

# NEW ZEALAND'S LONG-TERM FISCAL POSITION

## Executive Summary



JUNE 2006

This document contains the Preface and the Executive Summary of the 2006 edition of the *Statement on the Long-term Fiscal Position*, a report prepared by the Treasury under the *Public Finance Act 1989*.

An electronic copy of the full Statement can be downloaded free of charge from the Treasury website:

**[www.treasury.govt.nz/longtermfiscalposition/](http://www.treasury.govt.nz/longtermfiscalposition/)**

# Preface

## This Statement is about New Zealand’s long-term fiscal outlook and what drives it.

In 2004, the Public Finance Act was amended to require the Treasury, at least once every four years, to prepare a statement on New Zealand’s long-term fiscal position. The Statement must look out over at least a 40-year horizon. This is the first such Statement.

It is impossible to predict with any accuracy what governments will be doing in the next 40 years. Modern governments do a myriad of things, in areas as diverse as foreign aid, taxes, health and road-building. Therefore, rather than attempt to make such predictions, we have used the available information to make projections of the fiscal consequences of particular scenarios. These scenarios set out the implications of possible policies and patterns of development of the economy. To pick up the uncertainty around these, we have used a series of “what if” questions; eg, what if economic growth is higher than we assume, what if fertility increases, and what if governments choose to spend more on education?



The starting point for our analysis is Statistics New Zealand’s work on the future size and structure of the New Zealand population and Treasury’s assumptions about the future size of the economy. Using this information, we have made projections of major spending categories and taxes, based on assumptions derived from history, current policy settings and judgements.

### The purpose of this Statement

We see the purpose of this Statement as being to increase the quality and depth of public information and understanding about the long-term consequences of spending and revenue decisions. This will assist governments in making fiscally-sound decisions in the decades ahead.

The material presented here should be useful as the basis for discussions about the fiscal and other consequences of different policy settings.

### The Statement builds on past work

This Statement is not the first time the issue of New Zealand’s long-term fiscal position has been placed in the public arena, although it has been some time since such studies were done, and the fiscal position has strengthened considerably over recent years.

Over the past 15 years, many reports by the Treasury and other agencies have thrown light on the long-term fiscal position. Some have looked at the impact of an ageing population and others at a wider range of drivers of the fiscal position. The common approach of these studies (like those undertaken in other countries) is to project the path of expenditure and taxes based on some notion of “current policy.” The idea is to investigate the impact of external drivers on the overall fiscal position. Often, these drivers are demographic but sometimes they are economic, like the cost of health care.

## Using this Statement to assess policies

The projections in this Statement do not draw conclusions about whether an individual policy is appropriate or affordable. Often such conclusions will depend on knowing what else the government is doing, or on having a view on the preferred role of government, an appropriate level of taxes or the overall state of the economy.

Material in this Statement will help people to make their own judgements about what they think are appropriate policies.

We present a range of scenarios of future policy settings to demonstrate the effect of the drivers of different combinations of policies on the fiscal position.

## The trend towards taking a long-term view

Future governments have plenty of time to plan for the future. Demographic change is, by its nature, a slow process and New Zealand's public finances are in sound shape. Debt is low and assets are being built up to meet the future needs of society. That said, there is often a case for adjusting policy slowly or early to meet future changes, rather than waiting and making a sudden and larger adjustment.

Successive New Zealand governments have increasingly looked to the long term in setting their policy objectives. Part 2 of the Public Finance Act requires governments to look to the future when making decisions today. It does this by requiring them to set objectives for at least a 10-year horizon and to report their actions against these. This Statement, mandated by a new section of Part 2 of the Act, is a natural extension of this reporting framework, although it differs in that it looks out over a very long period, and across many parliaments and governments.

As well as extending reporting, governments have acted to strengthen the Crown's fiscal position. At a macro level, the Crown's accounts have moved from a position of persistently large operating deficits, high debt and negative net worth to the current strong position, in which net debt is zero.

At a more detailed level, perhaps the two most prominent examples of governments taking a long-term perspective are in the area of superannuation. The first was the increase in the age of eligibility for New Zealand Superannuation in the early 1990s. The second and more recent was the establishment of the New Zealand Superannuation Fund, which invests a proportion of current taxes to contribute towards the costs of New Zealand Superannuation in the future.

## Demographics are changing

World-wide, population structures started to change hundreds of years ago, and New Zealand has been part of this trend. The Statement shows how this demographic shift is expected to affect the government's finances in the years ahead.

Demography directly affects the Crown's financial position in areas such as superannuation, education and health. In superannuation, the impact of demography is potentially very large: the proportion of people over 65 years is expected to double in the next 50 years. In education, the proportion of school-age children is set to fall by five percentage points over the same period. In health, the impact is not as clear-cut. Falling levels of disease and mortality are positive fiscally, while others, such as the increase in the numbers of very old people, may be negative.

Demography is, however, only one driver of government spending. While it is important for some programmes, it has little or no impact on others. It is important not to lose sight of the broader issues that matter for the long-term fiscal position, such as overall economic performance and productivity.

New Zealand's population is still relatively young compared with those of some other countries. Accordingly, those countries have to make policy adjustments more rapidly than we have to. We can learn lessons from them about how to harness the benefits of economic growth and meet the challenges posed by demography.

### Preparing this Statement is not an end in itself

This Statement is a resource for policy makers, commentators and the general public. We hope that they will all find it a useful addition to the information they use in making policy choices.

John Whitehead  
Secretary to the Treasury

# Executive Summary

This Statement is about the factors that the Treasury expects to influence New Zealand's fiscal position over the next 40 years.

It is part of a suite of documents that the Public Finance Act requires the New Zealand government and its advisors to produce. These documents report on the government's fiscal position and fiscal intentions and its performance against these intentions. They are part of a wider set of provisions of the Act that require governments to operate policy in accordance with principles of responsible fiscal management.

## Criteria for responsible fiscal management

Future New Zealand governments will have many policy choices open to them, leading to a wide range of fiscal results. Judging between these options requires some sense of what makes a "good" fiscal outcome. The principles of responsible fiscal management contained in Part 2 of the Public Finance Act provide guidance on this matter.

These principles require governments to pursue their policy objectives so as to achieve and maintain prudent levels of debt; ensure, on average, that spending does not exceed revenue; achieve levels of net worth sufficient to provide a buffer against future shocks; manage risks prudently; and have predictable and stable tax rates.

Governments to date have focused on reducing debt to levels judged to be prudent, because these were high in the early 1990s. As set out in the 2006 Fiscal Strategy Report, the current Government has concluded that maintaining gross debt at around 20% of GDP is prudent for the coming decade. The Government also intends to continue building up net worth by accumulating financial assets in the New Zealand Superannuation Fund to help contribute to the costs of an ageing population.

Allowing some variation in debt could be consistent with responsible fiscal policy, as could alternative levels of spending and revenue. What is a prudent level of debt may vary through time as circumstances change.

In this Statement, the level of debt is used as a guide to responsible fiscal management. Policies resulting in an ever-increasing level of debt (or indeed assets) would not be consistent with the principles in the Act.

## The approach to preparing this Statement

Over the past 15 years, the Treasury and others have produced reports on New Zealand's long-term fiscal position. Governments in other countries - for example, Australia, the United Kingdom, the United States and all 25 members of the European Union - also prepare projections of their long-term fiscal position. Some, like New Zealand, are required to do so by legislation.

The common approach in these studies is to express the long-term implications of continuing with existing policies. This approach is not an entirely straightforward task. First, there is the challenge of projecting forward the costs for different policy areas. Second, in addition to these policy intentions, governments also have fiscal objectives (such as those to do with overall levels of debt, and levels of taxes), which may not all be consistent.

Accordingly, this Statement adopts two broad approaches to looking at the future fiscal position. Put simply, the first is to carry on as we are assuming no constraints and see where it takes us. This involves looking at how existing policy in current spending programmes and revenue affect the aggregate fiscal measures. This is called the "bottom-up" approach. The second is to decide where we want to be and see how we can get there. This involves rolling forward current fiscal objectives indefinitely and looking at how spending and taxes would need to be changed in order to remain within the fiscal limits of the objectives. This is called the "top-down" approach.

Both these approaches use the same modelling framework for calculating the future fiscal position, but give different insights into the fiscal challenges that may lie ahead.

The addition of a top-down approach is an advance on previous reports on New Zealand's long-term fiscal position. Its particular attraction is that it is closer to what happens in the actual budget-setting processes that governments have been using over the last decade.

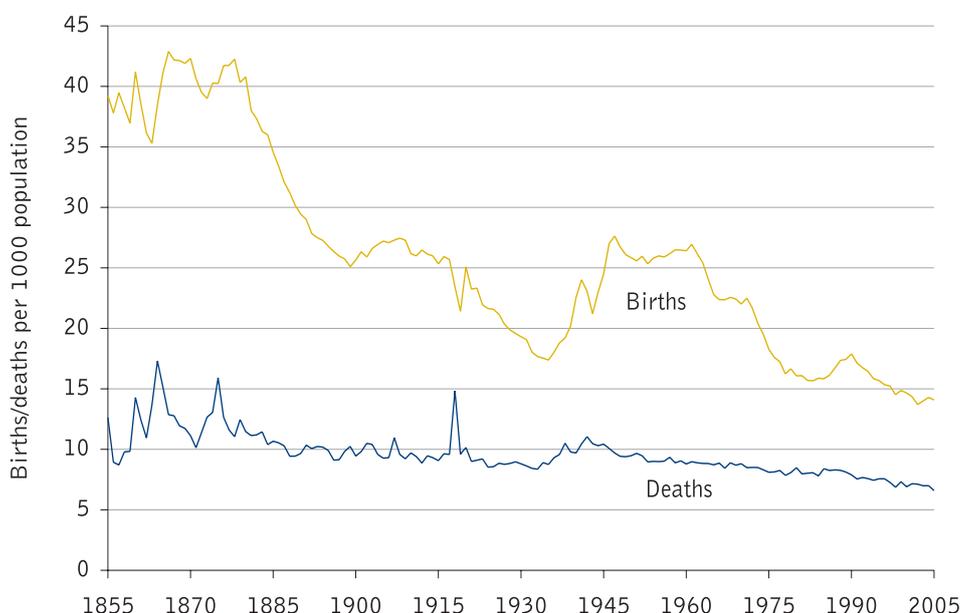
The modelling starts with projections of the population and combines these with assumptions of future productivity growth and labour force participation to produce projections of GDP. These projections are used in both the bottom-up and top-down approaches.

It is assumed that recent trends in participation and productivity will continue.

## Structural demographic changes over the next few decades

The structure of New Zealand's population is changing. This is driven mainly by increases in longevity (life expectancy) and lower fertility rates (number of children per woman). New Zealand used to have high rates of mortality and fertility, but both have fallen markedly over the past century (Figure 1).

**Figure 1: Birth and death rates have declined**



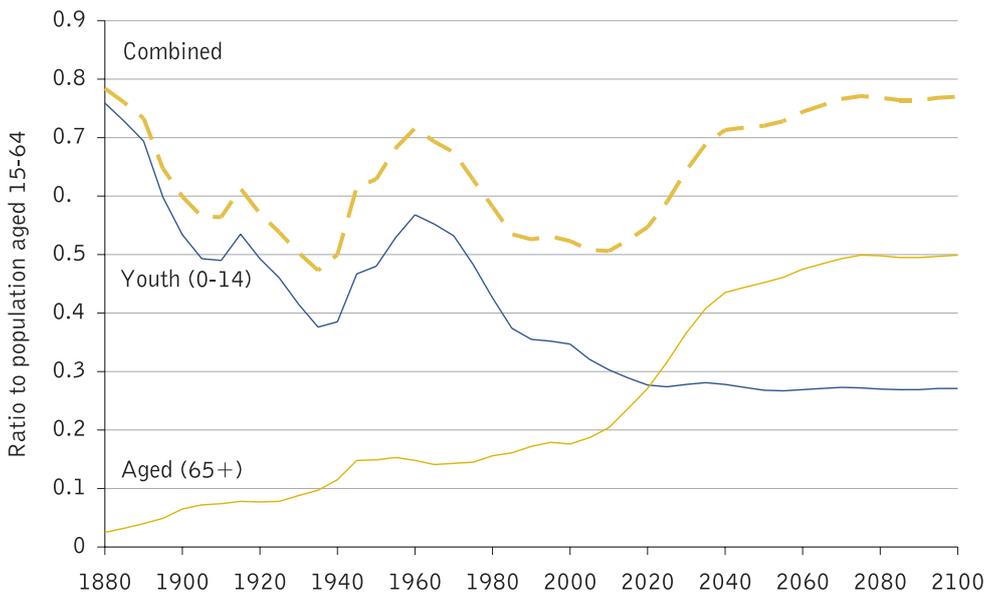
The result of these changes is a permanent shift in the make-up of the population. This change is not a demographic bulge that will reverse at some time in the future.

One way to show the permanent nature of these changes is to compare the number of young and old people with the rest of the population.

Figure 2 shows changes in the ratios of these groups from 1880 to 2100. The effect of the baby boom is evident. Equally clear is that there is no downturn in the proportion of old people when the baby boomers have died. There is going to be a permanent change in the structure of the population.

While by 2100 the combined ratio of young and old is back to the levels seen at the beginning of the twentieth century, the composition is different: people over 65 make up the largest share. What is also evident is that most of the change in population will occur over the next 30 years. This is significant for the government's fiscal position because the cost of supporting young people tends to come from their families, while the cost of supporting the elderly tends to come from the State.

Figure 2: Demographic change is permanent, not a temporary bulge



Population ageing is a story of survival: more and more people are living past 65 and past 85. However, not only is the average age of the population increasing, but what it means to grow old is also changing.

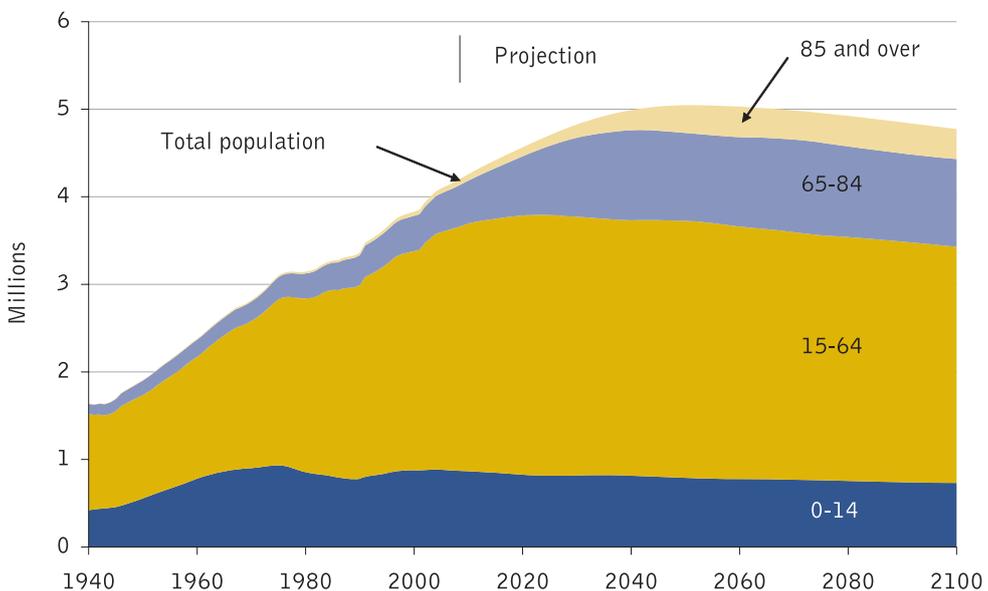
Projecting these changes out 50 years is fraught with uncertainty.

The optimistic view is that life expectancy will continue to increase steadily and that morbidity (the incidence of disease) will also reduce steadily. As a result, more people will live healthy, active lives into what was once considered “old age.”

The pessimistic view is that past increases in life expectancy were generally the result of reductions in infant mortality that will not continue. The incidence of chronic health conditions, such as obesity and heart disease, is increasing in the adult population. The result is more old people requiring increasing amounts of health care just to maintain a basic standard of health. Life expectancy may even fall.

The Statement uses Statistics New Zealand’s median projections of the future population (Figure 3). These tend towards the optimistic view of ageing. Life expectancy will continue to grow, but will eventually stabilise. In addition, the health projections assume that older people are likely to be somewhat healthier than they are today.

Figure 3: Total population continues to rise to 5 million, while numbers between 15 and 64 stabilise



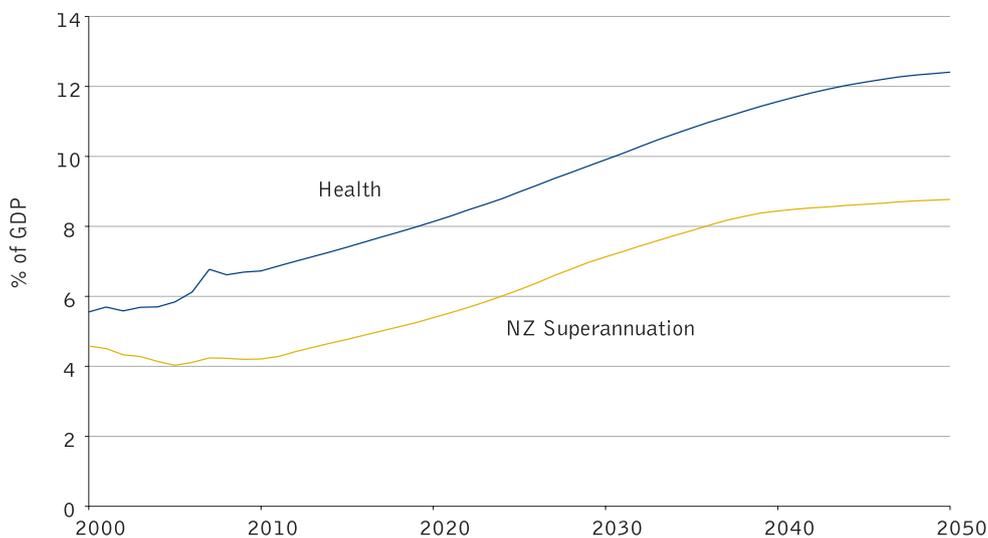
## Individual drivers of spending

In the tradition of previous studies of the long-term fiscal position, the projections made here of major spending categories and taxes and other revenue are based on assumptions derived from history, current policy settings and judgements.

This approach is a powerful tool for examining how changes in the population affect individual spending areas. An example is New Zealand Superannuation, where it is possible to project the number of people who will be 65 and over and multiply that by the projected rate of superannuation. The results of this approach are shown in Figure 4. One point to note is the similarity between the shape of the superannuation curve in Figure 4 and that for older people in Figure 2. These are similar because the main driver of superannuation spending is the number of people aged 65 and over.

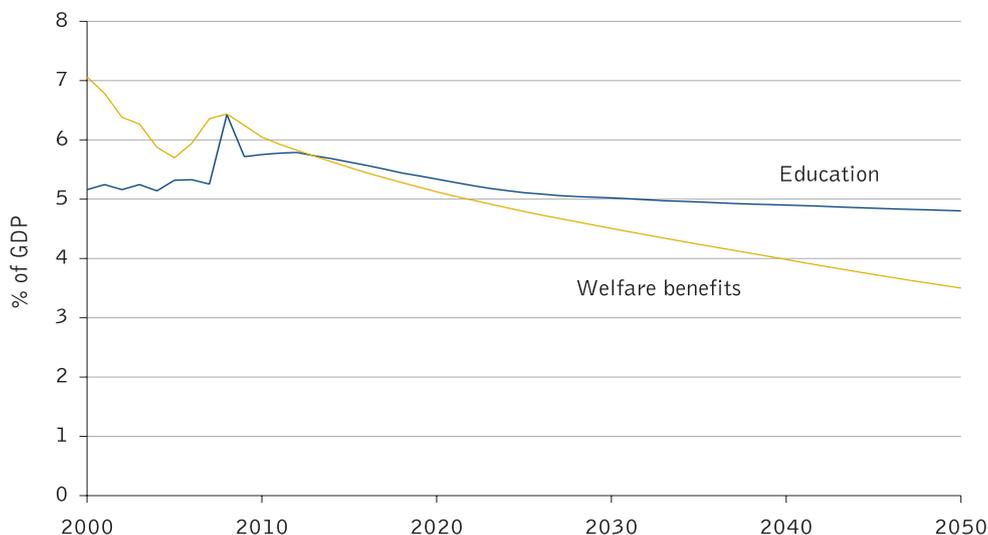
For health, the main driver is the cost of individual treatments and advances in medical care: more diseases will become treatable in the future.

**Figure 4: Superannuation and health spending more than double**



It is possible to undertake similar “no policy change” projections for other areas of government spending, although in some instances, more judgement is required. Figure 5 shows projections for welfare benefits and education.

**Figure 5: Education and welfare benefits spending falls**



In the case of welfare, the main driver is the level of benefits, where a continuation of the current policy of indexing benefits to price inflation is assumed. Benefit levels fall, as a proportion of GDP, because GDP grows much faster than prices over the projection period.

For education, demography again has a key role to play: the shape of the education curve mirrors the curve showing the relative number of young people in Figure 2. That is, because there will be fewer young people relative to the total population, total spending will fall as a share of GDP, even if cost per pupil increases (as projected here).

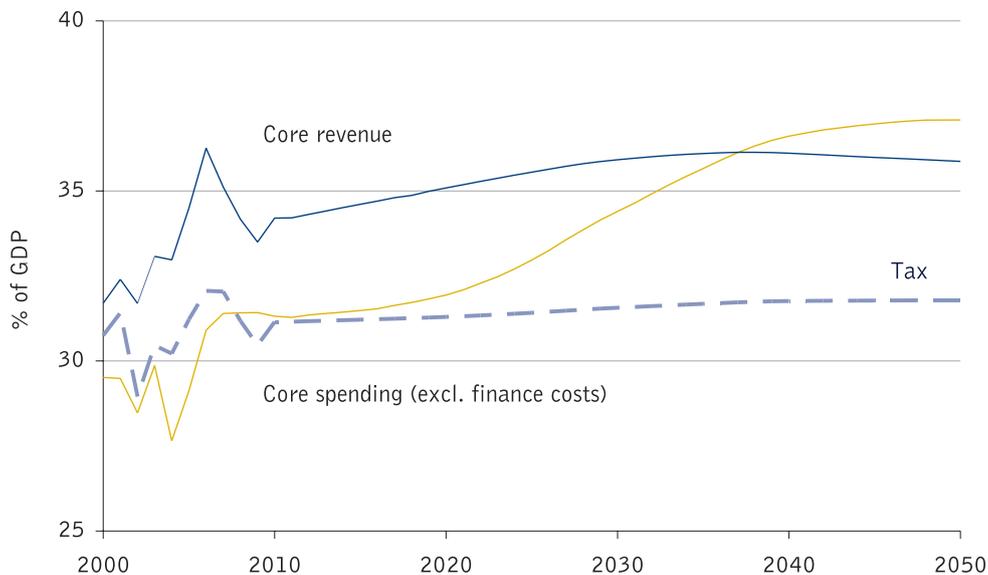
## The two approaches to making projections

Long-term projections can be done from either a bottom-up or a top-down approach. The bottom-up approach traditionally looks at how existing policy in current spending programmes and revenue affect the aggregate fiscal measures. It often calculates revenue assuming taxation remains a fixed share of GDP, and puts no restrictions on the total level of spending, operating balance or debt. The top-down approach, on the other hand, starts by setting restrictions for fiscal aggregates. It calculates the difference between projections for revenue and some particular expenditures. This difference is the amount that would be available for expenditure under the remaining policy programmes.

### The bottom-up approach

With all spending allowed to grow according to the drivers of individual policy (discussed in more detail below), core government spending (excluding finance costs) is projected to increase by around 7.5 percentage points between now and 2050 (Figure 6).

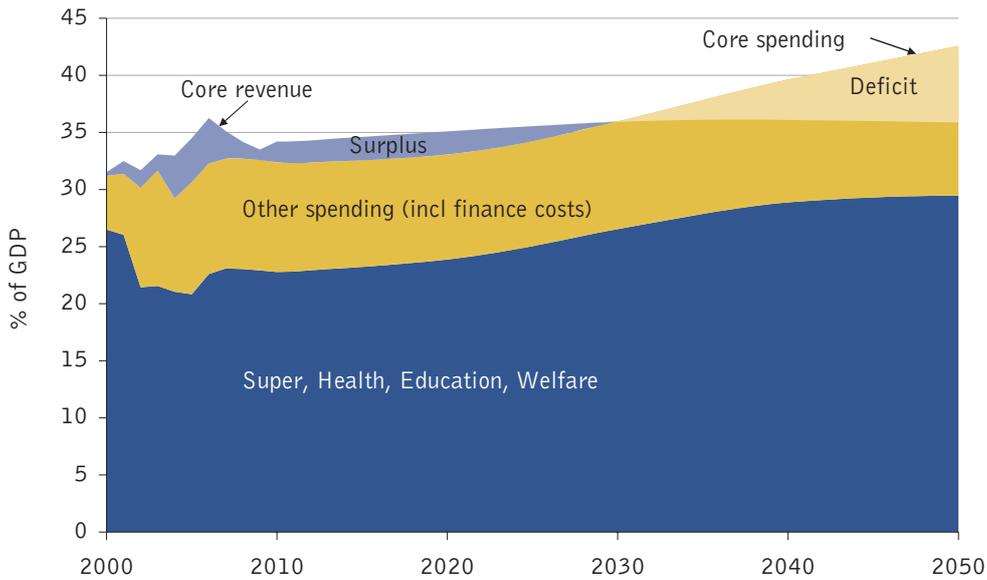
**Figure 6: Revenue is relatively flat while core spending rises**



The current tax bases are assumed to grow with the rest of the economy and most tax rates stay the same. In the case of personal taxes, the modelling assumes that the tax rates will stay the same, but that the thresholds are indexed to wages (the only growth coming from the tax on rising spending on superannuation).

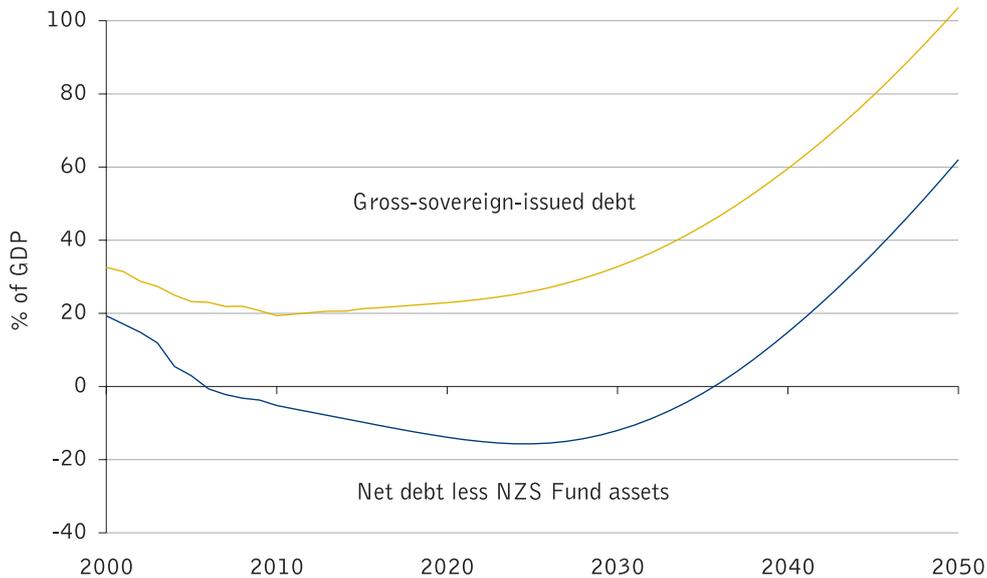
Not surprisingly, such an increase in spending, combined with an assumption that taxes are kept broadly constant, results in a decline in the operating balance and an eventual move from surplus to deficit (Figure 7).

Figure 7: Growth in spending eventually outpaces the tax base



Under this set of assumptions, debt will begin to rise and higher debt-servicing costs will reinforce the move from surplus to deficit, accentuating the impact on the overall operating balance (Figure 8). The impact on total spending is illustrated by the difference between the two core spending lines in Figure 6 and Figure 7.

Figure 8: Gross sovereign-issued debt rises



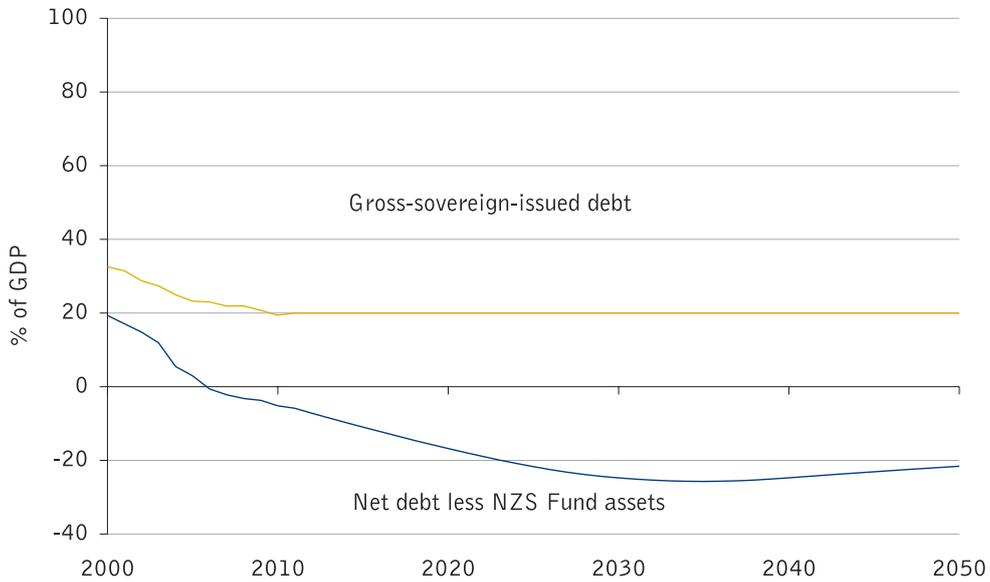
The New Zealand Superannuation Fund assets would offset the rise in gross debt, such that the net debt position of the government at the end of the projection period would still be below the level it was at in the early 1990s. However, the debt position, and more particularly its upward trajectory, is not consistent with the principles of responsible fiscal management. Moreover, without some policy change, the debt position would continue to deteriorate beyond 2050.

### The top-down approach

The top-down approach asks what might need to happen to spending and taxes, or some mix of them, in order to meet a set of fiscal objectives, such as a stable path for debt. This approach gives some sense of the magnitude of change that could be required to meet such an objective.

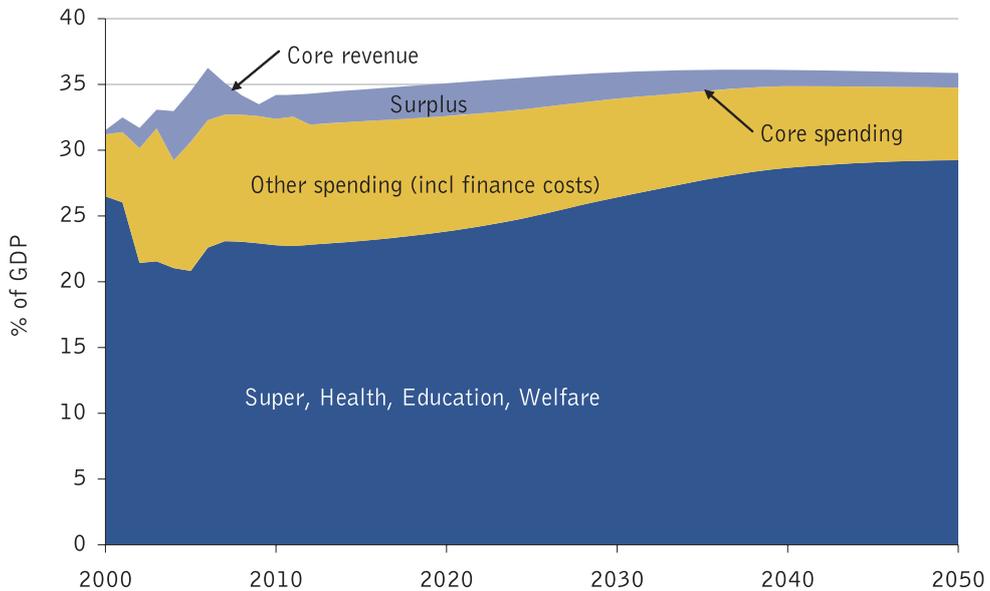
In order for gross debt to remain stable at around 20% of GDP over the projection period (Figure 9), the operating balance needs to remain in small surplus.

**Figure 9: Gross sovereign-issued debt constrained at around 20% of GDP**



If all the adjustment was to occur on the spending side, one possible path might have spending in the four major areas of health, education, New Zealand Superannuation and social welfare benefits projected as in Figure 10, with other spending acting as the residual. This selection of policies has been made for illustrative purposes only, and does not imply that spending in these four areas should be regarded as unchangeable. In such a case, other spending would have to decline as a proportion of GDP in the medium-to-long term from the current 10% of GDP to 5.5%.

**Figure 10: The effect of squeezing other spending to maintain small surpluses and stable debt**

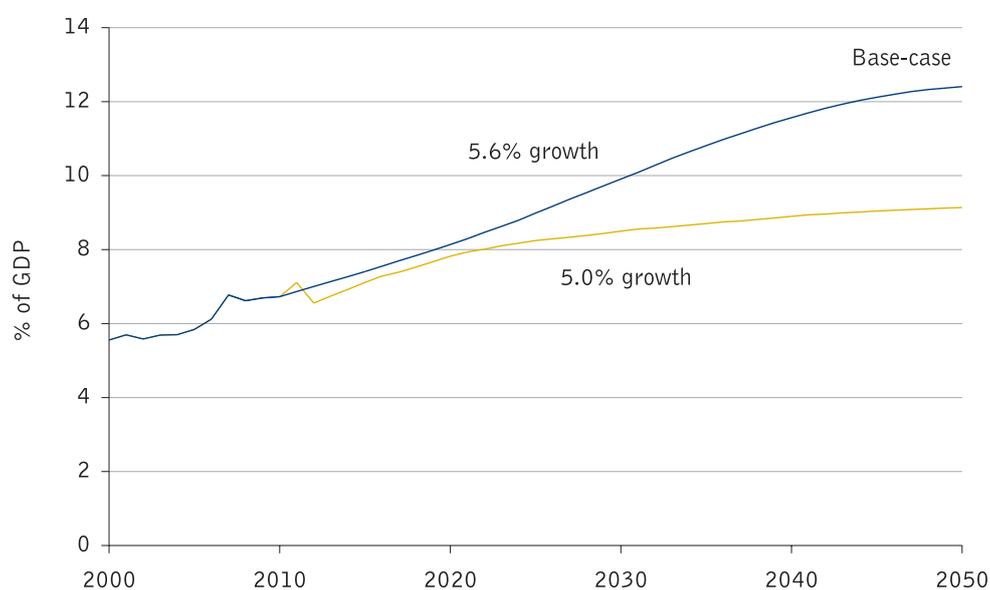


If all the adjustment was to occur on the tax side, the tax-to-GDP ratio would have to increase to about 35% at the end of the projection period, up from the current level of around 32%. (Total revenue would have to rise from about 36% now to around 39% of GDP in 2050.)

The impact of debt is one of the main differences between the bottom-up and top-down approaches. Debt dynamics are such that small, persistent changes to spending or revenue can have very large effects if they accumulate over a long period of time. For example, if health spending were to grow

each year at 0.6 percentage points slower than the average 5.6% used in the bottom-up approach, and nothing else changed, then debt would remain at around 20% of GDP. Health spending as a share of GDP would be around 9% compared with 12% (Figure 11).

**Figure 11: Health spending slowed to limit debt to 20% of GDP**



## Outline of the assumptions made in the Statement

Making projections of the future is inherently difficult, and there is a high degree of uncertainty around the projections set out above. This is because the projections are based on some key assumptions.

One key assumption is that fertility rates will stabilise at just below the level required to replace the population. If fertility rates were to continue to fall to much lower levels (as they already have in Italy, Japan and Korea), then the population would age more markedly. In the short term, the number of school-age children would decline more than we are projecting. In the medium term, the working-age population would be smaller than the rest of the population, thus reducing the size of the economy and the tax base. Eventually, the number of old people would also decline.

Another key assumption is about how economic growth affects fiscal outcomes. Demand for many publicly provided goods and services increases with income, meaning that growth leads to pressure for greater spending, not less. Some spending programmes are directly linked to economic growth, through things like indexation regimes.

Policies that explicitly or implicitly link spending to economic growth mean that spending as a proportion of GDP remains about the same regardless of the rate of economic growth. For example, New Zealand Superannuation is linked to wages and therefore is not affected by growth. In contrast, welfare benefits are linked to prices and therefore will fall as a proportion of GDP, if growth increases. Health spending, both in New Zealand and in most OECD countries, seems to be very strongly linked to economic growth.

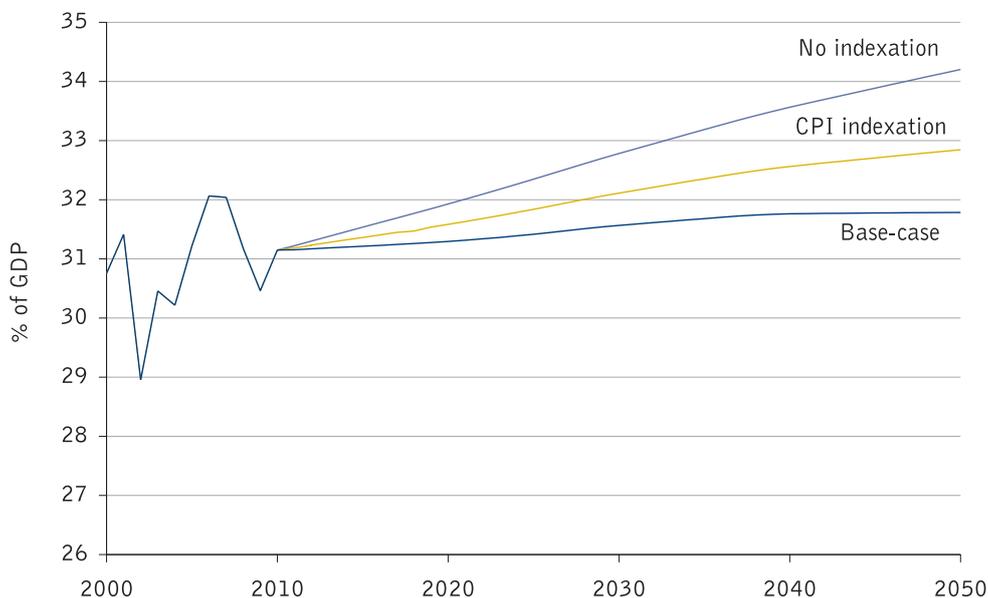
The following paragraphs discuss taxes and the “big four” areas of spending, drawing out some of the key assumptions and identifying alternative results.

### Taxes

In both the bottom-up and top-down cases the starting assumption is that the tax-to-GDP ratio will remain largely constant during the projection period. This is not quite “current policy,” because of the issue of fiscal drag, which is the effect of increasing incomes pushing people into higher tax brackets. Incorporating the full effects of fiscal drag into the projections would mean that the thresholds in the

personal rate scale would remain fixed in nominal terms over the projection period. The result would be that the vast bulk of income earners would be paying the top marginal tax rate of 39% by 2050. The tax-to-GDP ratio would be around 34% of GDP under this scenario.

Figure 12: Effects of different indexation regimes on taxes



Removing the fiscal drag assumption implicitly suggests that possible changes in tax bases in the projected years would be addressed by changing policy in a revenue-neutral manner. The projections do not specify how this strategy would be achieved.

As a result, tax revenue projections may be conservative. The recent decision to index personal tax thresholds to inflation serves to reduce the wedge between the current projection and a projection including fiscal drag.

An alternative scenario allows taxes to increase in response to increasing spending pressures, so that taxes take some of the load of increased spending levels. These alternative projections adjust the tax take at the highest level of aggregation (the tax-to-GDP ratio) and also provide some policy realism by modelling the sorts of tax rates that would result.

## Health

Projections of health spending are driven by three factors: demographics, growth due to increases in income, and a residual growth factor.

While there will be more older people, the Statement assumes that they will be healthier as well and that this, in turn, will reduce demand for some health services and push out the timing of others.

Local and international experience suggests that there is a one-to-one ratio between increases in income and health spending: a 1% increase in income leads to a 1% increase in health spending. When this factor is combined with projected increases in real incomes, it means higher spending can be expected in the future.

The largest driver is the residual growth factor. This can be thought of as a proxy for decisions around the “cost and coverage” of the public health system. The projection assumes that cost containment reduces the size of the residual growth factor over time.

The combined effect of these three factors is a projected doubling of government spending on health as a proportion of GDP.

The assumed total growth in health spending is based on a long-term average. If the rate of change in spending over the next 50 years were closer to the average over the past decade, then the projected rate of growth would be higher, with growth in health spending being 2 percentage points higher than in the base case by the end of the projection period.

## Education

Projections of education spending are based on the changes in the population base, inflation and a real per-student growth factor of 1.5% (based on teachers' wages) each year.

Population ageing produces a fall in the student population through time. The projection assumes that savings from the fall in student numbers are captured, which will see spending decline as a proportion of GDP. There are, however, several reasons why this may not happen. Governments may choose to have higher teacher-to-student ratios, or there might be more publicly-funded lifelong learning.

## Superannuation

The drivers of future superannuation spending are a doubling of the number of people over 65 (who are also living longer) and the link between New Zealand Superannuation payments and wages - New Zealand Superannuation being based on 65% of average weekly earnings. Also relevant here is the assumption that, on average, wages will grow faster than prices by 1.5% a year.

Two scenarios demonstrate the effects of these drivers.

First, the Statement looks at the impact of following the approach being implemented or considered in some European countries of linking the age of eligibility of pensions to longevity. If one-third of the projected increase in longevity were spent working and the other two-thirds in retirement, spending on New Zealand Superannuation would be 0.7 percentage points of GDP lower in 2050 than the base case reported above.

The Statement also investigates the fiscal impact of alternatives to a wage link, including linking benefits to inflation, or a mixed index of, say, "inflation plus 1%." Price indexation would reduce spending by 2.3 percentage points of GDP by 2050.

## Welfare benefits

Spending on non-superannuation benefits is driven by beneficiary numbers, which are calculated from assumptions about unemployment and other benefit take-up rates, population growth and an indexation regime.

Benefits are assumed to be indexed to the CPI, following current policy. This is a strong assumption, as it would mean that benefits would fall markedly as a percentage of wages over the long term. This is the experience of the past 30 years. Therefore, the Statement explores the effects of alternative regimes, such as full wage indexation or variants such as "inflation plus 1%". Indexing benefits to wages in this way would increase expenditure in this area by 2.3% of GDP in 2050.

## Conclusion

The New Zealand Government's current fiscal position is strong, by both historical and international standards. Debt is low, assets are being built up to provide a buffer against future shocks and tax and spending rates have been stable and predictable.

The projections presented here, which are based on history, current policy settings and judgements, show that this strong position is likely to continue for a long time.

In common with many other countries, New Zealand is experiencing a shift in the structure of the population. The population has completed a transition from a high fertility/high mortality state to a low fertility/low mortality state. This transition is not a demographic bulge that will correct itself at

some time in the future and is not just the result of the post-World War II baby boom. In time, the number of old people will increase as a proportion of the total population and, correspondingly, the number of young and working-age people will fall.

The Statement assumes a continuation of solid economic growth, which means that the tax base also grows through time, giving governments the wherewithal to finance their expenditure.

The combination of the projected structural change in the population and present policy settings is likely to lead to growing challenges to the fiscal position, and these pressures will accelerate in the 2030s. By the middle of this decade, public spending on health and New Zealand Superannuation is projected to rise by more than falls in welfare and education spending.

The base-case projections using the bottom-up approach show the operating balance moving into deficit and the debt-to-GDP ratio rising after about 2030.

However, the Statement assumes that governments will continue to follow the principles of responsible fiscal management contained in the Public Finance Act, meaning that they will act before then to ensure that the fiscal position remains sound.

The top-down projections show that if major spending areas were left to grow as in the base case, other spending would have to fall by half in order to keep gross debt stable at 20% of GDP.

The largest single driver of the fiscal position is the policy choices governments make, which means governments have the capacity to make the necessary changes. Policy adjustments need not be large. A number of small adjustments, starting early and sustained, will be sufficient to maintain a sound fiscal position. Governments have already taken a very long-term view in setting policy and this trend is likely to continue.

Publishing a Statement on the long-term fiscal position is not an end in itself. What this Statement does is present information that will allow readers to develop scenarios consistent with what they define as desirable fiscal results.