B. FISCAL RISKS AND BUDGET SENSITIVITIES

The prospective nature of the Budget means it is informed by forecasts and assumptions. Future events may unfold which could produce results different to forecasts – either positive or negative. COVID-19 has introduced new risks to the Budget and heightened others. This appendix analyses some of those potential risks and events. It also helps readers understand the magnitude of potential variations by providing a 'sensitivity analysis'. The impact of these variations is considered on the operating statement and the balance sheet.

The sensitivity analysis is presented to explain a one percentage point change to the identified variable in each year – while other variables are held constant to the forecasts in this Budget. The result should be used as a 'rule of thumb' estimated impact for a change in the relevant variable.

A positive impact from the variable change would improve the State's budget position or net worth, while a negative impact would weaken the budget position or net worth.

Due to their uncertainty, fiscal risks are not incorporated into the aggregates presented in the 2021-22 Budget. Further information on the State's contingent assets and liabilities is available in Appendix C of this Budget Paper.

B.1 Operating statement risks and sensitivities

State taxation revenue

The state of the economy affects the level of tax collected. Changes in a range of macroeconomic drivers – from property sale volumes and prices, to employment levels and wage growth – can lead to major changes in the level of tax collected, increasing or decreasing Government revenues accordingly.

The Government's own forecast assumptions for key macroeconomic variables across the Budget and forward estimates (as set out in Table B.1 below) are used to inform the revenue forecasts.

The forecasts prepared for the Budget are based on the latest available information. These forecasts are predictions about the future and the ultimate results may change as unknown events unfold. The extent of variation will depend on the weighting accorded to each macroeconomic variable when forecasting the tax head in question. Table B.1 summarises these weightings.

Table B.1: Forecasting revenue –What weighting is given to different variables

	Forecast weightings						
	GST	Payroll tax	Transfer duty	Mineral royalties	Land tax	Gambling taxes	Motor vehicle taxes
Employment	Medium	**High**	N/A	N/A	N/A	Medium	**High**
Wages	Medium	**High**	N/A	N/A	N/A	Medium	Medium
Consumption	**High**	N/A	N/A	N/A	N/A	**High**	Medium
Dwelling investment	**High**	N/A	Medium	N/A	N/A	N/A	N/A
Dwelling prices	Medium	N/A	**High**	N/A	**High**	N/A	Medium
Population growth	**High**	Low	Medium	N/A	Low	Low	Low
AUD exchange rate	N/A	N/A	N/A	**High**	N/A	N/A	N/A
Energy demand	N/A	N/A	N/A	**Low**	N/A	N/A	N/A

Notes:
(a) High, medium and low provide only a broad indication of the model weighting for illustration.
(b) N/A here indicates only that the factor is not directly included as a variable in the relevant forecasting model, and does not signify that there is no relationship between the respective variable and tax head.

The main driver of payroll tax is total employee compensation, which in turn is a function of both wage and employment levels. Public health measures, weaker economic conditions and concerns about COVID-19 led firms to reduce employment, hours worked and employee earnings, which weighed on payroll tax receipts. The Government also announced significant business support measures that reduced payroll tax receipts. Any longer-term impacts on employment and wage levels will also affect future revenues.

Table B.2 denotes the sensitivity of forecast payroll tax to a one percentage point increase in employment and wages respectively.

Table B.2: Revenue sensitivities – Payroll tax

Factors affecting payroll tax	2021-22 Budget	2022-23 Forward estimates	2023-24	2024-25	Sensitivity
	$m	$m	$m	$m	
Average compensation of employees	120	124	130	136	Single percentage point increase in factor
Employment	120	124	130	136	

As the economy recovers, further COVID-19 outbreaks remain a risk for the labour market. Other risks which could impact payroll tax revenue in 2021-22 and over the forward estimates include macroeconomic and geopolitical uncertainties (including global trade tensions), slower population growth and changes in households' propensity to consume.

Transfer duty is forecast to contribute about 12.2 per cent of total general government revenue in 2021-22. The actual percentage will be subject to the performance of the housing market, including both the volume of sales and the average transacted price. While not considered likely at this stage, macroprudential policies that seek to restrain investor credit growth or increases to the Reserve Bank of Australia's (RBA) official interest rates (see section B.3) could negatively impact the housing market. A downturn in the residential property market, or even a market that grows below expectations, would detract from the State's budget result. Table B.3 denotes the sensitivity of forecast transfer duty to a one percentage point decrease in transacted residential prices and volumes respectively.

Table B.3: Revenue sensitivities – Transfer duty

Factors affecting transfer duty	2021-22 Budget $m	2022-23 Forward estimates $m	2023-24 Forward estimates $m	2024-25 Forward estimates $m	Sensitivity
Residential prices (average transacted price)	(163)	(179)	(167)	(147)	Single percentage point decrease in factor
Residential transaction volumes	(97)	(93)	(83)	(73)	

Other State taxes are typically less volatile than those mentioned above, and they generally correlate to changes in the broader NSW economy. For example, revenue from motor vehicle taxes, gambling taxes and other stamp duties rise and fall with consumption patterns across the State. As witnessed during the pandemic, consumption patterns can change suddenly and can be influenced by a range of factors from employment to house price growth.

GST and other Commonwealth payments

GST is collected by the Commonwealth Government and then apportioned to the States. Three main factors determine how much GST New South Wales receives over coming years:

- how much is collected in total across the nation (called the pool size)
- New South Wales' population as a proportion of the national population (called the population share)
- what portion of the pool is allocated to New South Wales (called the relativity).

None of these components are fixed and can change year on year.

Table B.4 illustrates the sensitivity of forecast GST distribution to New South Wales to a one percentage point increase in taxable consumption and dwelling investment (the main drivers of the GST pool size), and to an equivalent increase in the NSW population share.

Table B.4: Revenue sensitivities – GST

Factors affecting GST	2021-22 Budget $m	2022-23 Forward estimates $m	2023-24 Forward estimates $m	2024-25 Forward estimates $m	Sensitivity
Taxable consumption	118	123	130	138	Single percentage point increase in factor
Dwelling investment	38	39	40	43	
Population share	218	222	222	224	

When determining the relativity (the share of the pool), there is a formula that drives how much GST is provided to each State. Under this formula, the following events can lead to a changed share to New South Wales:

- changes to New South Wales' own-source revenue, relative to other States
- a change in the Commonwealth's assessment of how much expenditure New South Wales needs, compared to other States
- a change to National Agreement and National Partnership payments relative to other States.

The Commonwealth Grants Commission (CGC) assesses states' GST needs based on the average spending and revenue policies of all states. The averages vary over time due to underlying changes in state policies as well as updated or new data.

Over the following year, NSW Treasury will continue working with the CGC regarding the economic consequences of the COVID-19 pandemic and its impact on states' expenditure needs and revenue sources as part of the CGC's annual assessment of each states' GST requirement.

The forecasts in this Budget take into account expected National Agreement and National Partnership Payments. Actual results can vary from forecasts if there are new, renegotiated or ceased programs and infrastructure projects over the forward estimates period.

Royalties

New South Wales' mining royalties can be volatile. A large share of royalties revenue is generated from coal exports to Asia, which means that the amount of royalties collected in coming years are sensitive to changes in:

- coal production volumes – an increase in coal volumes increases the quantity of coal that royalties are charged on, hence increasing revenue
- coal prices – an increase in coal prices increases the value of coal sold to domestic and international customers, increasing royalties revenue
- exchange rates – an appreciation of the Australian-US exchange rate reduces the Australian dollar value of coal exports because coal exports are typically transacted in US dollars.

Table B.5 denotes the sensitivity of forecast royalties revenue to a one percentage point increase in coal prices, coal production volumes and the Australian-US exchange rate.

Table B.5: Revenue sensitivities – Coal royalties

Factors affecting royalties revenue	2021-22 Budget	2022-23 Forward estimates	2023-24	2024-25	Sensitivity
	$m	$m	$m	$m	
Coal prices	15	15	15	15	Single percentage point increase in factor
Coal volumes	15	14	14	15	
Exchange rate ($A vs $US)	(14)	(14)	(13)	(14)	

General expense risks

Some expenditure risks are largely within the Government's control and can be actively managed, whereas other risks are primarily outside of its control. For example, impacts associated with existing Government policy, employee expenses or the reprofiling of expenditure can be more actively managed, while expenditure linked to Commonwealth payments, interest rate changes or natural disasters are largely exogenous risks. This includes the expenses associated with the continuation of COVID-19 response measures, such as cleaning and quarantine costs.

The State's largest operating expense is employee related expenses, which includes salaries, wages, superannuation expenses and employment on-costs. Employee related expenses are impacted by factors including new enterprise bargaining agreements, public sector wage growth rates and the workforce size. Changes in these parameters can impact the budget result.

Some of the Government's larger non-labour operating expenses include the maintenance and depreciation of assets, electricity, insurance and fuel costs. Market fluctuations can see variations above or below what is forecast at the time of the Budget. For example, higher inflation could increase the cost of goods and services, which have historically outweighed the positive impacts on own-source revenues.

Table B.6: Expense sensitivities

Factors affecting expenses	2021-22 Budget $m	2022-23 Forward estimates $m	2023-24 Forward estimates $m	2024-25 Forward estimates $m	Sensitivity
Expenses					
Employee expenses (excl super)	(388)	(401)	(412)	(427)	Single percentage point increase in factor
Cost of goods and services	(263)	(237)	(237)	(219)	
Government services demand growth					
Health and education expenses	(451)	(445)	(460)	(473)	

Health and education services represent a significant proportion of public sector expenditure in New South Wales. The State receives Commonwealth Government payments for these services. Any decrease in these payments or heightened demand for these services can worsen the budget result. COVID-19 has led to an increase in Government expenditure related to quarantine, cleaning, contact tracing, pathology testing, vaccination, and personal protective equipment. Any further major outbreaks of COVID-19 would likely cause another short-term intensive public health response.

Other expenditure risks that could impact the budget result include:

- higher maintenance, depreciation and operating costs associated with the Government's record infrastructure program
- unforeseen legal expenses or costs associated with litigation
- changes to parameters that impact the liabilities and associated expenditure for superannuation, long service leave, other employee provisions and insurance provisions (see below for further balance sheet risks and sensitivities).

Investment revenue and borrowing costs

There has been a strong recovery in global financial markets since the COVID-19 related downturn during February and March 2020. Unprecedented monetary and fiscal policy measures have improved investor confidence, propping up underlying asset values and global financial markets generally. Some stock markets have been trading at record highs.

The strong rebound in global financial markets in a relatively short period of time gives rise to the possibility of market corrections in the future. As such, there is a heightened potential of volatility in global financial markets in the short-medium term.

The Budget is susceptible to changes in interest rates and the performance of global financial markets. The outlook for rising interest rates will increase the cost of new and refinanced borrowings. Global financial markets are also sensitive to interest rate changes, with rising interest rates negatively impacting company valuations and stock prices. The Government's exposure to financial assets means its investment returns are sensitive to variations from forecasts. Investment returns may be above or below estimates which would impact revenue. Adopting the Attribution Managed Investment Trust (AMIT) regime for the majority of Government investment funds can reduce investment revenue volatility impacts on the budget result by smoothing fund distributions over time.

The large size of the State's investments means that a one percentage movement in assumed investment return rates has a large impact on the Government's budget result. In comparison, a one percentage movement in interest rates would change interest expenses on borrowings, while also impacting interest revenue on any cash invested in the same way, and so providing some offset.

Table B.7: Financial markets and interest rates sensitivities

Financial markets and interest rate sensitivities	2021-22 Budget $m	2022-23 Forward estimates $m	2023-24 $m	2024-25 $m	Sensitivity
Investment revenue[(a)]	289	349	410	486	Single percentage point increase in factor
Interest revenue[(b)]	8	7	11	9	
Interest expenses[(b)]	(147)	(405)	(625)	(832)	

(a) A single percentage point increase in the expected investment rate of return (NIFF, SAHF, NGF and SHLF only).
(b) A single percentage point increase in interest rates.

NSW Treasury continues to develop financial risk management strategies that optimise and protect the State's balance sheet. For example, last year Treasury and TCorp have worked closely to implement the Total Portfolio Approach to investment portfolios. This approach is designed to produce greater returns per unit of risk through a more systematic method of diversifying portfolio risk.

There has been an increase in borrowing requirements and refinancing since the 2020-21 Half-Yearly Review, with a corresponding increase in future interest expense sensitivity. TCorp has continued to diversify its investor base by issuing across different bond tenors, including longer-dated tenors such as 2041 and 2051, during the second half of the year.

B.2 Balance sheet risks and sensitivities

Risks to the State's balance sheet include unanticipated changes:

- to the value of existing assets and liabilities (those already on the balance sheet)
- from the potential recognition of contingent assets and liabilities (those not shown on the balance sheet as the accounting recognition criteria are not yet met).

The significant market volatility caused by COVID-19 has had more impact on those funds with a higher weighting to growth assets – for example, equities. The easing of monetary policy and the unprecedented fiscal policy response to the crisis have introduced new risks to each of the investible asset classes. The risks and performance of funds are monitored closely, with risk appetites and asset allocation strategies reviewed annually to ensure they remain appropriate.

Liabilities for superannuation and long service leave are estimated with reference to a range of factors, including but not limited to assumed rates of investment returns, salary growth, inflation and discount rates. Changes in any parameter can affect the liability for defined benefit superannuation and long service leave.

The State faces potential obligations that are non-quantifiable, but which can be broadly grouped into commercial transactions and other contingent liabilities. As an example, the Government provided limited general warranties to purchasers and lessees under several energy transactions and has also retained responsibility for the costs associated with remediating pre-existing contamination at several power station sites.

Investments

The State holds several investment funds which are managed by TCorp, including the NSW Generations Fund (NGF), NSW Infrastructure Future Fund (NIFF), Social and Affordable Housing Fund (SAHF) and the Treasury Managed Fund (TMF). Under the existing governance arrangements, NSW Treasury recommends the risk appetite and/or investment strategy to Treasury's Asset and Liability Committee (ALCO) for endorsement. ALCO then recommends the risk appetite and investment strategy to the Treasury Secretary (as the Treasurer's delegate), or the Treasurer, as required.

These Funds have varying levels of exposure to growth assets (assets with higher levels of risk). The NIFF, for instance, has a relatively small allocation to equities (at 24 per cent) and keeps around half of its portfolio in liquid cash and bonds, which are defensive assets, so it can meet the State’s short- to medium-term infrastructure expenditure. On the other hand, the NGF has a high allocation of growth assets because of its long-term investment horizon, with about 40 per cent of its portfolio invested in Australian and internationally listed shares. This is in line with its strategic policy objective of helping ease the debt burden on the State’s future generations.

NSW Treasury, through the ALCO, continues to monitor the size of the NGF and consider the Budget and balance sheet risks involved as the Fund grows. This enables the development of risk management strategies to both help mitigate impacts and take advantage of opportunities arising from a growing NGF.

Under the *NSW Generations Funds Act 2018*, funds in the NGF can only be directed towards the repayment of the State’s debt. Both Moody’s and S&P Global recognise the balance of the NGF Debt Retirement Fund as an offset to the State’s debt metrics. Accordingly, market volatility that impacts the balance of the NGF carries additional risks to the State’s debt metrics. NSW Treasury manages this risk through the NGF investment strategy (the mix of assets it is invested in) which remains aligned to a long-term investment horizon. The NGF is invested in a diverse range of assets including domestic and international equities, bonds, property and infrastructure.

The outlook for financial markets remains highly uncertain. While the recovery in financial markets has been strong since the COVID-19 related downturn, there is a heightened potential of market volatility in the future. Market sensitivity to rising interest rates and the potential of market corrections in the future can impact business and investor confidence and therefore asset values.

During this period of increased uncertainty, NSW Treasury continues to work alongside TCorp to closely monitor and manage the risk exposures of the State’s investment funds. TCorp continues the transition of its funds management to using a Total Portfolio Approach to optimise the construction and management of these portfolios. The NGF, NIFF and SAHF have now transitioned to the Total Portfolio Approach. This approach facilitates a more systematic diversification of risk within each portfolio, allowing the State to better manage its total risk exposure across the various asset classes under investment.

Superannuation and long service leave liabilities

Forecast liabilities for superannuation and long service leave are based on a wide range of parameters. These include assumptions around salary growth, inflation, investment returns and discount rates. A change in any of these parameters may affect the actual liabilities of superannuation and long service leave. The long service leave liability is also subject to variations in the rate of employee retention.

Table B.8: Superannuation liabilities sensitivities[(a)]

Factors affecting superannuation liabilities[(b)]	2021-22 Budget	2022-23 Forward estimates	2023-24	2024-25	Sensitivity
	$m	$m	$m	$m	
Change in public sector wages and salaries	100	170	220	280	Single percentage point increase in factor
Change in Sydney CPI	710	1,380	1,980	2,710	
Change in investment return	(320)	(660)	(1,030)	(1,420)	
Change in discount rate	(9,200)				
Change in public sector wages and salaries	(100)	(170)	(210)	(270)	Single percentage point decrease in factor
Change in Sydney CPI	(710)	(1,370)	(1,960)	(2,680)	
Change in investment return	320	650	1,010	1,380	
Change in discount rate	10,500				

(a) A positive number in the table indicates an increase in the size of the liabilities, and vice versa. For example, a single percentage increase in public sector wages increases net liabilities, which weakens the financial position.
(b) For producing superannuation liabilities sensitivities, *AASB 119 Employee Benefits*, is used.

Any change in the growth of public sector salaries will affect the superannuation entitlements of those employees on a defined benefit scheme that are still in the workforce, while a decrease in CPI will lower the benefit payments to all members as their pension is indexed by the Sydney CPI. An increase in the investment return on superannuation assets will increase the funding level of the superannuation liability and improve the budget result. For further information on the unfunded superannuation liability, refer to Chapter 6 of this Budget Paper.

B.3 Specific fiscal risks

The COVID-19 pandemic

The Government is still managing the impacts of the pandemic with significant investments to stimulate the economy and support its recovery.

The most significant fiscal risk for New South Wales is a widespread outbreak. Significant restrictions imposed on a large geographic area would have a direct impact on key economic drivers such as employment and business and consumer confidence.

While Australia and New South Wales have secured sufficient vaccine supply for the entire population, risks still exist on the timing of this supply, confidence about its efficacy and potential low uptake of the vaccines.

Any interruption to the rollout of an effective vaccine to the population would likely see a further delay in the reopening of international borders, with negative implications for the economy.

Natural disasters

New South Wales was impacted by widespread storms and floods in February and March 2021 after the Summer bushfires in 2019-20. Further natural disasters will present a downside risk to the budget and potentially impact on the recovery efforts underway for affected areas.

National Redress Scheme for survivors of institutional child sexual abuse

On 9 March 2018, the NSW Government announced it would opt into the National Redress Scheme for survivors of institutional child sexual abuse. The forecast liabilities for the Scheme are based on a wide range of assumptions and parameters. These include assumptions about the exposure and latency of reporting abuse in New South Wales, and the number of applicants. Adjustments may be made to these parameters once more applications are received or as more data becomes available. In turn this could affect the actual liabilities and expenses of redress over the 10-year life of the Scheme.

Global trade tensions

In the last year, a range of formal and informal international trade limitations were implemented on Australian goods which included coal, beef and copper exports.

Further restrictions enforced on a broader range of exported goods and services (including education and tourism) pose a significant fiscal risk.

Interest rate risk

The RBA's monetary policy measures played an important role in supporting New South Wales' economic recovery from COVID-19. Lower interest rates and other monetary policy stimulus measures, such as purchases of government bonds and term funding facilities for financial institutions, have further lowered borrowing costs and provided liquidity to the financial sector, supporting house price growth and consumer spending.

The RBA has stated that it would not raise interest rates until actual inflation is sustainably within the 2 to 3 per cent target range. However, there is a possibility that the RBA changes its policy stance and starts to withdraw stimulus earlier than expected, which could hinder New South Wales' economic recovery.

Higher interest rates could pose a significant fiscal risk to New South Wales as it would increase interest payments on Government debt. In addition, higher borrowing costs could restrict household spending and may cause an appreciation of the Australian dollar, which could weaken demand for New South Wales' exports, ultimately leading to higher unemployment and declining tax revenue.

Infrastructure related risks

Infrastructure projects

The cost of the State's total estimated infrastructure program is $108.5 billion over four years but this could vary as individual projects proceed through their lifecycles, particularly if there are renewed COVID-19 restrictions. Factors such as availability and capacity of expert labour and capital equipment in the market, adverse weather conditions, and supply constraints with key construction materials can impact on cost estimates as well as the delivery schedule of projects.

Restart NSW

The Budget includes the estimated impact of expensing funds from the Restart NSW Fund to Government agencies (capital expenditure) and non-government proponents, principally local councils (recurrent expenditure in the form of grants). These estimates are informed by assumptions around the expenditure profiles of approved projects and unapproved projects (on the assumption that a formal approval will be forthcoming).

Changes to the timing of these approvals and project delivery schedules may affect the profile of actual expenditure. Unreserved balances in Restart NSW are not reflected in the Budget until a reservation or commitment is made. See Chapter 3 of Budget Paper No. 3 *Infrastructure Statement* for more information.