Treasury

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2021 Intergenerational Report
Explanatory note

Measuring and reporting fiscal pressures

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Executive Summary

The 2021 Intergenerational Report (IGR) projects long-term demographic, workforce, and housing trends across New South Wales. The IGR assesses the likely economic and fiscal pressures facing the State over the next 40 years. The IGR reports the long-term fiscal gap, a key metric required under the *Fiscal Responsibility Act 2012.* The fiscal gap is a measure of the long-term fiscal pressures facing New South Wales in the absence of policy changes. It is defined as the projected change in revenues less expenditures — including net capital expenditure but excluding interest — as a percentage of Gross State Product (GSP).

NSW Treasury has prepared this technical paper detailing our approach to measuring and reporting long-term fiscal pressures in the 2021 IGR. This note re-examines the concept of the 'fiscal gap' in the current economic and fiscal environment. We conclude that the fiscal gap, as currently defined by the *Fiscal Responsibility Act 2012*, remains a useful central metric to report fiscal pressures. The fiscal gap should be complemented with other fiscal metrics, including net debt, to provide a complete picture of the State's long-term fiscal position.

We also consider the impact of the base year in calculating the fiscal gap. If the projection period was selected using the same approach as in the 2016 IGR, the default base year for the 2021 IGR would be 2019-20. The fiscal gap projection would be robust to the choice of base year were it not for the exceptional economic circumstances of 2019-20. The large, but temporary, economic and fiscal impacts of the COVID-19 pandemic distorts observations of the underlying fiscal gap when using 2019-20 as the base year. This paper concludes that the use of 2018-19 as a base year is a robust and simple alternative that falls within the time period required by the legislation and is preferable to the available alternatives. These base year alternatives include: adjusting actuals data in 2019-20 to 'correct' for the economic shock of COVID-19, using an average over a period of years to set a baseline, or using a year after the forward estimates when temporary measures have ceased.

Acknowledgement

NSW Treasury acknowledges the Traditional Owners of the land on which we live and work, the oldest continuing cultures in human history.

We pay respect to Elders past and present, and the emerging leaders of tomorrow.

We celebrate the continuing connection of Aboriginal and Torres Strait Islander peoples to Country, language and culture and acknowledge the important contributions Aboriginal and Torres Strait Islander peoples make to our communities and economies.

We reflect on the continuing impact of policies of the past, and recognise our responsibility to work with and for Aboriginal and Torres Strait Islander peoples, families and communities, towards better economic, social and cultural outcomes.

The author thanks Dougal Horton for his substantive comments and advice in producing this note. Thank you to Nick Wood, Aruna Sathanapally, Peter Horn, Danielle Doherty, Kate McLoughlin and Ian South for their input and assistance in reviewing this paper.

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Reporting long-term fiscal pressures in New South Wales

The Treasurer is required to report, on a five-yearly basis, the long-term fiscal pressures facing New South Wales, pursuant to the *Fiscal Responsibility Act 2012* (NSW) ("**FRA**") s 8(e).

NSW Treasury assesses the State's fiscal pressures using its Long-Term Fiscal Pressures Model. This demographic-economic model projects trends in general government expenses, revenues, and capital expenditure over the next 40 years on the basis there is no change in current government policy, while economic and demographic trends persist.

The Treasurer is required to provide an updated report every five years re-assessing the State's "long term fiscal gap". This is defined by the FRA (s 5) to be:

> *the change in the primary balance of the general government sector as a share of gross state product, calculated on the basis of no policy changes* [over the relevant period].

Fiscal gap analysis has been presented in the 2006, 2011 and 2016 NSW IGRs.

The legislation requires that the Treasurer report, in the budget papers each year, the impact of budget measures on the State's long-term fiscal gap (s 8(d)).

By contrast, the legislation[1] underpinning the **Commonwealth** Government's IGR does not prescribe the exact metric for reporting fiscal pressures. In previous reports the Commonwealth has reported the primary balance and the underlying cash balance (as a share of Gross Domestic Product) as indicators of long-term fiscal pressures, rather than the *change* in the primary balance share of the economy, as the FRA requires for New South Wales.

The **New Zealand** and **Tasmanian** Governments also report the primary balance share of the economy as their fiscal pressure metric in their long-term fiscal reports.

All three jurisdictions report a broad range of complementary fiscal metrics including gross debt, net debt, and net worth.

The fiscal gap (defined as the change in the primary balance share of the economy between two periods) appears to be a uniquely NSW approach to reporting long-term fiscal pressures.

This paper explains how the fiscal gap is measured and reported in the 2021 IGR. It considers the utility of retaining the fiscal gap metric to assess long-term fiscal pressures, and the reporting challenges presented by the severe economic disruption in 2020.

Understanding the 'fiscal gap' metric

The fiscal gap represents the change in the primary balance share of the NSW economy between two periods. The primary balance (Figure 1) is the difference between what the government collects in revenue and what it expends, but excludes interest transactions:

$$Primary\ balance_t = Revenues_t - Expenditure_t$$

Government expenditure includes both recurrent expenses and net capital expenditure:

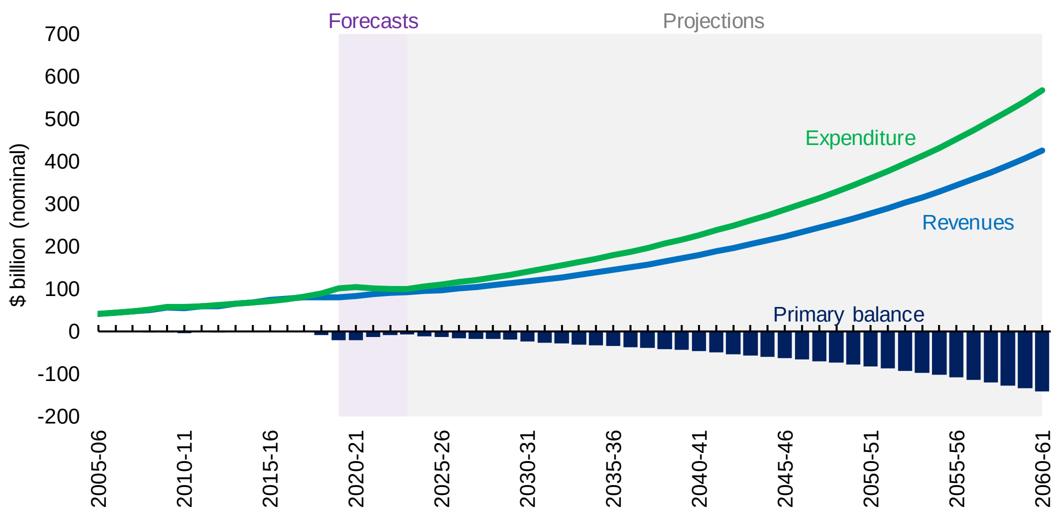
$$Expenditure_t = Recurrent\ expenses_t + Net\ capital\ expenditure_t$$

[1] Charter of Budget Honesty Act 1998

Interest transactions include interest earned, as well as the borrowing costs associated with debt. The primary balance, by excluding interest transactions, reveals the **underlying** fiscal position without allowing for the accumulated effects of prior debts or surpluses.

Put another way, the primary balance reflects the extent to which the NSW Government can meet its current public service obligations without taking on *additional* debt. This is an important measure of short-run fiscal sustainability and the current state of fiscal management in New South Wales.

Figure 1: Deriving the primary balance[2]



Source: NSW Treasury

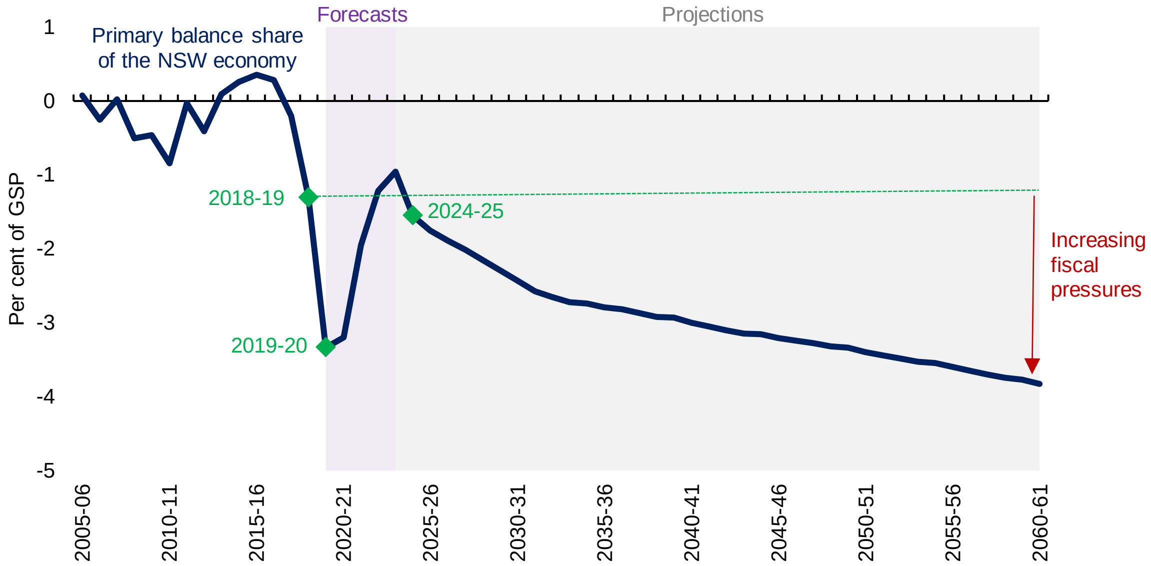
In assessing the primary balance, it is important to consider the relative economic context rather than focusing solely on the nominal dollar value. The primary balance relative to the size of the NSW economy, measured by nominal GSP, is a better reflection of the State's fiscal position (Figure 2).

In Figure 2, we see the deterioration of the primary balance between 2017-18 and 2018-19 reflecting a 52 per cent increase in nominal net capital expenditure as part of the acceleration in the government's infrastructure program. The impact of drought, bushfires and the COVID-19 pandemic, followed by the government's fiscal response and additional capital expenditure, led to a further deterioration in 2019-20.

Changes in the primary balance as a per cent of GSP, between two time periods, reflects changes in the fiscal pressures facing the government. This is what the fiscal gap metric captures. A fiscal gap of zero indicates that relative fiscal pressures are unchanged, whereas a negative fiscal gap (reflecting a deterioration in the projected primary balance share of GSP) indicates that relative fiscal pressures are projected to build over the projection period. Reporting only the dollar value of the primary balance does not provide a meaningful reflection on the extent to which fiscal pressures are building relative to the size of the NSW economy. Reporting the change in the primary balance share of the economy is, therefore, appropriate.

[2] All charts exclude the NSW Generations Fund

Figure 2: The primary balance share of the NSW economy



Source: NSW Treasury

The fiscal gap metric shows changing fiscal pressures between two time periods. However, a holistic view of a jurisdiction's long-term fiscal sustainability should include other metrics, including net and gross debt measures, that consider the *accumulated* stock of debt and associated interest payments.

Modelling the fiscal gap

Any changes to expenses, revenue or economic growth will impact the primary balance and therefore the fiscal gap. The difference between the long-run growth rate of expenses and revenues is the fundamental driver of changes in the fiscal gap. Where expenses are projected to grow materially faster than revenues, fiscal pressures will build.

NSW Treasury's Long-Term Fiscal Pressures Model begins its modelling approach from the last year of historical data (Figure 3). ABS Government Finance Statistics are used for historical expenses, with disaggregated data available to 2018-19[3], but with aggregate data available for 2019-20 using internal systems. Historical revenue data is sourced from internal systems and are available for the period to 2019-20.

Figure 3: The modelling process

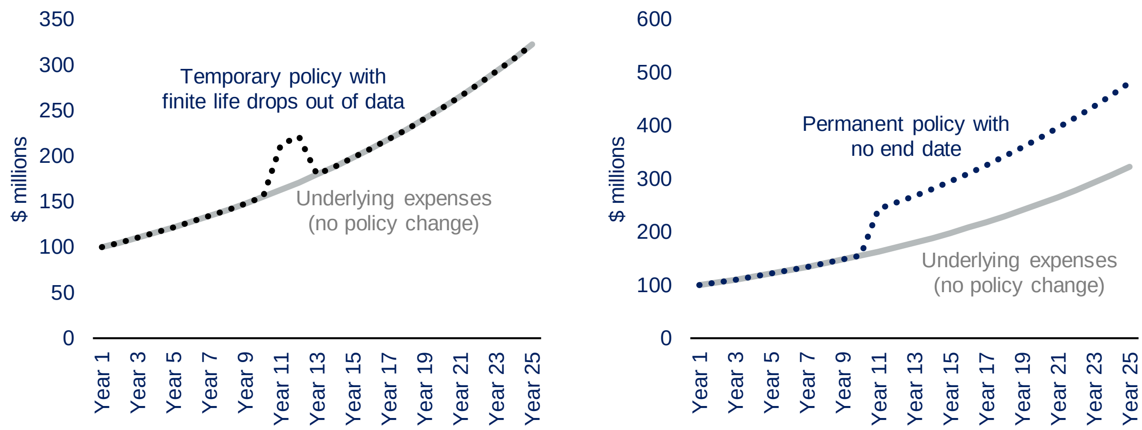
For 2021 IGR modelling purposes, the Long-Term Fiscal Pressures Model then incorporates short-run aggregate forecasts[4] over the forward estimates. This includes any announced policy changes over

[3] The ABS published disaggregated expense data for 2019-20 in April 2021. The Long-Term Fiscal Pressures Model was finalised prior to this.

[4] As published in the 2020-21 Half Yearly Review

this period, both temporary and permanent, with temporary policy measures not having a lasting impact (see Figure 4). Fiscal aggregates between 2019-20 and 2023-24 are anchored by Half-Yearly Review actuals and forecasts.

Figure 4: Illustrative impact of temporary and permanent policy measures[5]



Revenue, expense, and macroeconomic short-run forecasts are therefore consistent between Half-Yearly Review reporting and the Long-Term Fiscal Pressures Model.

Beyond the forward estimates period, the model transitions to long-term growth rates projected through the analysis of underlying drivers, which include:

- Population and demographic projections
- Macroeconomic projections (including productivity growth and participation rates)
- Changes to age-based expense drivers[6]
- Any announced policy measures that extend beyond the forward years.

Selecting an appropriate base year

The fiscal gap metric in New South Wales, in contrast to the metrics used by comparable jurisdictions, requires the specification of a time period. The first year of this time period is the base period. The fiscal gap projection would be robust to the choice of base year were it not for the exceptional economic circumstances of 2019-20. If the economy has experienced a shock in the base year, then this has an impact on the magnitude and potentially the direction of the reported fiscal gap.

The FRA indicates that the fiscal gap should be calculated over the period from 2009-10 to 2050-51 or, for updated reports on long-term fiscal pressures and reassessments of the fiscal gap, a “similar sufficiently long period to assess fiscal pressures associated with the ageing population and other long-term trends” (s 5(1) and s 8(e)).

Applying a similar timeframe to the 2021 IGR would suggest a base year of 2019-20, and a final year of 2060-61. This would continue the practice of using a base year that represents the most recent year of complete aggregate actuals data, and a final year 41 years later.

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[5] A policy measure is defined as a policy decision that cannot be attributed to economic or population factors. Fiscal stimulus would be a temporary policy; imposing efficiency dividends or changing teacher/student ratios are permanent policies.

[6] See NSW Treasury’s Technical paper titled ‘Ageing and health expenses in New South Wales –revisiting the long-term modelling approach’

However, 2019-20 data includes the impact of a once-in-a-generation global shock, in the COVID-19 pandemic, as well as the impact of drought and bushfires. These events had a significant (but largely temporary) impact on the economy as well as government revenues and expenses, resulting in a sharp fall in the primary balance share of GSP (see Figure 2). Annual government expenditure rose by 13.8 per cent, revenues fell by 0.6 per cent and the economy contracted by 0.7 per cent in 2019-20, resulting in a primary balance of -3.3 per cent of GSP. As the economy recovers and the government withdraws its supportive fiscal stance, the primary balance share of the economy will return to its 2018-19 share by the end of forward estimates (around -1 per cent of GSP).

The methodology for calculating the fiscal gap means that these exceptional temporary economic and fiscal shocks, which distort the primary balance in the base year (2019-20), go on to distort the fiscal gap. This results in a long-term fiscal gap that does not accurately reflect the underlying fiscal pressures facing New South Wales. This distortion detracts from the objective of identifying the long-term fiscal pressures associated with an ageing population and other long-term trends.

On the other hand, a base year of 2018-19 would meet the legislative requirement of a "similar sufficiently long period to assess fiscal pressures associated with the ageing population and other long-term trends". 2018-19 is therefore a viable base year option for calculating the fiscal gap. 2018-19 is the final full year for which historical data is available for all components of the fiscal gap and not impacted by severe, short-term economic shocks.

In our view, using 2018-19 as the base year is the most objective approach to assess the State's true **underlying** fiscal position. It is based on historical data for a single year and minimises any exercise in judgment that may be perceived as privileging a certain result.

Evidence that 2018-19 accurately reflects the State's underlying fiscal position can be seen by comparing the fiscal position in 2018-19 to the Long-Term Fiscal Pressures Model's projection for 2024-25, which is the point at which temporary policy measures are largely scheduled to expire (permanent policy measures continue to endure in the modelling base). Within the model, individual expense categories are modelled beginning in 2019-20 with adjustments made to incorporate announced policy measures, both permanent and temporary, including those announced in the 2020-21 Budget and Half-Yearly Review. Figure 2 shows that the primary balance share of the economy in 2018-19 and 2024-25 are broadly consistent.

Alternative options

In developing this paper, we considered the following alternatives to using of 2018-19 as a base year:

1. Adjusting 2019-20 data
2. Taking the average of a period of previous years
3. Changing the base year for fiscal gap calculations to a year after the forward estimates.

The first option we considered was to remedy the distortion of 2019-20 by removing the economic and fiscal impacts of temporary shocks from all components of the primary balance (expenses, revenues, and economic parameters). We concluded that these adjustments, while feasible, are relatively complex, and the outcome of this process would lead to the 2019-20 primary balance share of the economy shifting towards the 2018-19 value, which is readily available without the need for these adjustments.

An additional consideration is the degree to which cyclical variation impacts the base year. For this reason, we considered a second option – taking the average of a set of previous years. An argument could be made that taking the average of previous primary balances (over a fixed number of years) would better reflect the underlying fiscal position by moderating the impact of cyclical and temporary influences in the particular year that the Treasurer was required to report the fiscal gap pursuant to the FRA.

In this approach, the appropriate number of years to be averaged needs to be determined. This period could be a fixed historical period (say 5 or 10 years) or a period that adequately encompass the last economic cycle (to remove the cyclical impacts on the fiscal position). Both approaches would require significant judgment. Further, such an approach is inconsistent with previous IGRs and could be seen to stretch the reasonable interpretation of what flexibility is permitted by the FRA. This could set an unhelpful precedent for future IGRs: the flexibility of selecting a base 'period' could open the IGR to criticism that a certain time period has been selected to engineer a desired fiscal gap.

Instead, we have concluded that the fiscal gap will be generally robust to the choice of base year were it not for the exceptional economic circumstances presented by 2019-20.

This led us to consider a third possibility where, in a period impacted by temporary shocks, it may be desirable to pick a base year in the future – specifically, at a point where temporary influences on the economic and fiscal position are expected to have waned (for example, 2024-25 or 2025-26).

We have concluded this approach is also problematic because the base year is no longer grounded in historical data. The fiscal gap then becomes a measure of the change between two sets of unrealised projections. Communicating the relevance of a fiscal gap being published 'today' – based on two points in the future – is challenging. An additional consideration is that this new timeframe may not meet the legislative requirement of a "similar sufficiently long period."

Approach to reporting long-term fiscal pressures in the 2021 IGR

For the reasons outlined in this paper, the 2021 IGR will report the fiscal gap as the change in the primary balance as a per cent of GSP between 2018-19 and 2060-61. The fiscal gap will provide an indication of the relative build-up of fiscal pressures over this period, being 42 years rather than the previously employed 41 years.

It could be argued that the fiscal gap concept is not well understood by readers of the NSW IGR and is inconsistent with how long-term fiscal pressures are reported by other jurisdictions.

We argue that the fiscal gap remains a useful metric to illustrate the changing fiscal pressures facing New South Wales over time. However, the 2021 IGR reports a range of other fiscal measures that are more readily understood and easily compared against metrics published by other jurisdictions in their long-term reports (or budget papers). This includes projections of net debt, which is a key fiscal reporting measure in the NSW budget papers. M

Further information

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NSW Treasury