year later.

In this scenario, private consumption growth is assumed to be stronger in the March 2009 year than in the *Half Year Update* forecast, as households respond to their higher real incomes and increased confidence. With stronger demand from households and a higher exchange rate making imported capital cheaper, firms raise their investment relative to the main forecast in the March 2009 and 2010 years. Residential investment is similar over the forecast period compared to the main forecast as the impact of stronger incomes is offset by higher interest rates.

Employment growth is about a quarter of a percentage point higher in the March 2009 and 2010 years as a result of higher domestic demand. Stronger employment growth means the unemployment rate is relatively stable and around a quarter of a percentage point lower than the main forecast over the period. Wage growth is higher than in the main forecast and the greater strength in the labour market reinforces the stronger domestic demand.

Growth in non-commodity and services export volumes is expected to be inhibited by the effect of the higher exchange rate and thus overall export volume growth is lower in this scenario than in the *Half Year Update* forecast. Import volume growth responds to the increased private consumption and business investment to be higher in the March 2009 year and the March 2010 year.

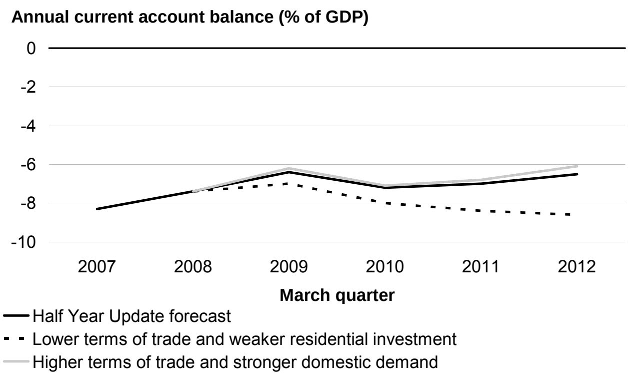
Real GDP growth is higher in the year to March 2009 but lower over the following two years relative to the main forecast. Driving the slowing from the year to March 2010 in this scenario is a sharper weakening of domestic demand owing to higher interest rates and low export growth relative to import growth owing to the higher exchange rate.

Stronger domestic demand leads to higher inflation pressure. Increased inflation pressure results in tighter monetary policy and 90-day interest rates are around a quarter of a percentage point higher in the March 2009 quarter. Even with this monetary tightening, inflation remains higher until the final year of the forecasts.

The monetary tightening, however, brings about a slowing in domestic demand. Private consumption and market investment grow more slowly in this scenario in the final two years of the forecast than in the main forecast. Import growth is also lower in this period, but so is real GDP growth.

The higher terms of trade lead to a slightly faster adjustment in the current account deficit. The current account deficit narrows in the March 2009 year, reaching 6.2% of nominal GDP. As in the main forecast, it increases in the following year but narrows again in the last two years of the forecast period (Figure 3.6).

Figure 3.6 – Current account



Sources: Statistics New Zealand, The Treasury

Because of stronger growth in nominal GDP in the early part of the forecast period, the level of nominal GDP is higher throughout the whole forecast period. The cumulative increase over the period to March 2012 is around $10 billion, with an increase in the final year of $2.3 billion. This higher level of nominal GDP leads to higher tax revenues throughout the period.

Fiscal Scenarios

The fiscal position is strongly influenced by the economy (Table 3.4). The major economic determinants, and how they impact on the fiscal position, are listed below. While each effect is expressed in terms of an increase in the determinant, the opposite impact applies for a decrease.

- 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 but also to higher interest-based revenue.
- The level of unemployment – higher levels of unemployment translate into 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 net debt.

Table 3.4 – Alternative scenarios: impact on OBEGAL and debt

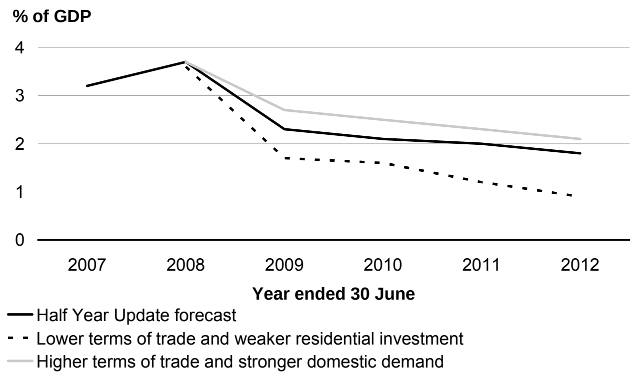
Year ending 30 June	**2007 Actual**	**2008 Estimate**	**2009 Forecast**	**2010 Forecast**	**2011 Forecast**	**2012 Forecast**
OBEGAL ($billion)[1]						
Half Year Update forecast	5.3	6.6	4.3	4.1	4.0	3.9
Lower terms of trade	5.3	6.4	3.1	3.0	2.3	2.0
Higher terms of trade	5.3	6.6	5.2	5.0	4.6	4.6
Gross sovereign-issued debt ($billion)[2]						
Half Year Update forecast	30.9	33.3	33.0	31.8	34.6	33.2
Lower terms of trade	30.9	33.5	34.5	34.3	38.8	39.3
Higher terms of trade	30.9	33.3	32.2	30.0	32.1	30.0
OBEGAL (% GDP)[1]						
Half Year Update forecast	3.2	3.7	2.3	2.1	2.0	1.8
Lower terms of trade	3.2	3.6	1.7	1.6	1.2	0.9
Higher terms of trade	3.2	3.7	2.7	2.5	2.3	2.1
Gross sovereign-issued debt (% GDP)[2]						
Half Year Update forecast	18.5	18.7	17.7	16.3	17.0	15.6
Lower terms of trade	18.5	18.8	18.8	17.9	19.6	18.9
Higher terms of trade	18.5	18.6	17.0	15.2	15.7	14.0
Core Crown net debt (% GDP)						
Half Year Update forecast	2.7	1.1	0.9	0.9	0.9	1.0
Lower terms of trade	2.7	1.2	1.7	2.2	3.0	3.9
Higher terms of trade	2.7	1.1	0.5	0.0	-0.3	-0.5

Notes: 1 Operating balance before gains and losses.
2 Excluding Reserve Bank Settlement Cash.

Source: The Treasury

Lower terms of trade and weaker residential investment

Figure 3.7 – OBEGAL



Source: The Treasury

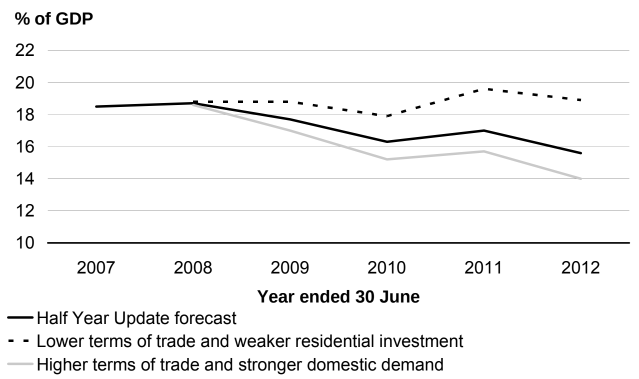
The first scenario is driven by a combination of international and domestic factors. Easing world demand for dairy products and/or a strong global supply response to high dairy prices leads to a fall in the terms of trade and the exchange rate. In addition, residential investment slows sharply. As a result, nominal GDP growth is slower, particularly over 2008/09, and a fall in the exchange rate increases tradables inflation. Real economic growth in 2010 increases through a rebound in private consumption and higher export volumes owing to the lower exchange rate. Overall, nominal GDP is a cumulative $15 billion lower by 2012 relative to the main forecast.

The weaker nominal GDP track reduces revenue by around $5 billion across the forecast period. In addition, expenses are higher because of higher unemployment and the higher CPI increasing inflation-indexed benefit costs. As a result, the OBEGAL as a percentage of GDP is 0.9% lower in the last year of the forecast period compared to the main forecast (Figure 3.7). Gross Sovereign-issued debt (GSID) is around 3.3% of GDP higher.

Higher terms of trade and stronger domestic demand

Scenario two sees higher commodity prices driven by, for example, demand from China and constraints on the global supply response from drought in Australia and conversion of grain to biofuel in the United States. The effect on the terms of trade is offset somewhat by higher oil prices. Strength in the domestic economy is characterised by consumer spending and business investment that flows through to higher real GDP. The CPI is also higher than in the main forecast as a result of higher non-tradables inflation and oil prices. Eventually, high interest rates dampen demand pressures in the domestic economy, leading to a fall in the exchange rate and a rise in export volume growth.

Figure 3.8 – GSID



Source: The Treasury

Overall, nominal GDP is a cumulative $10 billion higher across the forecast period, and revenues are a cumulative $3.3 billion higher compared to the main forecast. Expenses are the same across the period as a reduction in finance costs and unemployment benefits is offset by higher inflation-indexed welfare payments. The OBEGAL as a percentage of GDP is around 0.3% higher compared to the main case in the final year of the forecast. GSID is around 1.6% of GDP lower (Figure 3.8).

Fiscal Sensitivities

The scenarios above indicate the sensitivity of fiscal aggregates to changes in economic conditions. Table 3.5 provides some “rules of thumb” on the sensitivities of the fiscal position to small changes in specific variables.

Table 3.5 – Fiscal sensitivity analysis

($million) Year ending 30 June	**2008 Forecast**	**2009 Forecast**	**2010 Forecast**	**2011 Forecast**	**2012 Forecast**
1% lower nominal GDP growth per annum					
Revenue	(541)	(1,099)	(1,737)	(2,423)	(3,157)
Addition to financing costs	17	69	164	306	484
Impact on the operating balance	**(559)**	**(1,168)**	**(1,901)**	**(2,729)**	**(3,641)**
Revenue impact of a 1% decrease in the growth rates of:					
Wages and salaries	(245)	(520)	(830)	(1,175)	(1,550)
Taxable business profits	(125)	(265)	(425)	(585)	(770)
One percentage point lower interest rates					
Interest income	(88)	(114)	(98)	(123)	(111)
Expenses	(62)	(102)	(126)	(155)	(178)
Impact on the operating balance	**(26)**	**(12)**	**28**	**33**	**67**

The forecasts of capital contributions to the New Zealand Superannuation (NZS) Fund are sensitive to the rate of return assumed on the Fund’s assets (Table 3.6).

Table 3.6 – NZS Fund contributions sensitivity analysis

Variable	**Marginal change** (%age points)	**Effect on net return after tax** (%age points)	**Effect on capital contribution ($million)**			
			2008/09	**2009/10**	**2010/11**	**2011/12**
Expected gross rate of return	-1%	-0.76%	237	252	268	287