

Tasmanian Government Fiscal Sustainability Report 2016

April 2016

© State of Tasmania



ISBN 978-0-7246-5396-6 (PDF)

This document is licensed under the Creative Commons Attribution 4.0 International Licence.
Please give attribution to: © State of Tasmania (Department of Treasury and Finance) 2016.

Published by the Department of Treasury and Finance
GPO Box 147
HOBART TAS 7001
<http://www.treasury.tas.gov.au>

Contents

Executive Summary.....	i
1 Background and approach.....	1
2 Economic and demographic projections.....	10
3 General Government revenue.....	16
4 General Government expenditure.....	21
5 Scenario results	28
6 Findings.....	31
Attachment 1: Methodology.....	34
Attachment 2: Superannuation liabilities under the State’s defined benefit schemes.....	45

Executive Summary

The *Charter of Budget Responsibility Act 2007* was amended in 2015 to require the Department of Treasury and Finance to prepare a public report every five years on the long-term sustainability of the Tasmanian Government's finances. The Act requires the report to have "specific regard to the policies of the Government and the financial impact of anticipated changes to the demographics of Tasmania". The Act also requires the report to be in the form, and in respect of the matters, determined by the Secretary of the Department of Treasury and Finance.

This report is the first of this nature and is required to be tabled in both Houses of the Tasmanian Parliament by 30 June 2016.

Summary of approach

This report assesses the sustainability of the Tasmanian Government's finances by examining a range of possible outcomes, at the General Government Sector level, under different scenarios. This approach is designed to identify factors that may have a significant influence on the State's future financial position, and to examine the extent to which the State's finances may alter under different economic and fiscal conditions.

The "three Ps" approach has been adopted to prepare projections of the State's economic growth until 2029-30. That is, it is assumed that in the long-term, economic activity will be determined by the "three Ps" – population, labour market participation and productivity. This framework has been used by the Australian, New South Wales, New Zealand and United Kingdom governments for similar reports. Projections of State Government expenditure and revenue are then prepared, based on these projected economic and demographic trends, and also on past trends in State Government expenditure. This allows the State's future revenue growth to be compared with expenditure growth and an assessment to be made of the extent to which the State may face fiscal pressure over the next 15 years.

The key measure of fiscal sustainability used in the report is the primary balance, which is defined as the difference between the State Government's revenue and expenditure (both recurrent and net capital), excluding interest earnings and borrowing costs. The measure therefore reveals the underlying fiscal pressure for each year without the legacy effects of earlier years of net debt or surplus. While the primary balance is not an established accounting term under Australian Accounting Standards, it is the measure used by other jurisdictions that have prepared similar reports.

The report presents four scenarios. They are not intended to be predictions of future outcomes; rather, they examine the extent to which the State's finances are sustainable under different economic, demographic and fiscal assumptions. The scenarios are not presented as extreme cases but have been selected to provide a guide to the range of possible outcomes, in terms of underlying fiscal pressure. No scenario is presented as a base case or of more likely probability of occurrence than any other scenario.

The scenarios reflect the Tasmanian Government's policy of no new taxes and no increase in tax rates. The scenarios do not explicitly include changes in Australian Government taxes or different intergovernmental financial arrangements over the projection period.

The primary data used for this report are from the Australian Bureau of Statistics *Government Finance Statistics* (Cat No 5512.0) publication for past General Government Sector expenditure and revenue, and the *Revised Estimates Report 2015-16 (including December Quarterly Report)* prepared by the Tasmanian Department of Treasury and Finance.

Economic and demographic projections

Updated population projections have been prepared for this report, together with projections of future participation rates and productivity growth.

Historically, Tasmania's population and economic growth has been lower than in other states and territories. Lower population growth and a more rapidly ageing population are likely to constrain the State's economic growth and affect the State's future expenditure trends, with health expenditure particularly influenced by demographic trends. The State's labour productivity growth also tends to lag behind the national productivity growth rates.

The projections do result, however, in the real income of Tasmanian households increasing, on average, over the projection period.

State Government revenue and expenditure

A key feature of Tasmania's finances is the very significant share of revenue it receives from the Australian Government under the State's intergovernmental financial arrangements, particularly its share of revenue from the Goods and Services Tax. Own source taxes, by contrast, account for a relatively small share of total State Government revenue. In this respect, Tasmanian governments have potentially more exposure to fiscal pressures outside their control than most other Australian jurisdictions. This includes the risk of slower growth in revenue from the GST due to low growth in national expenditure on goods and services that attract GST.

On the expenditure side, a key trend over the past decade has been the large increase in State Government expenditure on health, only part of which can be attributed to population ageing. Health spending currently accounts for almost 30 per cent of State Government expenditure. Assumptions about future trends in health expenditure therefore have a significant impact on the overall fiscal pressure the State may face in the years ahead.

All scenarios include the State Government's superannuation expenditure obligations, including under the defined benefit schemes for which the most recent expenditure profile provided by the State Government's actuary, as reported in the *Revised Estimates Report 2015-16*, has been used.

Summary of scenarios projected

Scenario 1 – Continuation of recent trends

From 2014-15 to 2029-30, all components of State Government's revenue and expenditure are projected to grow at the average growth rates for the past ten years, except for the State's superannuation expenditure for the defined benefit schemes which is determined as set out above. This scenario therefore assumes that past trends in the State's economy and demographics continue.

Scenario 2 – Medium growth following the Forward Estimates period

Under this scenario, components of State Government's revenue and expenditure are set as the estimates contained in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19). From 2018-19, Tasmania's population and its economy are projected to increase under assumptions that reflect recent trends. From 2018-19, State Government revenue growth is based on these economic and demographic projections, under current policy settings. For expenditure, the trends after 2018-19, except for superannuation expenditure for the defined benefit schemes, are based on past trends as a baseline, adjusted for projected differences in economic and demographic trends through to 2029-30.

Scenario 3 – High growth following the Forward Estimates period

The assumptions through to 2018-19 are the same as those for Scenario 2. After this year, Tasmania's economic growth is projected to grow at around one percentage point higher per year than under Scenario 2. This higher economic growth scenario includes an assumed higher population growth rate to 2029-30. This population projection series would result in a population level that is a little higher in 2050 than the Tasmanian Government's population target of 650 000 persons.

The State Government's revenue and expenditure profiles are based on these more positive economic and demographic projections except for superannuation expenditure for the defined benefit schemes, again under current policy settings.

Scenario 4 – Forward Estimates trend

The assumptions through to 2018-19 are the same as those in Scenario 2. After this point, all components of State Government revenue are projected to increase at the average annual growth rate for total revenue over the Forward Estimates period. Equally, all components of expenditure (except superannuation expenditure for the defined benefit schemes) increase at the average annual growth rate for total recurrent expenditure over the Forward Estimates period. Over this projection period, the growth rate in revenue is greater than the growth rate in expenditure.

Under this scenario, therefore, the shares accounted for by each revenue component and each expenditure component (except superannuation expenditure for the defined benefit schemes) are unchanged from 2018-19 through to 2029-30. This is the only projection that does not capture changes in the State's demographics.

The four scenarios are set out below.

Summary of Scenarios

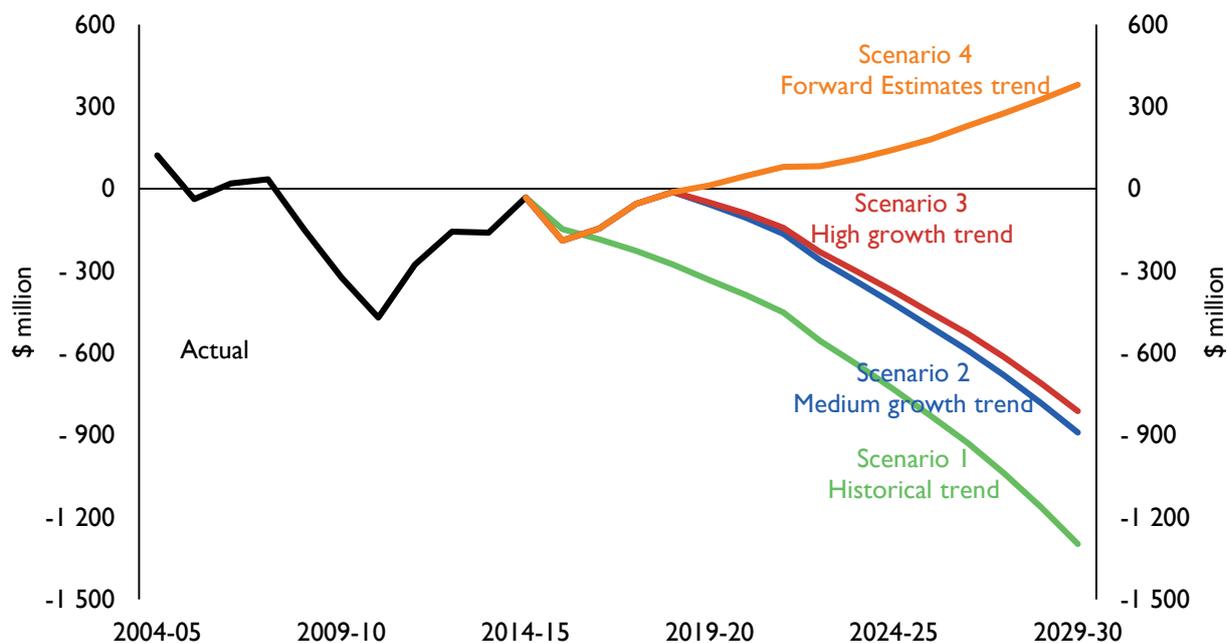
Scenario	Demographic change	Revenue	Expenditure
Scenario 1 Extrapolation based on historical trends	Demographic trends are reflected in past trends in expenditure and revenue.	Based on 10-year historical growth rates after 2014-15.	Based on 10-year historical growth rates after 2014-15.
Scenario 2 Modelled projections following the <i>Revised Estimates Report 2015-16</i> for the Forward Estimates period – medium growth case	Based on medium growth population projections prepared by Tasmanian Treasury.	After the FE period, based on economic and demographic projections that largely reflect recent trends.	After the FE period, estimates are based on past trends, expenditure trends over the FE period and medium growth economic and demographic projections.
Scenario 3 Modelled projections following the <i>Revised Estimates Report 2015-16</i> for the Forward Estimates period – high growth case	Based on high growth population projections prepared by Tasmanian Treasury.	After the FE period, based on higher economic growth, including higher population growth.	After the FE period, estimates are based on past trends, expenditure trends over the FE period and high growth economic and demographic projections.
Scenario 4 Extension of the Forward Estimates trends	Not adjusted for demographic change.	After the FE period, determined by the average change in total revenue over the FE period.	After the FE period, determined by the average change in total recurrent expenditure over the FE period.

Source: Tasmanian Treasury.

Results

The profile of the State's primary balance under the four scenarios is presented below. All values are expressed in current dollars, which therefore include the impact of inflation over the projection period.

Primary balance projections: 2014-15 to 2029-30



Source: Tasmanian Treasury.

Scenario 1 – Continuation of recent trends

The primary balance is negative from 2015-16. Annual expenditure exceeds annual revenue by around \$150 million in the first year. The primary balance decreases sharply over the projection period, and would reach negative \$1.3 billion by 2029-30 if no corrective action were taken. The negative primary balance is around 13 per cent of projected General Government revenue in 2029-30, and 2.6 per cent of the projected level of Tasmania's gross state product.

This is largely driven by very strong growth rate in health expenditure, such that health expenditure as a proportion of total State Government expenditure is projected to increase from 29 per cent in 2014-15 to 40 per cent by 2029-30.

In the early years, the annual decrease in the primary balance is around \$40 million. This represents the extra effort the government would have to make in each year, through reduced expenditure or increased revenue, to prevent a build-up of negative primary balances in future years. At 0.7 per cent of projected revenue, this level of effort is not large in the early years.

The primary balance decreases by around negative \$130 million by 2029-30 (around \$90 million in 2014-15 dollars) under this scenario. That is, in 2029-30 the government would still need to improve its fiscal position by \$130 million or around 1.3 per cent of projected revenue in that year alone to avoid further deterioration of the primary balance.

Under this scenario, future governments would have a major fiscal challenge in ensuring the State's finances remain sustainable if expenditure and revenue were to continue for some years at the same rates as over the past decade. An additional source of fiscal pressure would be borrowing costs, which are not included in the primary balance but would increase quickly if negative primary balances were allowed to accumulate.

Scenario 2 – Medium growth following the Forward Estimates period

For Scenarios 2 and 3, the rate of expenditure growth exceeds the rate of revenue growth such that the primary balance also becomes negative over the projection period but to a lesser extent than under Scenario 1.

In the case of Scenario 2, the primary balance initially declines from close to zero in 2018-19 to around negative \$58 million in 2019-20. The primary balance further deteriorates every year, reaching close to \$900 million by 2029-30 if no action were taken. This represents around 10 per cent of projected General Government revenue in 2029-30 or 1.8 per cent of the State's GSP.

After 2019-20, the annual decrease in the primary balance from the year before starts at around \$50 million per year and becomes greater over the projection period. Again, this provides an estimate of the fiscal pressure that must be addressed in that year if negative primary balances are not to be carried over to future years. This annual decrease in the primary balance becomes around \$110 million by 2029-30 (around \$70 million in 2014-15 dollars and almost 1.3 per cent of projected revenue in that year).

Scenario 3 – High growth following the Forward Estimates period

The higher population and economic growth rates assumed under Scenario 3 do not prevent expenditure growth exceeding revenue growth over the projection period. The benefits to revenue of stronger economic growth marginally outweigh the additional costs of higher population growth, resulting in marginally smaller negative primary balances than under Scenario 2. Under this scenario, the State would face a primary balance of around negative \$50 million in 2019-20, decreasing to around negative \$810 million by 2029-30 (9 per cent of projected General Government revenue in that year).

The annual decrease in the primary balance is marginally lower than under Scenario 2, commencing at around negative \$40 million after 2019-20 and decreasing to \$100 million by 2029-30, which is 1.1 per cent of projected revenue in that year.

Scenario 4 – Forward Estimates trend

Scenario 4 results in an increasingly positive primary balance to 2029-30. This is because, over the Forward Estimates period, the State's revenue growth exceeds expenditure growth and this trend extends over the entire projection period. Under this scenario, the primary balance in 2019-20 is around \$13 million and this increases to just under \$380 million by 2029-30 (just under \$300 million in 2014-15 dollars), representing around five per cent of projected General Government revenue in 2029-30. The annual increase in the primary balance averages around \$40 million.

While it would not be appropriate for governments to achieve very large positive primary balances every year for an indefinite period, it is desirable for governments to have sufficient budget flexibility in cases of unexpected revenue shortfalls, such as due to Australian Government policy changes or variations in GST payments. Positive primary balances occur under Scenario 4, but these are not particularly large. As an example of the exposure of the State to large variations in revenue that may occur, in the 2011-12 Budget, the estimate for Tasmania's GST revenue for 2011-12 was revised downwards by \$239 million from the estimate for that year in the 2008-09 Budget.

Summary of findings

The results reveal that under scenarios that reflect, to a large extent, past trends in State Government revenue and expenditure, the government would face increasing fiscal pressure in future decades. This is largely due to expenditure by the State Government on health services. The ABS estimates that, over the past decade, expenditure on health services increased by more than 110 per cent between 2004-05 and 2014-15 in Tasmania, while all other expenditure increased by only 60 per cent over the same period. While this reallocation of expenditure towards health services over recent years is common across Australian jurisdictions, Tasmania allocates a larger proportion of its Budget to health expenditure compared to the national average.

Given the large share of total State Government expenditure accounted for by health expenditure, if health spending continues to increase at past trend rates, this would require larger and larger savings elsewhere, or significantly increased revenue.

A key finding of this report is that the pressures of an ageing population will continue to contribute to greater demand for health services. However, a relatively small amount of the growth in health spending over the past decade was due to demographic change and the projections suggest that demographic change is not the key determinant of expenditure growth on health services.

The State Government's obligations relating to its defined benefit superannuation schemes contribute to fiscal pressure but the costs are expected to be manageable. The defined benefit superannuation costs currently account for around five per cent of total General Government revenue. This proportion is projected to increase moderately over the next decade and peak mid-way through the next decade at around six per cent and then decline.

The State's capacity to respond to negative primary balances by materially increasing its revenue is limited. In part, this is because of the high share of revenue it receives from the Australian Government. In this respect, Tasmanian governments have potentially more exposure to fiscal pressures outside their control than most other Australian jurisdictions. A further constraint is the limited capacity of the State Government to increase its own source revenue without negatively impacting on its tax competitiveness compared to other jurisdictions. This, in turn, can lead to the risk of lower overall tax revenues due to Tasmania being perceived as a less attractive State for investment and for potential migrants from interstate and overseas.

Ensuring the State's finances remain sustainable therefore requires future Tasmanian governments to keep in check the forces that can result in strong expenditure growth. These forces are compounded by the effect of borrowing costs, therefore early intervention is always desirable. There is inherent uncertainty over future revenue trends. Tasmanian governments cannot exclude the possibility of falling revenue, and also expenditure shocks such as in cases of natural disasters, in some years, and will need strategies to manage expenditure accordingly. This can include fiscal strategies designed to ensure that these fiscal pressures can be effectively managed to prevent the accumulation of negative primary balances and increasing debt obligations.

In practice, jurisdictions in Australia, including Tasmania, have usually not allowed negative primary balances to accumulate over time and for their finances to become unsustainable. Measures are taken to return their finances to a fiscal balance. When jurisdictions do face major fiscal pressures, their key objectives are to return the finances to a sustainable position without loss of confidence on the part of businesses and consumers that can lead to very weak economic performance, and without major disruption to government services and large scale public sector redundancies. The scenarios examined make it clear that the earlier these fiscal pressures are addressed, the greater the prospects that these objectives can be achieved.

Structure of the report

The structure of the report is as follows:

- Chapter 1 sets out the context for the report and the methodology adopted;
- Chapter 2 discusses economic and demographic trends in Tasmania used for the projections, including population, participation and productivity;
- Chapter 3 examines the key components of General Government revenue for Tasmanian governments, including historical trends and projections;
- Chapter 4 discusses the key components of General Government expenditure, including historical trends and projections;
- Chapter 5 presents the projection results; and
- Chapter 6 presents a summary of the findings.

I Background and approach

Requirement under legislation

The *Charter of Budget Responsibility Act 2007* aims to improve transparency and accountability in the management of the State's finances. Following amendments to this Act in 2015, the Department of Treasury and Finance is required to prepare a report every five years on the long run sustainability of the State Government's finances.

Clause 14A of the Act states that:

- (1) The Treasurer is to table in both Houses of Parliament a report that relates to the long-term sustainability of the State's finances, with specific regard to –
 - (a) the policies of the Government; and
 - (b) the financial impact of anticipated changes to the demographics of Tasmania.
- (2) A report referred to in subclause (1) is to be in the form, and in respect of the matters, determined by the Secretary.
- (3) The first report referred to in subclause (1) is to be tabled in both Houses of Parliament no later than 30 June 2016 and each subsequent report is to be so tabled no later than 30 June of each year that is 5 years after the date of the previous report.

Challenges in achieving fiscal sustainability

A primary responsibility of any government is to ensure that its financial position is sustainable over the long-term. Fiscal sustainability is achieved when a government's financial position is such that the government is able to maintain or support government programs in the future without major or disruptive policy adjustments.

All governments face increasing costs of providing government services, in real terms, and there is strong demand to increase and improve their services in almost all areas. At the same time, governments, particularly State and Territory governments, have a limited capacity to increase their revenues without an adverse impact on private sector economic activity.

In addition, governments across Australia have been reluctant to raise tax rates to address the fiscal pressures that they face. This may reflect a view of the broader community that there are opportunities for efficiencies in the delivery of services which should be pursued before tax rates are increased. Governments, including in Tasmania, are often under pressure to reduce tax rates or royalties, or to increase tax concessions, to achieve economic or social objectives. All governments therefore experience the challenge of ensuring their finances are sustainable and that they do not impose unreasonable liabilities on future generations.

A key feature of Tasmanian Government finances is the very significant share of revenue the State Government receives from the Australian Government under the State's intergovernmental financial arrangements. In 2015-16, these payments are expected to represent almost 65 per cent of the State's General Government revenue, the largest component of which is the Goods and Services Tax (GST). Changes in the expected level of GST payments, or in intergovernmental financial arrangements, can lead to very significant changes in the State's financial position.

The principle of Horizontal Fiscal Equalisation (HFE) requires the Australian Government to make payments to the states and territories to reduce the disparities in their fiscal capacities to provide public services to a similar standard. It aims to take account of differences in the ability of states

and territories to raise revenue and the cost of service provision arising from differences in geography, demography, natural endowments and economies.

In recognition of Tasmania's inherent disadvantages (both in revenue and expenditure terms), Tasmania received around 1.8 times more than its population share of GST revenue in 2015-16 due to the application of the principle of horizontal fiscal equalisation to the GST distribution. This resulted in an additional \$1.0 billion in GST revenue to Tasmania than a population share distribution would have achieved.

HFE has served Australia well by responding and adapting to changing state circumstances, and allowing for the mobility of labour and capital across the national economy. Without HFE, some jurisdictions within the Federation, including Tasmania, would be significantly disadvantaged due to unavoidable differences in fiscal capacities and the cost of providing government services, given factors such as the composition of the State's population. HFE is therefore essential to enable Tasmania to provide a similar level of government services to the Tasmanian community to those provided in other Australian jurisdictions.

If an alternative allocation mechanism for distributing GST revenue were introduced, such as one based on equal per capita funding, Commonwealth revenue to Tasmania would be around \$1 billion lower in 2015-16 or almost 19 per cent of total General Government revenue expected in that year. Tasmania's finances would immediately be put under very severe pressure if the principle of HFE were abandoned and funding were not maintained at around HFE levels. This represents the greatest single threat to the sustainability of the State's finances.

Fiscal pressure can also be due to expenditure growth. Governments are under pressure to provide more and improved services across all areas, particularly health and community services due to the high cost of new technologies, the ability to successfully treat a greater range of ailments and diseases and increasing demand. Other areas include education, public safety, transport and economic development.

Over the long-term, demographic change has the potential to alter the State Government's fiscal position. This is partly through changes in the working age population, which affect the size of potential labour supply for the State and, as a result, the size of the economy and the level of state taxation receipts. Demographic change also affects the demand for government services, including increasing demand for health services due to population ageing.

A further potential source of long-term fiscal pressure may be the difficulty in securing productivity gains in the delivery of many government services. Government agencies are under pressure to improve their information communications and technology systems but these can be very costly to install, require regular upgrades and have high costs to operate. This can contribute to increased real costs of providing government services.

This report examines the long-term fiscal pressure Tasmanian State governments may face without any policy responses by the Tasmanian and Australian governments to the fiscal position in Tasmania over the projection period. No changes are assumed to intergovernmental financial arrangements involving Tasmania, including the rate and coverage of the GST, or to the approach used for the distribution of GST revenues to states and territories. The projections also assume no new State Government taxes or increases in tax rates.

Report framework

The period examined in this report is 15 years, namely from 2014-15 to 2029-30. This provides a sufficient time period to identify the future trends and to allow for the State's future superannuation expenditure obligations, including under the defined benefit schemes for which the expenditure profile provided by the State Government's actuary for the *Revised Estimates Report 2015-16* has been used. Furthermore, the results become less meaningful over a longer time horizon due to the capacity for major changes to the State's population growth, technology and economic performance and fiscal arrangements, including intergovernmental financial arrangements.

This report presents a range of scenarios to examine the level of fiscal pressure the State may face under different economic and fiscal conditions. No one scenario is presented as more likely than any other, or a base case. The projections are, therefore, not intended to be predictions of future outcomes. Rather, the scenarios have been designed to provide a guide to the range of outcomes, in terms of emerging pressures, that may arise and therefore require policy responses. The scenarios also examine the extent to which factors such as past rates of expenditure growth, or different economic and demographic projections, may affect the long run sustainability of the State's finances. There is no ideal set of scenarios for this exercise and a case could be made for including additional scenarios. The scenarios selected have been designed to present a reasonable range of potential outcomes.

As far as possible, the report has been prepared under current taxation and other revenue policy settings of the Tasmanian Government and the Australian Government, and therefore on a "no policy change" basis.

Some scenarios are based on trends of revenue and expenditure, which therefore include the effects of past policy changes. For example, the threshold for liability for payroll tax has been increased in Tasmania from time to time. To this extent, it is never possible to remove entirely the effect of policy changes in any assessment of the State's fiscal sustainability.

All projections are inherently uncertain, particularly over long timeframes, and events will occur that cannot be anticipated in the report's assumptions. Moreover, fiscal policy at the State and Australian government level and intergovernmental financial arrangements will inevitably change over this period; some of these changes will be in response to the changing financial circumstances in these jurisdictions, while others will be due to external factors which, again, cannot be anticipated.

Past Tasmanian governments, and all governments across Australia, usually do not allow these pressures to accumulate over an extended period to the point where their finances are unsustainable. Corrective action will generally be taken to bring their budgets back in to balance. Key tasks for governments are identifying these fiscal pressures at an early stage, and then addressing the issues without a major loss of confidence on the part of businesses and consumers, and without major disruptions to government services and large scale redundancies.

The scope of activities considered in this report covers the Tasmanian State Government General Government Sector, as classified by the Australian Bureau of Statistics. It therefore excludes any assessment of the financial pressures that may be faced by the State's government businesses and statutory authorities. The report does not cover local government in Tasmania.

The primary data inputs used for this report include the Australian Bureau of Statistics *Government Finance Statistics* (Cat No 5512.0) publication and the *Revised Estimates Report 2015-16 (including December Quarterly Report)* prepared by the Tasmanian Department of Treasury and Finance.

Key measures

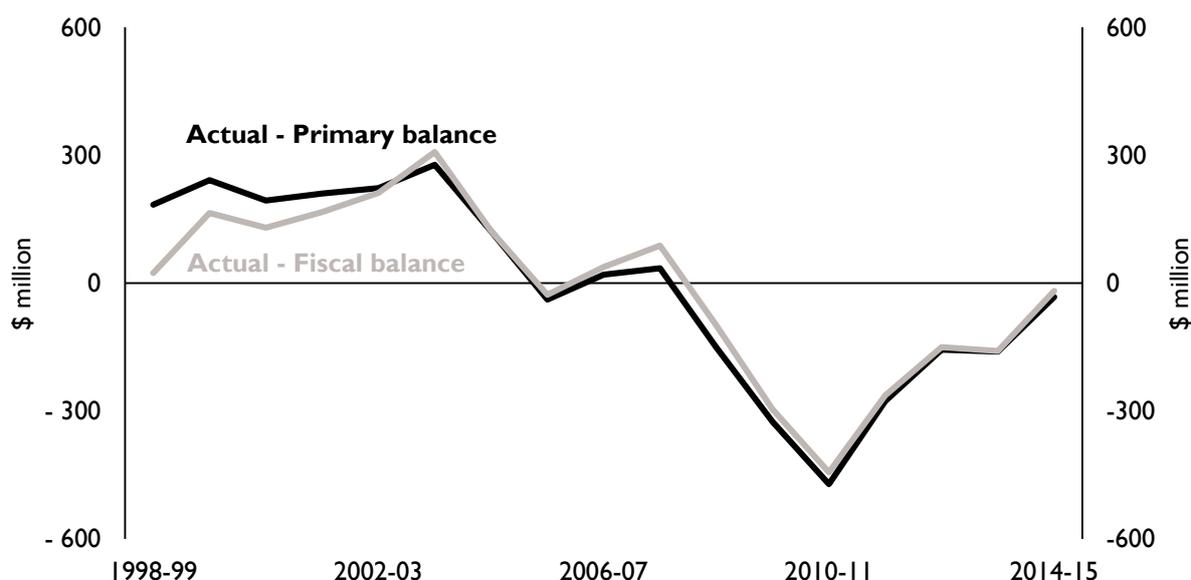
A key measure in the report is the primary balance and how this balance is projected to change between now and 2029-30. The primary balance is a measure of underlying fiscal pressure governments face each year. It includes most items of State Government's revenue and expenditure, both recurrent and net capital spending (allowing for depreciation) but does not include any interest earnings and borrowing costs. It therefore allows expenditure and revenue levels to be compared for any year without the outcome being influenced by interest payments or earnings as a result of earlier years of fiscal surpluses or deficits.

The primary balance for Australian jurisdictions can vary from year to year, becoming negative in years when there is a large decline in revenue, or major public investment or when public consumption expenditure increases by more than revenue. When governments face net interest costs, as a result of the accumulation of net debt, the primary balance tends to be positive, as jurisdictions allocate a share of their revenue to fund their interest costs, resulting in less expenditure than otherwise in other areas. This can occur over an extended period.

Australian governments have acted to prevent negative primary balances, and therefore the accumulation of debt, from occurring over an extended period. Equally, they have not allowed positive primary balances to build up over extended periods. Therefore, for Australian jurisdictions, the primary balance tends not to be strongly positive and increasing, or strongly negative and decreasing, for extended periods. Over the past two decades, the average primary balance, has been close to zero for most Australian jurisdictions.

Tasmania's primary balance since 1998-99 is shown in Chart I.1 below. The primary balance was in surplus until 2002-03, even though the General Government Sector had a high level of net debt. This is because net interest costs were high in those years, resulting in a smaller share of revenue being allocated to General Government expenditure in the other areas, which are the areas included in the primary balance.

Chart I.1: General Government primary balance estimates and fiscal balance: 1998-99 to 2014-15



Source: Calculations based on ABS, *Government Finance Statistics, Australia* (Cat No 5512.0).

In recent years Tasmania's primary balance has been very similar to the General Government fiscal balance, which also includes net capital spending (Chart 1.1). The gap in the years to 2002-03 is due to the high level of net interest costs in those years, which are included in the fiscal balance but not the primary balance. The primary balance is most useful as a guide to the sustainability of the State's finances when it is used prospectively, and from an initial position of a primary balance close to zero and low net interest costs. In 2014-15, the first year covered by this report, the General Government's primary balance was negative \$32 million, while interest income exceeded borrowing costs by \$4 million. Both measures were effectively close to zero in 2014-15 in the context of total General Government revenue and expenditure of around \$5 billion in that year.

The primary balance is not an established accounting measure, unlike the net operating balance and the fiscal balance that are the key measures used in financial reports relating to the State Government, including the State's Budget papers and the Treasurer's Annual Financial Reports.

This is because the primary balance omits interest-related revenue and expenditure. Further, the calculation of the primary balance excludes the nominal superannuation interest expense. Nominal interest is based on the concept that the superannuation liability is a form of internal "borrowing" on the part of the General Government from scheme members. This item is an imputed interest expense that is accrued on the State's superannuation liability and results in no cash transaction; that is, it does not lead to any General Government expenditure.

The primary balance concept is used by other jurisdictions, including the NSW and Australian governments, and also internationally, including the United Kingdom, in reports that have the same purpose as this report. The measure is generally preferred as it allows for structured analysis of emerging pressures, including demographic change. In its *2015 Intergenerational Report*, the Australian Government stated that the primary balance is an important measure of fiscal sustainability that reveals underlying spending pressures in a particular year.

It would be possible to prepare projections using the net operating balance or the fiscal balance. If there were no accumulation of positive or negative net debt, the primary balance would be very similar to the fiscal balance over any projection period. The problem that arises is that if, under any scenarios, there is a series of large fiscal deficits or surpluses, the overall fiscal outcome in later years is influenced by the impact of net interest costs or earnings. These tend to conceal the underlying drivers for the fiscal deficits or surpluses, such as weak revenue growth or increased recurrent spending. Furthermore, the results become very sensitive to assumptions on interest rates in these later years.

In addition, as discussed above, governments would not allow deficits to accumulate indefinitely. Equally, it is not plausible that they would allow surpluses to build up over an indefinite period. For these reasons, the primary balance is the key measure used in this report.

It is useful, however, to examine the extent to which the General Government's net debt would start to change, and particularly how interest costs would become an additional source of fiscal pressure, under the different scenarios if corrective action is not taken. This report therefore also provides projections of General Government net debt for all scenarios in Chapter 5. While the net debt projections extend to 2029-30, for the reasons outlined above, the results are most useful in the first few years for each scenario.

A summary of the various financial measures and indicators is provided below.

Table I.1: Summary of financial measures and indicators

Measure	Definition	Used for
Primary balance	The difference between the General Government revenue and expenditure (both recurrent and net capital), excluding interest earnings, borrowing costs and nominal superannuation interest expenses.	Shows the underlying fiscal pressure for each year, allowing for depreciation, without the legacy effects of earlier years of net debt or surplus.
Net operating balance	The difference between General Government revenue and expenditure, as defined by the Uniform Presentation Framework. It excludes capital expenditure, but includes nominal superannuation interest expenses.	Shows the costs of providing all government services.
Fiscal balance	The difference between General Government revenue and expenditure, after allowing for net capital expenditure and nominal superannuation interest expenses.	Shows whether a sufficient surplus is being generated by the operations of government to fund its capital expenditure needs.
Net debt	The difference between General Government borrowings and the sum of its cash, deposits and interest earning investments.	It is a measure used to assess the overall strength of a government's financial position. In cases when General Government expenditure exceeds revenue, it shows the extent to which the State's financial position may further deteriorate if early corrective action is not taken.

Source: Tasmanian Treasury.

Fiscal scenarios projected

Four scenarios have been selected to examine the level of fiscal pressure the State may face and to identify any emerging issues. These scenarios are not designed to provide extreme outcomes. However, they do provide a guide to the range of possible outcomes that future governments could face. As discussed above, the results are projections and not forecasts.

Scenario 1 – Continuation of recent trends

From 2014-15, almost all components of the State Government's revenue and recurrent expenditure are projected to grow at the same average growth rates as over the past 10 years. These past trends have been influenced by Tasmania's economic performance over this period and by changes in Tasmania's demographics, including population ageing. This scenario therefore includes, at least in part, anticipated future trends in Tasmania's population. Revenue growth for Tasmania was relatively strong over the past decade. Under this scenario, it is assumed that future national and Tasmanian economic conditions, and decisions of the Australian Government, enable this revenue to continue to grow at this high rate, and future Tasmanian governments respond by increasing their expenditure at the same average rate as over the past decade.

The exception to using past trends is for expenditure relating to the State's future superannuation costs relating to defined benefit schemes. In this scenario, and in all others, the projected annual expenditure is taken from the most recent actuarial report as used for the *Revised Estimates Report 2015-16*. See Attachment 2 for more details.

This scenario, and all others, includes net capital expenditure (the purchase of capital assets less the sale of capital assets and depreciation).

Scenario 2 – Medium growth following the Forward Estimates period

Under this Scenario, components of State Government's revenue and expenditure are projected to change as set out in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19). After 2018-19, rates of growth in the components of revenue are based on assumptions of the State's population growth and economic growth. For example, state taxation revenue is assumed to grow at the projected rate of growth of nominal gross state product, which is consistent with recent trends. Population projections have been prepared for this scenario, using demographic assumptions that are very similar to those used for the medium series projection prepared by the Department of Treasury and Finance in 2014.

For Australian Government funding flows after 2018-19, projections of GST revenue growth have been developed, based on trends since 2008-09 (see Attachment 1 for further details on the methodology). The projections for other Australian Government transfers include the impact of changes to indexation arrangements for some Special Purpose Payments announced in the Australian Government's *2014-15 Budget*.

Expenditure projections after 2018-19 reflect the underlying demand for government services and the cost of providing these services, based on past trends and including the impact of lower expenditure growth over the Forward Estimates period. Projected spending on health, and also for social security and welfare, take into account demographic change trends. For example, for each year to 2029-30, the health expenditure projection is influenced by the projected number of people at each age and an estimate of the average level of State Government expenditure on health services per person of that age.

Scenario 3 – High growth following the Forward Estimates period

As with Scenario 2, revenue and expenditure projections reflect the Forward Estimates in the *Revised Estimates Report 2015-16*. From then, Tasmania's economic growth is projected to grow at a higher rate than under Scenario 2. Specifically, Tasmania's annual economic growth is projected to be around one percentage point higher than under Scenario 2 due to higher assumed productivity growth, employment levels and average hours worked. These high growth assumptions influence the projections of State Government revenue and expenditure growth.

Higher growth population projections have also been developed, based on the high series projections prepared by the Department of Treasury and Finance in 2014. The average growth rate of total population through 2029-30 is around twice the rate in Scenario 2. Under this projection, Tasmania's population, if extended to 2049-50, reaches a level close to 650 000 persons by 2050, which is the target population level under the State Government's Population Strategy, released in September 2015. The higher growth population projections also influence State Government expenditure growth and the State's share of GST payments.

Scenario 4 – Forward Estimates trend

Under this scenario, all components of General Government revenue are projected to change as set out in the *Revised Estimates Report 2015-16* through to 2018-19, and then increase annually to 2029-30 at the average annual growth rate for all revenue over the Forward Estimates period. The same approach is adopted for recurrent expenditure.

The effect of this approach is that the shares of the components of General Government revenue and recurrent expenditure are unchanged after 2018-19. The past trend of health expenditure increasing as a share of total recurrent expenditure does therefore not continue under this scenario.

Revenue growth in Tasmania over the Forward Estimates period is relatively low, compared to the average growth rates of the past decade, and this trend therefore continues to 2029-30. It is assumed that future Tasmanian governments respond by maintaining very low expenditure growth.

The methodology for each of these scenarios is described in more detail in Attachment I.

Table 1.2: Summary of Scenarios

Scenario	Demographic change	Revenue	Expenditure
Scenario 1 Extrapolation based on historical trends	Demographic trends are reflected in past trends in expenditure and revenue.	Based on 10-year historical growth rates after 2014-15.	Based on 10-year historical growth rates after 2014-15.
Scenario 2 Modelled projections following the <i>Revised Estimates Report 2015-16</i> for the Forward Estimates period – medium growth case	Based on medium growth population projections prepared by Tasmanian Treasury.	After the FE period, based on economic and demographic projections that largely reflect recent trends.	After the FE period, estimates are based on past trends, expenditure trends over the FE period and medium growth economic and demographic projections.
Scenario 3 Modelled projections following the <i>Revised Estimates Report 2015-16</i> for the Forward Estimates period – high growth case	Based on high growth population projections prepared by Tasmanian Treasury.	After the FE period, based on higher economic growth, including higher population growth.	After the FE period, estimates are based on past trends, expenditure trends over the FE period and high growth economic and demographic projections.
Scenario 4 Extension of the Forward Estimates trends	No additional adjustment for demographic change.	After the FE period, determined by the average change in total revenue over the FE period.	After the FE period, determined by the average change in total recurrent expenditure over the FE period.

Source: Tasmanian Treasury.

2 Economic and demographic projections

A key assumption in the report is that, in the long-term, economic activity in an economy will be determined by the “three Ps” – population, participation and productivity. This framework has been used by the Australian, New South Wales, New Zealand and United Kingdom governments in their long-term fiscal reports.

The basis for this approach is:

- population growth and age composition determines the future population aged 15 years and over;
- the participation rate of the population aged 15 years and over (combined with the unemployment rate and average hours worked for those employed) determines labour used in production; and
- the quantity of labour used in production, and the level of labour productivity, determines real GSP.

Long-term economic growth is therefore determined by changes in the size and composition of the State’s population, changes in the availability of labour supply and labour productivity growth. This is consistent with the view that, over the long run, economic growth is limited by the capacity of the economy.

The State’s future population growth and economic growth influence General Government expenditure and revenue projections in Scenario 2 and Scenario 3. For Scenario 1, all projections of the State Government’s revenue and expenditure reflect historical trends, while for Scenario 4, the revenue and expenditure projections extend those in the Forward Estimates. Neither of these scenarios therefore require projections of population growth or economic growth to develop projections of future revenue or expenditure.

The sections below set out the key assumptions for population, participation and productivity. Further detail about the methodology used can be found in Attachment 1.

Population projections

Two features of Tasmania’s population, compared to other states and territories, are its slow growth rate and its high rate of ageing. The median age in Tasmania was 41 years 11 months as at 30 June 2015, significantly higher than the national median age of 37 years 5 months. Tasmania’s average population growth rate over the past decade was 0.65 per cent, the lowest of all states and territories and well below the national average growth rate of 1.63 per cent. This low growth rate is principally due to high rates of net out-migration of those aged between 20 and 35 years.

Tasmania has the highest share of its population aged 65 years and over of any Australian jurisdiction. The rate of ageing in Tasmania is increasing, a trend that is likely to continue until around 2025. This is due to a number of factors such as increased longevity (brought about by improvements in health care and medical technology), a declining fertility rate (resulting from factors such as changing attitudes due, in part, to increased participation by females in education and improved opportunities in the workplace) and high rates of interstate out-migration by young adults.

Tasmania’s population growth rate to 2018-19 is assumed to follow the forecasts and estimates in the *Revised Estimates Report 2015-16*. Population projections have been prepared for the remainder of the projection period.

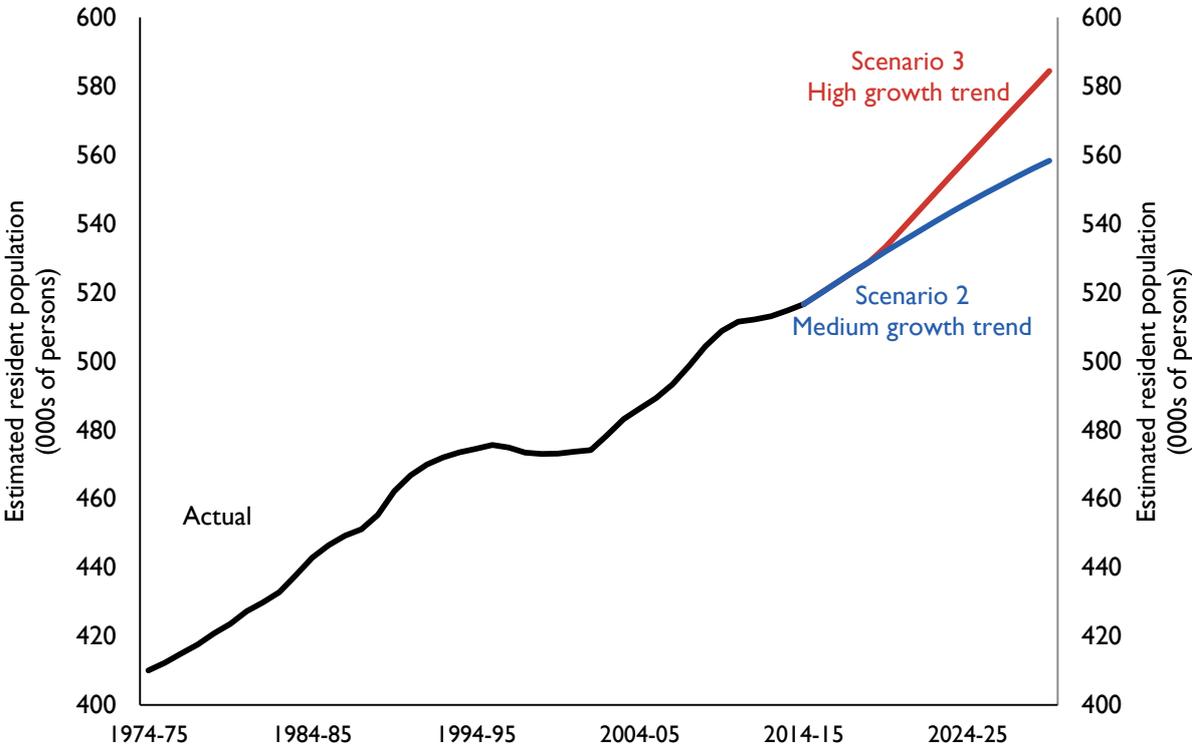
For Scenario 2, the population projections are based on the same assumptions for fertility rates, mortality rates and interstate and overseas migration that were used for the medium series projections prepared by the Department of Treasury and Finance in 2014. The assumptions are similar to trends in the past decade.

Tasmania’s estimated resident population in the June quarter 2015 was 516 630 persons. By June 2030, Tasmania’s population is projected to be around 558 300 persons under Scenario 2, with an average growth rate of almost 0.5 per cent per year. While this growth rate is close to Tasmania’s long-term average, the growth rate in labour supply is projected to be lower than the long-term average due to a faster projected rate of population ageing.

For Scenario 3, demographic assumptions used are those used for the high series projections prepared by Treasury in 2014, with higher assumed rates of fertility, increased longevity and higher levels of net in-migration from interstate and overseas, Tasmania’s population would increase by around 0.9 per cent per year, on average, to 2029-30. Tasmania’s population reaches around 584 400 persons by June 2030, around 26 000 persons or 4.7 per cent above the level under Scenario 2 (Chart 2.1). If this scenario were extended through to 2050, Tasmania’s population would be a little higher than the Tasmanian Government’s population target of 650 000 persons for that year.

Further details of the population projections, including the assumptions, are provided in Attachment I.

Chart 2.1: Tasmania’s population, actual and projected, 1975 to 2030

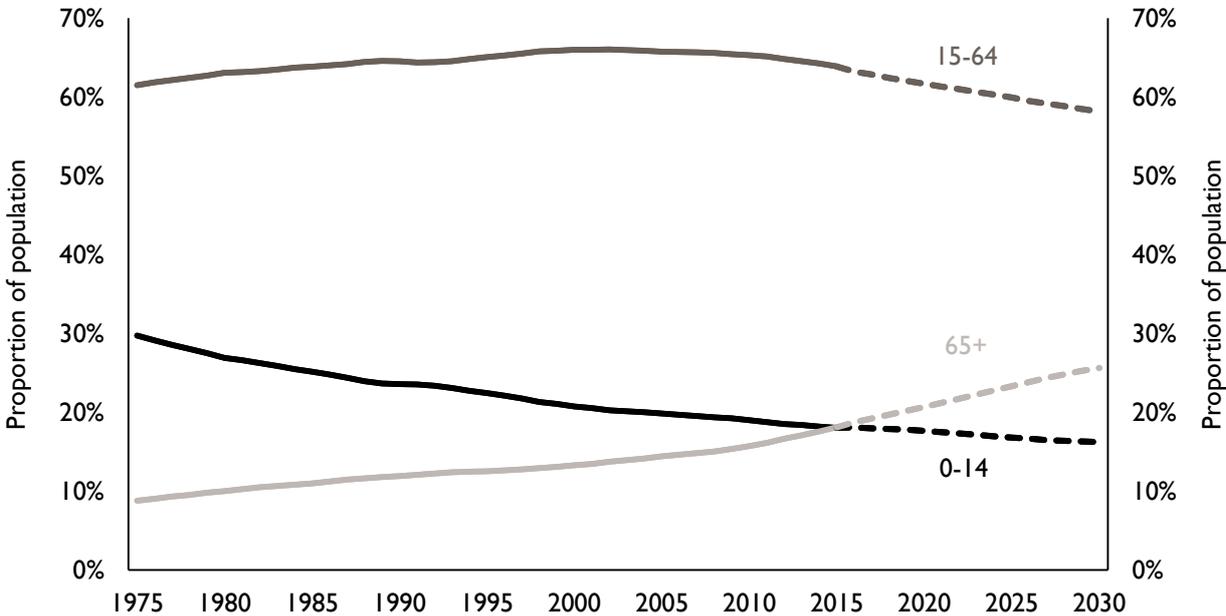


Source: ABS, *Australian Demographic Statistics*, (Cat No 3101.0); Tasmanian Treasury.

The share of Tasmania’s population classed as of working age (15-64 years) declines under the Scenario 2 projections (Chart 2.2). This exerts a contractionary effect on the State’s potential economic growth.

The share of those aged under 15 years also declines, which allows for a reduction in the share of government spending on services provided to those in this age group, notably education but also some health and community care services. The greater change is the increase in those aged 65 years and over, from 17.6 per cent of the population in June 2015 to 25.6 per cent by 2029-30. This leads to increased demand for health services, including acute hospital care, and also for community care services.

Chart 2.2: Changing age composition of Tasmania’s population over time (Scenario 2 projections)



Source: ABS, *Australian Demographic Statistics*, (Cat No 3101.0); Tasmanian Treasury.

Almost identical trends in the changes in population shares are observed under the Scenario 3 projections (Table 2.1). According to these projections, a greater rate of population growth has very little impact on the rate of population ageing. This is consistent with other sets of projections prepared by the Department of Treasury and Finance and the Australian Bureau of Statistics.

Table 2.1: Age composition of Tasmania’s population (percentage of total per age group)

		0-14	15-64	65+
30 June 2015	Actual	18.0	63.9	18.1
30 June 2030	Scenario 2	16.2	58.2	25.6
30 June 2030	Scenario 3*	15.9	58.4	25.6

*Does not sum to 100 per cent due to rounding.

Source: ABS, *Australian Demographic Statistics*, (Cat No 3101.0); Tasmanian Treasury.

Unless Tasmania is able to sustain the higher rate of population growth by attracting ever increasing numbers of young persons from interstate or overseas, the demographic changes in Tasmania are likely to be largely independent of the rate of population growth. This allows reliable estimates to be made of the rate of ageing in Tasmania, especially as almost all those who will enter the 65 years plus age class are already residents in Tasmania and age-specific mortality rates and out-migration rates tend to be very stable.

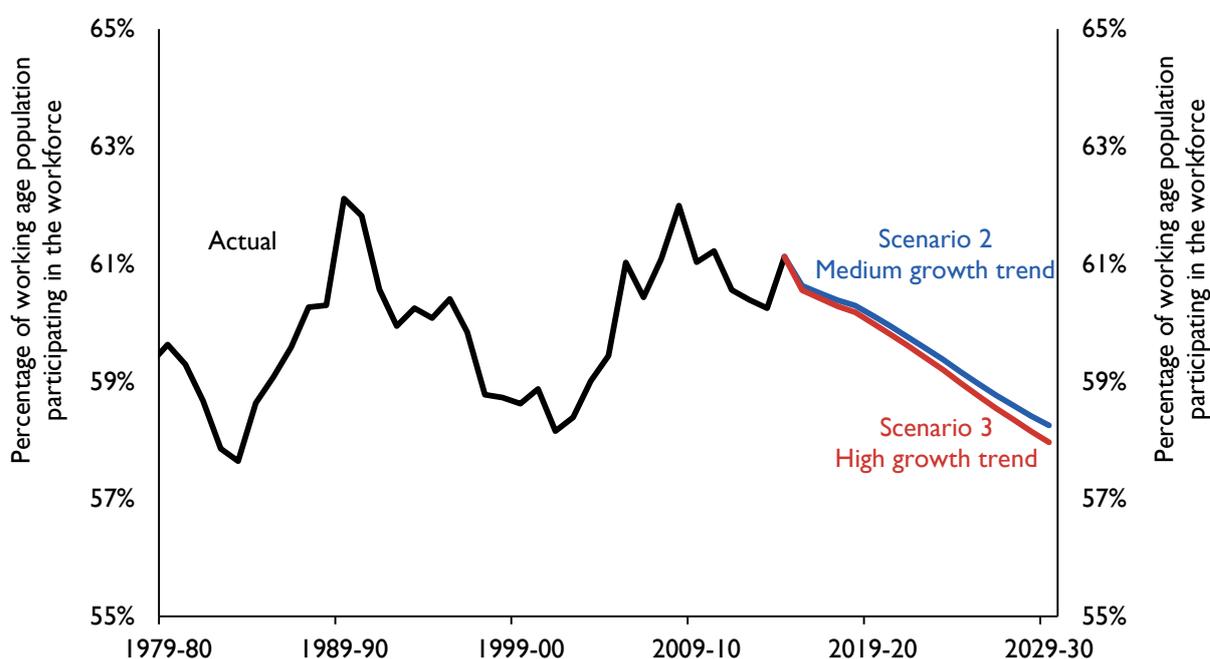
Labour Participation rate

Overall participation trends in the labour market reflect changes in the share of the population in the different age classes and changes in labour market behaviour of males and females within these age classes. Population ageing has a contractionary effect on labour market participation as it leads to an increasing share of the adult population in the older age classes where participation rates are lower. Against this, however, is the generally positive effect on participation of changes in social attitudes, educational levels, physical health and employment opportunities. As an example, compared to earlier generations, those born between 1965 and 1981 have, on average, higher levels of education, lower fertility rates and face higher costs of housing. They can also expect greater longevity. This has led to increased age-specific labour market participation rates, especially for females and those aged 55 years and over.

Over the past decade, these opposing forces have largely offset each other, with no discernible trend in the overall participation rate.

The projected participation rates have been developed, based on an approach developed by the Productivity Commission, by assuming that these trends will continue for the different cohorts by age and gender, though not necessarily at the same rate (Chart 2.3). This assumes no significant new social or economic influences that alter the decisions of individuals to participate, or not participate, in the labour market.

Chart 2.3: Tasmania's participation rate, actual and projected



Source: ABS, *Labour Force, Australia*, (Cat No 6202.0); Tasmanian Treasury.

This modelling indicates that the downward pressure on overall labour market participation due to Tasmania's population ageing will no longer be fully offset by the increasing age-specific participation rates. This is due, in part, to the expected increase in the rate of population ageing. It is also driven by the assumption that the rate of increase in the age-specific participation rates will ease over time and all participation rates will ultimately reach a maximum and then be unchanged.

Tasmania's participation rate is projected to fall from 61.1 per cent in 2014-15 to 58.3 per cent in 2029-30 in Scenario 2 and to 58.0 per cent in Scenario 3. The marginally greater fall under Scenario 3 is due to increased longevity resulting in a slightly different population profile with a larger share of persons in the very old age classes where participation is much lower.

Productivity

Productivity is defined as the value of real gross domestic product (GDP) or gross state product (GSP) per hour worked. Nationally, average annual labour productivity growth over the last 30 years has been 1.6 per cent according to the ABS. Productivity growth has two components, an increase in the efficiency of production, namely more goods or services per units of input, and an increase in the average value of goods and services produced.

The ABS does not publish productivity data for Tasmania, though a series can be derived from the hours worked and GSP data. Since 1990-91, Tasmanian and national labour productivity have grown at similar rates.

Under Scenario 2, it is assumed that Tasmania's productivity growth will remain in line with national productivity growth (1.6 per cent a year).

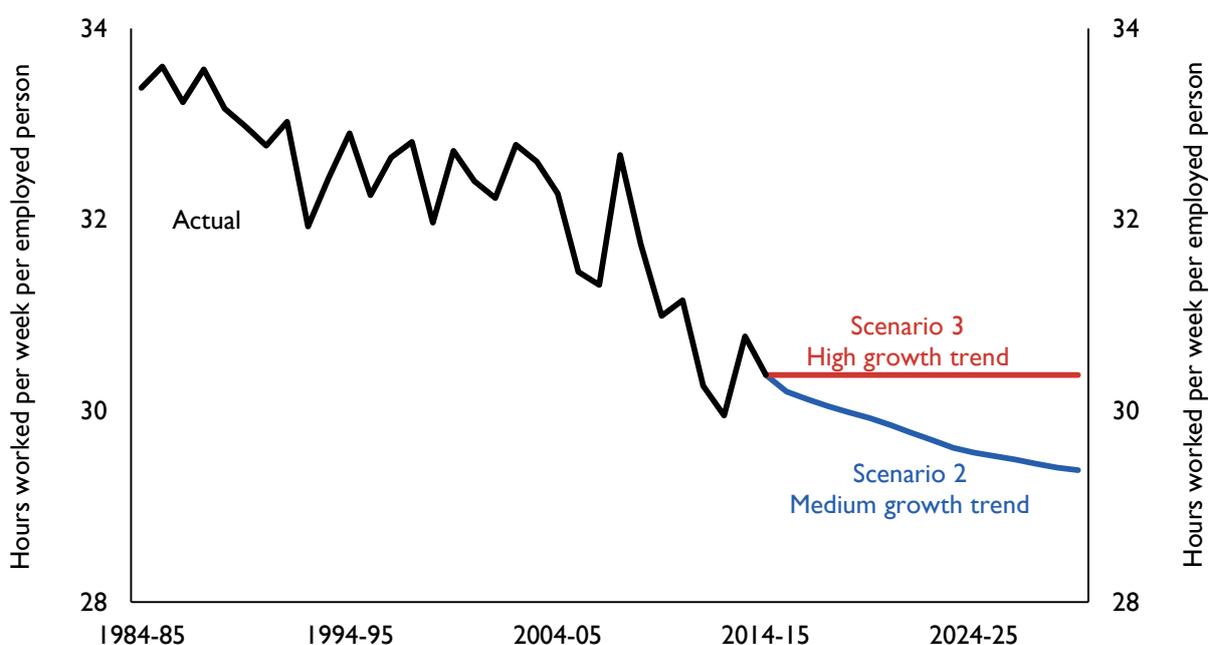
Under Scenario 3, the high growth scenario, it is assumed that Tasmania's productivity growth increases to 2 per cent per year. This could be achieved through greater progress in the efficiency of production and by an increased shift towards higher value production.

Other economic parameters

For Scenario 2, Tasmania's long run unemployment rate is projected to be 6.5 per cent, consistent with the Tasmanian long-term average. Under Scenario 3, the unemployment rate is projected to decrease to 5.7 per cent by 2029-30.

Average weekly hours worked per week in Scenario 2 are projected to fall from 30.4 hours in 2014-15 to 29.4 hours in 2029-30 (or by an average of 0.2 per cent per year). This is broadly consistent with the decline in average hours worked in recent decades. Scenario 3 assumes that average weekly hours worked remain at the current level of 30.4 hours over the projection period (Chart 2.4). This is still likely to be below average weekly hours worked for Australia over the projection period; in 2014-15, the national average was 32.2 hours worked per week.

Chart 2.4: Tasmania's average hours worked, actual and projected



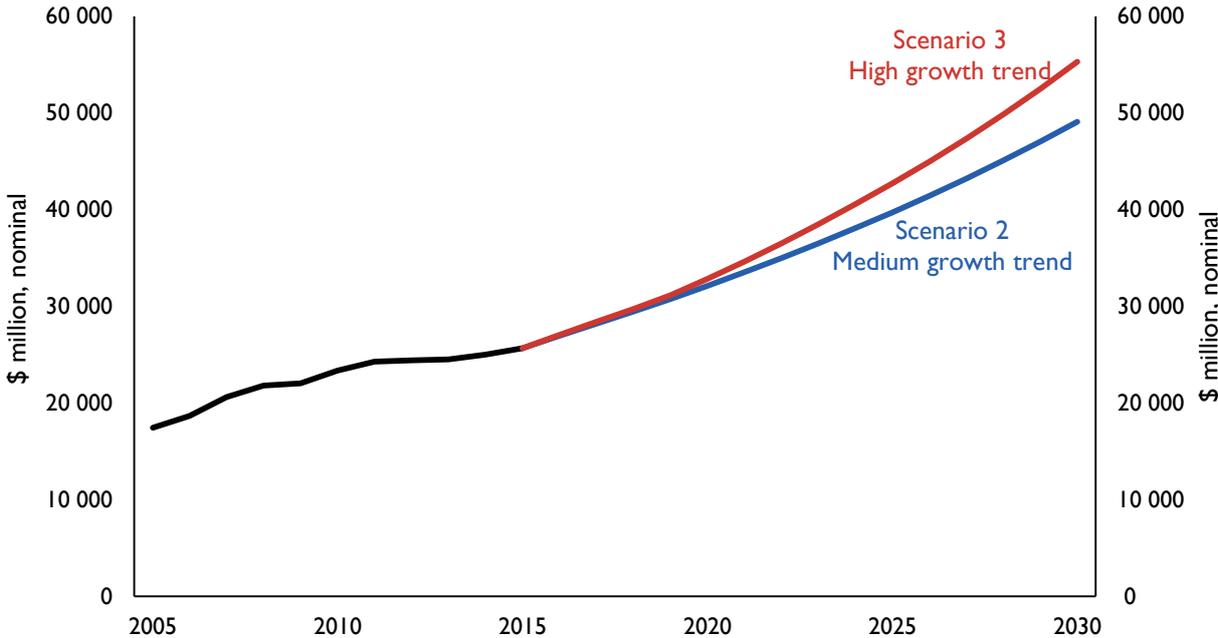
Source: ABS, *Labour Force, Australia, Detailed*, (Cat No 6291.0); Tasmanian Treasury.

Inflation in Tasmania is assumed to increase at 2.5 per cent, the middle of the Reserve Bank of Australia’s medium-term inflation target range of between two and three per cent. It is assumed, consistent with the long-term trend, that the rate of growth of nominal GSP exceeds the rate of growth of real GSP by CPI growth.

Gross State Product

Tasmania’s economic growth is projected to follow the profile projected in the *Revised Estimates Report 2015-16 to 2018-19*, after which it is determined by the population, participation and productivity projections described above, together with assumptions on unemployment rates and average hours worked (Chart 2.5).

Chart 2.5: Tasmania’s nominal GSP, actual, Forward Estimates and projections



Source: ABS, *Australian National Accounts: State Accounts*, Cat No 5220.0; Tasmanian Treasury.

Tasmania’s nominal GSP is projected to increase from \$25 700 million in 2014-15 to \$49 100 million in 2029-30 at an average growth rate of 4.3 per cent in Scenario 2. This is very close to Tasmania’s average long-term growth rate.

Under Scenario 3, Tasmania’s nominal GSP is projected to increase to \$55 300 million in 2029-30 at an average growth rate of 5.3 per cent, which is very similar to the long-term average GDP growth rate for Australia.

3 General Government revenue

General Government revenue sources in Tasmania are:

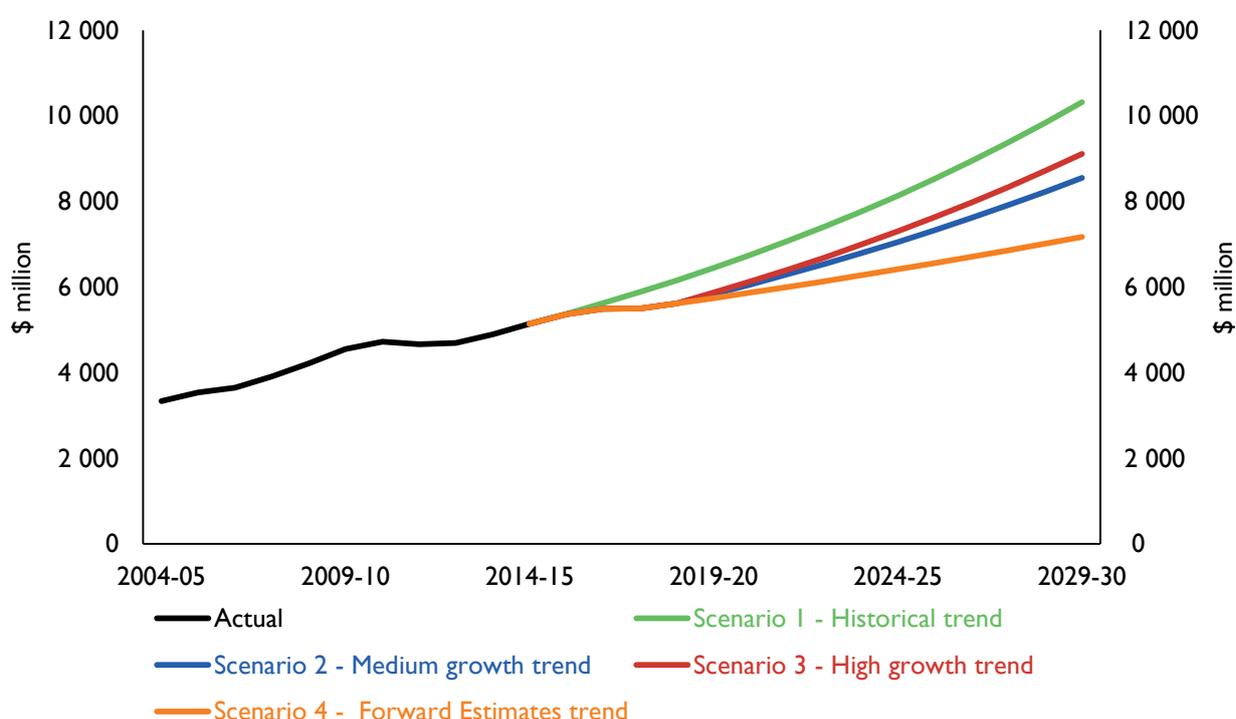
- the Goods and Services Tax;
- other Australian Government transfers (which includes special purpose payments and national partnership payments);
- state taxation;
- sales of goods and services;
- other revenue (which includes dividends and other returns from government businesses, fines and royalties); and
- interest income.

All these General Government revenue components, except interest income, are included in the four scenarios. For Scenario 1, these revenue projections commence after the most recent year of actual data (2014-15). For the other scenarios, the projections commence after the Forward Estimates period, from 2019-20. All scenarios assume no new taxes and no increases in tax rates in Tasmania.

Total General Government revenue trends

Tasmanian General Government revenue (including interest revenue) grew from \$3.4 billion in 2004-05 to \$5.2 billion in 2014-15. The estimated average annual growth rate over this period, for the purpose of preparing the projections, was 4.4 per cent. This revenue growth and the projections to 2029-30 (excluding interest costs), are presented in Chart 3.1.

Chart 3.1: Total revenue, Tasmania, actual and projected 2004-05 to 2029-30



Source: ABS, *Government Finance Statistics, Australia* (Cat No 5512.0); Tasmanian Treasury.

General Government revenue is projected to grow at different rates under the four scenarios.

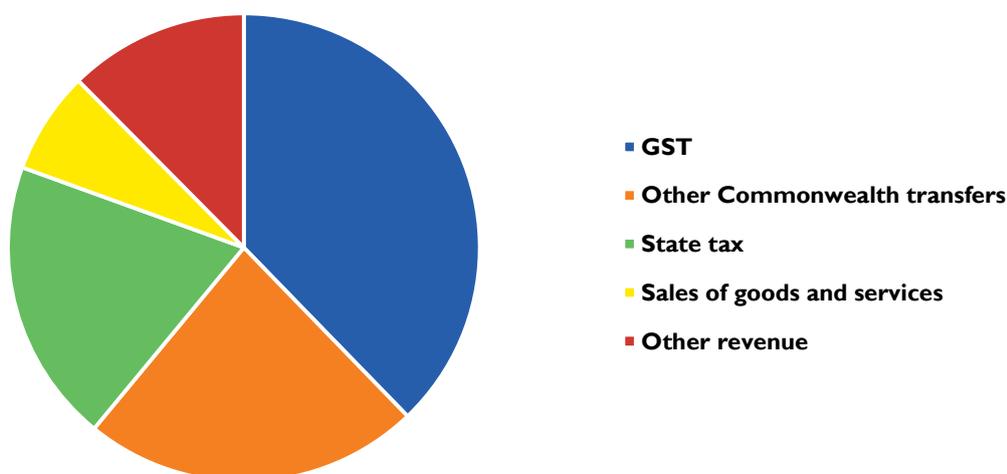
- Under Scenario 1, revenue grows at an average rate of 4.8 per cent over the projection period, reaching \$10.3 billion by 2029-30. This average growth rate is greater than the estimated average over the previous decade due to the particularly strong rate of growth in other revenue. Revenue growth is strongest under this scenario.
- Under Scenario 2, revenue increases at an average growth rate of 3.9 per cent after the Forward Estimates period, to reach \$8.6 billion by 2029-30.
- Under Scenario 3, revenue is stronger than in Scenario 2 due to the State's stronger economic growth; revenue grows at an average rate of 4.5 per cent after the Forward Estimates period, to \$9.1 billion in 2029-30.
- Under Scenario 4, where the trends in the Forward Estimates continue over the projection period, revenue increases by an average 2.2 per cent to 2029-30, reaching \$7.2 billion.

Components of revenue

The section below discusses the results for the components of revenue for each scenario, including their contribution to the State's total revenue.

In 2014-15, around 61 per cent of the State's total revenue was from Australian Government transfers, comprising GST (38 per cent) and other transfers such as special purpose payments and national partnerships (23 per cent). Of Tasmania's own-source revenue, state taxation accounted for 20 per cent, sales of goods and services account for 7 per cent and other revenues made up the remaining 12 per cent of total revenue (Chart 3.2).

Chart 3.2: Components of revenue as a share of total revenue in 2014-15, excluding interest earnings



Source: Calculations based on ABS, *Government Finance Statistics, Australia* (Cat No 5512.0).

Tasmania relies more on the GST than most other states and territories due to a lower capacity to raise revenue, greater underlying demand for government services relative to its population size, and higher costs of delivering those services.

In 2004-05, the share of GST as a percentage of total revenue was 43 per cent; this fell to 38 per cent by 2014-15. From around 2005-06, households increased their savings rates and also allocated a greater share of their spending on non-GST goods and services. This resulted in a downward revision of future GST revenues, which adversely affected Tasmania’s fiscal position, compounded by weaker own source taxation revenue growth following the global economic downturn.

Compared to most other jurisdictions, Australian Government funding flows (which include GST payments) make up a much larger proportion of total State revenue in Tasmania (Chart 3.3).

Chart 3.3: Australian Government transfers as a percentage of total state revenue, states and territories, average between 2011-12 and 2013-14 (per cent)



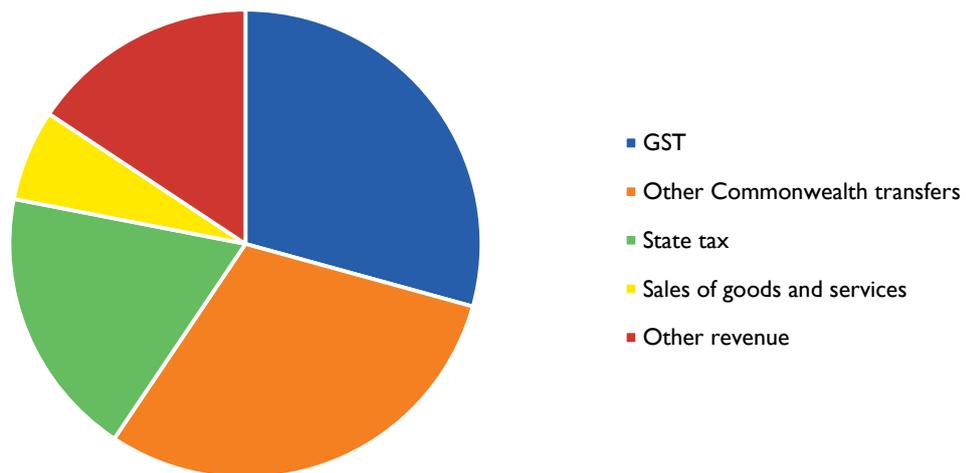
Source: ABS, *Government Finance Statistics, Australia* (Cat No 5512.0).

Scenario I – Continuation of recent trends

If trends from the past decade continue, GST is projected to increase at an average annual rate of 3 per cent after 2014-15 which results in a declining share of the State’s revenue, falling from 38 per cent in 2014-15 to 29 per cent by 2029-30. This is almost offset by an increase in other Australian Government transfers from 23 per cent to 30 per cent. The share of other revenue increases from 12 per cent to 16 per cent over this period, while the share of revenue from state taxation falls marginally to 19 per cent (Chart 3.4).

The strong growth in other revenue is due to the trend of higher levels of this revenue class towards the end of the past decade, influenced by factors such as the strong dividends from Hydro Tasmania from the then carbon price.

Chart 3.4: Components of revenue as shares of total Tasmanian General Government revenue in 2029-30: Scenario 1



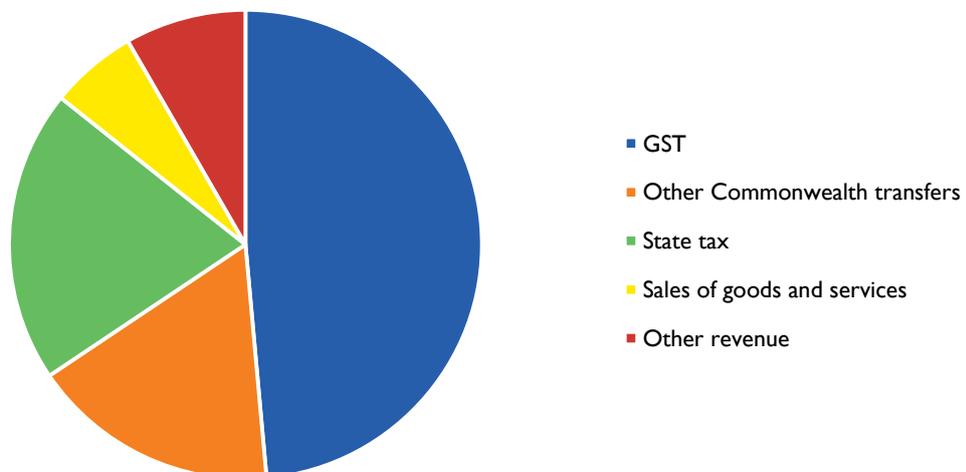
Source: Tasmanian Treasury.

Scenario 2 – Medium growth scenario following the Forward Estimates period

Australian Government transfers grow from 61 per cent to 66 per cent of total revenue (Chart 3.5). GST increases at an annual average rate of 4.6 per cent after 2018-19, which results in the share of GST increasing from 38 per cent to 48 per cent. The share of other Australian Government transfers decreases from 23 per cent to 17 per cent, due largely to changes to indexation arrangements for some special purpose payments announced in the Australian Government’s 2014-15 Budget, which lowers the growth in revenue from these payments.

The share of “other” revenue decreases from 12 per cent to 8 per cent and the share from State taxation remains at around 20 per cent.

Chart 3.5: Components of revenue as shares of total Tasmanian General Government revenue in 2029-30: Scenario 2



Source: Tasmanian Treasury.

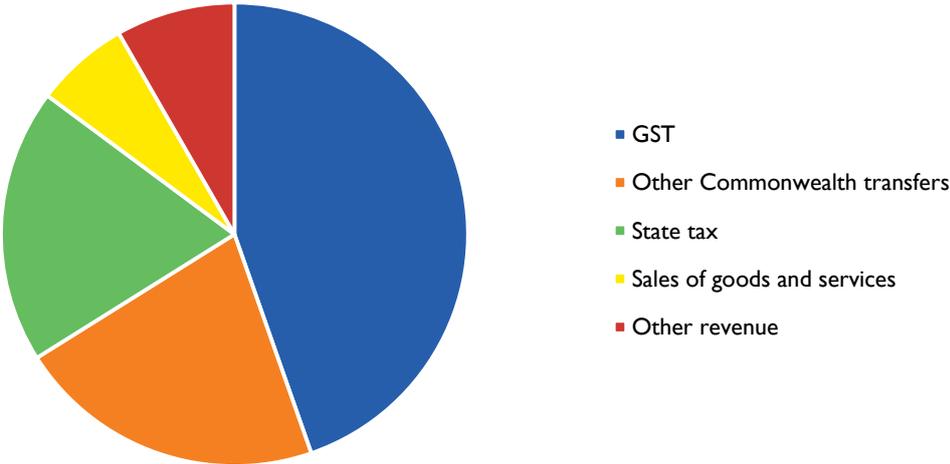
Scenario 3 – High growth scenario following the Forward Estimates period

Each component of revenue is projected to be higher in dollar terms as a result of stronger economic and population growth. However, the share of each component of revenue is not significantly different from Scenario 2. In the case of the State’s GST revenue, the positive impact of stronger population growth is projected to increase GST at an average rate of 5.1 per cent after 2018-19. Despite this, the share of total revenue accounted for by GST is marginally below the share in Scenario 2, due to the relatively stronger growth rates for the other sources of revenue.

Scenario 4 – Forward Estimates trend

The share of revenue from Australian Government transfers increases from 61 to 66 per cent by 2018-19 (Chart 3.6) due to the strong growth in these transfers projected over the Forward Estimates period and this share is maintained through to 2029-30.

Chart 3.6: Components of revenue as shares of total Tasmanian General Government revenue in 2029-30: Scenario 4



Source: Tasmanian Treasury.

4 General Government expenditure

General Government expenditure in Tasmania can be categorised as set out below:

- health;
- education;
- public order and safety;
- social security and welfare;
- other expenditure on government services (for example, housing, recreation and tourism, economic development, primary industries and the environment);
- defined benefit scheme superannuation costs;
- capital expenditure; and
- borrowing costs.

All components except borrowing costs have been included in the expenditure projections, which are estimated on an accrual basis and include superannuation costs for current Government employees in accumulation schemes. For capital expenditure, there is allowance for depreciation and the sale of non-financial assets, such that net capital expenditure is projected.

As with the revenue projections, for Scenario 1 the expenditure projections commence after 2014-15, while for the other scenarios they commence after 2018-19.

The exception to using past trends is for expenditure relating to the State's future superannuation liabilities for its defined benefit schemes. In all scenarios, the projected annual expenditure is taken from projections prepared by the State's actuary at the time of the *Revised Estimates Report 2015-16*.

Total recurrent expenditure

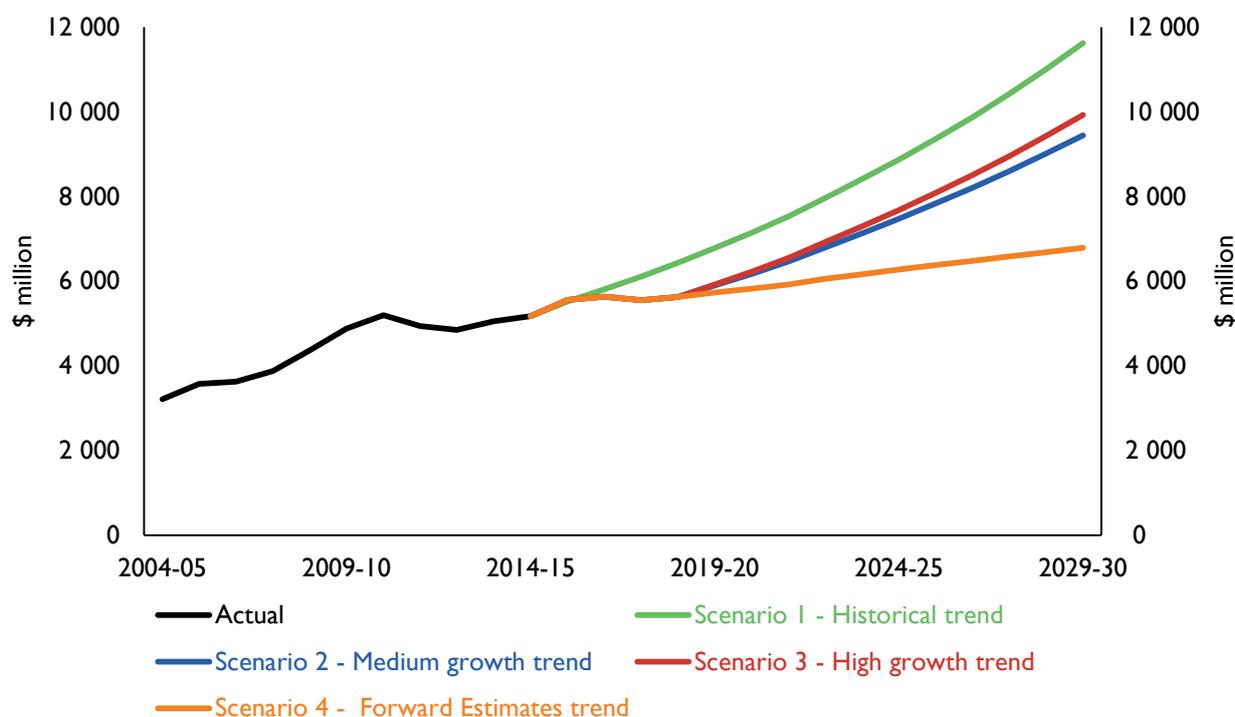
State Government recurrent expenditure (including interest costs) grew from \$3.2 billion in 2004-05 to \$5.2 billion in 2014-15. The estimated average annual growth rate over this period, for the purpose of preparing the projections, was 5.4 per cent. This is a much greater rate of increase than the growth in revenue of 4.4 per cent over this period.

Each scenario projects different profiles of recurrent expenditure (Chart 4.1).

- In Scenario 1, total recurrent expenditure increases at an average rate of 5.4 per cent over the entire projection period, reaching \$11.5 billion in 2029-30. This compares with average revenue growth of 4.8 per cent over this period.
- Scenario 2 presents a more modest recurrent expenditure profile, increasing at an average growth rate of 4.8 per cent after the Forward Estimates period to \$9.3 billion by 2029-30. This is above the average revenue growth rate of 3.9 per cent under this scenario.

- Under Scenario 3, recurrent expenditure growth is a little higher, reflecting the impact of greater population growth and economic growth, increasing at an average growth rate of 5.3 per cent after the Forward Estimates period to \$9.8 billion in 2029-30. Again, this exceeds the average revenue growth rate of 4.5 per cent under Scenario 3.
- Scenario 4 extends the modest growth in expenditure of the Forward Estimates period, resulting in recurrent expenditure increasing at an average growth rate of 1.7 per cent after the Forward Estimates period to \$6.7 billion in 2029-30. This is lower than the average growth rate for revenue after the Forward Estimates period of 2.2 per cent.

Chart 4.1: Total recurrent expenditure, actual and projected, Tasmania 2004-05 to 2029-30



Source: Calculations based on ABS, *Government Finance Statistics, Australia* (Cat No 5512.0); Tasmanian Treasury.

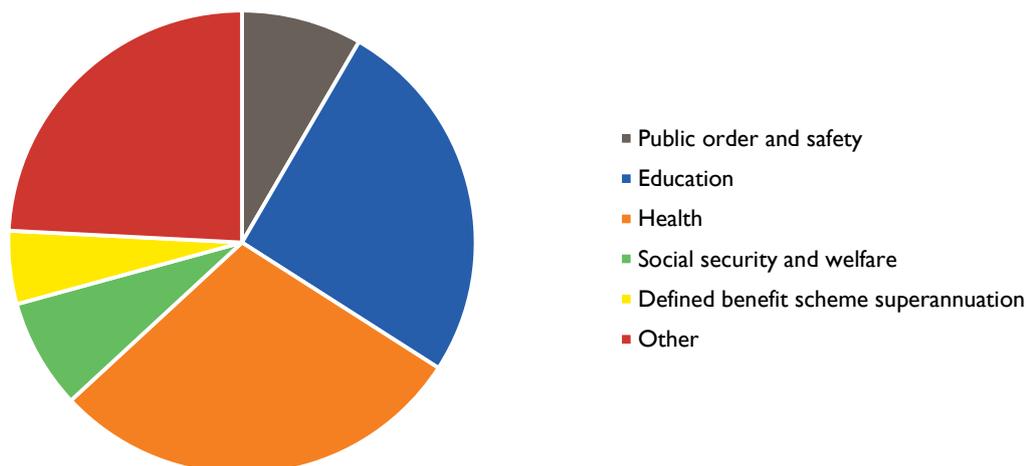
Components of recurrent expenditure

In 2014-15, health expenditure was the largest component of total recurrent expenditure at 29 per cent (Chart 4.2) followed by education expenditure, accounting for 26 per cent.

Most State and Territory governments across Australia have been under increasing fiscal pressure from the increasing demand and rising costs of public services. The cost to the Tasmanian Government of health services, in particular, has been increasing at a much greater rate than most other costs. In 2004-05, health spending accounted for around 23 per cent only of General Government expenditure in Tasmania; the share has therefore increased by almost one quarter over the past decade.

The share allocated to social security and welfare also increased from 6.2 per cent in 2004-05 to 7.6 per cent in 2014-15. There was a much smaller increase in the share allocated to education over this period, from 24.9 per cent to 25.8 per cent.

Chart 4.2: Components of expenditure in Tasmania as a share of total recurrent expenditure, excluding interest costs, 2014-15



Source: ABS, *Government Finance Statistics, Australia* (Cat No 5512.0).

The average annual increase in health spending between 2004-05 and 2014-15 was 7.6 per cent, almost three percentage points higher than the growth in all other areas of recurrent expenditure. As a result, health spending, as a share of total recurrent expenditure, is greater in Tasmania at 29 per cent compared to the national average for all states and territories of around 28 per cent.

The cost to the State Government of social security and welfare services has also been increasing at a greater rate than most other costs over the past decade due to higher demand. In 2014-15, social security and welfare services accounted for around 8 per cent of General Government expenditure in Tasmania, up from around 6 per cent in 2004-05. The average annual increase in social security and welfare spending over this period was 7.3 per cent.

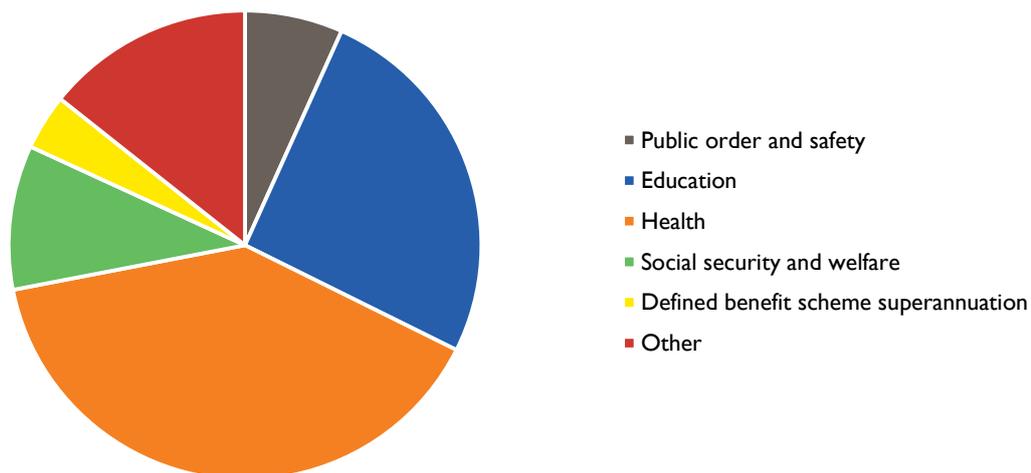
Further demands on public spending in the health care and community services sector are inevitable, reasons for which include Tasmania's ageing population and the future costs of the National Disability Insurance Scheme. In a range of other areas there are also demands for more and improved government services.

Scenario I – Continuation of recent trends

Based on past trends, the share of health expenditure increases from 29 per cent in 2014-15 to 40 per cent by 2029-30 (Chart 4.3), due to its much faster growth rate than other expenditure items. This very strong increase in health costs is the primary reason for the much higher level of total recurrent expenditure under Scenario I.

Similarly, the share of expenditure on social security and welfare services increases from 8 per cent to 10 per cent, while the share of expenditure on education remains around the same as in 2014-15. The shares of all other recurrent expenditure components decline.

Chart 4.3: Components of expenditure as shares of total Tasmanian General Government recurrent expenditure in 2029-30: Scenario 1



Source: Tasmanian Treasury.

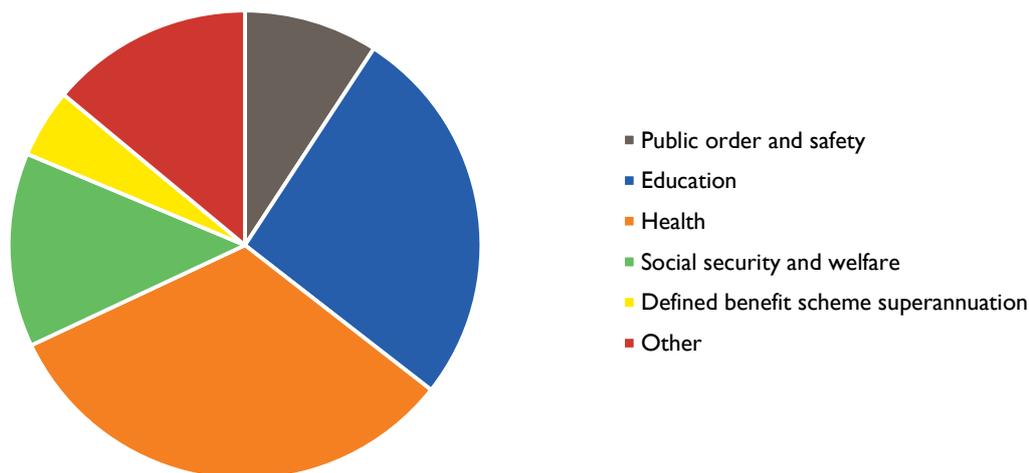
Scenario 2 – Medium growth scenario following the Forward Estimates period

Health expenditure increases at an annual average rate of 6.4 per cent from 2018-19. This projection takes into account Tasmania’s increasing rate of ageing and other demographic changes under the population projections prepared for this scenario. The share of all recurrent expenditure accounted for by health rises more modestly than under Scenario 1, from 29 per cent in 2014-15 to 33 per cent in 2029-30 (Chart 4.4).

Education expenditure increases as a share of total recurrent expenditure (from 26 per cent to 27 per cent), together with social security and welfare expenditure (from 8 per cent to 13 per cent). This growth is based on past trends and an estimate of underlying demand, which includes the impact of a shrinking share of the population of school age.

In comparison, the share in the “other” expenditure category, which includes expenditure such as housing, road transport, recreation and tourism is projected to fall significantly (from 24 per cent to 13 per cent).

Chart 4.4: Components of expenditure as shares of total Tasmanian General Government recurrent expenditure in 2029-30: Scenario 2



Source: Tasmanian Treasury.

Scenario 3 – High growth scenario following the Forward Estimates period

All components of expenditure are projected to increase at a greater rate than under Scenario 2 as Tasmania experiences a higher population growth. However, each component as a share of total expenditure is not significantly different to Scenario 2. As discussed above, the rate of population ageing is almost identical in the two sets of population projections.

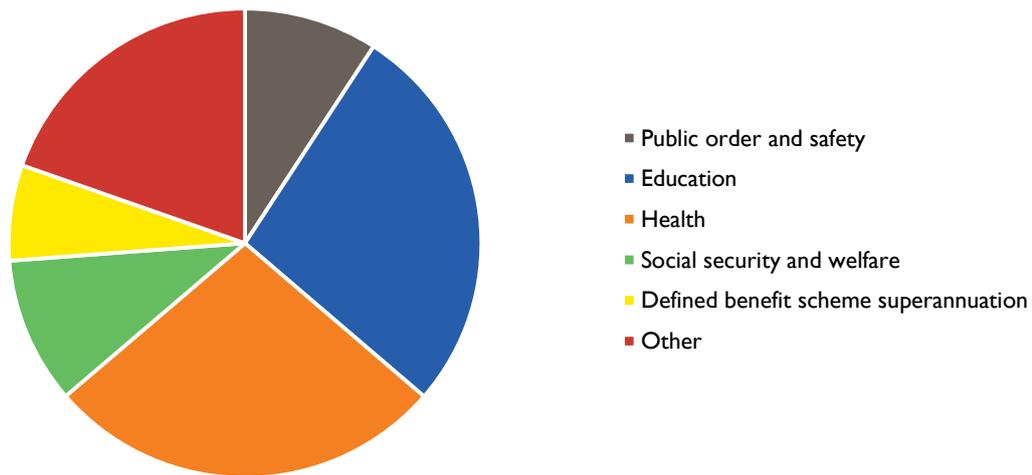
Scenario 4 – Forward Estimates trend

The share of all recurrent expenditure increases for education, from 26 per cent to 27 per cent, and for social security and welfare, from 8 per cent to 10 per cent (Chart 4.5). This reflects the relatively large increases in expenditure for these services in the *Revised Estimates Report 2015-16*.

By contrast, health expenditure as a proportion of total expenditure decreases slightly from 29 per cent to 27 per cent. This is due to the very low growth rate for health expenditure across the Forward Estimates period. Therefore, the past trend of health expenditure increasing as a share of total recurrent expenditure does not continue under this scenario.

The share in other expenditure is also projected to fall, from 24 per cent to 20 per cent, again reflecting the trends in expenditure for the relevant agencies in the *Revised Estimates Report 2015-16*.

Chart 4.5: Components of expenditure as shares of total Tasmanian General Government recurrent expenditure in 2029-30: Scenario 4



Source: Tasmanian Treasury.

Impact of demographic change

For Scenarios 2 and 3, the expenditure projections take into account demographic change as the demand for some State Government services differ by age and sex. For example, for Tasmanian hospital services, the cost and usage is higher in the first few years of life. From 15 to 45 years, there is a divergence in male and female costs due primarily to childbirth-related costs. From retirement age onwards, the cost and frequency of usage of services for both sexes sharply increases.

Over the past decade, health expenditure growth is estimated to have been 0.7 of a percentage point per year higher as a result of demographic change. Over the projection period, this is projected to increase slightly to an average of 0.8 of a percentage point per year. While this is significant, it accounts for a relatively small share of the overall increase in health costs, which is due to the cost of new technologies, the ability to successfully treat a greater range of ailments and diseases and increasing demand. Demographic change-related costs are estimated to account for around one tenth of the average increase of 7.6 per cent in health expenditure over the past decade.

The impacts of demographic change are included in the estimates of expenditure on health, education and social security and welfare services.

Net capital expenditure

Net capital expenditure is the purchase of capital assets less the sale of capital assets and depreciation. This measure is included in the primary balance calculation to best illustrate the costs of maintaining services under current policy settings. Net capital expenditure has been very small relative to recurrent expenditure over the past decade. For example, net capital expenditure is estimated at \$68 million in 2018-19 in the *Revised Estimates Report 2015-16*, which is only just over 1 per cent of the projected total recurrent expenditure in that year.

Under Scenario 1, net capital expenditure is assumed to be \$60 million in 2015-16; this is similar to the average over the previous decade. This expenditure is then projected to increase by inflation and the general growth in demand for government services, reaching \$111 million by 2029-30.

Under Scenarios 2 and 4, net capital expenditure is projected to change according to the estimates in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19). After this time, these scenarios assume that net capital expenditure increases by inflation and the general growth in demand for government services.

This results in the level of capital expenditure growing by less than total revenue and recurrent expenditure. Net capital expenditure grows from negative \$39 million in 2014-15 (as depreciation and asset sales exceeded capital expenditure in that year) and also reaches \$111 million in 2029-30 under these scenarios.

For Scenario 3, the high growth scenario, net capital expenditure grows at a slightly higher rate to \$117 million by 2029-30 due to the higher rates of population growth and economic growth.

5 Scenario results

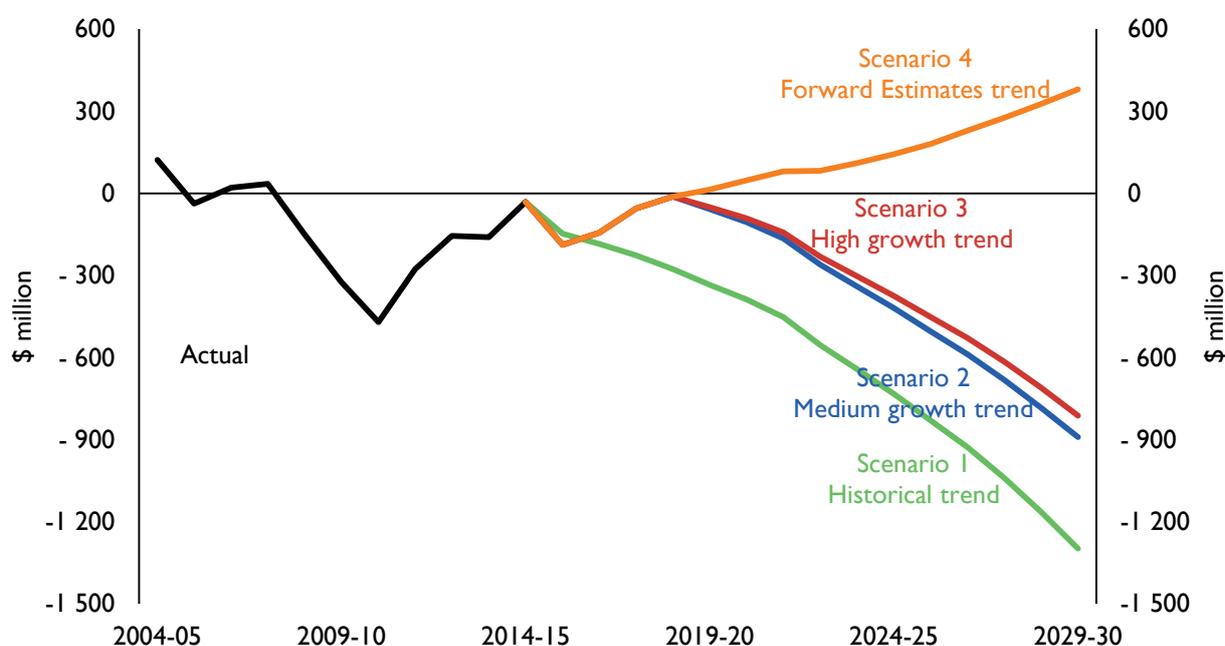
This chapter sets out the results of the four scenarios, focussing on the primary balance and how this balance is projected to change between 2014-15 and 2029-30 under the different scenarios.

Primary balance estimates for Tasmania

Over the past ten years, Tasmanian's primary balance has adjusted to different financial circumstances (Chart 5.1). A key feature was that the primary balance was negative for much of the past decade, falling to around \$470 million in 2011. This was due, in large part, to the unexpected drop in the profile of GST revenues and the weaker growth in own source taxation revenue following the global economic downturn.

More recently, the primary balance has been approaching zero, due to slower growth in public expenditure and increases in GST revenue and improved returns from government businesses.

Chart 5.1: Primary balance, actual and projections, 2004-05 to 2029-30



Source: Calculations based on ABS, *Government Finance Statistics, Australia Cat No 5512.0*; Tasmanian Treasury.

The projection results are discussed below. The projections of net debt and net interest costs are based on current short term borrowing rates, which are below long term trends and therefore should be regarded as conservative.

Scenario 1 – Continuation of recent trends

Under this scenario, based on trends for the past decade when expenditure grew more rapidly than revenue, the primary balance deteriorates from negative \$32 million in 2014-15 to negative \$1.3 billion by 2029-30. This is the equivalent of around 13 per cent of projected revenue in that year and 2.6 per cent of GSP under the Scenario 2 GSP projections.

The negative primary balances arise because recurrent expenditure is projected to grow at a much faster rate than revenue (5.4 per cent compared to 4.8 per cent). A key reason for this outcome is that health expenditure is projected to increase significantly, with the share of

health expenditure projected to increase from 29 per cent to 40 per cent of total recurrent expenditure.

In the early years, the annual decrease in the primary balance is around \$40 million. This represents the effort the government would have to make in that year, through reduced expenditure or increased taxes, to prevent a build-up of negative primary balances in future years. The effort the government would have to make each year, assuming all corrective action is taken in earlier years, increases to around \$130 million by 2029-30 (around \$90 million in 2014-15 dollars) under this scenario.

The State would face significant fiscal pressure under this scenario if no action were taken in the near future. Borrowings would start to increase and General Government net debt would become positive quite rapidly, and then increase sharply which would further worsen the State's financial position. Net debt, which was negative \$532 million in 2014-15, is estimated to become positive in 2018-19 and reach \$1 billion by 2020-21 (Chart 5.2 below). If no action were taken by 2029-30, net debt is estimated at \$9.7 billion, or around 20 per cent of the State's GSP under the Scenario 2 projection. Annual borrowing costs by 2029-30 exceed \$200 million or more than 2 per cent of projected General Government revenue.

Scenario 2 – Medium growth following the Forward Estimates period

The primary balance is projected to initially be negative \$12 million in 2018-19, consistent with the *Revised Estimates Report 2015-16*. After 2018-19, the primary balance initially declines by around \$40 million and the gap increases, reaching negative \$920 million by 2029-30. This represents around 10 per cent of projected General Government revenue in 2029-30 or 1.8 per cent of the State's GSP. After 2019-20, the primary balance decreases by around \$50 million per year. Again, this provides a measure of the fiscal pressure that must be addressed in that year if negative primary balances are not to be carried over to future years. This annual decrease becomes just under \$110 million by 2029-30 (\$70 million in 2014-15 dollars).

The growth in health expenditure is still a key reason why the primary balance becomes negative, with health expenditure projected to grow to 33 per cent of total recurrent expenditure. In addition, social security and welfare expenditure also grows significantly with its share of total recurrent expenditure growing from 8 per cent to 13 per cent.

General Government net debt is projected to be negative \$482 million in 2018-19, consistent with the *Revised Estimates Report 2015-16*. The net debt position worsens, to become positive in 2022-23 and reach \$1.4 billion only three years later. If no action were taken by 2029-30, the net debt is estimated at \$4.5 billion, with an annual borrowing cost exceeding \$100 million.

Scenario 3 – High growth following the Forward Estimates period

The higher population and economic growth rates assumed under Scenario 3 do not prevent expenditure growth exceeding revenue growth over the projection period. The benefits to revenue of stronger economic growth marginally outweigh the additional costs of higher population growth, which has a marginal dampening effect on the growth of the underlying fiscal pressure faced by future Tasmanian governments.

Under this scenario, the State would face a negative primary balance of around \$50 million in 2019-20, decreasing to around negative \$810 million by 2029-30. This represents around 9 per cent of projected General Government revenue in 2029-30 or 1.7 per cent of the State's GSP. The annual decrease in the primary balance is marginally lower than under Scenario 2, commencing at around \$40 million after 2019-20 and decreasing to \$100 million by 2029-30. Similar to Scenario 2, the growth in health and social security and welfare expenditure is a key reason why the primary balance becomes negative.

The net debt position worsens, from negative \$482 million in 2018-19 to become positive in 2023-24 and reach \$1.1 billion in 2025-26. If no action were taken by 2029-30, the net debt is estimated at \$4.0 billion, with an annual borrowing cost of around \$100 million.

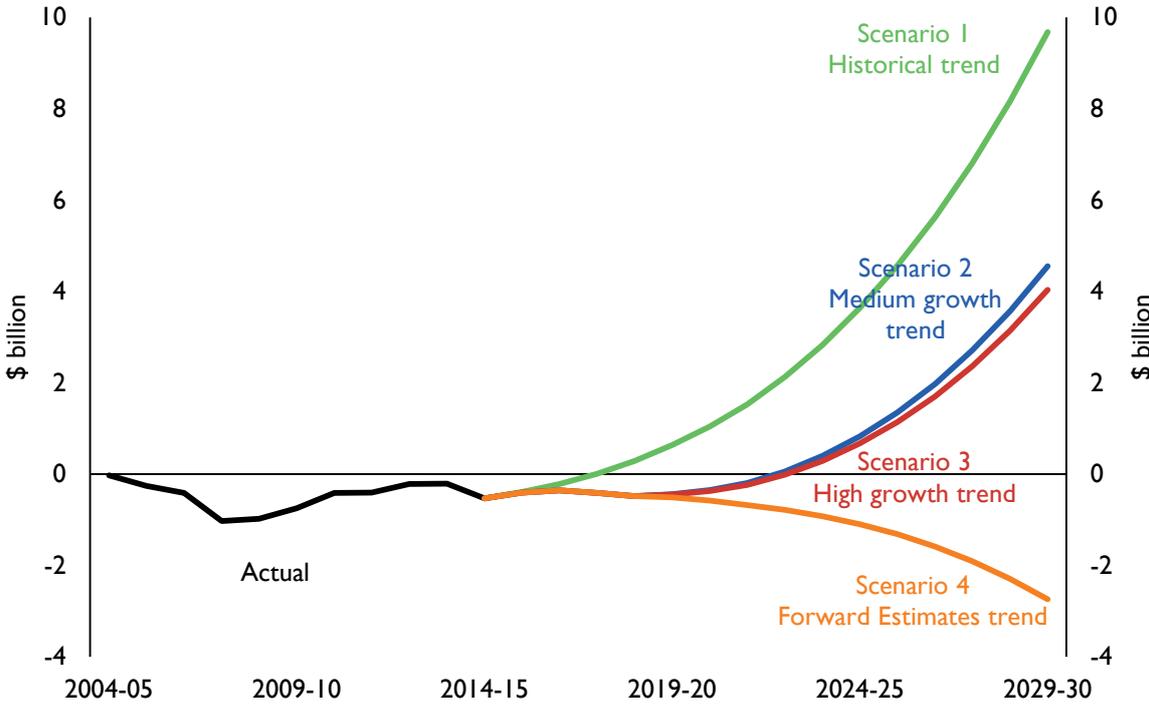
Scenario 4 – Forward Estimates trend

The primary balance becomes positive in 2019-20 at \$13 million and reaches around \$380 million by 2029-30. The annual increase in the primary balance is around \$40 million in most years. The positive primary balances arise because the rate of growth in revenue after the Forward Estimates period (2.2 per cent) exceeds recurrent expenditure (1.7 per cent).

By 2029-30, the primary balance is 5.3 per cent of projected General Government revenue in that year. This is around \$250 million in 2014-15 dollars and 0.8 per cent of projected GSP under the Scenario 2 GSP projections.

General Government net debt improves from negative \$482 million in 2018-19 to negative \$2.7 billion by 2029-30 and annual net interest earnings of almost \$70 million in that year.

Chart 5.2: Net Debt, actual and projections, 2004-05 to 2029-30



Source: Calculations based on ABS, *Government Finance Statistics, Australia Cat No 5512.0*; Tasmanian Treasury.

6 Findings

The State's current financial position

As at 30 June 2015, General Government net debt was negative \$532 million, the primary balance was close to zero and interest income exceeded borrowing costs by \$4 million.

According to the estimates in the *Revised Estimates Report 2015-16*, the primary balance is estimated to be very close to zero in 2018-19 and net debt reaches negative \$482 million in that year, generating net interest earnings of around \$14 million.

Sources of future fiscal pressure

Over the longer term, the underlying demand for government services and the increasing cost of providing these services are likely to place future governments under increasing fiscal pressure. The demand for these services in almost all areas is increasing and productivity gains are unlikely to be sufficient to prevent increases in the real cost of providing these services. This is evident in the expenditure trends over the past decade.

Health expenditure, in particular, has increased significantly in recent years in response to growing demand. If this rate of increase were sustained, health spending would account for an increasingly large share of the State Budget, requiring some major adjustment to other government services such as education, maintaining law and order and providing necessary public infrastructure.

Similarly, expenditure on social security and welfare services has also been increasing at a greater rate than most other costs in recent years. Further demands on public spending in the care and community services sector are inevitable, reasons for which include some proposed major policy measures such as the National Disability Insurance Scheme. In a range of other areas, there are also demands for more and improved government services.

A major departure from the expenditure and revenue profiles in the *Revised Estimates Report 2015-16*, such as under Scenario 1 could lead quite rapidly to a significant deterioration in the State's finances by 2018-19. It would only require recurrent expenditure to follow the trends of the previous decade for a large negative primary balance to emerge, even if revenue growth were at the relatively high rate of the previous decade. In Scenario 1, for example, where spending grows at the rate of the previous decade, the primary balance would reach around negative \$280 million by 2018-19 and net debt would be close to positive \$290 million.

Fiscal pressure can also arise on the revenue side. GST revenue, in particular, can be quite volatile, depending on the size of the national GST pool which is determined by national consumption trends, but also by the methodology under which the GST is distributed to the states and territories. As an example of the exposure of the State to variations in revenue that may occur, in the 2011-12 Budget the estimate for Tasmania's GST revenue for 2011-12 was revised downwards by \$239 million from the estimate for that year in the 2008-09 Budget.

Equally, Australian governments can make policy decisions that can affect the level of other Commonwealth payments to Tasmania. Tasmania's finances, for example, would be put under very severe pressure if the principle of Horizontal Fiscal Equalisation were abandoned.

Tasmania's own source revenue can also vary significantly, often due to factors outside the control of the State Government. This applies to some sources of taxation, particularly transaction-based taxes, and to the returns from government businesses, which are exposed to a range of market, financial and other risks.

Population ageing is unlikely to exert a significant level of fiscal pressure on future Tasmanian governments. The additional costs were found to be relatively minor, even for health services, relative to the other cost pressures these governments can expect to face.

The State Government's obligations relating to its defined benefit superannuation schemes contribute to fiscal pressure but the costs are expected to be manageable. The defined benefit superannuation costs currently account for around five per cent of total General Government revenue. This proportion is projected to increase moderately over the next decade and peak mid-way through the next decade at around six per cent and then decline.

Addressing emerging fiscal challenges

The scenarios examined reveal that, if a negative primary balance is emerging in Tasmania, this could commence with a relatively small negative balance that, if not addressed, can lead quite quickly to larger negative primary balances and a build-up of General Government net debt. At the early stage, the corrective action may be modest. In all four scenarios examined, for example, the primary balance in the first year was less than 1 per cent of total General Government revenue.

The scenarios also reveal, however, that the challenges may increase for future Tasmanian governments as the underlying gap between the costs of meeting demand for government services and the government's revenue is likely to increase over time. In addition, if no action is taken, the accumulation of net debt and the associated borrowing costs impose further costs on future governments.

Securing productivity gains in delivering government services is important as they allow more services to be provided with the same resources but the gains would not be sufficient to address any major fiscal issues.

Any emerging fiscal pressure is not likely to be eased significantly as a result of stronger economic growth. While General Government revenues are likely to increase, the demand for government services also tends to increase, partly because population growth is likely to be higher if Tasmania's economic growth is stronger. Furthermore, as reported in other intergenerational reports such as those prepared by New South Wales, the demand for many government services tends to increase when incomes rise.

Tasmanian governments are constrained on the revenue side from addressing fiscal challenges. The State's revenue is largely determined by factors over which it has very little control. Payments from the Australian Government accounted for around 61 per cent of the State's revenue in 2014-15; this share is expected to increase to around 66 per cent by 2018-19 according to the *Revised Estimates Report 2015-16*.

A further constraint is the limited capacity of the State Government to increase its own source revenue without negatively impacting on its tax competitiveness compared to other jurisdictions. This, in turn, can lead to the risk of lower overall tax revenues due to Tasmania being perceived as a less attractive State for investment and for potential interstate and overseas migrants.

Recent governments have also shown a limited appetite for introducing new taxes or government charges or increasing tax rates in Tasmania, even though real incomes have risen appreciably in recent decades. This approach may have been taken over concerns that a sizeable share of the Tasmanian community considers that Tasmanian governments have the capacity to improve the efficiency of providing services, and to better allocate its existing resources to meet demand, and should pursue these opportunities before they impose additional taxes and charges on the community.

While Tasmanian governments do have options to raise additional revenue, they cannot ensure the State's finances will remain sustainable without the capacity to constrain expenditure growth as fiscal pressures emerge. This includes allowing for the possibility of declining General Government revenue in some years. This may require ensuring that when revenues are unexpectedly high, governments allow surpluses to be built up by resisting the pressure to allocate all the additional revenue to extra expenditure.

In practice, jurisdictions in Australia, including Tasmania, usually do not allow negative primary balances to accumulate over time and for their finances to become unsustainable. Measures are taken to return their finances to a fiscal balance. When jurisdictions do face major fiscal pressures, their key objectives are to return the finances to a sustainable position without loss of confidence on the part of businesses and consumers that can lead to very weak economic performance, and without major disruption to government services and large scale public sector redundancies.

The scenarios examined demonstrate that, under quite plausible economic and fiscal conditions, the State's financial position can deteriorate quite rapidly, and therefore the earlier these fiscal pressures are addressed, the greater the prospects that these objectives can be achieved.

Attachment I: Methodology

This attachment provides a detailed description of the methodology used in this report. In particular, it sets out the methodology for developing the economic and demographic projections and for projecting the key components of revenue and expenditure growth.

The scope of activities considered in this report covers the Tasmanian State General Government Sector, as classified by the ABS. It therefore excludes any assessment of the long run sustainability of entities outside the sector, such as Government Business Enterprises and State-owned Companies.

Actual revenue and expenditure data used in this report are from the ABS publication *Government Finance Statistics, Australia* (Cat. No. 5512.0) and annual publications of the Treasurer's Annual Financial Report. These publications include expenditure estimates on a general purpose classification basis.

These data have been used to create a bottom-up model to develop projections for General Government expenditure separately formed for: health; education; social security and welfare; public order and safety; and all other expenditure (excluding borrowing costs and nominal superannuation expenditure for the defined benefit schemes).

Projections for General Government revenue were separately formed for: GST, other Australian Government transfers (which includes special purpose payments and national partnership payments); state taxation; the sales of goods and services; and other revenue (which includes dividends from government businesses, fines and royalties and excludes interest income).

The projection period selected is 15 years from 2014-15, namely to 2029-30.

Economic and demographic analysis

A key assumption in the report is that, in the long-term, economic activity will be determined by the "three Ps" – population, participation and productivity. This framework has been used by the Australian, NSW, NZ and UK governments in their long-term fiscal reports.

Only Scenario 2 and Scenario 3 require projections of Tasmania's population and economic growth from 2018-19. This is because Scenario 1 assumes that all projections of the State Government's revenues and expenditure over the projection period reflect historical trends, while Scenario 4 assumes the revenue and expenditure trends in the *Revised Estimates Report 2015-16* continue over the projection period. Neither of these scenarios therefore require projections of population growth or economic growth for future revenue or expenditure estimates.

The economic projections are not influenced by any State Government fiscal outcomes that might be expected to have some expansionary or contractionary impacts on the Tasmanian economy.

The sections below set out the methodology for population, participation, productivity and other economic parameters in more detail.

Population projections

Tasmania's population growth rate to 2018-19 is assumed to follow the forecasts and projections in the *Revised Estimates Report 2015-16*. Revised population projections have been prepared by the Department of Treasury and Finance for the remainder of the projection period, using the same methodology adopted for the population projections prepared by Treasury in 2014.

The key demographic assumptions are set out below.

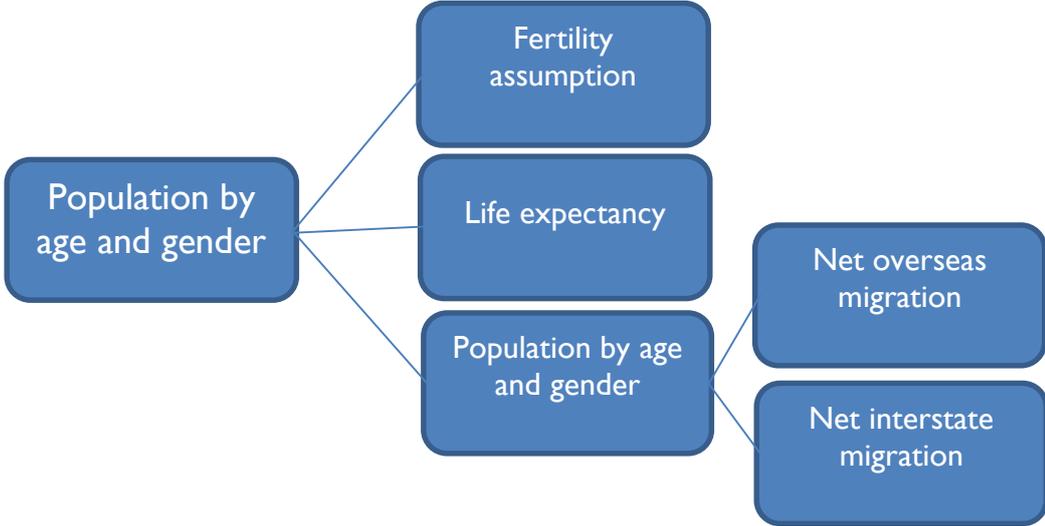
Table A.1: Summary of population projection assumptions

Component	Scenario 2	Scenario 3
Fertility (total fertility rate)	2.0 babies per woman in 2016, decreasing to 1.95 babies per woman by 2023 and remaining constant thereafter.	Constant rate of 2.15 babies per woman.
Mortality (life expectancy at birth)	To reach 82.2 years for males and 85.5 years for females by 2030.	To reach 83.2 years for males and 86.5 years for females by 2030.
Net Interstate Migration	Zero net interstate migration.	Net gain of 1 000 persons per year.
Net Overseas Migration	Net gain of 1 250 persons per year.	Net gain of 2 000 persons per year.

Source: Tasmanian Treasury.

The projections were created using a cohort component method. This method projects each cohort of people of the same age throughout their lifetime according to assumed rates of mortality, fertility and migration (see Figure A.1 below). This methodology is used by the ABS and other Australian jurisdictions.

Figure A.1: Population growth



Source: Tasmanian Treasury

Participation rate projections

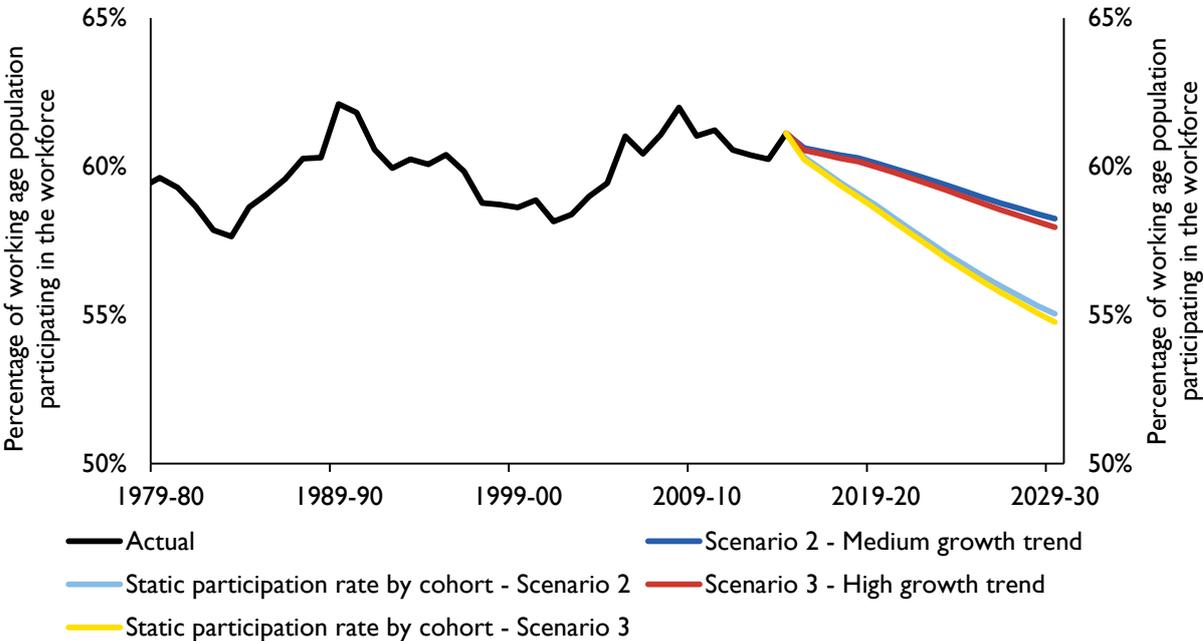
Workforce participation rates from 2019-20 to 2029-30 have been prepared for Scenarios 2 and 3. A cohort approach is also used, which the Productivity Commission used for its 2005 report *Economic Implications of an Ageing Australia*. This approach builds on trends in labour force participation among different age cohorts and projects how participation rates in each cohort will change.

Participation rate projections have been developed by separating the population into five-year age cohorts for males and females and calculating their workforce entry and exit rates. Participation rates within these cohorts have changed in recent decades. Future participation rates are projected by fitting general logistic curves to long-term trends to help project forward further change, before reaching a steady state (when the participation rate is unchanged). As growth curves for each age and gender cohort are based on different historical data, each curve has its own unique profile and steady state.

These cohort-specific participation rates are then weighted by the size of the population in each cohort for each year, to estimate the overall participation rate in each year. The projections do not allow for any major future economic, social or cultural changes that could alter participation rates.

The impact of assuming these trends will continue is illustrated in Chart A.I. With no future change in cohort-specific participation rates, the overall participation rate would decline sharply, reflecting the impact of population ageing. Unless this decline were offset by a large reduction in the unemployment rate or a large increase in average hours worked, this would lead to a significant reduction in the State’s economic growth. Where unemployment rate assumptions and average hours worked projections held steady, this sharper decline in the participation rate would have reduced Tasmania’s economic growth by around 0.3 of a percentage point per year.

Chart A.I: Tasmania’s participation rate, actual and projected



Source: ABS, *Labour Force, Australia*, (Cat No 6202.0); Tasmanian Treasury.

Other economic parameters

Tasmania’s unemployment rate is assumed to be 6.5 per cent for Scenario 2 by 2029-20. This is consistent with the Tasmanian long-term average and is only 0.3 of a percentage point lower than the estimated year-average level for 2014-15.

For Scenario 3, Tasmania’s unemployment rate is projected to decline from 6.5 per cent in 2018-19 to 5.7 per cent by 2029-30.

For Scenario 2, the estimates of average weekly hours worked have been modelled using the cohort approach described to project the participation rate. This captures the propensity of older workers and females, who are expected to continue to contribute a growing proportion of the State’s labour force, to work fewer hours (on average).

For Scenario 3, the high growth scenario, overall hours worked have been kept constant at 2018-19 levels over the projection period.

Inflation is assumed to be constant at 2.5 per cent, the middle of the Reserve Bank of Australia's inflation target range of 2-3 per cent.

Gross State Product

Projections of real GSP from 2018-19 for Scenarios 2 and 3 are obtained from the results for population size, participation rates, labour productivity, unemployment rates and average hours worked.

These estimates are inflated to nominal GSP by using the Hobart Consumer Price Index as a GSP inflator. This reflects the close link between changes in Tasmania's GSP deflator and changes in the Hobart Consumer Price Index, as estimated by the Australian Bureau of Statistics.

Projections of General Government revenue and expenditure

General Government revenue

The following components of General Government revenue have been included in all scenarios:

- GST;
- other Australian Government transfers (which includes special purpose payments and national partnership payments);
- state taxation;
- sales of goods and services;
- other revenue (which includes dividends from government businesses, fines and royalties); and
- net capital expenditure.

Interest earnings have been excluded as they are not included in the primary balance.

The revenue projections for some scenarios are based on the average growth rate of the State's revenue components over the past decade. To calculate historical growth rates for each component, a base revenue level was determined as the average of three years to 2004-05, in order to minimise the effect of any atypical revenue levels in any one year. Similarly, the end revenue level was the average of the years between 2012-13 and 2014-15. The average annual growth was then determined using the geometric mean. This approach therefore did not use annual revenue data between 2005-06 and 2011-12.

This approach to calculating growth rates was also been applied to determine average expenditure growth rates for the different components.

General Government expenditure

The following components of General Government expenditure have been included in all scenarios:

- health;
- education;
- public order and safety;
- social security and welfare;
- other recurrent expenditure (for example, housing, economic development, recreation and tourism); and
- superannuation expenses relating to the State's defined benefit schemes; and
- net capital expenditure.

Interest costs have been excluded.

Average annual historical growth rates have been calculated for each expenditure component over the past decade using the three year start and end estimates, as described above.

For annual expenditure relating to the State's defined benefit schemes, for all scenarios the expenditure levels from 2014-15 to 2029-30 are those in the most recent report by the State's actuary, which was prepared for the *Revised Estimates Report 2015-16*.

Net capital expenditure is the purchase of capital assets less the receipts from the sale of capital assets and depreciation. This measure therefore allows for the maintenance of existing public infrastructure. Over the past decade, average net capital expenditure was around \$60 million per year, around 1.5 per cent of average total General Government expenditure over that period. Net capital expenditure is projected to be positive in all scenarios over the projection period and to increase annually reflecting increasing capital costs and growth in the demand for government services.

This results in the absolute level of capital expenditure growing by less than total revenue and recurrent expenditure. Consistent with the State Government's Fiscal Strategy, this allows the existing stock of capital to be maintained.

Projection scenarios

None of the four scenarios in the report is presented as a base case: the set of scenarios has been selected to examine the extent to which the State's finances are sustainable under a range of different economic, demographic and fiscal assumptions. A description of each scenario is described below.

Scenario 1 – Continuation of recent trends

From 2015-16 to 2029-30, each revenue component increases at that component's average annual growth rate over the past decade, as set out above. Total annual revenue over the projection period has then been derived by summing these components.

For recurrent expenditure, each component also increases at that component's average annual growth rate over the past decade, except superannuation-related expenses for the State's defined benefit schemes which is determined as set out above. Net capital expenditure is assumed to be \$60 million in 2015-16 and is projected to increase according to the growth in nominal gross state product under Scenario 2, reaching \$111 million by 2029-30.

The average annual increases in General Government revenue and recurrent expenditure for Scenario I are presented below.

Table A.2: Scenario I – Average annual growth of revenue and recurrent expenditure

	Annual average growth, 2014-15 through to 2029-30
General Government revenue	
Grants - GST	3.0%
Grants - Other Australian Government transfers	6.6%
State taxation	4.4%
Sales of goods and services	4.0%
All other revenue (excluding interest income)	6.4%
Total General Government revenue (excluding interest income)	4.8%
General Government recurrent expenditure	
Public order and safety	3.9%
Education	5.4%
Health	7.6%
Social security and welfare	7.3%
Defined benefit scheme superannuation	3.4%
All other expenditure (excluding borrowing costs)	1.8%
Total General Government recurrent expenditure (excluding borrowing costs)	5.4%

Source: Tasmanian Treasury.

Scenario 2 – Medium growth following the Forward Estimates period

All components of State Government's revenue and expenditure are projected to change as set out in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19).

Revenue

From 2018-19, the rates of growth in the components of revenue are modelled, based on assumptions of the State's population growth and rate of demographic change, economic growth and other factors that affect State Government revenues.

- GST revenue to Tasmania is projected to grow at an average rate of 4.6 per cent, which is based on growth in GST revenue to Tasmania over the period 2008-09 to 2014-15 (actual) and 2015-16 to 2018-19 (forecast). While Treasury's GST model is effective over the short-term Forward Estimates period, a projection based on average growth is not subject to the instability that a GST model relying on projections of each variable would be over the medium and long-term. By comparison, the national GST pool is projected to grow at an average rate of 5.3 per cent over the period, in line with the projected average annual nominal GDP growth outlined in the Commonwealth Government's *2015 Intergenerational Report*.

- Tasmania's GST revenue, and the national GST pool, have grown at faster rates than these projections in the past. The national GST pool grew rapidly in the period from 2000-01 to 2007-08 at an average annual growth rate of 9.2 per cent. However, GST growth has been a more modest 4.6 per cent per annum since 2008-09, reflecting both slower economic growth and a proportional shift in household expenditure from items that are subject to GST to those that are not - including health, education and food. In 2011-12, GST was paid on approximately 47 per cent of the consumption of all goods and services, down from a high of 56 per cent in 2005-06. GST revenue to Tasmania is projected to grow at a slower rate than the national GST pool because Tasmania's share of the national population is expected to continue to decline.
- Special Purpose Payments have been modelled using the escalation provisions in current Australian Government funding Agreements that include factors such as CPI growth, population growth and changes in school enrolments. National Partnership Payments are projected to increase with CPI and population growth.
- Over the past ten years, the rate of growth in state taxation revenue has been very close to growth in nominal GSP. Accordingly, state taxation revenue is assumed to grow at the average rate of nominal GSP over the projection period, which is 4.3 per cent per year.
- Sales of goods and services is projected to increase with CPI and population growth.
- Dividends have been projected to grow with nominal GSP. Other revenues, including fines, fees and royalties increase with CPI and population growth.

Expenditure

The rate of growth of most expenditure components from 2018-19 has been modelled based on estimates of the cost of meeting underlying demand. The growth rates take into account increases in expenditure over the past decade and the estimated future costs in the *2015-16 Revised Estimates Report* and future population and economic growth. This period captures a broad range of economic outcomes including both low and high growth and incorporates the most recent expenditure estimates. The exception is expenditure relating to the State's defined benefit superannuation schemes.

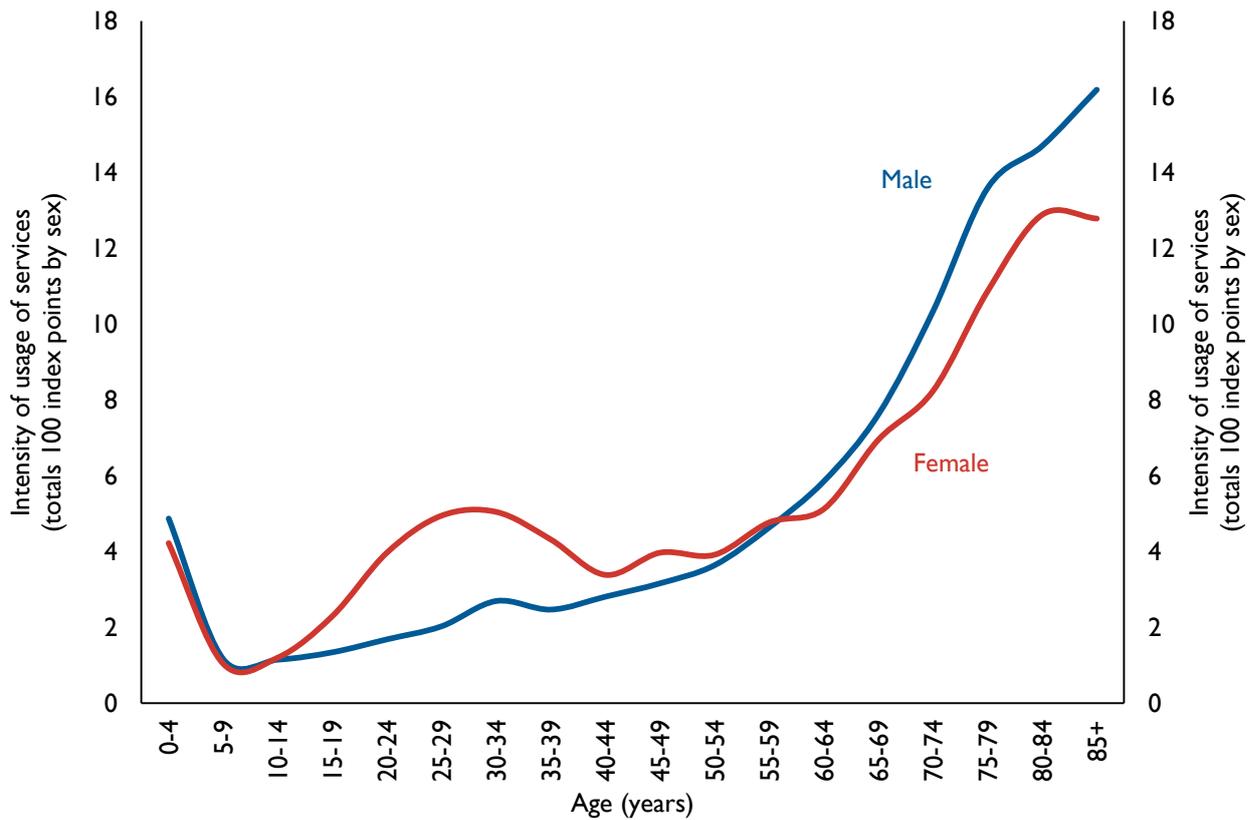
For components of expenditure that are demand-driven and show variation in usage or cost of use by age, the projections allow for changes in the State's demographics by including an additional cost factor (which may be positive or negative).

Age-cost indices have been developed, using five-year age cohorts for males and females. The age-cost indices are used to identify the annual increase in expenses that can be attributed to demographic change.

This is achieved by taking the weighted sum of the population by age cohorts, using the age-cost index values as the weighting factors. The growth rate of this weighted population is equivalent to the growth rate of expenses due to demographic factors, both compositional and population growth. The compositional effect is isolated by subtracting the growth rate of the total (unweighted) population from the growth rate of the weighted population.

As an example, Chart A.2 below depicts the cost intensity of health expenditure in Tasmania by age.

Chart A.2: Estimated age-cost index for health expenditure in Tasmania, 2013-14



Source: Unpublished Department of Health and Human Services data.

In this example, the cost and usage in Tasmanian hospitals is higher in the first few years of life; then there is a divergence in male and female costs relating to childbirth; and from retirement age onwards, the cost and frequency of usage of services for both sexes sharply increases.

Age-cost indices have also been developed for expenditure on education, and social security and welfare services.

Net capital expenditure is projected to change according to the estimates in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19). After this time, these scenarios assume that net capital expenditure increases by the growth in nominal GSP. Net capital expenditure grows from \$68 million in 2018-19 and reaches \$111 million in 2029-30, the same result in that year as under Scenario 1.

The average annual increases in General Government revenue and expenditure for Scenario 2 are presented below.

Table A.3: Scenario 2 – Average annual growth of revenue and recurrent expenditure

	Average annual growth, 2014-15 through to 2029-30
General Government revenue	
Grants - GST	5.2%
Grants - Other Australian Government transfers	1.5%
State taxation	3.6%
Sales of goods and services	2.3%
All other revenue (excluding interest income)	0.7%
Total General Government revenue (excluding interest income)	3.5%
General Government recurrent expenditure	
Public order and safety	4.6%
Education	4.1%
Health	4.8%
Social security and welfare	7.8%
Defined benefit scheme superannuation	3.4%
All other expenditure (excluding borrowing costs)	0.2%
Total General Government recurrent expenditure (excluding borrowing costs)	4.0%

Source: Tasmanian Treasury.

Scenario 3 – High growth following the Forward Estimates period

As with Scenario 2, all revenue and expenditure projections reflect the Forward Estimates in the *2015-16 Revised Estimates Report*. From 2018-19, Tasmania's population growth and economic growth is higher than under Scenario 2 which affect revenue and expenditure projections.

Revenue

The methodology for determining the growth rate for all expenditure components is the same as for Scenario 2. The stronger growth rates for annual population growth and nominal GSP result in higher rates of revenue growth for all components after 2018-19.

Expenditure

From 2018-19, the expenditure projections also reflect the stronger population growth, except expenditure relating to the State's defined benefit superannuation schemes. For some components of expenditure, such as health, social security and welfare and public order and safety, the stronger population growth adds 0.5 of a percentage point to their growth rates over the projection period. That is, a higher population is projected to flow through to higher demand for these services and therefore increased expenditure.

For other components of expenditure, such as education and other expenditure, the stronger population growth adds 0.25 of a percentage point to their growth rates over the projection period. This assumed lower increase reflects the weaker link between expenditure on these components and total population growth; in these areas there is a larger share of agency expenses that are largely independent of the population level, such as expenditure on the services of central agencies, environmental management and the development of primary industries and tourism.

The high population growth results in marginally different rates of demographic change, which is reflected in the expenditure on health, education, and social security and welfare services.

It is also assumed that net capital expenditure grows at a faster rate (five per cent annually) than under the other scenarios, reflecting the greater demand for government services, and therefore the public infrastructure needed to provide these services.

The average annual increases in General Government revenue and expenditure for Scenario 3 are presented below.

Table A.4: Scenario 3 – Average annual growth of revenue and recurrent expenditure

	Average annual growth, 2014-15 through to 2029-30
General Government revenue	
Grants - GST	5.5%
Grants - Other Australian Government transfers	1.9%
State taxation	4.3%
Sales of goods and services	2.6%
All other revenue (excluding interest income)	1.2%
Total General Government revenue (excluding interest income)	3.9%
General Government recurrent expenditure	
Public order and safety	5.0%
Education	4.5%
Health	5.2%
Social security and welfare	8.2%
Defined benefit scheme superannuation	3.4%
All other expenditure (excluding borrowing costs)	0.5%
Total General Government recurrent expenditure (excluding borrowing costs)	4.3%

Source: Tasmanian Treasury.

Scenario 4 – Forward Estimates trend

All components of General Government revenue are projected to change as set out in the *Revised Estimates Report 2015-16* through to 2018-19, and then increase annually to 2029-30 at the average annual growth rate for all revenue over the Forward Estimates period. The same approach is adopted for recurrent expenditure, except expenses related to the State's defined benefit schemes.

The effect is that the shares of the components of General Government revenue and recurrent expenditure are unchanged after 2018-19. The past trend of health expenditure increasing as a share of total recurrent expenditure does therefore not continue under this scenario.

This projection does not capture changes in the State's demographics.

Net capital expenditure is projected to change according to the estimates in the *Revised Estimates Report 2015-16* until the end of the Forward Estimates period (2018-19) and then increase by the growth in nominal GSP under Scenario 2. As under Scenario 2, net capital expenditure grows from \$68 million in 2018-19 to \$111 million in 2029-30.

The average annual increases in General Government revenue and expenditure for Scenario 4 are presented below.

Table A.5: Scenario 4 – Average annual growth of revenue and recurrent expenditure

	Average annual growth, 2014-15 through to 2029-30
General Government revenue	
Grants - GST	3.4%
Grants - Other Australian Government transfers	1.7%
State taxation	2.1%
Sales of goods and services	1.7%
All other revenue (excluding interest income)	-0.5%
Total General Government revenue (excluding interest income)	2.2%
General Government recurrent expenditure	
Public order and safety	2.3%
Education	2.0%
Health	1.3%
Defined benefit scheme superannuation	3.6%
Defined benefit superannuation costs	3.4%
All other expenditure (excluding borrowing costs)	0.3%
Total General Government recurrent expenditure (excluding borrowing costs)	1.7%

Source: Tasmanian Treasury.

General Government net debt projections

General Government net debt projections have also been calculated to illustrate the implications of the primary balance projections on the State's financial position.

These projections are indicative only and assume that the only factors that influence the State's borrowings and assets are the change in the primary balance and net interest costs. They are estimated by determining the cash balance at the start of each financial year and allowing the cash balance by 30 June to reflect the primary balance in that year, assuming the sale of non-financial assets, in real terms, is around average value over the past decade.

No allowance has been made, for example, for potential changes in the value of assets and liabilities or for interest rate changes. They also do not allow for cash balances altering due to transfers from the Australian Government, such as for major infrastructure investment, if the funds are not fully acquitted in the year they are received.

Attachment 2: Superannuation liabilities under the State’s defined benefit schemes

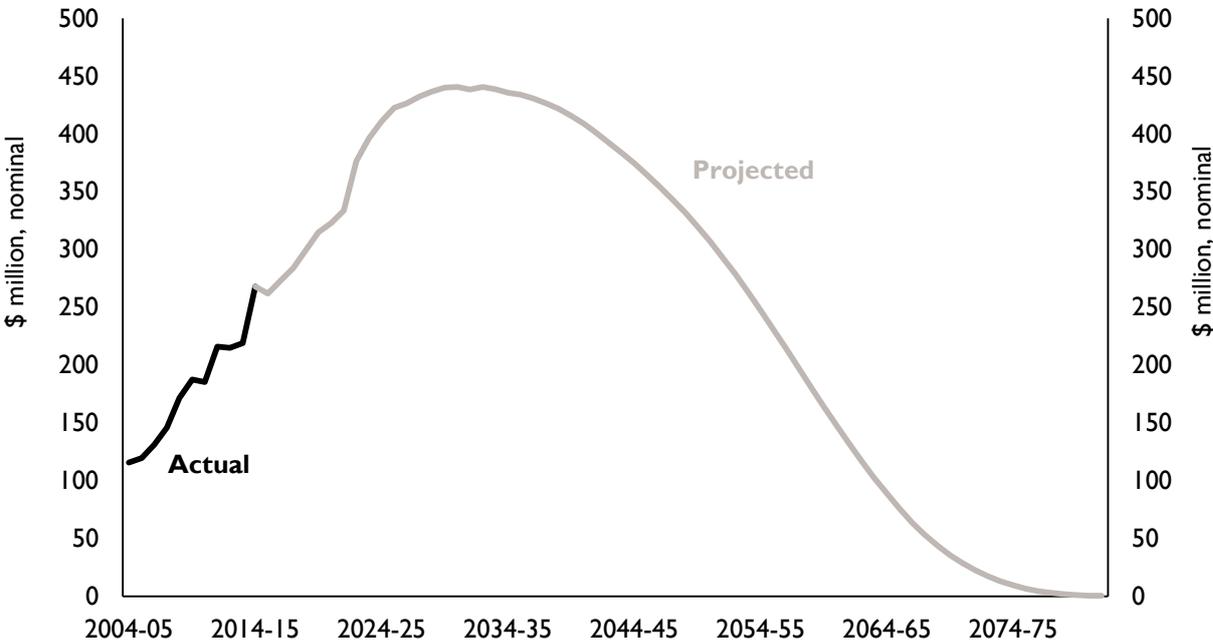
The State Government's superannuation liabilities relate to its obligations with respect to liabilities arising from the current and former members of the unfunded or partially funded public sector defined benefit superannuation schemes, which were closed to new members with effect from May 1999. Superannuation obligations for State Government employees who are members of accumulation schemes are fully funded and are discharged through ongoing payroll arrangements.

These liabilities have arisen over many decades because benefits are funded on an emerging cost basis when scheme members become entitled to a pension or lump sum benefit. That is, the government's portion of the final benefit is paid when it falls due, with the remaining part of the benefit being funded from the scheme's assets. The major schemes currently operating in the General Government Sector that have an unfunded liability are those established under the *Retirement Benefits Act 1993*, the former *Parliamentary Superannuation Act 1973*, the former *Parliamentary Retiring Benefits Act 1985* and the *Judges' Contributory Pensions Act 1968*. While these schemes have been closed to new members, due to the long-term nature of superannuation benefits, the superannuation liability continues to grow as existing members accrue additional years of service until they resign or retire from the public service.

The projected cost of servicing the superannuation liability reflects independent actuarial assessments prepared by the State Actuary of the estimated annual employer contribution payments, consistent with the estimates used in the *2015-16 Revised Estimates Report*. These are the total expected annual cash contributions required to meet General Government defined benefit superannuation payments in a given year.

The annual payment estimates include estimated total pension and lump sum benefit costs in a given year. The profile is sensitive to the assumption as to the share of members who elect to receive a whole or part pension. The current average age of a defined benefit member is 52, which suggests that a significant number will become eligible for payments over the next 15 years.

Chart A.3: Net annual cost of servicing defined benefit obligations

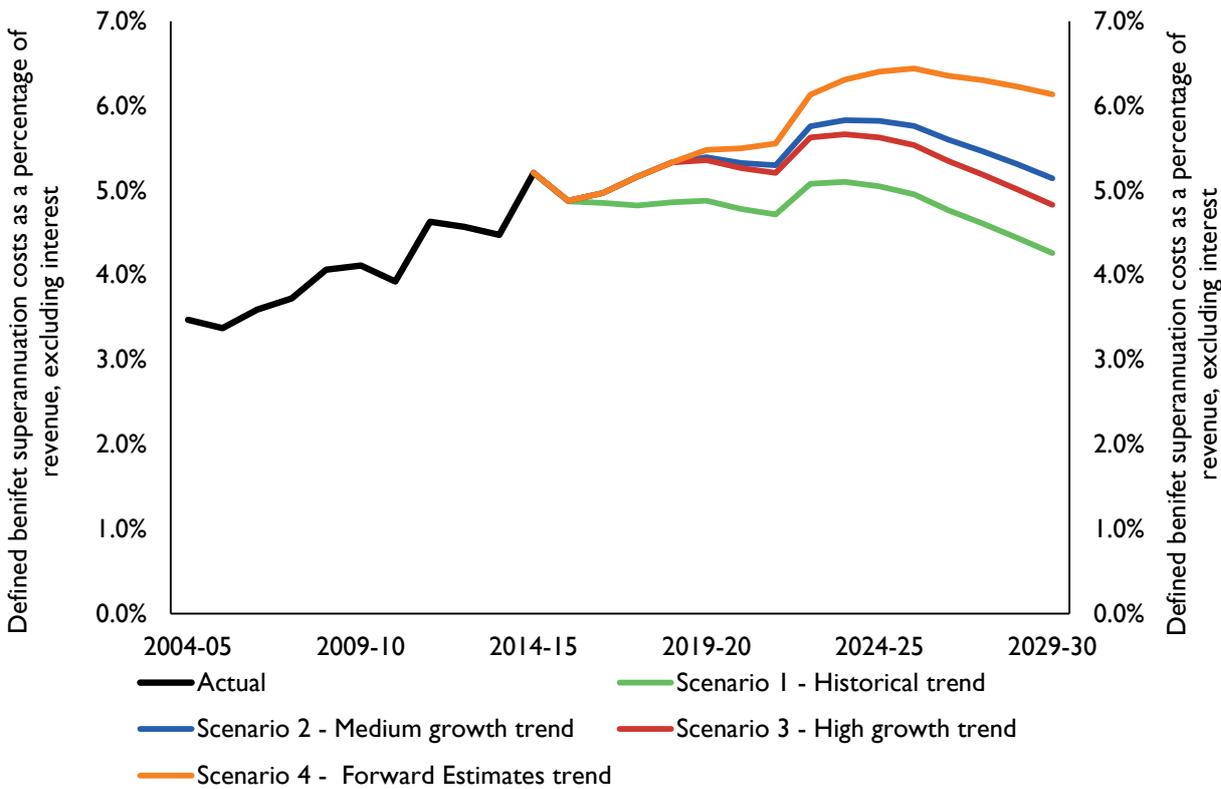


Source: Tasmanian Treasury.

The nominal value of the annual expenses is estimated to peak in 2031 at \$441 million. These expenses are then estimated to decline as fewer persons become eligible for payments under the schemes, due principally to mortality.

Defined benefit superannuation expenses, as a share of General Government revenue, are estimated to be around 4.9 per cent of General Government revenue (excluding interest revenue) in 2015-16. This share is estimated to increase to around 5.3 per cent by the end of the Forward Estimates period (2018-19). Under all scenarios except Scenario 4, the share peaks at less than 6.0 per cent in 2024-25 (Chart A.4). For Scenario 4, which has the slowest General Government revenue growth, the share is marginally over 6 per cent from 2024-25.

Chart A.4: Estimated General Government expenses under the State’s defined benefit schemes as share of projected General Government revenue (excluding interest earnings)



Source: Tasmanian Treasury.