

Budgeting for Natural Disasters

Transparency and
accuracy in the
fiscal treatment of
disaster recovery



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FOR POLICY
DEVELOPMENT

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EXECUTIVE SUMMARY

Australia is facing an escalating number of natural disasters, with each event requiring substantial government recovery expenditure. In just the past six months, tropical cyclone Alfred struck Queensland and New South Wales, while severe bushfires swept through the Grampians National Park. These events, and their associated recovery costs, are not exceptions; future disasters are inevitable. Yet, our federal budget continues to treat these inevitable costs as uncoded contingent liabilities, failing to account for their predictable impact.

On average the Commonwealth spends \$1.6 billion each year on disaster recovery, yet budgets for just \$215 million, creating a gap of \$6 billion across forward estimates. Properly accounting for these future costs would not only improve fiscal discipline but also create incentives for greater investment in disaster resilience and adaptation, which is currently clearly inadequate. Appropriate adaptation spending will reduce the cost of future natural disasters, even within the short-term forward estimates period of the budget. There is considerably greater return on spending ahead of disasters rather than after the fact.

The principle that motivates this paper is that the expected cost of future natural disasters should show up in the fiscal aggregates rather than be treated as an unquantified contingent liability. Merely disclosing these costs in a qualitative risk statement without formally recognising them as expenditure falls short of transparent and responsible budgeting. Moreover, this natural disaster expenditure is effectively locked in. It is not discretionary and hence should be budgeted for like other non-discretionary spending. The Charter of Budget Honesty already mandates that financial risks be reported, and its

requirements also provide a basis for including disaster-related expenditures in fiscal aggregates.

Incorporating disaster expenditure into the budget could be achieved through several mechanisms. The most direct approach would be to include estimates of future disaster costs within existing budget lines, such as the Disaster Recovery Funding Arrangements, which outlines funding for state and territory recovery efforts. Or Federal Treasury could create a new line in the budget to record estimated future expenditure from disasters that have not yet occurred. Either way, these estimates would be rolled up into the summary line of 'Natural Disaster Relief' under Other Purposes in Budget Paper 1.

Alternatively, these estimates could be included in the Contingency Reserve instead of Other Purposes expenditure. This would also make them fiscally relevant – though they would be obscured within a broader category of uncertain expenditures.

As we explore below, the Charter of Budget Honesty already requires that fiscal outlook statements (the budget) should take account of “all other circumstances that may have a material effect on the fiscal and economic outlook” (section 12).¹ Natural disasters occur every year. We know with absolute certainty that future disasters will have a material effect on the fiscal outlook over the forward estimates. And yet they are not accounted for in the budget because specific disasters cannot be precisely predicted. We believe this rationale is inconsistent with the Charter of Budget Honesty, and that expenditure on future natural disasters should be reported on the basis of materiality.

Finally, if our reading of the Charter of Budget Honesty is not accepted, then Parliament can always amend the charter. There are many places the charter could be amended, but perhaps the simplest would be to add a fifth subclause to clause (5)(2):

(5)(2) The financial risks referred to in paragraph (1) (a) include risks such as:

- » risks arising from excessive net debt; and
- » commercial risks arising from ownership of public trading enterprises and public financial enterprises; and
- » risks arising from erosion of the tax base; and
- » risks arising from the management of assets and liabilities; and
- » *risks arising from systematic non-disclosure of future expenditures that cannot be precisely forecast.*



THE AGGREGATE COSTS OF NATURAL DISASTERS CAN BE FORECAST RELIABLY

One possible concern is that the cost of natural disasters are hard to forecast. But it is not obvious to us that they are any harder to forecast than other future variables that the budget is comfortable to rely on in forecasting future expenditure. The most obvious example is the forecasts of the future path of the macroeconomy, where the forecasts of inflation and unemployment play a significant role in projecting future expenditure. (See Box 1 below for another example in detail.)

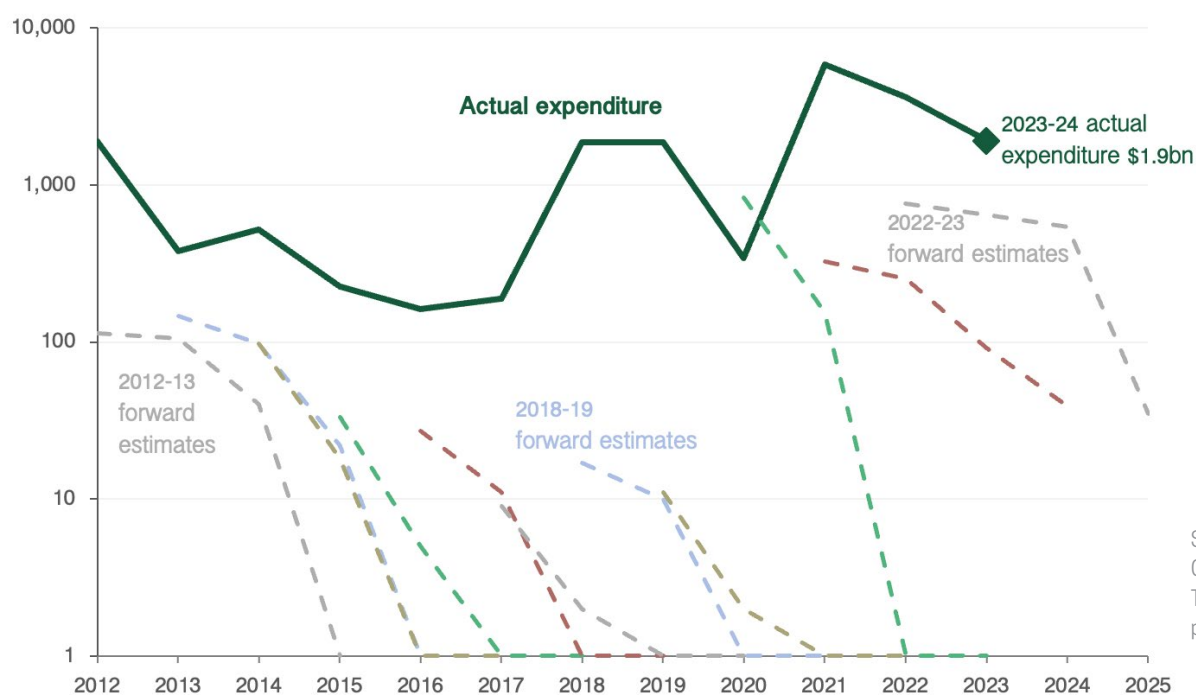
Future disasters are more likely than not to occur, their impacts can be reasonably predicted, and estimates are reliable enough for decision-making. From an economic perspective, actuaries have estimates that are fairly accurate over multi-year timescales. Moreover, the insurance industry has to rely on these sorts of estimates in determining

the pricing of insurance policies and the costs of re-insurance. These estimates are clearly sufficient for making significant business decisions. And these estimates are over a similar horizon to the forward estimates horizon of the budget.

Expenditure for the Disaster Recover Funding Arrangements (DRFA) is currently projected in the budget based solely on disasters that have already occurred at the time of the budget preparation. This results in systematic underestimation of the actual costs. Figure 1 shows this systematic under-estimation over time, with each year's published forward estimates in dashed lines. Note that this chart uses a logarithmic scale; the actual expenditure is so much larger than forward estimates they cannot be meaningfully plotted together on a linear scale.

Figure 1. Actual expenditure on natural disasters is systematically an order of magnitude higher than budgeted

\$ millions



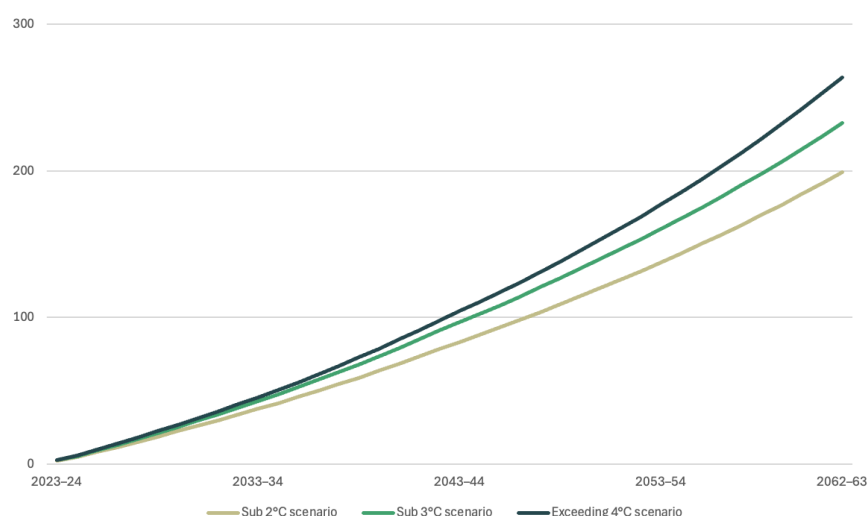
Source: data from Commonwealth Treasury budget papers

The reason for this, which we explore in a later section below, is that Treasury states that climate disaster impacts are “unpredictable” and therefore their costs are “unquantifiable”. The practice of the insurance industry and other economic actors clearly shows that this is not the case. While any specific natural disaster may be unpredictable, it is clear that there is a non-zero level of consistent expenditure. Figure 1 above shows how poorly the Treasury’s current practice provides useful information for decision-making.

The government's own fiscal and economic reporting even shows that the Treasury recognises it is possible to quantify expected aggregate impacts from future disasters. For instance, the 2023 Intergenerational Report (IGR) provides detailed projections of future fiscal impacts attributed to natural disasters, as evidenced in Chart 5.7 (reproduced below in Figure 2) and Appendix A.5 of the IGR.²

Figure 2. Treasury forecasts show increasing cost of Commonwealth DRFA expenditure due to climate change.

Total percentage change



Notes: The projected expenditure presented in the chart reflects the growth in costs under different climate scenarios. Actual costs in any given year are likely to vary significantly from projected costs. Appendix A5 provides further details.

Source: Treasury. Reproduced from Chart 5.7 of the 2023 Intergenerational Report.



DISASTER RECOVERY SPENDING IS (EFFECTIVELY) LOCKED IN, BUT PRUDENT INVESTMENT IN ADAPTATION CAN LOWER THE SPENDING

Natural disasters (and their associated recovery spending) are going to keep happening, but appropriate adaptation investment can lower the costs of these disasters. To use a financial analogy, the default is going to happen, but the loss given default can be significantly reduced.

Despite Prime Ministerial discretion over two of the four DRFA payment categories³, they have never been rejected by the Prime Minister and are generally considered an obligation once natural disasters have occurred that meet the relevant definition in the DRFA.

But the cost of these essentially non-discretionary disaster relief payments can be reduced by appropriate adaption spending. Insurance companies have been alert to this for some time. For instance, insurance policy premiums in cyclone-prone areas of Australia can be reduced if homeowners use longer nails so that their rooves don't fly off during cyclones and damage surrounding property (let alone the damage to the house itself). Flood resilient home changes, for example elevating homes above the flood line, can also tangibly reduce insurance premiums for

flood-prone homes. The Resilient Building Council has programs in place to reduce insurance premia through resilience improvements, and there have been trials for mortgage rate reductions.

There are many examples of effective potential mitigation and adaptation actions that governments could support. For example, governments have realised that when rebuilding a road or railway line in flood prone areas, it is better to build it on a levee. That may cost more upfront but will reduce the cost of rebuilding the next time a flood occurs. Shopping centre owners in flood prone areas have realised that installing flood barriers may be expensive upfront but the payback in terms of cost avoidance and revenues foregone is rapid and large the next time the flood hits and the barriers are deployed.

The opportunities for adaptation spending at the federal level are large, and the payback period is likely to fall even within the short horizon of the forward estimates given the increased frequency and severity of natural disasters.

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BUDGET FORWARD ESTIMATES CURRENTLY IGNORE FUTURE DISASTER EXPENDITURE

Future natural disaster exposure is currently not included in budget aggregates (it is only reported as an unquantifiable contingent liability). Treasury justifies this practice by saying “as natural disasters and their impacts are unpredictable, the cost of these payments for future disasters is unquantifiable and is not included in the forward estimates”.⁴

This implicitly establishes a “predictability” test: it says only expenditure that can be precisely predictable should be included in the budget.

As we discuss in a section above, lessons can be learnt from the insurance and actuarial industry, which has established methods for determining the net present value of expected future insurance claims. They are able to robustly quantify future expected expenditure which is highly likely to occur but uncertain in timing and magnitude, making disasters “predictable” for the purposes of aggregate financial management.

Notwithstanding the latest actuarial science, the Treasury’s current practice is in line with accounting standards *for the end-of-year financial report*. Both the Australian Accounting Standards (AASB) and the Australian Bureau of Statistics’ application of the

international Government Financial Statistics (GFS) standards say that natural disasters represent a contingent liability that should be disclosed as a risk, but not quantified on the balance sheet.⁵

But a budget is not a financial report. Financial reports and the accounting standards that define them are only concerned with what has already happened. A statement of future estimated expenditure – a budget – is not part of the accounting standards. For budgets, we can look elsewhere for best practice. Principle 3.2.7 of the IMF’s Fiscal Transparency Code says that government fiscal statements should “disclose the main fiscal risks from natural disasters, quantifying them on the basis of historical experiences”.⁶

The legislative basis for the budget is the Charter of Budget Honesty Act 1998 – it is this document, not the accounting standards, that says what is required in the government budget. And the Charter of Budget Honesty sets a different test to the accounting standards. Clause 12(b) says the budget “is to take into account, to the fullest extent possible, all Government decisions and all other

circumstances that may have a material effect on the fiscal and economic outlook.”

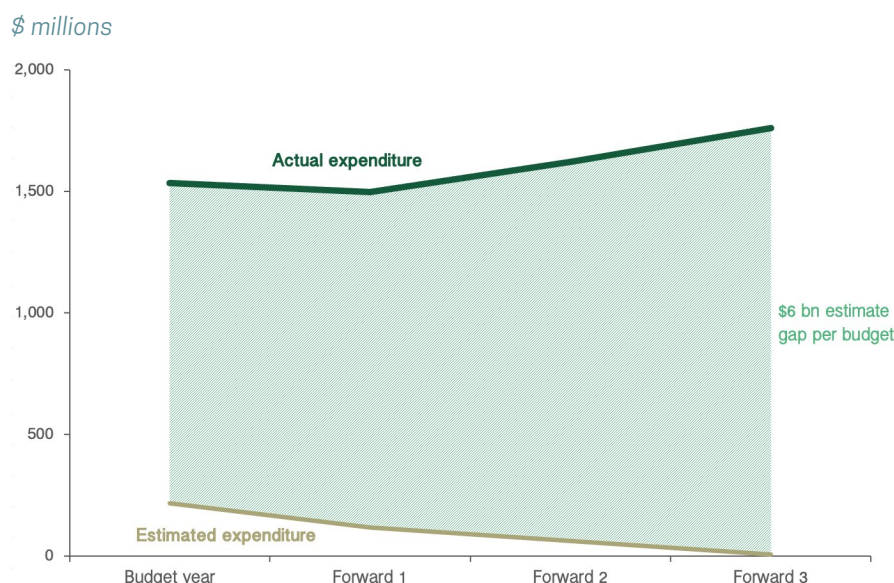
The Treasury are implicitly using a “predictability” test to exclude future expenditure from the budget. As we have discussed above, we believe future aggregate expenditure on disaster recovery can be forecast in a reliable and accurate way, even if there is uncertainty around these estimates and even if they lack precision in any given year. In other words, we believe future climate disaster spending should pass this predictability test. But even if that wasn’t true, the “predictability” test is the wrong test, the Charter of Budget Honesty clearly sets a “materiality” test.

Expenditure on future natural disasters over the forward estimates is highly material to the government’s fiscal position. For instance, the 2021-22 budget included an estimate of \$327 million for natural disaster relief in that 2021-22 year. The final budget outcome for 2021-22 was \$5,840 million, almost 20 times more than the budgeted amount.

As shown in Figure 3, on average the Commonwealth spends \$1.6 billion each year on disaster recovery. This is against an average budgeted amount of \$215 million in the budget year declining to \$6 million by the end of the forward estimates. This leads to a systematic estimate gap of \$6 billion each budget. This amount is highly material.

There is precedent for including material expenditure in the budget that would be excluded under the accounting standards (see Box 1), and we believe that this is how expenditure on future natural disasters should be treated.

Figure 3. The Commonwealth under-budgets for natural disasters by \$6 billion every budget



Notes: this is the average of the 10 budgets to FY 2022-23.

Source: Data from Commonwealth Treasury budget papers

BOX 1: COMPARISON WITH TREATMENT OF SOCIAL SECURITY LIABILITIES.

Both accounting standards used by the government (AASB and ABS GFS) have sections that talk about contingent liabilities – ie. things that should be disclosed as a risk but not counted as a liability. Both standards use the exact same examples: (1) provision of benefits (eg. age pension) to future beneficiaries who are not currently eligible, and (2) responding to future natural disasters.⁷

While these two types of liabilities are treated the same in the financial reports produced under the accounting standards, the Treasury treats them entirely differently in the budget. Estimated expenditure on future beneficiaries is included in the forward estimates

From the Treasury's perspective, this is because this expenditure is predictable: they have

sophisticated demographic and economic models that can estimate how many people will be become eligible and claim a benefit over the next four years. Of course, no model is perfect, but some are useful.

Just as estimates of future natural disaster expenditure will always be wrong, so too are the estimates for future benefit claimants. For instance, the actual expenditure on JobSeeker payments and NDIS participant plans in 2023-24 was \$3.4 billion more than budgeted.⁸ This is not to criticise those programs, but simply to say that the Treasury is already comfortable using estimates of forward expenditure that may be out by billions of dollars. These estimates are not excluded – like estimates of future natural disaster expenditure – on the grounds of being unpredictable.

THE STATUS QUO MISREPRESENTS THE GOVERNMENT'S FISCAL POSITION AND DISTORTS DECISION-MAKING

The current approach of only quantifying payments with respect to past disasters leads to a misrepresentation of the government's fiscal position. It systematically under-represents forward disaster expenditure by an order of magnitude, and it prevents sound fiscal decision-making.

Imagine if there was a niche social security program with the same spending profile: a dozen claims each year that total up to billions of dollars. The parliament and the public would rightfully expect to see estimates of this program's expenditure reported in the budget. It has a material effect on the fiscal outlook. And it would be absurd if the government refused to budget for a multi-billion-dollar social security program on the basis that individual claims cannot be precisely predicted. Yet that is how the Commonwealth currently budgets for climate disaster recovery spending.

This status quo also distorts decision-making by Cabinet. It creates a bias against investment in climate adaptation and disaster risk mitigation that would lead to lower costs for future natural disasters. Adaptation won't make the next cyclone or bushfire any less severe, but it might, for example, make infrastructure more resilient and less costly to repair after a disaster. Because the forward cost of recovery spending (around \$6 billion over the forward estimates) is not reflected in the budget, so too, any benefit from reducing these forward costs is not reflected in the budget.

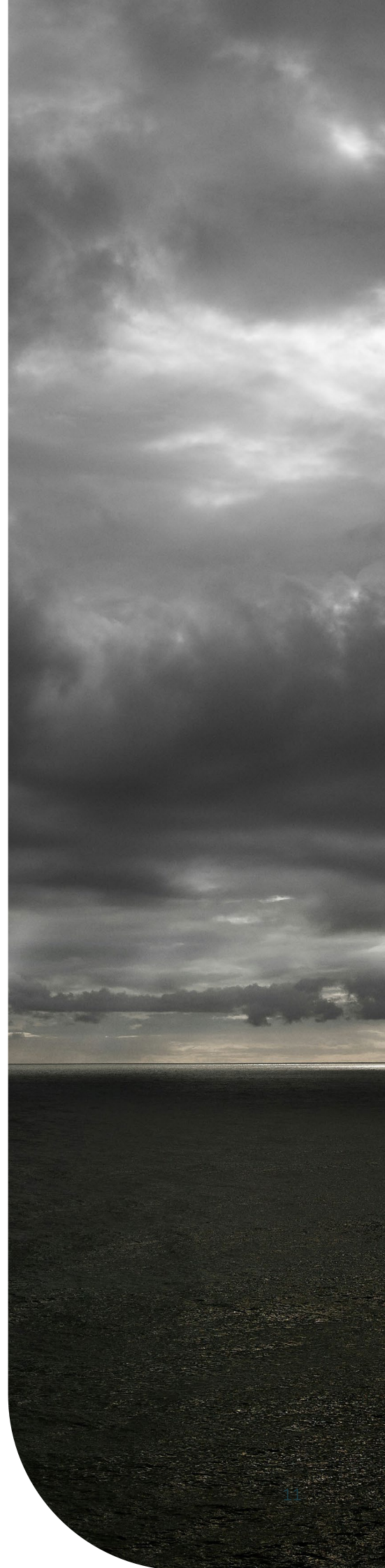
From a process perspective, the Budget Process Operational Rules have strict requirements around how proposals must be accompanied by fiscal "offsets" before they can make it onto the Cabinet agenda. Because the fiscal upside is ignored (less costly future disaster recovery), climate adaptation and resilience proposals won't generate their own "offsets" and face an uphill battle to get on the Cabinet agenda. Even if the proposal gets on the Cabinet agenda, it faces a political barrier: Cabinet is less likely to approve spending that shows up as a large net cost on the budget bottom line. Under current treatment, adaptation and resilience spending is all cost; the future savings aren't counted.

Our proposal to put natural disasters on the budget will no doubt be a difficult decision for the Treasurer and Finance Minister. It will reduce their estimated budget surpluses (or increase budget deficits) by about \$6 billion over the forward estimates. But importantly, doing so will not change actual budget outcomes – these natural disasters and associated expenditure are going to occur either way. This just reflects the reality that we already live with.

Putting this expenditure on the budget is good, transparent fiscal practice. It reflects the burden of natural disasters that will be borne by future taxpayers over the forward estimates. It should (we argue) already be required under the Charter of Budget Honesty. And it also means that fiscal decision processes recognise the true value of disaster risk mitigation policies, encouraging measures that lessen this burden.

ENDNOTES

1. Commonwealth of Australia, [Charter of Budget Honesty Act \(1998\)](#)
2. Treasury (2023), [2023 Intergenerational Report](#)
3. See clauses 4.4.4 to 4.4.6 and 4.5.4 to 4.5.5 of Department of Home Affairs (2018), [Disaster Recovery Funding Arrangements 2018](#).
4. Australian Government (2025), Budget 2025-2026 [Budget Paper No. 1](#).
5. See Australian Accounting Standards Board (2022), [AASB 137: Provisions, Contingent Liabilities and Contingent Assets](#) and Australian Bureau of Statistics (2015), [Part C - The treatment of contingent liabilities in GFS](#), Australian System of Government Finance Statistics: Concepts, Sources and Methods
6. International Monetary Fund (2019), [Fiscal Transparency Code](#)
7. Clause 13.77 of the [ABS GFS \(2015\)](#) talks of implicit contingent liabilities which are not reported in government financial statistics, and says the most common form “...is the assumption of provisions for future benefits such as age or disability pensions for a population. Another example is the expectation for the provision of funds for disaster recovery for events that have not yet occurred.” Clauses Aus26.1 and Aus26.2 in [AASB 137 \(2022\)](#) use the same two examples.
8. The 2023-24 budget had estimates of \$12.9 billion of expenditure on JobSeeker payments (pg. 38 of the [Social Services Portfolio Budget Statement 2023-24](#)) and \$27.9 billion on NDIS participant plans (pg. 64). The final results at the end of the year were published in the [Department of Social Services Annual Report 2023-24](#): there was \$13.9 billion spent on Jobseeker (pg. 285) and \$30.3 billion spent on NDIS participant plans (pg. 287).





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