NSW Generations Fund Contributions Framework

NSW Treasury

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EY Port Jackson Partners
Strategic Advisory

NSW Generations Fund Contributions Framework

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1 Executive summary

NSW Treasury has asked EY Port Jackson Partners to advise on a possible framework to guide when additional contributions should be made to the NSW Generations Fund (the "NGF").

1.1 History and purpose of the NGF

In the strong budgetary and economic climate of 2018, the NSW Government created the NGF with the primary purpose of supporting intergenerational equity. It committed to contributing to the Fund the proceeds of the WestConnex transaction. Both the contributions and associated returns of the NGF are dedicated to reducing the debt burden of the NSW Government and supporting the State's credit rating over the longer-term. Consistently with this objective, legislation requires that NGF funds be used for debt reduction.

The object of the *Fiscal Responsibility Act* is to maintain the triple-A credit rating of NSW. Therefore, in addition to considering the economic and financial impact of the NGF, it is also important to consider its likely impact on the credit rating.

The focus on debt reduction sets the NGF apart from many other sovereign wealth funds, which governments have often set up to smooth the use of exhaustible revenue streams (particularly mining royalties), in the context of minimal net debt and large budget surpluses.

In 2020, COVID-19 led to significantly higher expenses, lower revenues, and more debt for NSW. As part of articulating a long-term strategy to reduce net debt, the NSW government indicated that it would contribute to the Fund the proceeds of mining royalties and distributions from a number of state-owned enterprises. The Government also considered contributing proceeds from the mooted monetisation of Lotteries Duty (although this transaction did not proceed). As at June 2022, the Fund balance was $14.7b, and its net earnings (after notional interest costs) since inception were around $1.3b. Contributions to the Fund were suspended in mid-2021 due to the fiscal challenges associated with COVID-19, and the government indicated that contributions would resume once the net cash operating position was in surplus, currently expected in 2023-24. On current projections these policies would lead to the Fund growing to $83.3b by 2030-31.

1.2 Key policy decisions about the NGF

The NGF can earn additional returns, but it also exposes the State to additional risks. In the light of an understanding of these benefits and risks, decision-makers need to resolve a number of key policy questions, including:

- Are the expected **rates of return** sufficient to compensate for the additional risks of higher government gross debt?
- Is there a prudent limit to the **growth rate** of the NGF (and therefore growth in gross debt)?
- Is there a prudent limit to the **total size of gross debt**, and therefore the size of the NGF, given the additional volatility in State budget outcomes and net balance sheet?

1.3 Benefits and Risks of the NGF

The core idea underlying the NGF is that over the long term a portfolio of financial investments is likely to earn more than the interest paid by the State on additional debt. The government arbitrages the difference between the higher long-run rate of return expected from financial assets, and the lower cost of government borrowing. On current projections, the NGF is expected to improve budget outcomes by $1.2 billion in 2025-26.

The key balance sheet impact of the NGF is that ***gross*** debt – the volume of government bonds on issue – is higher than it would be otherwise, although the NGF does not (in the short term) affect ***net*** debt. Over time, NGF returns will affect net debt. If, as expected, the NGF generates returns higher than the interest costs on the extra gross debt, then these earnings will, other things equal, cumulatively reduce net debt, improving the State's fiscal position.

From the point of view of ratings agencies, on current methodologies, the key metric is adjusted debt as a share of revenue. Ratings agencies typically calculate adjusted debt as gross debt less selected financial assets – particularly the investments of a fund dedicated to debt reduction such as the NGF. As a result, additional contributions to the NGF generally do not affect the credit rating in the short term. But if the NGF has positive earnings and these reduce net debt, this assists the credit rating in the medium term.

While the NGF is likely to benefit the budget position over the medium term, it increases the volatility of budget outcomes, could make the budget position of NSW more vulnerable in a downturn, and it could affect the credit rating of NSW.

The NGF "grosses up" the State balance sheet so that both gross assets and gross debt are higher than if the State had instead used available funds to pay off existing debt. Higher gross debt locks in higher interest payments and greater obligations to repay principal, exposing the State to additional risk.

There is a risk that the value of the NGF's assets and the returns on those assets may fall materially in a market downturn. A 20% fall in the value of the NGF is plausible based on the portfolio risk appetite and TCorp modelling. Such a fall is likely to be associated with a significant economic downturn that would also affect the NSW budget directly. If the NGF grows as projected, then by 2027-28, the fall in the value of the Fund could be similar in size to the direct budget impact of a severe economic downturn. This may contribute to NSW needing to increase revenues or reduce services. Accounting standards and the Attributed Managed Investment Trust (AMIT) regime may affect how quickly published accounts reflect the fall in fund value, but there will be an immediate shock to the net financial position.

The NGF can affect the State's credit rating in two ways: it can change the State's actual fiscal performance; and it can increase the State's risk of being adversely affected by a change in ratings agency methodology.

The impact of contributing funds to the NGF on the State's fiscal health depends on whether returns are positive and the timing of any downturn. Contributions to the NGF may not immediately improve the State's credit rating because they result in higher interest payments. In the medium term, if the NGF achieves positive returns, it can reduce net debt and improve the credit rating. In a downturn, the NGF will drag on key credit metrics, but the risk of a ratings downgrade is mitigated by the practices of ratings agencies, which generally take a medium-term and forward-looking approach. They are

likely to project a material recovery in the Fund and therefore recovery in key credit metrics over the medium-term.

The NGF increases the exposure of the State's triple-A credit rating to changes in ratings agency approaches. The changes in approach may respond to events in NSW, or events elsewhere in the world beyond the control of the NSW Government.

The NGF increases the exposure of the State's credit rating to possible changes in how ratings agencies select and aggregate key metrics into overall ratings assessments. Under their current approach, ratings agencies primarily focus on an adjusted debt measure. If they change approach (for example, by increasing their focus on the quantum of interest payments) then higher gross debt associated with the NGF will contribute to a less favourable ratings outcome.

The NGF also means that the State's credit rating is exposed to possible changes in how ratings agencies treat government funds such as the NGF when they calculate key metrics such as adjusted debt. Under their current approach, ratings agencies offset gross debt with some financial assets such as the NGF. If they change approach (for example, by applying a "haircut" to the value of NGF assets), then higher gross debt and interest payments associated with the NGF will again contribute to a less favourable ratings outcome. However, history suggests that such changes in approach rarely happen in isolation, and it is hard to attribute ratings changes solely to changes in ratings agency approaches.

In practice, ratings are discrete steps and not continuous variables. The risks that the NGF will contribute to a ratings downgrade are higher if NSW is relatively close to a ratings downgrade threshold, typically indicated by a negative outlook or credit watch.

We have assessed three other potential risks associated with a larger NGF: an increase in the borrowing costs for NSW debt; constraints on the ability of NSW to borrow; and a negative impact on public confidence. Our judgement is that these risks are not significant. If the NGF causes any increase in borrowing costs when new debt is issued, the increase is likely to be materially smaller than the expected net return on the NGF, and an order of magnitude smaller than the interest rate impacts of shifts in the global macro-economic environment. This would be true even in a significant downturn. The NGF is unlikely to constrain the ability of NSW to borrow, even in a crisis. NSW has a very substantial capacity to borrow. History also suggests that in practice the Commonwealth Government or the RBA are very likely to intervene to maintain liquidity. The NGF is unlikely to affect public confidence and trust in government, even if it loses value, provided that those losses are in line with broader market movements.

Whether the benefits of the NGF outweigh the risks (as mitigated) depends on the risk appetite of the NSW government.

1.4 A prudent management framework for the NGF

In setting prudent limits to the growth rate of the NGF, and its overall size relative to the size of the NSW budget, the key considerations are:

- The potential net revenue from additional contributions to the Fund and their impact on long-term debt reduction;

- The broader fiscal position, including the enhanced risk if NSW is close to a ratings downgrade threshold, as is usually signalled by a negative outlook or being placed on credit watch;
- The overall size of the Fund, and therefore the absolute size of the downside risk, relative to the size of the NSW budget and balance sheet; and
- The risk tolerance of the NSW government.

These considerations demonstrate that the returns and risks of the NGF fundamentally depend on the balance sheet, rather than the quantum of income from particular sources. Consequently, we recommend that contributions to the Fund should not be based on particular sources of revenue, such as royalties or dividends from state-owned enterprises, which may not correspond to the size of various components of the balance sheet.

These balance sheet considerations could be usefully operationalised by developing fiscal rules for contributions to the NGF anchored to well-understood budget metrics. The rules chosen would depend on the risk tolerance of NSW. The rules would have two components: the trigger to contribute; and the quantum of contribution if the trigger is met.

In choosing the trigger for contributions, NSW could consider three possible benchmarks, reflecting increasing risk tolerance.

First, the most risk averse approach would be for NSW to contribute to the NGF only if **Net Lending/(Borrowing)** is positive. In practice this implies that current revenues are covering all operating and capital expenses. Contributions to the NGF would only be made when NSW had no new net borrowing. This relatively conservative approach would be based on the idea that it is prudent to contribute surplus funds only once all capital has been funded up-front. It may be seen as overly conservative as it could be seen to underweight the future benefits, including future additional government revenue, generated by capital expenditure.

Second, a less conservative approach would only contribute to the NGF if there is a surplus **Budget Result**. Using this approach, contributions would only be made if recurrent revenues exceed expenses and depreciation on historic capital investments. With growing capital expenditure, this rule would still require new net borrowing, and net debt may increase as a share of GSP.

Third, a less conservative option, which aligns with current announced policy, would only contribute to the NGF if there is a positive **Net Cash Operating Balance**. The net cash operating balance excludes both capital spending and depreciation, and so is a less reliable indicator of a sustainable budget position. It would allow contributions to the NGF even when NSW revenues were insufficient to pay for its capital spending over the long run. It would increase risk from the NGF at the same time that the underlying budget outcomes were also adding to balance sheet risk. This current announced policy is not an unreasonable approach. However, the NSW Government may wish to consider the more conservative benchmarks outlined above.

The quantum of contributions also depends on risk tolerance. In general, it is more conservative to limit contributions to the surplus above the trigger point. It is generally less conservative to limit contributions by reference to the income from particular revenue sources (as is the current announced policy), although this approach is not obviously linked to the key balance sheet considerations.

These options could result in materially different levels of contribution to the NGF over the next eight years, ranging from zero to $77 billion.

These rules also need to consider the impact of the NGF retaining its earnings, and doing so without allowing for notional interest costs. These gross NGF returns are projected to be in the order of $1.2 billion, or 0.2% of GSP in 2024-25, larger than the projected budget surplus. If NGF contribution rules depend on balance sheet considerations, it is arguable that contributions should be calculated net of the additions effectively made through retained earnings.

As Treasury has previously advised ALCO, the State should also set limits to the size of the NGF. To maintain the State's fiscal position, any sustained increase in net debt caused by a downturn in Fund value must ultimately be covered by higher State revenues or lower spending. Consequently, limits to the size of the Fund should be set relative to State revenues, taking into account the risk tolerance of the NSW government. If the Fund exceeds this size, then funds should be drawn down to pay off debt. We have not recommended a specific limit in this report.

For all of these settings, it would be prudent to take a more conservative approach when the State is on negative outlook or credit watch by the ratings agencies.

Although decisions to contribute to the NGF should not generally be determined by sources of revenue, large asset sales raise specific issues. An asset sale may distort outcomes because it typically temporarily boosts the Operating Result. If there is a large asset sale, NSW will typically give up a future revenue stream and reduce net debt. Investing the proceeds of asset sales in the NGF helps to replace the lost revenue stream and can diversify the revenue base. That said, it is challenging to articulate conditions in advance that would provide guidance for a range of different asset sales. We recommend that the NSW Government continue its current practice of deciding whether to contribute the proceeds of large asset sales to the NGF at the time, directly applying the key considerations of the broader fiscal position, the overall size of the Fund and the risk tolerance of the NSW Government.

1.5 Interaction between NGF treatment and fiscal policy

In determining the government's overall fiscal strategy, decision makers may wish to consider the longer-term consequences of the NGF.

For instance, net earnings from the NGF could be used to add to any surpluses that result from the government's revenue and expenditure plans, driving net debt down over time.

Alternatively, some of the net earnings from the NGF could be used to offset lower taxes or higher government expenditures, so that the underlying budget position (net of NGF returns) is less favourable.

To illustrate this point more clearly, consider two scenarios:

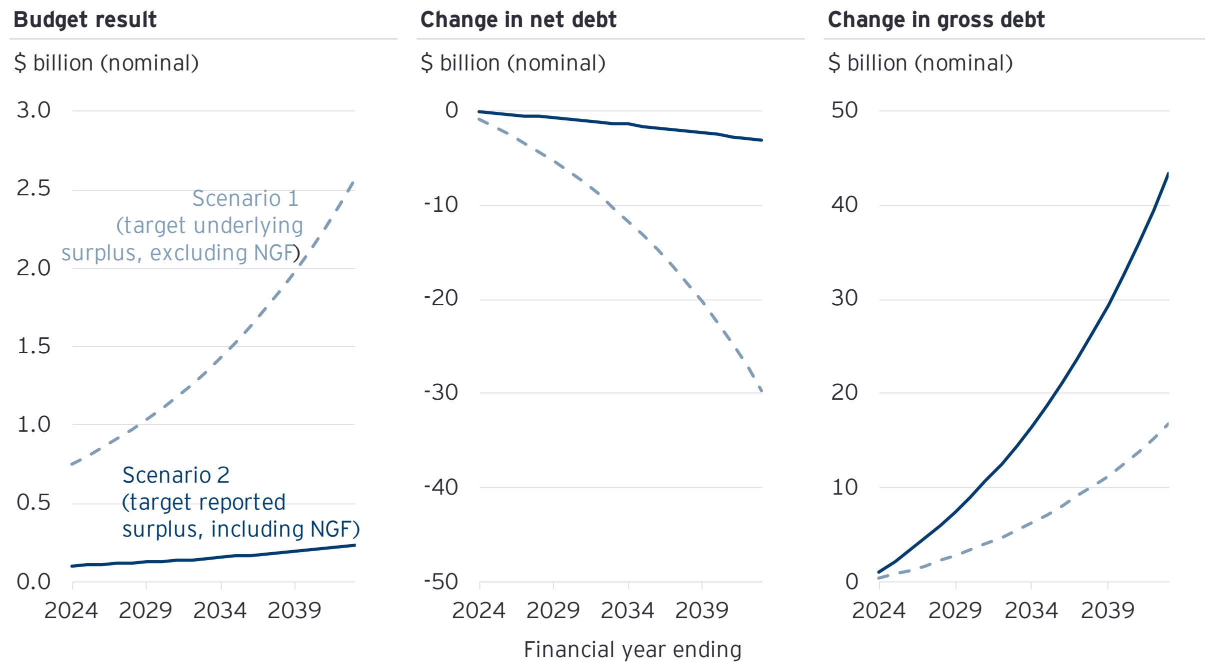
- In the first scenario, the government achieves a surplus and then allows the surplus to grow over time as balances in the NGF accumulate, while otherwise maintaining its underlying tax and expenditure plans.
- In the second scenario, the government achieves a surplus and then uses the increased earnings from ongoing contributions to the NGF to offset additional

government expenditure, with a small headline surplus that is increasingly reliant on NGF returns.

In either scenario, the NGF would grow at the same rate, driven by the retention of gross earnings. As shown in Exhibit 1, under the first scenario that targets an underlying surplus, net debt would fall materially, and gross debt would grow slowly. Under the second scenario that targets a reported surplus, net debt would change little, but gross debt would increase materially.

Exhibit 1

Scenarios illustrating impact of fiscal targets



Note: Assumes surplus target of $100m growing at nominal GSP of 4.5%; NGF returns 7%; cost of borrowing 3%; NGF balance of $15.5b in 2022; greater of NGF gross return or Budget Result retained by/contributed to NGF.

As this illustrates, whether the NGF serves its ultimate purpose of reducing net debt and budgetary risk depends on whether it affects other revenue and spending decisions.

Current budgeting practice, consistent with the treatment of other funds, includes NGF returns in the headline Budget Result. This may create the perception that government has greater fiscal headroom, while obscuring the risks. A fiscal measure that excludes net NGF returns would be $1.2 billion lower in 2025-26 than otherwise.

Whether the NGF leads to scenario 1 or scenario 2 depends on cumulative decisions over time. If decision makers are particularly concerned with the risk of baking in higher expenditure levels coupled with exposure to higher gross debt, then there are three potential mitigants.

First, the trigger thresholds and amount contributed to the NGF could be adjusted by excluding net NGF returns from the relevant metrics.

Second, government could present information in a manner that highlights the contribution of the NGF and quantifies the underlying budget position excluding net NGF

returns. This underlying budget position excluding net NGF returns could also be the basis for fiscal targets that underpin the fiscal strategy.

Third, government may wish to consider excluding NGF returns (net of interest costs) from the headline Budget Result as reported. This mitigant would be more salient to public budget discussions, but there are concerns that it may not be consistent with Australian Accounting Standards. Any such concerns could potentially be addressed by emphasising that this measure, adopted for fiscal policy and budget reporting purposes, is transparently derived from financial statements prepared in full compliance with Australian Accounting Standards.

2 Report scope and structure

2.1 Report scope

The NSW Government decided to suspend payments into the NSW Generations Fund (NGF) between 2021-22 and 2022-23, on the basis that the Government should not contribute in years when the Budget is projecting a net cash operating deficit.

With the Budget expecting a cash operating surplus in 2023-24, NSW Treasury has engaged EY Port Jackson Partners to provide advice on a possible framework for determining when it is appropriate to contribute additional payments to the Fund.

Among other relevant matters, the framework should consider:

- The fiscal and economic outlook
- The Government's objectives of maintaining fiscal sustainability and a Triple-A credit rating
- The legislative purpose, including that the Fund be managed in accordance with the principles of sound financial management set out in the *Fiscal Responsibility Act 2012*
- The Fund's investment management, including investment objectives, risk parameters and risk management practices.

In forming our judgments with respect to the advice, we conducted interviews with NSW Treasury and TCorp.

We also based our work on data provided by NSW Treasury, TCorp and publicly available material.

2.2 Report outline

Section 3 outlines the context and a brief overview of the NGF's purpose, history, institutional settings, and outcomes to date

Section 4 lays out key NSW budget aggregates and how the NGF is treated by them.

Section 5 provides the key considerations in considering additional contributions to the NGF

Sections 6 and 7 outlines the benefits and risks of contributing to the NGF, and provides guidance on making a judgment about the appropriate balance of the benefits and the risks.

Section 8 outlines key principles for a framework for expanding the NGF.

Section 9 discusses the interaction between NGF treatment and fiscal policy.

Section 10 provides an overview of international experience with sovereign wealth funds.

3 Context

3.1 NGF purpose

The NSW Government established the NSW Generations Fund (NGF) in 2018 with the objectives of providing funding for two purposes:

- Reducing the debt burden of the State by offsetting and ultimately paying down outstanding liabilities; and
- Developing facilities and services that improve community well-being.[1]

The purpose and operation of the NGF is set out in legislation under the *NSW Generations Funds Act 2018 (the Act)* which established two separate Funds within the Special Deposits Account: the NSW Generations (Debt Retirement) Fund; and the NSW Generations (Community Services and Facilities) Fund.

For the purposes of this report, the NGF refers exclusively to the Debt Retirement Fund.

Under the Act, the NGF is funded by income (dividends and distributions) and proceeds from the sale of the WestConnex project (more formally, the NSW equity interest in Roads Retained Interest Pty Ltd), and earnings from investments in the NGF itself. The Act also provides discretion for the Government and the Treasurer as the responsible minister to allocate other moneys for deposit into the Fund.

The legislation ringfences NGF Funds so that they may only be drawn down to reduce NSW State debt or to pay administrative expenses relating to the management of the Fund. Rating agencies view this legislative constraint on the use of funds favourably in assessing the NSW credit rating.

The NGF is part of the Government's fiscal strategy, set out in the *Fiscal Responsibility Act 2012*. That Act's object is to maintain the State's triple-A credit rating in order to limit the cost of government borrowing and to maintain business and consumer confidence.

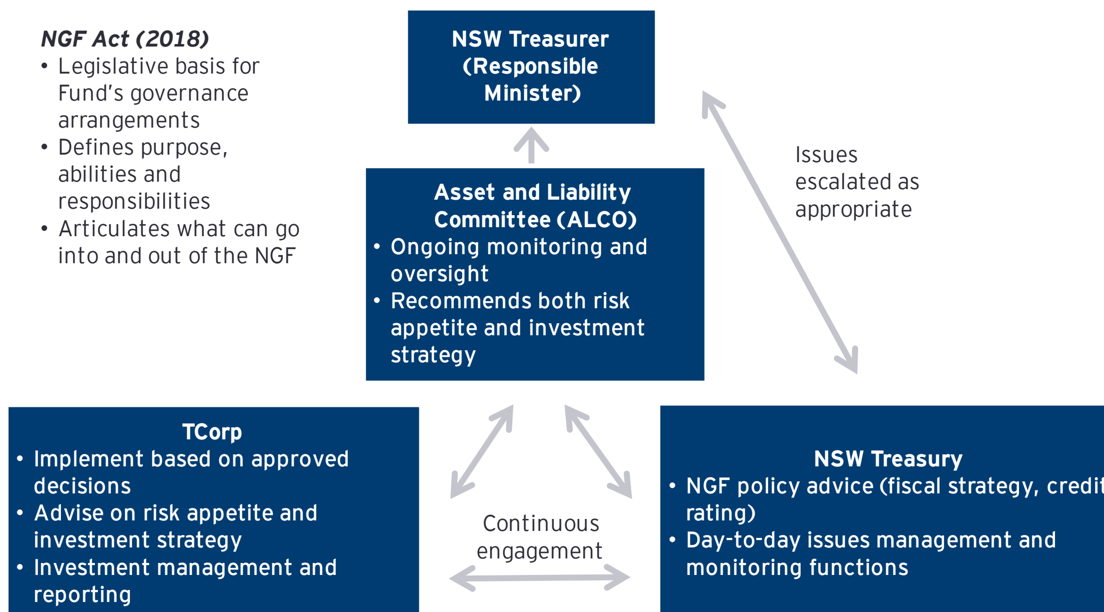
3.2 NGF Governance arrangements

The Treasurer is the NGF's responsible minister and is the ultimate decision maker regarding the Fund's investment objectives and risk appetite. As shown in Exhibit 2, the Treasurer is supported by:

- NSW Treasury's Asset and Liability Committee (ALCO), which advises the Treasury Secretary on policy development for the Fund
- NSW Treasury, which is responsible for the NGF's governance and management including oversight of TCorp as the mandated manager
- TCorp, which manages the Fund on behalf of the Government and provides advice to the Government on the investment strategy, risk appetite and portfolio asset allocation

[1] *NSW Generations Funds Act 2018*, ss.8, 12(1)

Exhibit 2
NGF governance arrangements



Source: NSW Treasury

3.3 NGF investment strategy and risk appetite

The NGF is designed as a long-term fund. Since inception it has targeted an investment return of CPI + 4.5% per annum (over rolling 10-year periods). The investment strategy is underpinned by the Government's risk tolerance outlined in an annual Risk Appetite Statement which takes into account the potential risks to the overall balance sheet. The NGF's risk tolerance is set by a number of metrics, and two of the most important are Conditional Value at Risk (CVaR) at the 5% level (i.e. one year in 20) should have average expected losses not worse than 8% per annum over a three year period or 18.5% in any one year. Annual reviews of the investment strategy and risk appetite settings provide a strong foundation for the NSW Government to address any risks arising from the Fund.

3.4 NGF contributions history and projections

The NGF received its initial Funds in 2018 with an investment of $10b, comprising $7b following the sale of 51% of the Government's stake in WestConnex, and $3b from 'balance sheet reserves'.

At the time, NSW was in a strong fiscal position. The Budget had been in surplus for several years driven by progressive asset sales, the State had significant levels of financial assets, low gross debt, and a triple-A credit rating from Moody's and S&P Global (noting S&P was on negative outlook at the time due to pressure on the Commonwealth rating).

A strong fiscal environment with surplus cash and low debt is typical of most international sovereign wealth Funds when they are established. In many of these cases, fiscal outcomes have been supported by income from exhaustible assets. Many Funds were designed to promote intergenerational equity by removing the incentive to spend windfall

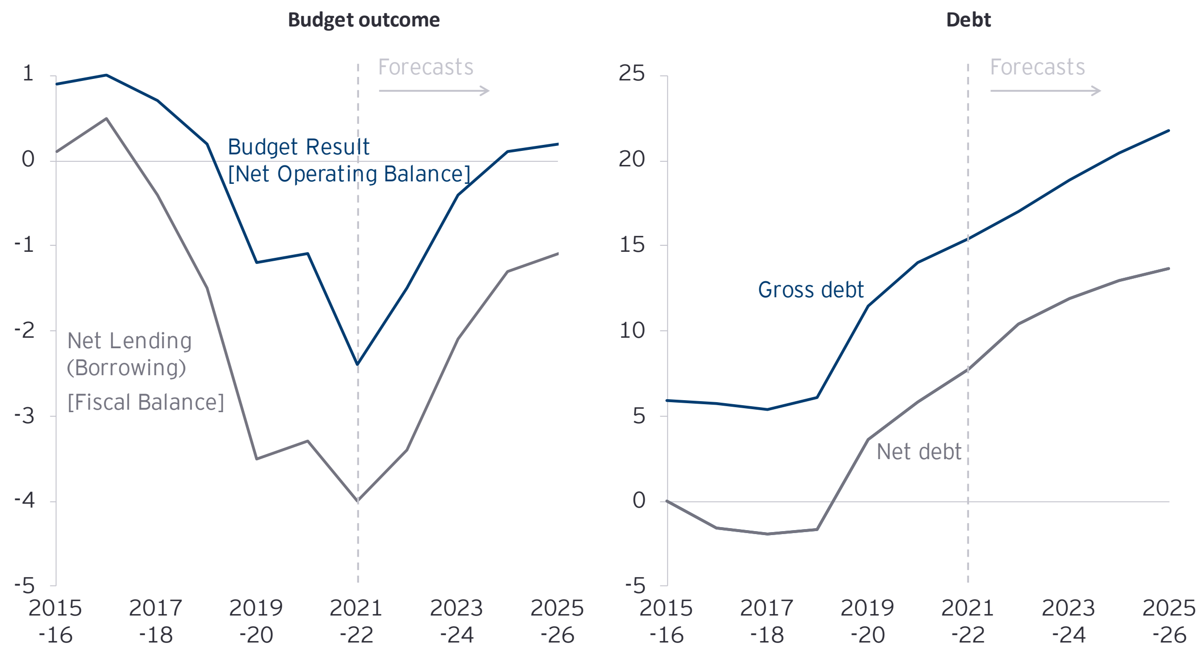
revenues immediately, and to smooth consumption between generations. These comparisons are discussed further below in section 10.

The economic and fiscal outlook has deteriorated materially since the NGF was established in 2018. COVID-19 and the Government's large infrastructure pipeline has significantly increased net borrowing, increasing net and gross debt (Exhibit 3).

Exhibit 3

NSW fiscal indicators

Share of Gross State Product



Source: NSW 2022-23 Budget papers

Because of this weakened fiscal position, S&P Global Ratings (S&P) downgraded NSW's triple-A credit rating in December 2020. In its rating assessment, S&P noted that NSW budget performance "will be considerably weaker than that of most highly rated international peers" and the rating downgrade "primarily reflects its rising debt burden".[2] NSW continued to hold a triple-A credit rating with Moody's in 2020.

Following the 2020-21 Budget and the significant impacts of COVID-19 on the State's fiscal position (including net debt), the NSW Government committed to redirecting some surplus cash, dividends from State owned corporations and mining royalties into the NGF to help reduce net debt towards 7% of GSP. The NSW Government contributed $2.1b in cash into the Fund in early 2021.

As the Delta Outbreak of the COVID-19 hit, NSW was projecting the net operating balance to deteriorate to its worst position on record at negative 2.4% of GSP (approximately 6 times larger than the GFC deficit in 2008-09). With the Government anticipating a significant net cash operating deficit in 2021-22, it suspended contributions to the NGF in October 2021 to allow the funds to be re-directed to fund COVID-19 related expenses. In

[2] S&P Global Ratings, *Why we downgraded the Australian States of New South Wales and Victoria*, December 2020, p1-4

2022, the Government decided that contributions to the Fund would resume once the net cash operating balance was in surplus, currently projected in 2023-24.

NSW also announced that the net proceeds from the sale of its remaining stake in WestConnex in September 2021 would be used to retire debt (and would not be invested in the Fund). The net proceeds and dividends totalling $11b were directed to the NGF's bank account to progressively pay down debt as bond lines mature. To date, $7.7b of debt has been retired using funds from the NGF's bank account.

As at June 2022, the NGF was valued at $14.7b (2.3% of GSP) comprising $12.5b in contributions and $2.3b in cumulative returns. According to the 2022-23 NSW Budget, which assumes that contributions will resume in 2023-24, the Fund is projected to grow to around $47b by 2026-27 and $94.3b by 2031-32.

The increase in the size of the Fund would be driven primarily by annual contributions from mining royalties and SOC distributions. As shown in Exhibit 4, by 2031-32, cumulative investment returns will have grown to around 38% of the Fund balance, with contributions the remainder, assuming target returns and contributions. This does not take into account the borrowing costs associated with the NGF. Accounting for the implied interest on higher borrowings,[3] the net return on the fund is estimated to be around $1.3b to 2021-22 and $15.2b, or 16% of the Fund balance by 2031-32.

Exhibit 4

NGF composition

$ billions

	2021-22	2026-27	2031-32
Contributions	12.5	34.0	57.8
Returns	2.3	12.2	35.9
Fund balance	**14.7**	**46.3**	**93.2**
Gross returns	2.3	12.2	35.9
Interest costs	(1.4)	(6.0)	(20.1)
Net return	**0.9**	**6.2**	**15.8**

Note: Interest payments calculated based on balance of fund and average interest rate on NSW debt for the year. Numbers may not add due to rounding.

Source: NSW Treasury NGF projections, EY Port Jackson Partners

[3] We have calculated the implied interest rate on the balance of the NGF using the *average* interest rate for all NSW outstanding liabilities for the year. This method is unlikely to yield materially different results to alternative methods such as using the cost of new borrowings in each year that funds are added, or the cost of new borrowings for the entire balance of the fund in each year (up to the total borrowed in the year), which would reflect the counterfactual of redeeming the balance of the NGF to pay down debt in that year.

4 Budgetary accounting for the NGF

The NGF is incorporated in the Government's consolidated financial statements. There are 3 primary statements with each statement providing a different lens on how the Fund fits within the broader fiscal position.

4.1 Operating statement

The Operating Statement provides an accrual accounting view of NSW revenue and expenditure.

Within the Operating Statement, the Net Operating Balance, known as the 'Budget Result', is usually the primary focus of official and media summaries of NSW budget outcomes, as shown in Exhibit 5.

The Budget Result includes most of the investment returns on financial assets, including the NGF, as "other dividends and distributions". This includes dividend and interest gains and realised capital gains and losses. However, it does not include unrealised capital gains. And under the Attributed Managed Investment Trust (AMIT) regime, volatile distributions can be smoothed between years. In general, if the NGF returns are greater than the target return, Treasury, with the Trustee's concurrence, can choose not to include these additional earnings in the Budget Result in that year. If NGF returns in subsequent years are less than the target return, this reserve can be added back and contributes to the Budget Result.

The Budget Result includes all of the interest paid on borrowings that might have been paid down if Funds had not been contributed to the NGF. In effect, therefore, the Budget Result captures the return on the NGF, net of borrowing costs, although the presentation of gross NGF returns as "other dividends and distributions" means that the net return is not separately disclosed within the Budget Operating Statement. This is consistent with the budgetary treatment of the State's other investment funds, with the exception of the defined benefit superannuation fund which is subject to its own accounting rules that present its returns net of interest.

The Budget Result also includes revenues from royalties and other sources, even if they are then transferred to the NGF. Whether these funds are contributed to the NGF, or transferred from the NGF to pay down debt, does not affect the operating position.

The "Operating Result" follows on from the Budget Result, adding on "Other Economic Flows". These include unrealised mark-to-market capital gains and losses as well as the change in the AMIT reserve. The Operating Result also includes the gain (loss) on asset sales above (below) their book value.

Exhibit 5

NSW Operating Statement relevant to NGF

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	NGF treatment
Revenues, including taxes, Cwth grants, royalties and most SOC dividends	88	104	104	107	110	113	• Includes NGF gross returns and realised capital gains/losses • Excludes additions to AMIT reserves
Expenses, including depreciation	(95)	(120)	(115)	(109)	(110)	(112)	• Includes additional interest costs from investing in NGF and not paying down debt
Budget result [Net Operating Balance]	**(7)**	**(17)**	**(11)**	**(3)**	**1**	**1**	
Other economic flows in operating result, including most proceeds from asset sales	3	5	0	1	0	0	• Includes unrealised capital gains/losses of NGF • Includes additions to NGF AMIT reserve
Operating result	**(4)**	**(11)**	**(11)**	**(2)**	**1**	**1**	• Captures all NGF returns and gains/losses
Other comprehensive income, including actuarial gain(loss) from superannuation and gain(loss) on financial assets	0	49	6	8	5	0	• No NGF flows
Comprehensive result [Total Change in Net Worth]	**(4)**	**37**	**(5)**	**6**	**6**	**1**	
Budget result [Net Operating Balance]	**(7)**	**(17)**	**(11)**	**(3)**	**1**	**1**	
Net sales of and investments in non-financial assets, including asset purchases, but writing back depreciation	(14)	(11)	(14)	(14)	(11)	(11)	• Does not include NGF, which is a financial asset
Net Lending/(Borrowing) [Fiscal Balance]	**(21)**	**(28)**	**(26)**	**(16)**	**(10)**	**(9)**	• Does not include additional borrowing required when cash transferred to NGF

Note: Totals may not sum due to rounding
Source: NSW 2022-23 Budget papers

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The Operating Statement then calculates the Net Lending/(Borrowing) requirement, also known as the "Fiscal Balance". The Net Lending/(Borrowing) requirement is equal to the Budget Result plus the capital expenditure on non-financial assets (usually infrastructure). It subtracts back the depreciation that is included in the Budget Result, because this depreciation represents the operating cost of previous capital expenditure. It does not include transfers into the NGF. The Net Borrowing requirement largely corresponds to the amount the Government needs to borrow to finance its operations and capital spend. However, as shown in Exhibit 6 because the Net Borrowing requirement is an accrual measure, it only approximates the actual cash borrowing requirement which depends on cashflows. The Government will generally need to borrow more than the Net Borrowing requirement if it directs some revenues (such as royalties) to the NGF.

If capital expenditure were constant in nominal terms over time, then in theory the Fiscal Balance would approximate the Budget Balance over time and indicate the same level of fiscal sustainability. With increasing capital expenditure, the Fiscal Balance is almost always larger than the Budget Balance, as illustrated in Exhibit 6. The divergence between the two reflects the additional depreciation expenses that will ultimately affect the Budget Balance if capital expenditure continues to grow. In this context, judgement is needed to determine the relevant measure of fiscal sustainability.

4.2 Cashflow statement

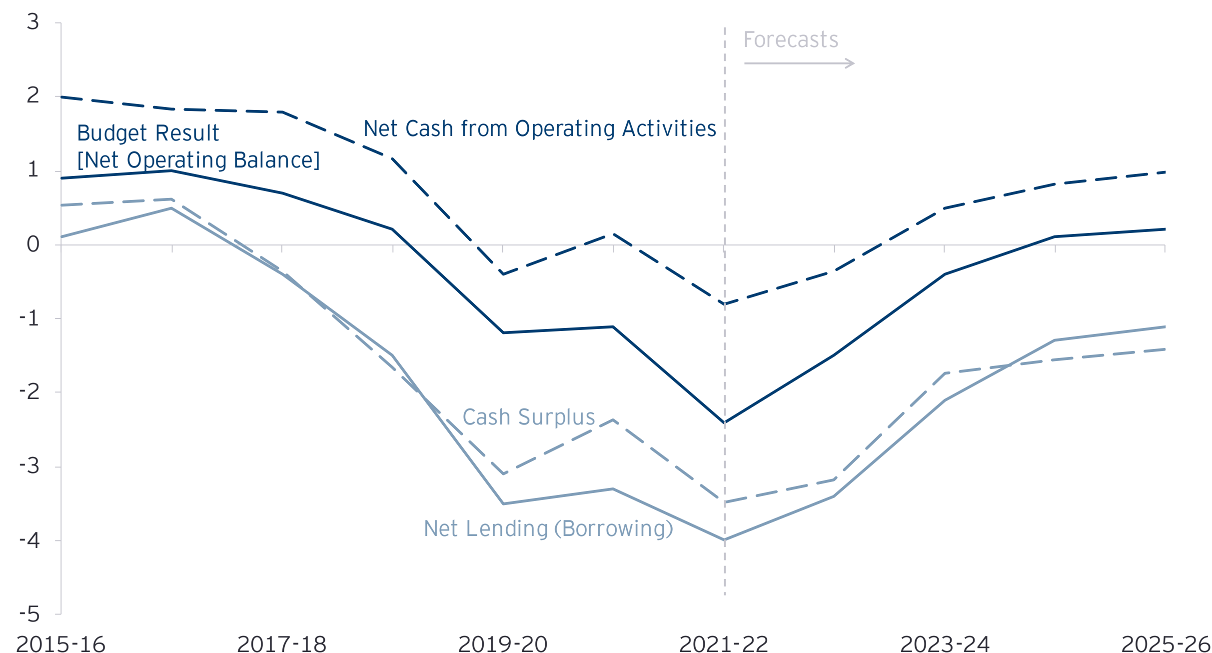
The Cash Flow Statement provides a cash accounting view of NSW revenue and expenditure, as shown in Exhibit 7. In deciding whether to add to the NGF, the NSW Government currently focuses on the net cash operating balance, described in the cashflow statement as the "net cash flows from operating activities". The government adopted this measure when it suspended additional contributions into the NGF to help alleviate the State's short term cash pressures due to COVID-19. The government indicated it would not contribute additional funds to the NGF unless the cash operating balance was positive, on the basis that balance indicates whether the government is using borrowings to fund operating activities.

However, even if the cash operating balance is positive, it does not indicate a stable fiscal position, because it does not include either capital expenditure or depreciation. Materially positive cash operating balances are required to pay for capital expenditure over the long term.

Net cashflows from operating activities are the cash analogue of the Budget Result – with one very material difference. Unlike the Budget Result, Net Cashflows from Operating Activities are focused purely on current operating activities, and do not include any allowance for depreciation of previous capital expenditure. This depreciation is the primary reason that the Budget Result is consistently around 1% of GSP lower than net cashflows from operating activities, as illustrated in Exhibit 6.

When the sale and purchase of non-financial assets are added to the cash operating balance, they sum to the "Cash surplus/(deficit)". This is the cash analogue of the accrual Net Lending/(Borrowing) requirement, and over time tracks relatively closely to the accrual measure as shown in Exhibit 6. An important difference is the Cash Surplus does *not* include NGF returns (realised or unrealised), because investments, returns and redemptions from the NGF are all included as "Cash flows in financial assets for liquidity purposes", below the "Cash Surplus" line.

Exhibit 6
NSW Budget balances
Share of Gross State Product



Source: NSW 2022-23 Budget papers

If there are additional contributions to the NGF, then cash flows from investments in financial assets for policy purposes, and cash flows from financing activities (i.e. borrowing), will both be higher than otherwise. Consequently, both Cash Surplus and Net increase in cash held are unaffected if there are additional contributions to the NGF.

4.3 Balance sheet

The Balance Sheet records the stock value of financial assets (including the NGF) and non-financial assets and liabilities, as shown in Exhibit 8.

Cumulative gross returns of the NGF are ultimately reflected in the stock of financial assets on the balance sheet because dividends and capital gains (realised or not) are automatically reinvested in the Fund.

When additional funds are contributed to the NGF, they are transferred from elsewhere on the balance sheet. The choice to contribute additional funds to the NGF rather than paying down debt effectively increases both assets and liabilities and does not initially change Net Debt, Net Financial Worth or Net Worth. Over time, net returns will contribute to these Net measures. Similarly, when funds are transferred from the NGF to pay down existing debt, there is no change in these net financial aggregates

Exhibit 7

Cashflow statement items relevant to NGF

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	NGF relevance
Cash receipts, including taxes, Cwth grants, royalties and most SOC dividends	92	106	104	104	106	109	• Includes revenues subsequently contributed to NGF
Cash payments, but <u>not</u> including depreciation • Interest paid on debt	91	111	106	100	99	101	• Includes additional interest costs incurred because money has been invested in NGF and not used to pay down debt
Net cash flows from Operating Activities	**1**	**(6)**	**(3)**	**4**	**7**	**8**	
Cash flows from investments in non-financial assets, including proceeds from sales, and infrastructure investments	(16)	(18)	(21)	(17)	(19)	(20)	• Does not include NGF, as excludes financial assets
Cash Surplus (Deficit)	**(15)**	**(24)**	**(24)**	**(14)**	**(13)**	**(12)**	
Cash flows from investments in financial assets for policy purposes	(3)	9	(2)	(3)	(1)	0	
Cash flows from investments in financial assets for liquidity purposes	(1)	1	3	(1)	(2)	(4)	• Includes investments in and redemptions from the NGF • Includes cash dividends earnt by NGF (unless reinvested)
Cash flows from financing activities, including money borrowed and repaid	17	14	21	17	15	15	• Money borrowed increases by more if revenues are invested in NGF rather than used to pay down debt • Money repaid includes repayments sourced from NGF to pay down debt
Net increase in cash held	**(2)**	**(1)**	**(2)**	**0**	**0**	**0**	

Note: Totals may not sum due to rounding
Source: NSW 2022-23 Budget papers

Exhibit 8

Balance sheet items relevant to the NGF

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	NGF relevance
Financial assets, including cash, receivables, and investments in SOC	168	187	189	199	205	212	• Stock of NGF financial assets
Non-financial assets, including infrastructure	286	308	326	342	355	367	• No NGF assets
Liabilities, including payables, employee and superannuation provisions and borrowings	(220)	(223)	(247)	(267)	(281)	(299)	• Includes borrowings that would be lower if less was contributed to NGF or NGF used to pay down debt
Net Worth	**235**	**272**	**267**	**273**	**279**	**280**	• Includes stock of NGF assets, net of borrowings
Net Debt Deposits held and borrowing, less cash, investments, loans, and advances paid [A subset of both financial assets and liabilities]	**(37)**	**(54)**	**(78)**	**(94)**	**(106)**	**(115)**	
Net Financial Worth Net Worth, but excluding non-financial assets such as property and infrastructure	**(51)**	**(37)**	**(58)**	**(69)**	**(76)**	**(86)**	

Note: Totals may not sum due to rounding
Source: NSW 2022-23 Budget papers

5 Considerations for additional contributions to the NGF

5.1 NSW fiscal policy

The NSW *Fiscal Responsibility Act 2012* provides the framework for the fiscal policy of NSW. The object of the Act[4] is to maintain the triple-A credit rating of NSW, in order to:

- Limit the cost of government borrowing
- Enable access to the broadest possible investor base for government borrowing; and
- Maintain business and consumer confidence, thereby sustaining economic activity and employment in the State.

The objectives of the Act are underpinned by three principles of sound financial management:[5]

- Responsible and sustainable spending, taxation and investment;
- Effective financial and asset management; and
- Achieving intergenerational equity

The NGF might serve these purposes by:

- Helping to maintain the triple-A credit rating by reducing NSW net debt faster (and also improving a number of other metrics on which Ratings Agencies focus);
- Increasing the sustainability of spending by reducing net debt and net debt servicing costs; and
- Increasing intergenerational equity by spreading the benefit between generations of exhaustible revenues (such as mining royalties and asset sales), quarantining today's revenues for expenditure later

In doing so, the NGF must ensure it does not contravene any of these purposes by:

- Exposing NSW to imprudent risks, incompatible with effective financial and asset management
- Exposing NSW to poor outcomes that might impair business and consumer confidence

The explicit purpose of the NGF, as described in the 2019-20 budget, is to help maintain debt at sustainable levels, and therefore lower the debt burden for future generations. The NGF was part of a four-pillar strategy to ensure a sustainable fiscal and economic future.[6]

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[4] Fiscal Responsibility Act 2012, s.3

[5] Fiscal Responsibility Act 2012, s.7

[6] NSW Treasury, *Budget Paper 1 2019-20*, p.1-2, 8-1

5.2 The core trade-off between revenues and risks

5.2.1 The NGF increases both revenues and risks

The core idea underlying the NGF is that over the long term a portfolio of financial investments is likely to earn more than the interest paid by the State on additional debt. The government arbitrages the difference between the higher long-run rate of return expected from financial assets, and the lower cost of government borrowing. On current projections, the NGF is expected to improve budget outcomes by $1.2 billion in 2025-26.

The key balance sheet impact of the NGF is that ***gross*** debt – the volume of government bonds on issue – is higher than it would be otherwise, although the NGF does not (in the short term) affect ***net*** debt. Over time, NGF returns will affect net debt. If, as expected, the NGF generates returns higher than the interest costs on the extra gross debt, then these earnings will, other things equal, cumulatively reduce net debt, improving the State's budget position.

While the NGF is likely to benefit the budget position over the medium term, it increases the volatility of budget outcomes, could make the budget position of NSW more vulnerable in a downturn, and it could affect the triple-A credit rating of NSW.

The NGF "grosses up" the State balance sheet so that both gross assets and gross debt are higher than if the State had instead used available funds to pay off existing debt. Higher gross debt locks in higher interest payments and greater obligations to repay principal, exposing the State to additional risk.

The returns from the NGF should be assessed net of the borrowing costs on debt that could otherwise have been retired. The choice for the NGF to be larger or smaller involves a corresponding choice for gross borrowing to be larger or smaller by the same amount.

NSW publicly reports the gross returns of the NGF. Currently, the NGF Annual Report and Budget Paper commentary do not report returns net of the interest costs that would have been avoided if funds had been used to pay down debt rather than invested in the NGF.[7] We recommend that NSW should also report NGF returns net of borrowing costs to ensure that the net benefits are not overstated.[8] This reporting on net outcomes would measure whether the NGF is meeting its intended objective of providing funding to pay down net debt. The reporting would also be consistent with periodic reporting on the Quebec Generations Fund.[9]

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[7] NSW Government, *NSW Generations Fund Annual Report 2020-21*.

[8] It is arguable that the outcomes of a decision *not* to invest in the NGF should be reported by retrospectively measuring the foregone returns relative to the lower interest costs. Periodic examination of this might be valuable, but it is not appropriate for regular reporting because both the investment returns and higher interest costs would be hypothetical. By contrast, when moneys are retained or invested in the NGF, both investment returns and additional interest costs are real.

[9] Quebec 2018-19 Budget, *Quebec is repaying its debt*, (2018-19), p.6-7

5.2.2 The key trade-off depends on the size of the NGF rather than the source of funds

The risk/return trade-off entailed by the NGF is largely similar irrespective of whether funds:

- are hypothecated from royalties or other specific revenue streams,
- represent the returns from asset sales, or
- are retained from earnings on the Fund.

Obviously, hypothecation can be a powerful communication tool. But all government moneys are fungible. The risk/return trade-offs primarily depend not on the source of funds, but on the size of the NGF, the broader fiscal environment, and the resulting expected returns and risks.

5.2.3 The source of funds can be relevant in some ways

The source of funds for the NGF can be relevant in some ways. For example, if a state asset is sold, NSW usually gives up the corresponding revenue stream but reduces net debt. Contributing the proceeds of the asset sale to the NGF may be seen as demonstrating that one-off asset sales are not being used to fund recurring expenses. Such an identifiable source of funds does not determine whether NSW would be better to add the proceeds to the NGF or use it to pay down debt. Adding to the NGF would create a replacement revenue stream. However, using the proceeds of the asset sale to pay down debt would reduce future interest expenses. The trade-off is the same as described above between a higher expected return, higher risk investment or a lower risk, lower expected return from retiring debt.

The source of funds may also be relevant because of the conditions that credit rating agencies have imposed on investments in funds such as the NGF. Breaching these conditions may affect credit rating agency confidence, and the State's credit rating, independently of the change to the risk/return trade-off. For example, S&P has stated that "if a government were to borrow to invest in financial assets, in our view, this would weaken its credit risk profile".[10]

The concept of "borrowing to invest" is not straightforward. One view is based on the hypothecation of specific revenue sources; the other view is based on an overall balance sheet approach on the basis that all money is fungible. The practice of the NSW government has been based on the former view. It is not always clear which view ratings agencies take. In general, we have sympathy for the latter view, focused on the overall position of the balance sheet and corresponding flows.

[10] S&P Global Ratings, How New South Wales' Generations Fund is influencing State Credit Quality August 2021, p5

6 The benefits of the NGF

6.1 Debt reduction

The core benefit of the NGF is debt reduction, which is its official legislative purpose.[11] The NGF is different in this respect to many of the other hypothecated funds set up by NSW, such as the Treasury Managed Fund, NSW Infrastructure Future Fund or the Social and Affordable Housing Fund, which are designed to generate revenues for particular policy purposes as shown in Exhibit 9.

The NGF will succeed in reducing debt if:

- The NGF generates returns higher than the cost of government debt; and
- Positive NGF returns do not encourage governments to increase expenditure or reduce other sources of revenue.

A larger fund is likely over the long term to diversify State revenues and improve the Budget result.[12] Investment returns higher than the cost of government borrowings over the long term are likely in an environment of long-term economic growth. The NGF's investment objective is to achieve returns of CPI + 4.5% over rolling 10-year periods.[13] This implies a nominal return of around 7% assuming CPI averages 2.5% over the long term, at the mid-point of the Reserve Bank's target range.

NGF returns are influenced by the interactions between inflation, interest rates, and asset prices. If inflation is higher, then the real return target of 4.5% requires a higher nominal return. In the long-term, nominal returns should rise in tandem with inflation, which should increase earnings and asset values. However, in the current environment, with supply constraints contributing to higher inflation, TCorp has indicated that it is harder to achieve the target return.[14]

The NGF can also improve the State's credit rating in the medium term, as discussed in more detail in section 7.3.2. From the point of view of ratings agencies, on current methodologies, the key metric is adjusted debt. Ratings agencies typically calculate adjusted debt as gross debt less selected financial assets – particularly the investments of a fund dedicated to debt reduction such as the NGF. As a result, additional contributions to the NGF generally do not affect the credit rating in the short term. If the NGF has positive earnings and these reduce net debt, this assists the credit rating in the medium term.

If the NGF grows as projected (see section 3.4) from $15b in 2021-22, to $93b in 2031-32, and delivers its target returns, then its net returns will increase from around to 0.7% of NSW government revenues by 2022-23, to around 1.4% by 2031-32 (Exhibit 10).

However, the NGF will only reduce net debt over time if it does not lead to other budget decisions to either reduce taxation or increase expenditure, as discussed below in section 9.

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[11] NSW Generations Funds Act 2018, s.8

[12] NSW Treasury, ALCO Briefing *NGF Optimal Size (August 2021)* p2

[13] NSW Treasury, *Budget Paper 1 2019-20*, p.1-6

[14] TCorp, *Review of Risk appetite Statements*, 2 September 2022, p.5

Exhibit 9

NSW key investment funds and related spending (as at 30 June 2022)

Fund	Balance ($b) (30/6/22)	Investment objective	Source of funds	Funding purpose	Operating statement accounting of related spending
Generations Fund (NGF)	14.7	CPI + 4.5%	Asset sales, mining royalties, SOC dividends, windfall tax revenues, investment returns, surplus cash (refer s9 of the *Restart NSW Act*)	Debt retirement	• Debt repaid reflected on cash statement, but not reflected on operating statement
Infrastructure Future Fund (NIFF)	9.0	CPI + 2.0%	Asset sales, windfall taxes, Waratah Bonds, investment returns, other contributions (refer s7 of the *Restart NSW Act*)	Infrastructure projects	• Reflected as grants or capex spending in the operating and cash flow statements
Treasury Managed Fund (TMF)	12.7	CPI + 3.5%	Government member agency premiums, investment returns, receipts from claims on reinsurance, funding ratio contributions	Workers compensation and other liabilities government entities	• Payment of claims and administration costs included as expenses in Budget Result
Social and Affordable Housing Fund (SAHF)	1.6	CPI + 4.0%	One off capital injection, investment returns	Social housing programs	• Reflected as grants or capex spending
Snowy Hydro Legacy Fund	4.2	CPI + 2.0%	Snowy Hydro sale proceeds, investment returns	Regional infrastructure projects	• Reflected as grants or capex spending in the operating and cash flow statements
State Super defined benefit scheme	38.0	CPI+4.5%	Employer contributions, investment returns	Defined Benefit Super liability	• Net interest cost (investment returns less notional interest cost) and liability amortisation treated as Budget expense; contributions appear in the cash flow statement • Gains excluded from Budget result but included in 'other economic flows' • Drawdowns do not flow through GFS

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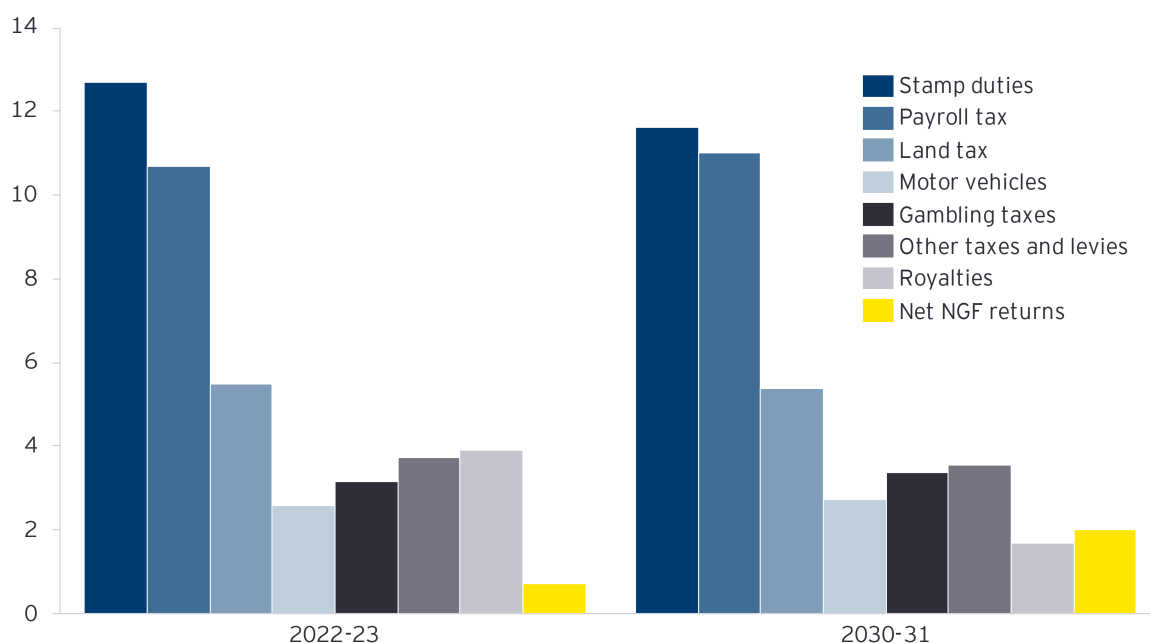
Exhibit 10
Sources of State taxation and NGF
Per cent of Government revenue



Note: Based on budget projections to 2025-26, from 2026-27, revenues grow in line with Nominal GSP growth; NGF projections are NSW Treasury medium term profile.
Source: NSW Budget papers, EY Port Jackson Partners

6.2 Intergenerational equity

It is arguable that intergenerational equity is fostered if non-continuing revenue streams (such as the proceeds of asset sales or royalties on exhaustible resources) are added to the NGF and generate returns for future generations to retire debt. This argument is powerful for governments that have no net debt and strong fiscal surpluses. Hypothecating revenues to a sovereign wealth fund may reduce the pressure to spend the surplus immediately. As shown in section 10, investment funds are often established by governments when they have no significant net debt and strong budget surpluses.

But with material net debt and operating deficits, then adding moneys to a fund such as the NGF does not obviously affect the touchstones of fiscal discipline:

- There will be no change in the **Budget Result**, because specific revenue streams are still counted in the Budget Result in the year they are received, even if they are then added to the NGF; and
- The State will still have significant **Net Borrowing,** whether or not funds are added to the NGF, due to the combination of operating deficits and funding for capital projects – and although adding to the NGF does not increase the Net Borrowing requirement recorded in the Operating Statement, it does increase the total amount that NSW needs to borrow.

Instead the primary benefit to future generations is that money invested in the NGF should generate returns that lead in the long term to lower net debt than otherwise.

7 The risks of the NGF

7.1 Classifying the risks

The risks of the NGF can be considered under three broad scenarios:

- A "normal" world in which returns on the Fund and economic growth are broadly positive;
- A "shifting" world in which significant events external to NSW cause ratings agencies to rethink the approach to government finances and funds such as the NGF, and this change materially affects the credit rating of NSW; and
- A "downturn" world with negative Fund returns or negative State economic growth – quite possibly both – which may well coincide with negative investment returns and negative economic growth globally.

The major concerns created by the NGF – generally more significant in a downturn - are:

- **Higher net debt** and a significant **fall in the Budget Result if** the value of the NGF falls
- A ratings agency downgrade
- An increase in bond spreads and borrowing costs across the book of NSW debt
- Constraints on the State's ability to borrow when it needs it most; and
- A fall in public confidence;

The following sections explore the nature of these concerns and indicate their potential significance.

7.2 Net debt and fall in operating balance

In a "normal" world, NGF returns will generally be positive. However, there is a risk that the value of the NGF's assets and the returns on those assets may fall materially in a market downturn. A 20% fall in the value of the NGF is plausible based on the portfolio risk appetite and TCorp modelling. Such a fall is likely to be associated with a significant economic downturn that would also affect the NSW budget directly. If the NGF grows as projected, then by 2027-28, the fall in the value of the Fund could be similar in size to the direct budget impact of a severe economic downturn. This may contribute to NSW needing to increase revenues or reduce services. Budget accounting may reduce the impact on budget metrics, but there will be an immediate shock to the net financial position.

Such a fall would not generally have a cash impact, or require additional borrowing. The cash impact is effectively incurred when moneys are directed to the NGF, and as a result the NSW net borrowing requirement is larger than otherwise. Of course, a fall in the value of the NGF would affect the assets available to repay those borrowings.

A fall in the value of the NGF's assets would affect the Budget Result (discussed above in section 4.1) and the gross operating result and balance sheet outcomes.

The potential budget impact due to the NGF if asset prices fall depends on a range of factors:

- The NGF portfolio
  - The size of the NGF
  - The NGF portfolio allocation, and its exposure to high-risk assets whose value falls substantially
- The nature of the asset price fall
  - The size of the fall in asset values
  - The length of the downturn
- Accounting treatment
  - The dampening effect of not including unrealised capital gains and losses in the Budget Result
  - The dampening effect of the Attribution Managed Investment Trusts (AMIT) regime that smooths NGF returns between years

The NGF is projected to grow faster than the economy and the NSW budget – and therefore it will become more significant relative to overall budget outcomes in a downturn. On current projections, NGF assets as a share of gross debt will increase from around 13% in 2022-23 to around 35% in 2031-32.

NSW can control both the size of the NGF portfolio and its asset allocation. These levers can be coordinated to maintain an (approximately) constant exposure to a fall in value by adopting a more defensive asset allocation if the size of the NGF increases.

The volatility of the Fund's value depends on the volatility of the assets in which it invests, the Fund's diversification, and the correlation in valuation of its assets. As at 30 June 2022, 9% of the portfolio was invested in Australian equities, and 35% in overseas equities, predominantly developed markets. Reflecting its growth objectives, the overall portfolio is weighted towards higher yielding assets with higher volatility. 56% of the Fund is invested in credit, unlisted property, and infrastructure, with valuations that only partly correlate with movements in equity valuations.

The impact of a fall in asset values on budget outcomes depends on how long it takes for asset values to recover. To assess the potential for negative NGF outcomes, and the potential length of downturns, TCorp conducts detailed analysis that takes into account the diversification of the NGF portfolio. As a more accessible simplification, long-term Australian equity market data provides a proxy for the potential frequency and length of market downturns. As shown in Exhibit 12, the Australian equity market is volatile. As shown in Exhibit 13, some Australian equity market downturns, such as those associated with the 'tech wreck' in 2001, and COVID-19 in 2020, were short-lived, and within a year assets had recovered much of their value. But some other market downturns – 5 over the past 100 years – have lasted much longer, with asset prices still 20% or more below their peak 5 years later.

TCorp historical stress test scenarios suggest that the 2001 and 2008 financial market downturns would have reduced the value of the current NGF portfolio by approximately 20% for a period of 1.5 years while the 1987 and 2020 downturns would have reduced the value of the Fund by around 18% for 1-3 months. This is a useful guide, although there are inherent uncertainties. Some of the assets in today's portfolio are relatively new asset classes with price histories that are not particularly long, and which cannot provide a

highly reliable guide to their correlations with more conventional asset classes under highly stressed market conditions.

These TCorp historical stress test scenarios suggest that a significant market downturn (and there have been at least 7 in 90 years) could reduce the value of the NGF by about 20%, and a significant part of this fall in value may persist for over 5 years.

Exhibit 11

Australian Equity Price Index, 1917-2020

March 1917 = 1, log scale

Note: Due to historical data limitations, this index does not incorporate returns from dividends – it is not an accumulation index
Source: RBA

Exhibit 12

Historic equity market falls in the Australian equities

Event	Peak to trough	Years down 20%	Years down 10%	Years to recover
1929 crash	-45%	4	6	8
1938 WWII	-35%	1	6	8
1970s	-70%	9	9	10
1987 Crash	-40%	6	6	6
2001 Tech Wreck	-18%	0	1	3
2007-08 Global Financial Crisis	-51%	6	10	12
2020 COVID	-40%	0.2	0.7	1

Source: RBA, Bloomberg, EY Port Jackson Partners

These stress tests are broadly consistent with, but a little larger than, TCorp conditional value at risk analysis (which uses a more complex methodology), which expects that 1 year in 20 the current portfolio would fall in value by an average of 17% over one year, and 12% over three years.[15]

If the NGF grows to $94.3b, as is projected by 2031-32, then a fall of 20% in the value of the Fund – if reflected in Budget outcomes in full and immediately – would increase net debt by around $19b, equivalent to 1.8% of GSP, equivalent to 13% of NSW government revenues. The uncertainties in these estimates of the potential frequency, size, and duration of a fall in the value of the NGF are discussed further below in section 7.2.

The full impact of a fall in the NGF's value would be reflected in the Operating Result and calculations of net debt. However, a significant part of a fall in the Fund's value will not be included in the Budget Result for that year. Much of a fall in value is likely to be unrealised capital losses. These are not reflected in the Budget Result and are only included in the Operating Result under "Other Economic Flows", as discussed above in section 4.1. Even if assets are sold, they may have accumulated capital gains not previously recognised in the Budget Result. In addition, if the Fund's overall returns fall short of the target return, some or all of gap in the Budget Result may be filled by adjusting the timing of distributions received from the NGF through the Attribution Managed Investment Trust structure, which could release above-target returns accumulated in previous years as discussed above in section 4.1. In theory the Budget Result could also be increased by bringing forward future expected distributions from the NGF, although this mechanism has not been utilised to date. However, these mechanisms will also depress the returns that the NGF would otherwise have delivered in the Budget Result for a number of years after a downturn.

A one-off hit to budget outcomes due to a market downturn and consequent fall in NGF value would have material but limited consequences for budget policy. The impact on the balance sheet would be a one-off reduction rather than an ongoing drag, assuming the value of the Fund recovered. But if returns from the NGF remain low for a number of years, and the wider fiscal environment is unfavourable, then governments may need to adopt fiscal measures – either revenue increases or cost reductions – to offset the medium-term reductions in NGF revenue. By 2031-32, the target net return for the NGF is expected to be 4.7% of NSW revenues.

A real-world economic situation that leads to a rapid downturn in asset prices is likely to affect the NSW budget directly as well. Asset market downturns are usually associated with significant economic events. The change in the economic environment might well have many other effects on the NSW budget. Most economic downturn scenarios would significantly reduce NSW revenues, particularly stamp duties and payroll taxes. A significant economic shock (for example a 5% reduction in annual nominal GSP) might well reduce NSW revenues by around 1% of GSP or 7% of total revenues.[16] Depending on the nature of the downturn, the revenue fall might well persist for several years. A significant economic downturn would not usually result in material increases to NSW expenditures, which primarily pay for services that do not vary significantly with economic activity. Of course, this depends on the nature of the shock: unlike most shocks COVID-19 increased the cost of health services and the demand for emergency business support with around

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[15] *NSW Generations (Debt Retirement) Fund 2022 Investment Strategy review for ALCO*, 8 December 2022, P.6

[16] Indicative analysis provided by NSW Treasury.

$29b of additional spending and $18b of reduced revenues in the 2020-21 Budget, which comprised 28% and 17% of annual government revenue.[17]

If the NGF is sufficiently large and if the fall in returns is sustained, the NGF could materially exacerbate fiscal stress for several years if there is a significant economic slump and an accompanying fall in investment returns. NSW might simply "ride out" such an outcome. But in this scenario, the squeeze on cashflow and ongoing poor budget outcomes might pressure NSW to liquidate assets at a time of low valuations, increase revenues or reduce government services.

The impact of the NGF in a downturn partly depends on the broader fiscal position. If NSW has a less robust budget position – for example if it has a significant structural budget deficit or significant net debt – then it is inherently more vulnerable in a crisis. The NGF – if it is sufficiently large – may then materially exacerbate fiscal stress, making it more likely that NSW will be forced to make unpalatable short-run fiscal decisions.

Beside its impact on budget policy, a significant and persistent fall in the value of the NGF might also affect ratings agency assessments, the price of and demand for NSW government debt, and public confidence. These effects are discussed below.

7.3 Ratings agency downgrade

As discussed above in 3.1, the object of the *Fiscal Responsibility Act* is to maintain the triple-A credit rating of NSW. The NGF therefore needs to be managed so as to minimise the risks of a credit rating downgrade. S&P downgraded NSW to double-A plus in December 2020 while Moody's and Fitch have retained NSW at the triple-A level on stable outlook. Given the object of the Act, it is appropriate to compare NSW's performance against triple-A benchmarks and peer groups.

The NGF can affect the State's triple-A credit rating in two ways: it can change the State's actual fiscal health; and it can increase the State's risk of being adversely affected by a change in ratings agency methodology.

7.3.1 How credit ratings are calculated

Rating agencies use a variety of quantitative and qualitative metrics to assess credit ratings, as shown in Exhibit 13. Ratings agencies typically take into account both the absolute level and the trajectory of these metrics focusing on the medium-term outlook, variously defined as a 3-5 year period.

While the precise method varies, some ratings agencies usually include the debt and revenues of some Government related entities in their calculation of government credit ratings, reflecting the implicit expectation that governments would stand behind these entities in a crisis.

Credit rating agencies have specific thresholds for their ratings and while the methodology allows some discretion to take other factors into account, observation of key metrics can identify when the rating is at risk of downgrade.

[17] NSW 2022-23 Budget Statement, B-5

As Exhibit 13 shows, the performance of NSW on some of these metrics is relatively poor compared to the limited number of sub-national governments that are triple-A rated. For the purposes of retaining the triple-A credit rating of NSW with Moody's and Fitch, this is an important comparison. All of these peers are now from other countries because NSW is the only remaining Australian State or Territory with a triple-A rating from more than one of the major rating agencies.[18] There are relatively few international sub-sovereign entities that Moody's rates triple-A (mostly from Germany and Canada).

Exhibit 13

Key credit rating benchmarks

Metric*	Indicates	Issues relevant to NGF	NSW performance
Adjusted debt to revenue	• Ability of revenues to repay debt	• NGF increases exposure of NSW balance sheet to market risks • Agency definitions of adjusted debt vary, some do not offset entire value of NGF, and agencies may change methodology	• Deteriorating • Poor compared to triple-A rated peers
Interest payments to revenue	• Ability of revenues to service debt • Share of income committed to debt costs and therefore unavailable for recurrent spending	• Measure does not consider offsetting revenue generated by NGF investment	• Deteriorating • Mid-rank compared to triple-A rated peers
Budget Result (both operating balance and net lending/ borrowing) to revenue	• Adequacy of revenues to cover operations and investments	• Needs to be read in conjunction with balance sheet metrics	• Improved post COVID, but 2-year outlook deteriorated in 2022-23 budget • Mid-rank compared to triple-A rated peers
Liquid assets to short term debt servicing requirement	• Sources available to meet short-term cash flow needs	• Liquid assets subject to market risk • Market access could be disrupted in crisis	• Strong
Governance and financial management	• Defines legal and regulatory operating environment • Quality of fiscal planning and decision making	• Qualitative	• Strong

[18] WA retains a triple-A rating with S&P

7.3.2 Rating agency treatment of the NGF

The impact of contributing funds to the NGF on the State's fiscal health depends on whether returns are positive and the timing of any downturn. Contributions to the NGF may not immediately improve the State's credit rating because they result in higher interest payments. In the medium term, if the NGF achieves positive returns, it can reduce net debt and improve the credit rating. In a downturn, the NGF will drag on key credit metrics, but the risk of a ratings downgrade is mitigated by the practices of ratings agencies, which generally take a medium-term and forward-looking approach. They are likely to project a material recovery in the Fund and therefore recovery in key credit metrics over the medium-term.

Ratings agencies usually include all or most of the value of assets held in a fund such as the NGF when calculating adjusted debt. Ratings agencies only provide this beneficial treatment for a government investment fund such as the NGF if it is specifically dedicated to debt reduction by legislation. Moody's and Fitch include all of the assets of the NGF in calculating adjusted debt; S&P apply a haircut to 50% of the equities held in the NGF (which currently equates to 20% of NGF assets).

If rating agencies include a debt reduction fund as a debt offset, then the debt reduction fund is not included in measures of liquidity, to avoid double counting. Rating agencies have advised that if a debt reduction fund is not included as a debt offset, then it would be included in assessing liquidity available to meet short term liabilities.

Exhibit 14 shows the direction of the effect on credit rating metrics if there are additional contributions to the NGF. These effects can be considered:

- In the very short term, as additional contributions are made;
- In the medium term, assuming stable returns, and no change to other budget settings (see above section 6.1); and
- In a downturn, assuming a significant and sustained fall in the value of NGF assets.

In the very **short-term**, additions to the NGF (rather than paying down debt) can negatively affect some credit rating metrics. Interest payments/revenue are immediately affected unless (like Moody's) the agency offsets interest payments with Fund returns. If ratings agencies do not include all of the NGF in calculating debt levels (for example, S&P currently applies a 20% "haircut"), then the addition would also negatively affect metrics of adjusted debt. Both effects are likely to be marginal.

In the **medium term**, additions to the NGF (rather than paying down debt) will positively contribute to a number of credit rating metrics. As discussed above in section 6.1, provided that the NGF generates returns higher than the cost of government debt, and does not lead to governments loosening fiscal discipline, the NGF will reduce debt, improve Budget Results, and marginally reduce interest payments relative to revenue. It may also be seen as part of a larger regime of good budget governance and management that positively contributes to credit rating assessments.[19]

[19] Credit rating agencies have commented favourably on Quebec in this respect: S&P Global Ratings, *Credit Opinion of Quebec* (2017)

Exhibit 14

Directional impact of NGF contributions on key credit rating benchmarks

Metric*	Short term	Medium term	Downturn
Adjusted debt to revenue	• No impact unless haircut is applied	• Improves in line with growing NGF balance and cumulative net NGF returns	• Deteriorates due to valuation changes
Interest payments to revenue	• Deteriorates unless Ratings Agency offsets interest payments with Fund returns, and Fund returns are greater than interest costs	• Deteriorates unless Ratings Agency offsets interest payments with Fund returns, and Fund returns are greater than interest costs	• Declines due to lower revenues
Budget result (operating and net borrowing) to revenue	• No impact	• Improves, as net NGF returns increase operating balance	• Deteriorates as lower NGF returns reduce Budget Result
Liquidity	• No impact	• No impact unless haircut applies and NGF assets included under liquidity	• No impact unless haircut applies and NGF assets included under liquidity
Governance and management	• Fiscal Repair measures (such as NGF) viewed favourably	• Helps demonstrate Government's ongoing commitment to fiscal repair	• Depends on management through downturn

Note: Effects assessed relative to counter-factual of paying down debt instead of contributing to NGF.

The impact of the NGF on credit ratings if there is a **significant downturn** depends on how long the NGF has generated positive returns, whether these returns have been saved or spent, and the depth and length of the downturn. Because rating agencies typically take a medium-term forward-looking approach, they are likely to take into account a fall in the value of the NGF but offset that fall with an expected recovery in investment returns over the medium term. Given history, ratings agencies are most likely to assume that a sudden fall in asset values would be followed by a material recovery – although a few asset downturns have historically been followed by very long periods of under-performance. So long as ratings agencies use a forward-looking approach, the NGF is unlikely to have a large impact on credit ratings, even if there is a sharp downturn.

The negative impacts of a larger NGF during a downturn must be considered in the context of the benefits that it has provided in previous years. The balance between these impacts is discussed further below at section 8.1.

7.3.3 How credit rating calculations might change

The NGF increases the exposure of the State's triple-A credit rating to changes in approach to credit ratings as assessed by Moody's and Fitch, and the future assessment of

S&P (which has downgraded NSW). The changes in approach may respond to events in NSW, or events elsewhere in the world beyond the control of the NSW Government.

The NGF exposes the State's credit rating to possible changes in how ratings agencies select and aggregate key metrics into overall ratings assessments. Under their current approach, ratings agencies primarily focus on an adjusted debt measure. If they change approach (for example, by increasing their focus on the quantum of interest payments) then higher gross debt associated with the NGF will contribute to a less favourable ratings outcome.

The NGF also exposes the State's credit ratings to possible changes in how ratings agencies treat government funds such as the NGF when they calculate key metrics such as adjusted debt. Under their current approach, ratings agencies offset gross debt with some financial assets such as the NGF. If they change approach (for example, by applying a "haircut" to the value of NGF assets), then higher gross debt and interest payments associated with the NGF will again contribute to a less favourable ratings outcome.

Ratings agencies have changed their methodologies – or at least have become more explicit – in the past. Such a change may influence the State's credit rating because it implies that NSW is performing less well than previously identified. That said, it is likely that any downgrade will be attributable to a range of factors. Other changes in methodology have sometimes been associated with downgrades, although almost invariably there were also changes in the economic environment, so it is hard to attribute the downgrade simply to the change in methodology.

Credit quality assessments are a difficult task in a dynamic and evolving economic and financial system. As the structure of issuers' finances change, rating agencies inevitably need to refine their methodology. For example, net financial liabilities were previously a key benchmark for S&P in assessing debt servicing capability. However, as governments began to create funds dedicated to unfunded superannuation liabilities, they appeared to create excessive headroom, and as a result S&P changed its assessment framework.

Similarly, rating agencies updated their methodologies for both sovereign and sub-sovereigns as the experiences of the Global Financial Crisis (GFC) and the euro area sovereign debt crisis changed the context of government credit quality assessments. Prior to the GFC, credit rating methodologies varied between rating agencies, were less specific and relied on a number of undisclosed factors. The three major rating agencies all updated their published methodology between 2008 and 2011. Changes included greater emphasis on the overall debt burden, and expanded the definition of debt to include state-owned corporations and exclude unfunded superannuation liabilities. They also focused more on operating balance volatility and exposure to market risk and less on current economic conditions. Some ratings agencies introduced explicit "anchors" for fiscal balance, net debt, gross debt and interest costs. It is arguable that many of their updates did not reflect fundamental changes to their assessment methodology, but merely made the existing methodology more explicit and transparent.

At around the same time, there were a series of credit rating downgrades. The United States, France, Japan and United Kingdom all breached credit quality metrics / qualitative benchmarks and lost their triple-A rating. Other countries such as Greece and Portugal were downgraded to junk status. However, changes in ratings methodology were not the sole cause of these downgrades, which also reflected a significant deterioration in fiscal outlook with the GFC and the euro area debt crises

Rating agencies may change their specific methodologies for calculating the impact of sovereign wealth funds on key fiscal metrics. Any assessment under a new methodology would be relative to NSW's peers. If the NGF is a larger part of the NSW balance sheet than comparable funds on the balance sheet of NSW's peers, and rating agencies reduce the size of the debt offset from debt retirement funds in calculating debt, this could result in a less positive assessment of NSW's debt position. This is a real risk for future assessments by Moody's and Fitch; S&P, which has already downgraded NSW to double-A plus, flagged the treatment of the NGF's assets in August 2021:[20]

> *"To ensure potential market risks are factored into our credit assessment, we may alter our valuation of the DRF's assets when calculating the state's adjusted debt, revert to measuring tax-supported debt without the deduction"*

With a large NGF, the impact of doing so would be material. If the NGF were $50b, as is expected in 2027-28, applying a 50% haircut would increase rating agencies' measure of debt by $25b, with General Government debt increasing from 150% as a share of revenue to 170%, relative to the triple-A benchmark of 150%.[21] NGF assets would then boost the liquidity measure, although rating agency frameworks typically give this less weight than debt and interest burden metrics when assessing overall financial performance.

That said, similarly to the history of credit metrics after the GFC, the methodology for the treatment of sovereign wealth funds is likely to change because of other external economic circumstances and government practices. These economic circumstances may also affect NSW directly, and so it will be difficult to attribute any downgrade solely to the size of the NGF and the change in methodology.

7.3.4 Impact of broader fiscal environment on risk/return trade-off

Even if the risks of investing in the NGF are generally acceptable in light of the expected returns, it may be prudent to take a more conservative approach when the State's credit rating is on negative outlook or credit watch, implying that the risk of a ratings downgrade is particularly high in the broader fiscal circumstances.

If NSW already has a significant structural deficit or net debt, so that it is on negative outlook or credit watch, there is more chance that the NGF could trigger a credit rating downgrade that may not have occurred otherwise. S&P has already downgraded NSW, but other ratings agencies may adopt similar attitudes to S&P, which noted that, [22]

> *[adding to the NGF when the Budget is in deficit may be] "neutral in net debt terms, but not neutral for balance sheet risk or consequently the credit rating"*
>
> *"The rapid projected growth of the [NGF] toward A$90 billion, at a time when NSW is also incurring substantial deficits, may accentuate exposure to market risks".*

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[20] S&P Global Ratings, *How New South Wales' Generations Fund is influencing State Credit Quality*, August 2021, p5

[21] Indicative analysis based on Moody's non-commercial debt measure highlighted in ALCO briefing

[22] S&P Global Ratings, How New South Wales' Generations Fund is influencing State Credit Quality August 2021, p5

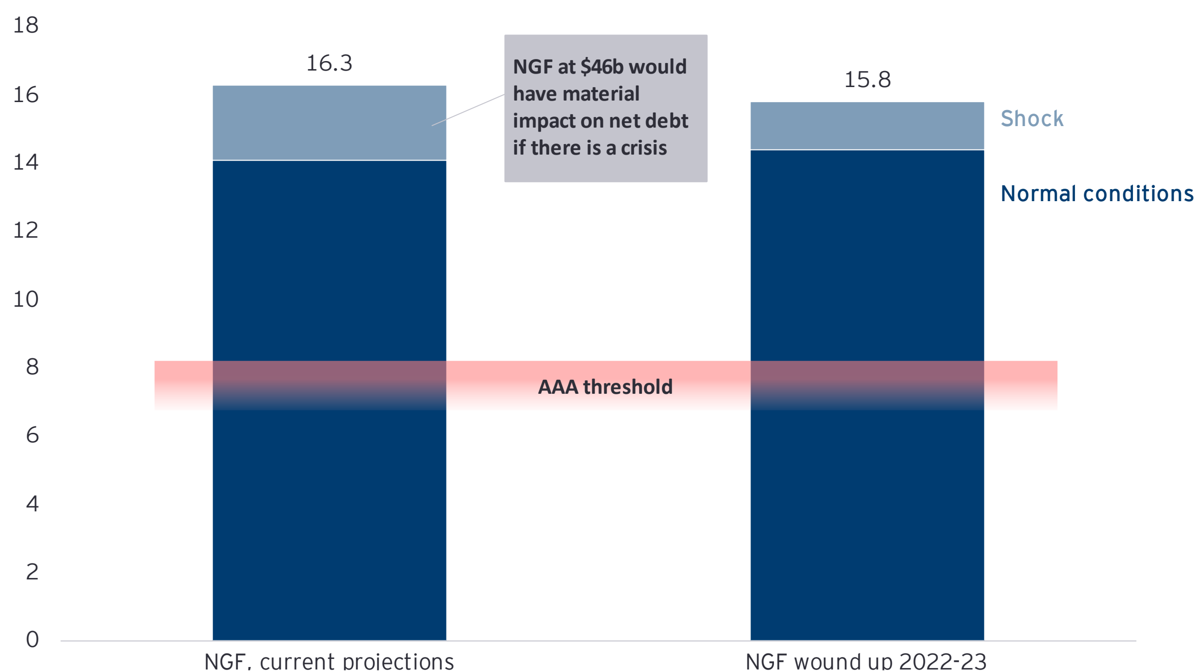
Exhibit 15 and Exhibit 16 compare the position of NSW in 2026-27 if the NGF continues to grow as currently projected, to a scenario in which the NGF is immediately wound up. If the NGF keeps growing, and normal conditions prevail through to 2026-27, then NSW would have lower net debt, reflecting the additional NGF returns. It would have higher gross debt and higher interest payments, although these are less critical metrics than net debt. As these exhibits illustrate, if there is a significant shock to the NSW economy within a few years (we model 2026-27), then a larger NGF will exacerbate the position of NSW relative to triple-A thresholds.

However, these are projections based on a point in time. In practice, ratings agencies tend to look at the medium-term outlook. This implies that they would project some recovery in the value of NGF assets, and therefore in the fiscal position of NSW.

Exhibit 15

Net debt scenario analysis

Per cent of GSP in 2026-27

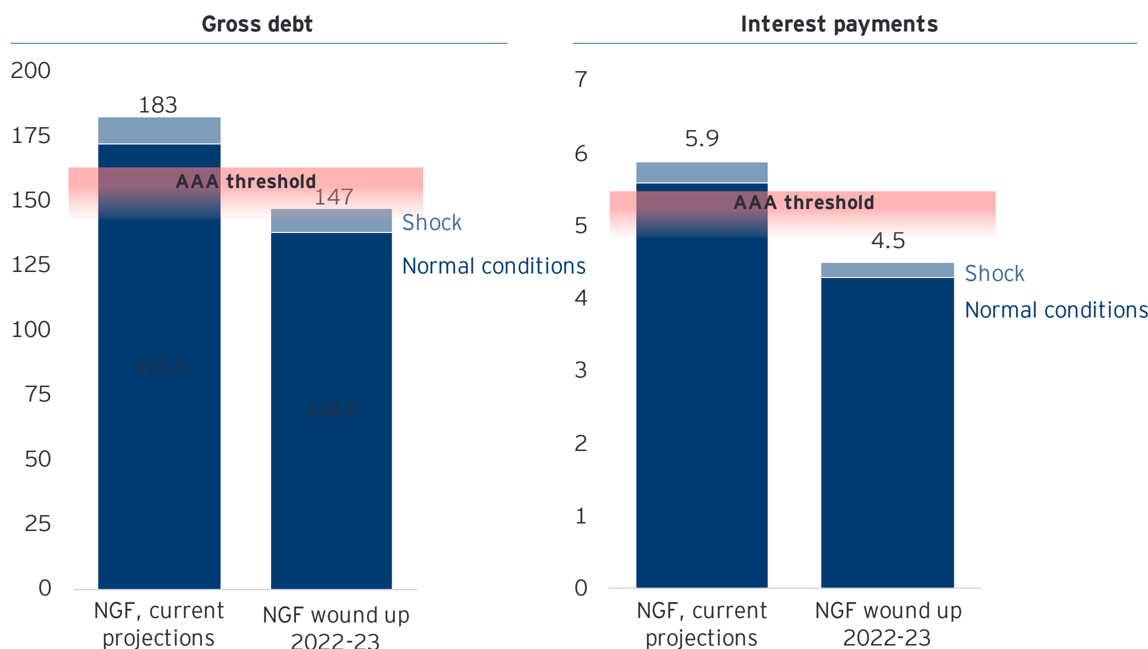


Notes: Shock assumes Nominal GSP declines 5 ppts, unemployment increases 2 ppts, house prices decline 5%, value of NGF falls 20%. Indicative analysis provided by NSW Treasury. triple-A thresholds in line with ALCO briefing on NGF optimisation on 21 April 2021
Source: NSW Treasury internal indicative analysis, EY Port Jackson Partners

Exhibit 16

Gross debt and interest payments scenario

Per cent of revenue in 2026-27



Notes: Shock assumes Nominal GSP declines 5 ppts, unemployment increases 2 ppts, house prices decline 5%, value of NGF falls 20%. Indicative analysis provided by NSW Treasury. triple-A thresholds in line with ALCO briefing on NGF optimisation on 21 April 2021. This General Government gross debt measure does not include the offsetting value of the NGF, which is included in the net debt analysis of Exhibit 15

Source: NSW Treasury internal indicative analysis, EY Port Jackson Partners

7.4 Other risks

We have assessed three other potential risks: an increase in the borrowing costs for NSW debt; constraints on the ability of NSW to borrow; and a negative impact on public confidence. Our judgement is that these risks are not significant.

7.4.1 Increase in borrowing costs

Any impact of the NGF on the cost of NSW government debt is likely to be an order of magnitude smaller than the impact of other factors such as widening sub-sovereign government bond spreads and rises in official interest rates.

If the NGF does lead ratings agencies to downgrade NSW, or if investors view the NGF negatively, it might lead to increased spreads on NSW debt, and higher borrowing costs across the NSW book.

If the NGF did result in a rating downgrade, the impact on NSW borrowing costs is likely to be small. The premium for a triple-A credit rating over a AA credit rating for US local and regional governments is in the order of 20-50 bps. The premium for NSW debt as a result of being downgraded is likely to be smaller as NSW has more implied central government

support in a crisis than US local and regional governments.[23] The S&P downgrade did not result in a substantial increase in the premium for NSW debt relative to Commonwealth debt.

The plausible impact of adverse investment sentiment arguably attributable to the NGF is unlikely to be more than 20 bps. As shown in Exhibit 17, when the TCorp announced its issuance program in June 2021 and there was speculation the Government was borrowing to invest $10b in the NGF, NSW government bond spreads increased by about 10bps relative to Victorian government bonds. Of course, this change might be attributable to other causes, including reaction to the overall NSW budget, which was published in June 2021. But it does suggest that any investor reaction to a larger NGF is unlikely to be more than about 20bps.

The impact of a ratings downgrade or adverse investor sentiment due to the NGF is likely to be much smaller than other influences on borrowing costs. As Exhibit 17 shows, NSW and Victorian bond spreads to Commonwealth government bond have varied by around 60bps over the past 4 years, for reasons unrelated to the NGF. And as Exhibit 18 shows, the total yield paid on government debt in Australia and NSW has varied by around 300 bps over the past decade, primarily reflecting global interest rate movements.

Exhibit 17

10-year Government bond spreads

Spread on Commonwealth bonds, %

Source: RBA, Bloomberg, EY Port Jackson Partners

[23] Source: Bloomberg, S&P Global Municipal Bond Index

Exhibit 18

10-year Government bond yields

Yield, %

Source: RBA

7.4.2 Constraints on the State's ability to borrow

History strongly suggests that if NSW had significant issues with liquidity in a downturn, whether or not the NGF was a factor, either the Commonwealth Government or the RBA would intervene to resolve the problem. Ratings agencies have noted that their credit ratings of State government reflect this implied Commonwealth Government support.[24]

If a downturn simultaneously reduced the value of the NGF and reduced NSW general government revenues (as discussed above at 7.2), then the fall in revenues would increase the borrowing requirements of NSW. The fall in NGF value would not in itself require more borrowing. But unless previous NGF returns had persisted for long enough, and budget discipline had been maintained, NSW would have higher net debt than otherwise, which might impair its ability to borrow in a downturn. This concern is heightened because in such a scenario, global credit markets are also likely to tighten. Many of the plausible scenarios that would cause a simultaneous fall in the value of the NGF, and an economic slowdown, would also cause slower economic growth and increased government borrowing in many other countries.

In practice, however, it is very probable that liquidity can be managed successfully. While an idiosyncratic shock would probably increase the yield on government debt, economic downturns usually increase investor demand for the debt of relatively stable governments, as government bonds benefit from the "flight to safety". Depending on the nature of the shock, expansionary monetary policy in response may well also offset any impact on borrowing costs.

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[24] Moody's Investor Service, *Moody's affirms New South Wales' AAA rating; outlook stable*, (2020) *p.1*

In addition, if there were any signs of actual reluctance to lend to the NSW Government, it is extremely likely that the Commonwealth Government or the RBA would intervene. During the GFC, the Commonwealth intervened over a weekend to provide explicit deposit guarantees when there were suggestions of a loss of public confidence in Australia's commercial banks.[25] And when this guarantee caused issues for State government borrowing (because lenders preferred commercial banks with a Commonwealth guarantee), the Commonwealth extended the guarantee to State Government borrowing.[26] During the COVID-19 pandemic, the RBA purchased bonds issued by the States and Territories in the secondary market to reduce the implied yield on government debt.[27]

7.4.3 Impact on public confidence

A fall in the value of the NGF is unlikely to have a large impact on public confidence provided that it is similar to the returns of other investment funds that year.

Poor outcomes from government investments can affect public confidence in government. And this perception can ultimately affect trust in government. Low trust in government makes it harder for governments to implement worthwhile but unpopular reforms, and this has become the major blocker to high quality policy reform over the past two decades, in contrast to the more rapid pace of reform in Australia in the 1980s and 1990s.[28]

A public perception that governments have not managed finances well can significantly affect public confidence. For example, the Tricontinental Bank failure (which ultimately forced the sale of the State Bank of NSW) had a major impact on public confidence in the Cain/Kirner government.[29] Losses on cross-currency interest-rate swaps caused significant issues in 2002, with both Treasury and Treasurer accused of serious failings, even though cross-currency swaps produced cumulative gains over the life of the policy.[30] As former Treasury Secretary Ken Henry concluded, "penalties and rewards are not scored symmetrically", and if this had been better understood, Treasury "probably would not have embarked on the cross-currency swaps strategy, even had we known with certainty that it would end up saving the taxpayer almost $800 million".

However, these controversies that did affect public confidence involved government losses from transactions out of line with the broader market. By contrast, public trust is relatively tolerant of one-off losses by government investment funds if they are in line with general market movements. For example, there has been little public concern when the

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[25] Swan, *Media Release: Government announces details of deposit and wholesale funding guarantees*, 24 October 2008 https://ministers.treasury.gov.au/ministers/wayne-swan-2007/media-releases/government-announces-details-deposit-and-wholesale-funding

[26] Swan, *Media Release: Temporary Guarantee of State Borrowing*, 25 March 2009 https://ministers.treasury.gov.au/ministers/wayne-swan-2007/media-releases/temporary-guarantee-state-borrowing

[27] Lowe, *Today's monetary policy decision*, 3 November 2020 https://www.rba.gov.au/speeches/2020/sp-gov-2020-11-03.html; Finlay, Seibold and Xiang, "Government bond market functioning and COVID-19", *Reserve Bank Bulletin* 27 July 2020 https://www.rba.gov.au/publications/bulletin/2020/sep/government-bond-market-functioning-and-covid-19.html

[28] Daley, *Gridlock: Removing barriers to policy reform* (2021), p.7-10, 15, 40.

[29] Armstrong and Gross, *Tricontinental: the rise and fall of a merchant bank* (1995)

[30] Henry, 'Address to the International Project Managers Symposium', *Political Awareness* 9 February 2007, Microsoft Word - 01_Political_awareness.doc (treasury.gov.au)

Commonwealth Future Fund has had poor returns in a single year, but in line with other investment funds. The lack of public concern may reflect that Australians have become relatively literate about the performance of investment funds year to year due to the prevalence of superannuation funds.

7.5 Defining risk appetite

Risk appetite is fundamentally a ministerial decision for the NSW Government. The risk appetite affects how much is invested in the NGF and how the portfolio is invested.

7.5.1 Defining risk to the invested funds

The risk appetite of NSW for the NGF is currently defined by the Risk Appetite Statement approved by the NSW Treasurer. This includes a target of 5% conditional value-at-risk (CVaR) of -8.0% per annum over 3 years and 5% CVaR or -18.5% over 1 year – in other words, once in every 20 years the NGF is expected to be around 8% lower than pre-event balance over a 3 year period, or 18.5% over 1 year.[31]

In effect, the risk appetite of NSW is also defined by the decision to pause additions to the NGF while there is a negative cash operating balance. This limit was set on the basis that while the cash operating balance was negative, NSW would be adding to its borrowing requirement in order to add funds to the NGF.[32] Quite apart from the optics of "borrowing to invest", this sort of requirement goes some way to linking contributions to the NGF to the wider fiscal environment.

There are a number of issues with defining risk appetite using these measures.

The most difficult issue in setting risk appetite is that there is inherently considerable uncertainty around the *actual* level of risk – the probability and severity of outcomes - for "tail" events that are relatively unusual. The distribution of outcomes under "normal" circumstances provides only limited information about the probability and size of relatively infrequent outcomes.

The uncertainty is even greater for relatively new asset classes, for which there is only limited historical data about the level of downside risk under stress, and how their value will correlate with the value of other assets under stress. While TCorp endeavours to construct proxies for these new asset classes, there is inherent uncertainty about how an evolving economic and financial system will behave under stress.

These uncertainties suggest that risk measures should build in a substantial buffer between the measured level of risk, and the level of risk that NSW is prepared to tolerate, particularly under a downturn. Accordingly, the Fund's current 3 Year 5% CVaR is -4.2% while the risk tolerance parameter set by the Government is -8.0%. We support the continued focus on a targeted level of risk well within the risk tolerance settings given the inherent limitations in assessing risk.

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[31] "Conditional value at risk" (CVaR) is the *average* outcome for the worst 5% of cases; "Value-at-risk" (VaR) communicates the outcome for the 95th percentile year; by definition the CVaR will be a larger fall than the VaR for a similar time period

[32] Internal NSW Treasury background note *The NSW Generations Fund (NGF)*

7.5.2 Defining risk to the broader balance sheet

As the major risk of the NGF is the potential fall in value relative to net debt and government revenues, it would be prudent to incorporate limits to this risk in NGF strategy.[33]. To manage the fiscal risk, it would be prudent to set a limit to the total size of the NGF relative to State revenues in order to limit its potential impact on net debt in a downturn.

In order to assess the balance sheet risk stemming from the Fund, NSW Treasury monitors the 1 year 5% CVaR relative to Government revenues. Its briefing to ALCO indicates that at a size of $65 billion in 2027-28, a significant market drawdown event could reduce the NGF's value by around $11 billion, equivalent to around 9.1% per cent of revenues or 8.5% of net debt. In NSW Treasury's assessment, at this size the risk from the Fund approaches a level beyond what the State balance sheet can be expected to support. The potential impact of the NGF on net debt and change in revenue relative to total revenue in a downturn could be constrained either by limiting its absolute size or investing the NGF less aggressively. However, reducing the CVaR by investing in lower risk investments would reduce expected NGF returns. With lower returns it is less obvious that investing in the NGF is preferable to reducing debt.

[33] NSW Treasury, ALCO Briefing *NGF Optimal Size (August 2021)* p3

8 A framework for contributions to the NGF

8.1 Comparing NGF benefits and downside outcomes

As shown in section 6, the major benefit of the NGF is its potential to reduce net debt over time, which also reduces the burden on future generations. This benefit must be balanced against two major risks created by the NGF identified in section 7. If there is a significant downturn that simultaneously reduces the value of the NGF and reduces State revenues for a sustained period, then the NGF will materially add to fiscal stress. It may also increase the probability of a downgrade in credit rating, although that risk is unlikely to crystallise provided that ratings agencies continue to take a medium term view in assessing metrics, and provided that NGF asset values recover within the medium term.

Other risks, such as an increase in borrowing costs, constraints on the State's ability to borrow, and a fall in public confidence are unlikely to be so significant in practice.

NSW should only contribute to the NGF if the benefits of doing so outweigh the additional risks of contributing to fiscal pressure in a downturn or to a downgrade in the triple-A credit rating.

If the NGF delivers returns for long enough, then even at the bottom of a downturn NSW could be in a better fiscal position than it would have been if it had never set up the NGF. Long run returns net of borrowing costs could be expected to be around 4.0% per year.[34] By comparison, the impact of a significant market downturn over a year could be in the order of 18.5% of the value of the Fund. This implies that NSW needs 5 reasonable years of returns so that it is in a better fiscal position even at the bottom of a downturn. Of course, this is only a rough approximation, and sets aside the impacts of compounding returns, and the timing effects of any additional contributions to the NGF or withdrawals.

This kind of analysis does not imply that the NGF should continue, or that additional contributions should be made, provided that the Fund has accumulated a number of years of positive returns. The risk-return trade-off is always forward-looking. At any point, NSW can wind up the NGF, bank the accumulated gains, and eliminate the additional fiscal risk of a fall in NGF value in a future downturn. At any point the question is whether the NGF (or any additional contributions to it) are likely to generate sufficient returns relative to the risk, with uncertain timing, of a fall in value.

8.2 Principles relevant to NGF contributions

In setting prudent limits to the growth rate of the NGF, and its overall size relative to the size of the NSW budget, the key considerations are:

- The potential net revenue from additional contributions to the Fund and their impact on long-term debt reduction;

[34] Assumes NGF achieves its target return of CPI + 4.5%, real interest rates are zero, and State government borrowing spreads are 0.5% above the risk-free rate.

- The broader fiscal position, including the enhanced risk if NSW is close to a ratings downgrade threshold, as is usually signalled by a negative outlook or being placed on credit watch;
- The overall size of the Fund, and therefore the absolute size of the downside risk, relative to the size of the NSW budget and balance sheet; and
- The risk tolerance of the NSW government.

8.3 Implications of the broader fiscal position

These considerations demonstrate that the returns and risks of the NGF fundamentally depend on the balance sheet, rather than the quantum of income from particular sources. Consequently, we recommend that contributions to the Fund should not be based on particular sources of revenue, such as royalties or dividends from state-owned enterprises, which may not correspond to the size of various components of the balance sheet.

These balance sheet considerations could be usefully operationalised by developing fiscal rules for contributions to the NGF anchored to well-understood budget metrics. The rules chosen would depend on the risk tolerance of NSW. The rules would have two components: the trigger to contribute; and the quantum of contribution if the trigger is met.

In choosing the trigger for contributions, NSW could consider three possible benchmarks, reflecting increasing risk tolerance.

First, the most risk averse approach would be for NSW to contribute to the NGF only if **Net Lending/(Borrowing)** is positive. In practice this implies that current revenues are covering all operating and capital expenses. Contributions to the NGF would only be made when NSW had no new net borrowing. This relatively conservative approach would be based on the idea that it is prudent to contribute surplus funds only once all capital has been funded up-front. It may be seen as overly conservative as it could be seen to underweight the future benefits, including future additional government revenue, generated by capital expenditure.

Second, a less conservative approach would only contribute to the NGF if there is a surplus **Budget Result**. Using this approach, contributions would only be made if recurrent revenues exceed expenses and depreciation on historic capital investments. With growing capital expenditure, this rule would still require new net borrowing, and net debt may increase as a share of GSP. The rule also has the advantage that the Budget Result tends to be a more prominent metric in budget discussions than the Net Cash Operating Balance.

Third, a less conservative option, which aligns with current announced policy, would only contribute to the NGF if there is a positive **Net Cash Operating Balance**. The Net Cash Operating Balance excludes both capital spending and depreciation, and so is a less reliable indicator of a sustainable budget position. It would allow contributions to the NGF even when NSW revenues were insufficient to pay for its long-term capital spending. It would increase risk from the NGF at the same time that the underlying budget outcomes were also adding to balance sheet risk.

The current announced policy is not an unreasonable approach. That said, the NSW Government may wish to consider the more conservative benchmarks outlined above.

The quantum of contributions also depends on risk tolerance. In general, it is more conservative to limit contributions to the surplus above the trigger point. It is generally less conservative to limit contributions by reference to the income from particular revenue sources (as is the current announced policy), although this approach is not obviously linked to the key balance sheet considerations.

These options could result in materially different levels of contribution to the NGF over the next eight years, ranging from zero to $77 billion.

It is arguable that similar logic should apply so that in a more stretched fiscal environment, the Fund should be drawn down to repay debt. However, we do not recommend this approach. Budget downturns often correlate with market downturns. Consequently, drawdowns in a stretched fiscal environment are likely to require the Fund to liquidate investments when asset prices are relatively low. This approach is likely to impair long-term Fund returns. Drawing down on the Fund whenever budgets are stretched could also be seen as implying that the Fund's purpose is to support stressed budget positions rather than to reduce long-term debt.

It would be prudent to take a more conservative approach when the State is on negative outlook or credit watch by the ratings agencies.

8.4 Implications of the size of the NGF

As Treasury has previously advised ALCO, the State should also set limits to the size of the NGF. Ultimately any sustained increase in net debt caused by a downturn in Fund value must be covered by State revenues. Consequently, the limit in the size of the Fund should be set relative to State revenues, taking into account the risk tolerance of the NSW government. If the Fund exceeds this size, then funds should be drawn down to pay off debt. We have not recommended a specific limit in this report.

We note the Treasury work presented to ALCO, suggesting prudent limits to the size of the Fund relative to State revenue. Consistent with good governance, the Fund's investment strategy and risk appetite settings are also reviewed annually.

8.5 Retained earnings

Currently investment earnings on the Fund are automatically retained in the Fund and are therefore in effect additional contributions.

If NSW has a Budget deficit, NGF investment earnings might instead be used to reduce borrowings (rather than implicitly being contributed to the Fund). However, this treatment might suggest that the Fund is implicitly supporting deficit outcomes, which would be inconsistent with its legislative purpose. It may also be sub-optimal from an investment strategy perspective to sell the assets at the time a deficit is recorded and could reduce the expected returns of the Fund.

The Fund currently retains its gross earnings, without allowing for notional interest costs. These gross NGF returns are projected to be in the order of $1.2 billion, or 0.2% of GSP in 2024-25, larger than the projected budget surplus. If NGF contribution rules depend on balance sheet considerations, it is arguable that contributions should be calculated net of the additions effectively made through retained earnings.

In other respects, the current practice of retaining NGF returns within the Fund and re-investing them should be maintained. Reinvesting returns does not increase fiscal risk because by definition these returns reduce net debt, and do not increase gross debt.

8.6 Implications of the source of funds

The framework is based on the broad fiscal position, the overall size of the Fund, and the risk tolerance of the NSW government. These elements reflect the key issues raised in balance sheet management. Contributions to the Fund should not be based on particular sources of revenue, such as royalties or dividends from state-owned enterprises. The source of funds has minimal impact on either the benefits or the risks of adding to the NGF (see above section 5.2.2).

Although decisions to contribute to the NGF should not generally be determined by sources of revenue, large asset sales raise specific issues. An asset sale may distort outcomes because it typically temporarily boosts the Operating Result. If there is a large asset sale, NSW will typically give up a future revenue stream and reduce net debt. Investing the proceeds of asset sales in the NGF helps to replace the lost revenue stream and can diversify the revenue base. That said, it is challenging to articulate conditions in advance that would provide guidance for a range of different asset sales. We recommend that the NSW Government continue its current practice of deciding whether to contribute the proceeds of large asset sales to the NGF at the time, directly applying the key considerations of the broader fiscal position, the overall size of the Fund and the risk tolerance of the NSW Government.

9 Interaction between NGF and fiscal policy

The primary benefit of the NGF is to reduce debt (section 6). While increasing the size of the NGF leads to gross debt larger than otherwise, the additional risk is mitigated if the net earnings on the NGF are used to add to any surpluses that result from the government's revenue and expenditure plans, driving net debt down over time. NGF returns will only lead to lower net debt than otherwise if the returns from the NGF do not lead to any change in the fiscal decisions that government would have made otherwise.

Alternatively, some of the net earnings from the NGF could be used to finance lower taxes or higher government expenditures, so that the underlying budget position (net of NGF returns) is less favourable.

To illustrate this point more clearly, consider two scenarios:

- In the first scenario, the government achieves a surplus and then allows the surplus to grow over time as balances in the NGF accumulate, while otherwise maintaining its underlying tax and expenditure plans.
- In the second scenario, the government achieves a surplus and then uses the increased earnings from ongoing contributions to the NGF to expand government expenditure, with a small headline surplus that is increasingly reliant on NGF returns.

In either scenario, the NGF would grow at the same rate, driven by the retention of gross earnings. As shown in Exhibit 19, under the first scenario that targets an underlying surplus, net debt would fall materially, and gross debt would grow slowly. Under the second scenario that targets a reported surplus, net debt would change little, but gross debt would increase materially.

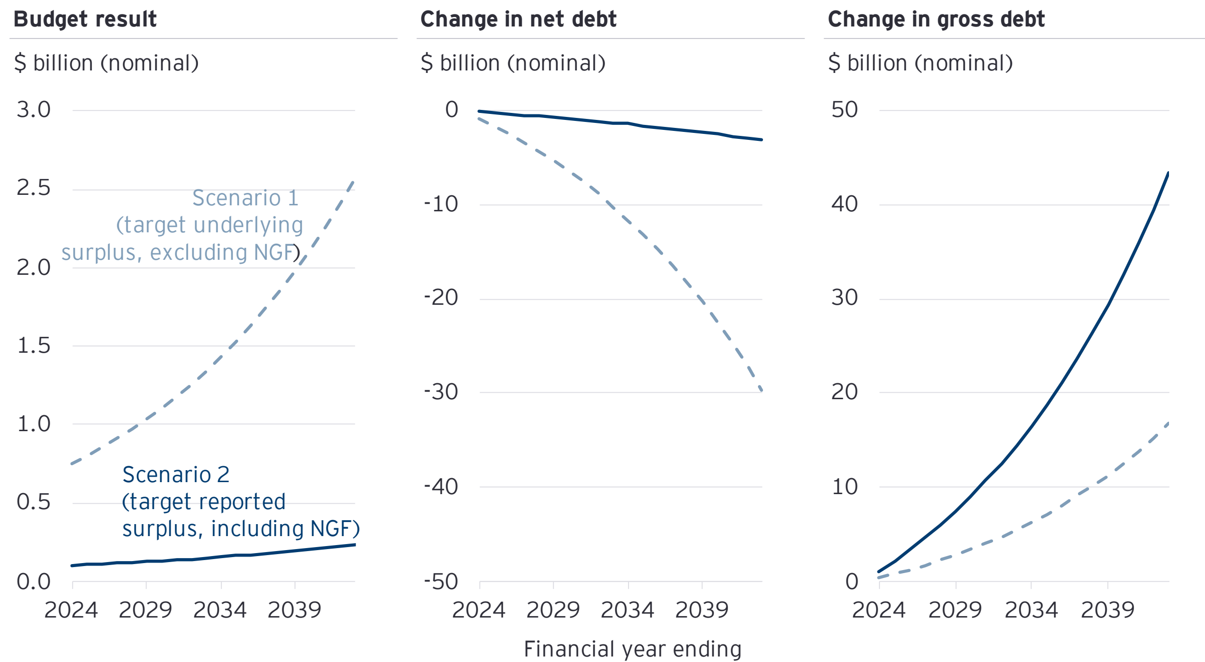
As this illustrates, whether the NGF serves its ultimate purpose of reducing net debt and budgetary risk depends on whether it affects other revenue and spending decisions. In practice, it is more likely that governments will reduce revenues or increase expenditures if the headline Budget Result is positive.[35] Current budgeting practice, consistent with the treatment of other funds, includes NGF returns in the headline Budget Result. This may create the perception that government has greater fiscal headroom, while obscuring the risks. While this logic might apply to any means of fiscal repair, the legislative purpose of the NGF to reduce debt and the potential scale of the NGF distinguishes it from other measures.

The NGF's impact on the operating surplus is illustrated by the 2022-23 budget. The 2022-23 Budget expected a return to surplus by 2024-25,[36] but this date was a consequence of NGF returns; in the absence of the NGF the return to surplus would be a year later in 2025-26, as shown in Exhibit 20. A fiscal measure that excludes net NGF returns would be $1.2 billion lower in 2025-26 than otherwise.

[35] Eslava, "The political economy of fiscal deficits: a survey" (2011) *Journal of Economic Surveys* 25(4), p 645-673; Daley, *Balancing budgets: tough choices we need* (2013), p.18

[36] NSW Budget Paper No 1, Budget Statement 1-2

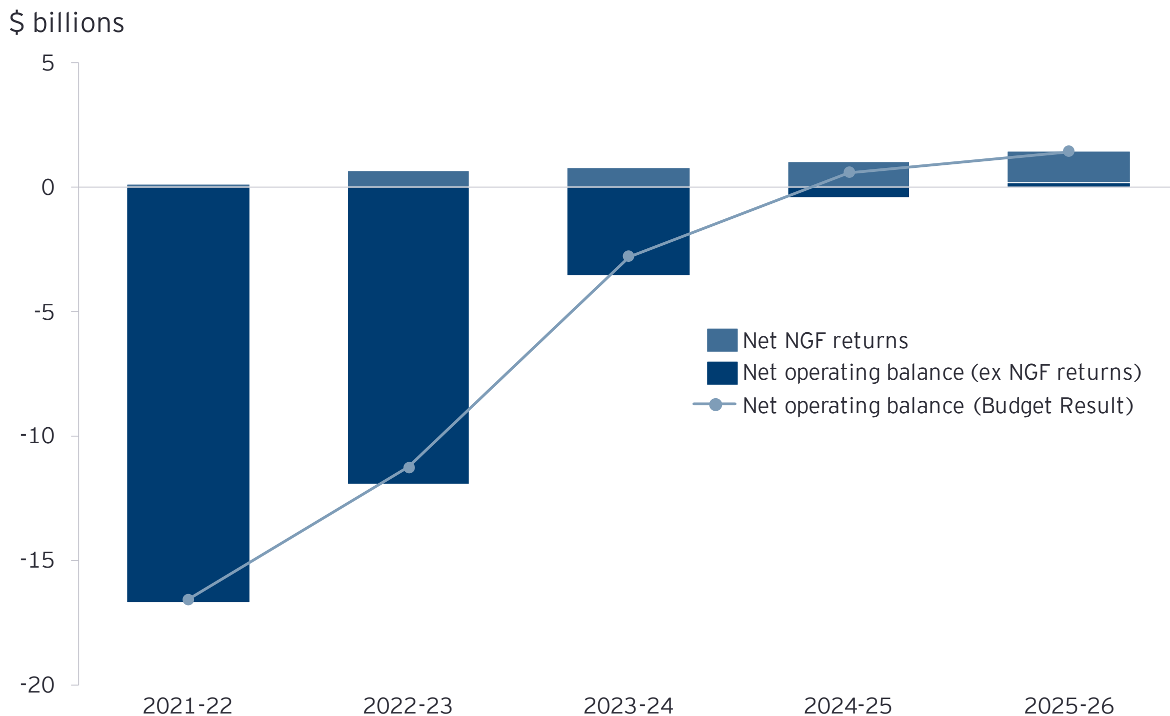
Exhibit 19
Scenarios illustrating impact of fiscal targets



Note: Assumes surplus target of $100m growing at nominal GSP of 4.5%; NGF returns 7%; cost of borrowing 3%; NGF balance of $15.5b in 2022; greater of NGF gross return or Budget Result retained by/contributed to NGF.

Exhibit 20
Net operating balance net of the NGF

$ billions



Source: NSW 2022-23 Budget Papers, EY Port Jackson Partners

Including the NGF in the Budget Result also means that additional contributions to the NGF boost the Budget Result over the forward estimates. NGF returns are assumed to exceed the cost of debt, increasing the perception of fiscal headroom. Budget results through the

forward estimates are typically much more salient than the additional risks taken on as the NGF increases in size.

Whether governments effectively use reported NGF revenues to support operating budgets rather than using them to reduce long-term debt depends on cumulative decisions over time. If decision makers are particularly concerned with the risk of baking in higher expenditure levels coupled with exposure to higher gross debt, then there are three potential mitigants.

First, the trigger thresholds for additional contributions to the NGF, and the amount contributed to the NGF were adjusted by excluding net NGF returns from the relevant metrics.

Second, government could present information in a manner that highlights the contribution of the NGF, and quantifies the underlying budget position excluding net NGF returns. This underlying budget position excluding net NGF returns could also be the basis for fiscal targets that underpin the fiscal strategy.

Third, government may wish to consider excluding returns from the NGF (net of debt costs) from the headline Budget Result as reported. This mitigant would be more salient to public budget discussions, but there are concerns that it may not be consistent with Australian Accounting Standards.

Under this suggested budget treatment, the *net* returns on the NGF would be excluded from the Budget Result. The Budget Result would include any returns from the NGF sufficient to cover the interest costs that would have been avoided if funds in the NGF had instead been used to pay down debt. Otherwise the Budget Result would include the interest costs that are effectively the price of the NGF, but none of the returns. Under this budget treatment, NGF revenues would still be included in the net lending balance, and in calculations of net debt. This would be appropriate given that their purpose is to improve the net debt position.

The NSW Government's financial statements conform to a framework agreed between the Commonwealth, State and Territory governments based on the Australian Accounting Standards and the Australian Bureau of Statistics' Government Finance Statistics. It is not clear whether there is a binding standard for the treatment of investment entities such as the NGF.[37] A number of other revenues, such as dividends from asset sales, are already accounted for "below the line" as "other economic flows", some of which are not included in the Budget Result. Concerns about consistency with Accounting Standards could potentially be addressed by emphasising that this measure, adopted for fiscal policy and budget reporting purposes, is transparently derived from financial statements prepared in full compliance with Australian Accounting Standards.

It could also be argued that excluding NGF revenues from headline budget aggregates would mirror the Commonwealth Government's treatment of Future Fund earnings prior to 2020. The 2005-06 Commonwealth Budget confirmed the Budget treatment of the Future Fund:[38]

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[37] Department of Finance, 2012-13, Review of the Budget Treatment of Future Fund Costs in the Australian Government Budget and Financial Documents

[38] Commonwealth Budget, 2005-06, *Budget Paper No. 1*, p 1-3

> *"Expected Future Fund earnings are excluded from the underlying cash balance. This recognises that these resources are not available for recurrent spending, instead being pre-committed to Fund existing liabilities. This represents a tightening of fiscal policy".*

The *Future Fund Act 2006* specifies that Future Fund balances may not be debited until 1 July 2020 and can only be drawn on to meet unfunded superannuation liabilities.[39]

On the other hand, it is arguable that the historic treatment of the Future Fund does not provide a guide for the NGF because NGF balances *can* be debited at any time (for the purposes of paying down debt). Future Fund revenues *were* included in the Commonwealth Government's underlying cash balance from 2020 because the Commonwealth's superannuation liabilities were expected to become payable from that date.

[39] Future Fund Act 2006, s.2

10 Key lessons from international experience

In determining whether NSW should expand the NGF, it is useful to contrast its intended purpose and the context in which it was established with other sovereign wealth funds (SWFs) that have been created both domestically and abroad.

A significant number of SWFs globally have largely been created and expanded when governments were in strong fiscal positions with structural budget surpluses and either net asset positions or low debt. In many instances it would not have been desirable to spend excess revenues or hold them as cash. This is often observed in resource rich states where a SWF can assist in smoothing volatile commodity revenues and supporting intergenerational equity through the accumulation of savings from exhaustible assets.

SWF's can target other policy objectives. The Government Pension Fund of Norway was established in part to hedge against "Dutch disease" and required that all funds be invested offshore.[40] The Commonwealth Future Fund was established with the dual objective of maintaining a Commonwealth Government Securities market and to help address future spending pressures including the Commonwealth's superannuation liabilities.

Despite some variation in policy objectives, the creation and maintenance of many SWFs follow a typical pattern:

- The fund is established when government has strong fiscal fundamentals:
  - Low gross debt and net asset position; and
  - Structural budget surplus
- The fund's primary purpose is to help smooth volatile revenue streams (particularly from asset sales) and spread revenue from exhaustible assets across generations
- Inflows to the fund are supported by maintenance of net asset positions and large budget surpluses
- Where fiscal conditions deteriorate, contributions to the fund generally cease.

Exhibit 21 contrasts the NGF with a select subset of national and subnational SWFs with similar institutional settings where data was available. These funds can be broadly split into 3 groups:

- Funds established with very strong fiscal positions which have been maintained (Norway, Singapore, Alaska).
- Funds established with strong fiscal fundamentals which have since deteriorated (Australia, New South Wales, Western Australia, Alberta)
- Funds established with weaker overall fiscal positions and weaker credit ratings (Quebec, Malaysia)

Norway and Singapore remain in very strong fiscal positions with large net lending positions and large net asset positions. Since 1990, Norway and Singapore have had average net lending balances of 8.2% of GDP and 3.3% of GDP respectively leading to significant net asset positions. This is similar to a number of other nations with large SWFs

[40] Centre for Public Impact, *The Government Pension Fund Global (GPFG) in Norway* (2019)

such as Kuwait, Qatar, Saudi Arabia and the UAE, which like Norway derive large revenues from oil and gas.

In comparison, non-renewable resources are a much lower share of revenue for Australian governments. NSW, the Commonwealth, and WA created SWFs when they had a net asset position and budget surpluses, while Western Australia had minimal net debt.

There are a few examples of governments that have set up funds with significant debt and have then maintained contributions, notably Quebec and Malaysia, although they have long had lower credit ratings than NSW.

While Quebec established its fund when it had a small budget surplus, it carried a relatively high level of net debt. While its fund's value has increased from C$600m ($657m) in 2007 to C$15b (A$17b) in 2022, the vast majority of the growth represents additional contributions. In 2018-19, the Quebec budget analysed the net return of the Fund as the nominal return less the notional cost of borrowing the contributions. Over the decade to 2017, the net return was 2.1%. This implied that net investment income represented around 7% of the Fund balance, with the remainder made up of contributions.[41] In 2017, Quebec began to draw down the Generations Fund to repay borrowings, although new contributions to the Fund slightly exceeded drawdowns, and so the Fund continued to grow. More broadly, Quebec has maintained reasonable fiscal discipline over this period, and posted material surpluses from 2015-16 to 2019-20, resulting in falling gross debt relative to GSP.

[41] Quebec 2018-19 Budget, *Quebec is repaying its debt*, (2018-19), p.6-7

Exhibit 21

International comparisons of sovereign wealth funds

When established | Current

	Year est.	Returns/Govt revenue*	Budget result/GDP (When established)	Budget result/GDP (Current)	Net debt/GDP (When established)	Net debt/GDP (Current)	Gross debt/GDP (When established)	Gross debt/GDP (Current)	Credit rating**	Comment
NSW GF	2018	0.8%	0.7%	(2.4%)	(1.9%)	7.8%	5.4%	15.4%	AAA	• Established with fiscal balance and low net debt • Fiscal
Commonwealth Future Fund	2006	1.3%	1.6%	(1.5%)	(2.2%)	23.0%	4.9%	37.3%	AAA	
WA Future Fund	2012	0.3%	0.1%	1.4%	1.1%	4.9%	3.5%	7.9%	AA+	
QLD Future Fund	2020	n/a	(1.6%)	(0.2%)	3.9%	3.1%	10.4%	12.5%	AA+	
Alberta AIMCo	2008	16.3%	1.5%	2.7%	(13.5%)	15.2%	0.0%	24.8%	AA	
Alberta Heritage Trust	1976	2.7%	2.4%	2.7%	n/a	15.2%	n/a	24.8%	AA	
Quebec GF	2007	0.6%	0.3%	(1.7%)	36.4%	39.8%	42.0%	43.1%	AA-	• Weaker overall fiscal position and large net debt
Malaysia Khazanah Nasional Berhad	1994	0.4%	5.4%	(5.4%)	n/a	n/a		69.0%	A-	
Norway Govt. Pension Fund	1990	46.7%	2.0%	20.3%	(9.9%)	(75.9%)	28.9%	40.3%	AAA	• Maintained large fiscal surplus and large net asset position
Singapore GIC	1981	n/a	n/a	1.5%	n/a	(286.9%)	n/a	141.1%	AAA	

* Returns to Government revenue based on most recent four year average

**Average of S&P, Moody and Fitch ratings

Source: IMF World Economic Outlook Database; Regional Government Annual Reports

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