

Rebalancing Monetary and Fiscal Policies

Peter Abelson and Tim Dalton*

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Abstract

Since the global financial crisis in 2008, developed economies have tended to rely on monetary stimulus to support demand while favouring austerity fiscal budgets, at least in principle. Very low interest rates have limited impact on aggregate demand, regressive social impacts via changes in asset prices and risk financial instability. This paper advocates a more pro-active fiscal policy, based on borrowing for public investment in productive capacity including education and less fear of debt. The paper seeks to provide some guidelines for fiscal policy including debt in a low interest economic environment with special reference to the Australian economy.

The Authors

* Peter Abelson manages economic consultancy, Applied Economics P/L. He has held a Chair in Economics at Macquarie University and lectured on public finance at Sydney University. Peter was National Secretary of the Economic Society of Australia from 1993 to 2006. Tim Dalton is an economic consultant with Applied Economics.

1. Introduction

Since the global financial crisis erupted in 2008, developed economies have tended to rely on monetary stimulus to support demand while favouring austerity fiscal budgets, at least in principle. However, economic recovery has been slow and many countries are under-performing. While recognising that there are many possible causes of under-performance, a key issue is whether this poor economic performance reflects, in part at least, inappropriate macroeconomic management or more specifically over reliance on monetary policy and under-utilisation of fiscal measures. We examine these issues in this paper with special reference to the Australian economy.

Section 2 briefly describes the international and Australian context. Section 3 provides an overview of recent reassessments of the role of fiscal policy and Section 4 discusses the interaction between fiscal and monetary policies. Section 5 discusses some costs of overreliance on monetary policy. In Section 6 we discuss the critical role of government accounting guidelines in setting fiscal policy. Section 7 discusses the concept of fiscal space, essentially the amount of public debt that can be tolerated. Sections 8 and 9 discuss the selection of public investments and fiscal rules for the fiscal budget. Section 10 provides conclusions.

2. International and Australian Context

Monetary policy across the developed world has been extremely accommodative since the onset of the financial crisis in 2008-09. In the US, Eurozone, UK and Japan, nominal interest rates were reduced to their effective lower bound and unconventional monetary policies were employed.

Fiscal policy was also accommodative initially but turned to tightening after a few years as many countries become concerned about the sustainability of sovereign debt.

Governments in many countries have reduced public investment spending to meet fiscal consolidation objectives (OECD 2015a), even as borrowing costs remain at or near all-time lows of around zero per cent in real terms and infrastructure deficiencies are holding back growth.

The US has now largely recovered and the Federal Reserve is starting to reduce monetary accommodation, but the recovery took much longer than anticipated. The effect on output appears likely to be permanent: GDP looks unlikely to return to its pre-crisis trend line (see Figure 1).

The Eurozone is still recovering, hampered by structural issues and a basic lack of competitiveness. In some countries, “austerity” contributed to a deepening of the downturn and has given rise to social tensions and political unrest.

Australia was insulated from the worst of the global downturn by the commodities boom. Nonetheless, Australia now faces similar policy challenges to the rest of the developed world: slowing productivity growth, low wage growth and underemployment and its recent performance has been below trend (see Figure 1).

Australia has also relied heavily on monetary policy to support demand after commodity prices began to soften in 2011. With the exception of 2009-10, fiscal policy has been slightly pro-cyclical – that is, fiscal policy has been tightened in years when the output gap suggests there is slack in the economy (IMF 2017c).

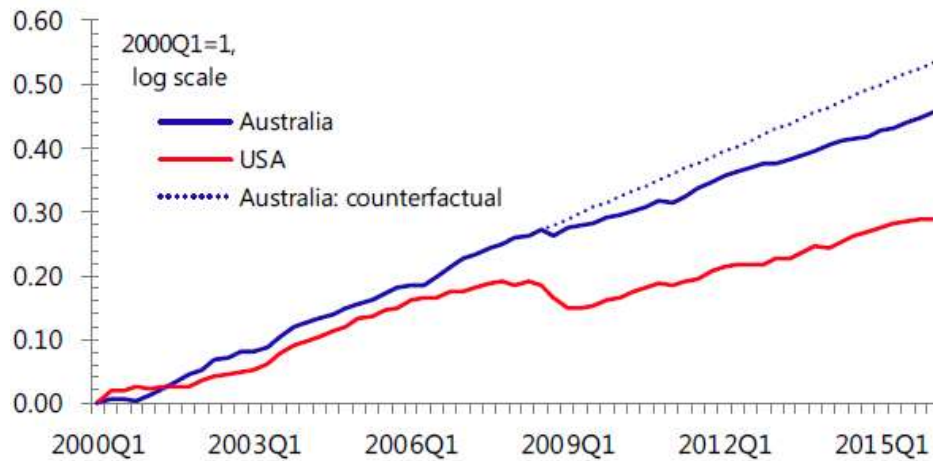
House prices have also responded strongly to low interest rates, increasing concerns about affordability. The combination of high asset prices and weak wage growth has exacerbated concerns about inequality. Low interest rates have encouraged households to add to an already elevated level of debt, which poses risks for financial stability and is now a constraint on further monetary policy easing.

Other relevant trends have been in place since well before the crisis: real interest rates have been declining for around 30 years, as has public investment as a share of GDP in developed countries.

The weakness of the recovery and the extent of reliance on monetary policy have led to a reassessment of the appropriate role for fiscal policy. Doubts have arisen about the effectiveness of monetary policy when interest rates are close to zero, and potentially costly side-effects of extreme monetary policy have become apparent. Many commentators and international organisations now argue that fiscal policy should be more active (countercyclical) in assisting monetary policy to support demand during a downturn, and that a particularly strong case exists today for a higher level of public investment.

This paper discusses the basis for these recommendations and assesses the extent to which they apply to Australia.

Figure 1 Real GDP: Australia and the USA¹



Sources: Haver Analytics and IMF staff calculations.

1/ Counterfactual is based on pre-GFC average growth (2003-07).

3. Reassessment of the Role of Fiscal Policy

A substantial reassessment of the role of fiscal policy has taken place over the last few years, even if this reassessment has not yet been implemented by policymakers in most countries. The following characterisation of an “Old View” and a “New View” is adapted from Furman (2016). The final point on CBA in theory and in practice is an addition of this paper.

¹ Extracted from IMF (2017b)

| Old View | New View |
|--|---|
| Monetary policy is a better tool than discretionary fiscal policy for responding to short run macroeconomic fluctuations. Discretionary fiscal policy is too slow, too political and too difficult to reverse | We need both monetary policy and fiscal policy to respond to macroeconomic fluctuations. Countercyclical fiscal policy is an effective complement to monetary policy, particularly in a deep downturn |
| The zero lower bound on nominal interest rates is a minor issue. Monetary policy will always be able to provide adequate support to aggregate demand. Any periods of below-target inflation will be brief | The zero lower bound has been reached in many advanced economies. It will continue to be an issue due to low inflation and low natural rates of interest. Further, monetary policy can be constrained or ineffective even at interest rates above zero |
| Fiscal stimulus is ineffective either because rational forward-looking agents anticipate later tax increases (Ricardian equivalence) or because it leads to higher interest rates which crowd out private investment | Fiscal stimulus is effective, particularly when monetary policy is constrained and households are liquidity constrained. In a depressed economy, fiscal policy can “crowd in” private investment by improving the demand outlook, lowering real interest rates and lowering risk premia |
| Government debt is already too high and discretionary fiscal stimulus will make matters worse | Fiscal space is larger than previously appreciated and well-designed fiscal stimulus can improve fiscal sustainability by growing the economy in the long run |
| Beyond short-run stabilisation, the primary focus of fiscal policy should be on consolidation to prevent the build-up of government debt | Recurrent spending should be contained, but well-designed public investments should be funded. Such investments increase net public worth, enhance productivity and potential growth, and by raising the long run natural rate of interest, enhance the ability of monetary policy to manage short run fluctuations |
| Cross border policy coordination focused on monetary policy and avoiding competitive devaluation of currencies. Cross border implications of fiscal policy are less important | When monetary policy is constrained, negative demand shocks spill over more easily and are not offset by monetary loosening. Fiscal expansions can therefore have large positive spillovers, especially when they are internationally coordinated |
| Cost benefit analysis (CBA) is the sole criterion for determining whether a capital investment should proceed | CBA remains central, but should reflect the opportunity cost of resources at the point in the cycle – which implies a lower discount rate during a downturn. In practice, capital rationing rather than CBA has been the primary mechanism that sets the aggregate level of government investment. If this continues to be the case, capital budgets should be made explicitly countercyclical |

Likewise, international organisations such as the IMF and OECD, historically advocates of fiscal restraint, have argued strongly for active fiscal policy, and in particular for increased public investment.

The IMF (2014) made a strong call for higher public infrastructure investment in those countries with fiscal space:

increased public infrastructure investment raises output in both the short and long term, particularly during periods of economic slack and when investment efficiency is high. This suggests that in countries with infrastructure needs, the time is right for an infrastructure push: borrowing costs are low and demand is weak in advanced economies, and there are infrastructure bottlenecks in many emerging market and developing economies. Debt-financed projects could have large output effects without increasing the debt-to-GDP ratio, if clearly identified infrastructure needs are met through efficient investment.

The OECD (2016a) expressed a similar view:

Almost a decade after the outbreak of the financial crisis, the global economy remains in a low-growth trap with weak investment, trade, productivity and wage growth and rising inequality in some countries. Monetary policy is overburdened, leading to growing financial risks and distortions. Alongside structural reforms, a stronger fiscal policy response is needed to boost near-term growth and strengthen long-term prospects for inclusive growth.

However, in the context where public debt has reached high levels in most OECD countries, it is important to assess the extent of countries' fiscal space and the temporary deficit increase they can afford to run. In the past few years, the assessment of fiscal policy has focused essentially on public budget balance positions rather than on the consequences for growth. This focus has resulted in a higher debt-to-GDP ratio in the short term through shortfalls in investment, human capital and productivity. A rethink is needed for how the fiscal policy stance should be evaluated, particularly in the context where very low sovereign interest rates provide more fiscal space.

The IMF's (2017a) latest assessment cautions against "blanket support for fiscal stimulus everywhere and under all economic circumstances", but the basic message remains the same:

One of the main contentions of the emerging new view on fiscal policy ... is that fiscal policy should react more actively to cyclical conditions in times of deep and prolonged recessions and when monetary policy is constrained ... the case for increasing public investment is very strong almost everywhere in the world in light of the low long-term borrowing costs and substantial infrastructure deficiencies

Various policy papers and staff research papers support these views (for example, IMF 2015a, Gaspar et al 2016, Fournier 2016).

Both organisations consider that increased government investment and less reliance upon monetary policy would be appropriate at this point for Australia (IMF 2017b, IMF 2017c, OECD 2017).

Central bankers have also called for greater support from fiscal policy. For example, Ben Bernanke's (2013) Semiannual Monetary Policy Report to the Congress included the following remarks: "Although monetary policy is working to promote a more robust recovery, it cannot carry the entire burden of ensuring a speedier return to economic health. The economy's performance both over the near term and in longer run will depend importantly on the course of fiscal policy." Bernanke acknowledged concerns about the size of government debt, but argued that fiscal consolidation should be backloaded given that the recovery was still weak: "the Congress and the Administration should consider replacing the sharp, frontloaded spending cuts required by the sequestration with policies that reduce the federal deficit more gradually in the near term but more substantially in the longer run".

In his last public address as Governor of the Reserve Bank of Australia, Glenn Stevens (2016) expressed clear concerns about the extent of reliance on monetary policy and the safety using lower interest rates to encourage households to take on even more debt. He was careful to emphasise that he was not advocating deficit financing of recurrent government spending, but that government should be "prepared to borrow for the right investment assets – long-lived assets that yield an economic return".

The new RBA Governor Phillip Lowe (2016) has expressed similar views, advocating higher investment in transportation infrastructure, and clearly distinguishing this from deficit financing of recurrent spending (which he also warned against).

4. Interactions between Fiscal and Monetary Policies

In this Section, we outline a basic feature of macroeconomic stabilisation: the less fiscal policy does to support demand in a weak economy, the more aggressive monetary policy is required to be.

Conversely in a strong economy, the less fiscal policy does to rein in demand, the more monetary

policy must be tightened. This is illustrated by two scenarios (following DeLong & Summers 2012)².

We also consider their implications for optimal public investment:

Scenario 1: Monetary Policy is Effective / “Fiscal Offset”

When the economy is operating at or close to full capacity, additional government spending would push inflation above the central bank’s target and require an increase in interest rates sufficient to return aggregate demand to its starting point. The increase in interest rates increases savings by households (i.e. reduces consumption) and reduces private investment. That is, an increase in government spending crowds out private investment and consumption 1-1. Relative to the state of the economy before the fiscal expansion, output (real GDP) is unchanged, interest rates are higher, and private investment and consumption are lower.

In this scenario, government investment should be funded so long as it offers a return greater than or equal to the return on the private investment that it would crowd out. Arguably, to the extent that government investment also crowds out private consumption and consumers’ time preference rate is lower than the return on private investments, the weighted average opportunity cost may be slightly lower (Harrison 2010).³

Scenario 2: Monetary Policy is Constrained / “Zero Nominal Lower Bound”

When the economy is depressed and monetary policy is constrained, inflation may fall below the central bank’s target and interest rates either cannot be reduced further or are not sufficient to stimulate demand. In this scenario, additional government spending would not require tightening by the central bank. The central bank would leave interest rates at their current setting of maximum effective stimulus for as long as inflation is expected to remain below target, and so additional government spending would not crowd out private investment or consumption. In some cases, government spending can reduce real interest rates by raising inflation. Also, by adding to demand and increasing growth expectations, it can lower risk premia and thereby crowd in private investment.

² DeLong & Summers (2012) use the IS-MP framework advocated by Romer (2000, 2013) to illustrate these scenarios.

³ In the context of cost benefit analysis, the opportunity cost of a particular project is the return foregone on alternative projects, which could include investment in the private sector, so the return on private investment is an appropriate benchmark. This is based on the assumption that the CBA analyst must take aggregate fiscal policy as predetermined, so a given project leads to displacement of other projects rather than more borrowing in aggregate. In the context of macroeconomic policy, on the other hand, fiscal policy is not predetermined so incremental investment leads to more borrowing, higher interest rates, and crowding out of both private investment and consumption.

In this scenario, the threshold for government spending to be welfare enhancing is much lower. Even pure consumption spending can be self-financing by preventing hysteresis (which would reduce long run potential GDP) (DeLong & Summers 2012), but efficiently managed government investment has the greatest long run impact on real GDP (Gaspar et al 2016).

Implications for Policy

There are several basic implications of this framework:

- All else equal, tighter (looser) fiscal policy ordinarily leads to looser (tighter) monetary policy
- Structurally lower interest rates mean monetary policy has less space before it reaches the zero nominal lower bound. Structurally higher government spending can increase equilibrium interest rates and thereby create more space for monetary policy to manage the business cycle effectively
- Countercyclical fiscal policy means monetary policy can be less aggressive
- When monetary policy is effective, the opportunity cost of public investment is determined by the private investment (and consumption) that it crowds out. When interest rates are very low, incremental public investment crowds out low returning private investment and low value consumption. The required rate of return on public investment is therefore lower and we would expect more public investment to pass cost benefit analysis
- When monetary policy is constrained or less effective, the required rate of return on public investment should be even lower and we would expect to see even more public investment

Monetary Policy in Australia Appears to be Constrained

Monetary policy in Australia has not reached the zero nominal lower bound for nominal interest rates. However, monetary policy does appear to have reached the point where its effectiveness is diminished and further loosening is constrained by concerns about financial stability.

For example, in his testimony to the House of Representatives Standing Committee on Economics, Governor Phillip Lowe (2016) explicitly discussed the trade-off that additional monetary stimulus comes at the expense of financial stability:⁴

One of the issues that we have discussed internally within the bank is how quickly we should get back within the two to three per cent range of inflation. A due consideration there is what is happening with private sector balance sheets. I read that some analysts would like to have seen a more aggressive easing of monetary policy to try and get inflation back there more quickly. I think there is a respectable argument to be made here. But the other side is that very low interest rates just encouraged people to borrow even more and pushed up asset prices even more. We might be able to get back to 2½ per cent inflation quite quickly but it could be at the cost of a deterioration in the health of balance sheets and building up risks—maybe not for financial institutions but for the future health of the consumer balance sheets and the economy. So I very much see the inflation targeting arrangements being nested within our broader responsibility to promote the interests of the Australian people.

So the question we ask ourselves is: what is in the best interests of the Australian people—to try and get inflation back very quickly to two to three per cent at the cost of a deterioration in financial stability broadly defined, including the balance sheets? Our judgement to date has been that that would not be consistent with our mandate of doing what is in the best interests of the Australian people.

In terms of effectiveness, Lowe (2012) suggested that there is level at which the incremental benefit of lower interest rates becomes small, and that this level is “somewhere around 1 per cent plus or minus a bit”.⁵

This suggests that the RBA has not eased as much as it would have if closing the output gap were its only objective. The corollary is that any additional demand provided by fiscal expansion will not be

⁴ Similarly, Lowe (2015) noted that it is “unlikely to be in Australia’s long-term interests to engineer a consumption boom by encouraging people to borrow large amounts against future income. This is especially so when debt levels are already high and prospects for future income growth are not as positive as they once were. So, there is a fairly fine line to tread here. The RBA’s recent decisions have sought to strike a prudent balance – to help encourage consumption growth and thus business investment, but avoid the type of imbalances that could cause problems later on. We will continue to assess that balance carefully.”

⁵ IMF (2017c), citing Lowe (2012) uses an effective lower bound of around 1% for monetary policy in Australia

offset by immediate monetary tightening. Additional government spending at this point is unlikely to result in a full 1-1 crowding out of private investment and consumption.

In fact, a second feature of Scenario 2 that is familiar to the Australian economy is that that private investment is not being held back by high interest rates; it is being held back by a lack of confidence and a weak demand outlook. In this situation, government spending that improves growth and demand can lower risk premia and **crowd in** private investment.

5. Costs of Overreliance on Monetary Policy

In this section, we argue that there are costs to overreliance on monetary policy which are often overlooked by those who argue that fiscal policy should be the stabilisation tool of last resort. The existence of these costs favours a more countercyclical fiscal policy.

A House Prices and Housing Affordability

Dwelling prices in Australian capital cities have increased by around 66% since the end of 2008 (ABS 2017), approximately 45% in real terms. This is almost entirely driven by the fall in interest rates.

On the other hand, as observed in the latest RBA Statement on Monetary Policy (2017b), rent increases are the slowest for two decades.

This combination of weak rents and high prices cannot be explained by supply shortages.⁶ It represents a significant compression in rental yields and is a predictable consequence of low interest rates.

Low interest rates affect house prices in two ways:

- **Ability to pay:** credit constrained households can afford to borrow and pay more for a given level of income

⁶ Data on housing supply also suggests that a shortage is not the explanation for high house prices. Between 2006 and 2016 housing supply kept up with population: population rose by 16.9% from 20.7m to 24.2m, private dwellings rose by 17.5% from 8.426m to 9.901m (ABS Censuses, 2006, 2016).

- **Valuation relative to rents:** the present value of future rents (for investors) or imputed rents (for occupiers) is higher when the discount rate is lower

In either case, prices can be driven higher by interest rates alone even where wage growth is subdued, rents are soft and supply of dwellings is adequate to meet demand. But prices will be equally sensitive when interest rates rise. Price appreciation that is driven by low interest rates, rather than population growth or a shortage of dwellings, is more likely to be reversed when interest rates rise. This may be exacerbated by the wave of construction activity that has been induced by high prices, which risks creating oversupply in some segments.⁷

There are two major problems with high and volatile house prices:

- The increase in household leverage required to sustain the increase in prices creates risks to the financial system if prices fall. This appears to be the principal reason why interest rates were not reduced further even as inflation remained below target (Lowe, 2016).
- High house prices create an affordability gap as the ability to pay of liquidity constrained households does not keep up with asset prices. Deposit requirements (typically 20%) increase with house prices and make buying unaffordable for households with low savings.

B Financial Stability and Banking Sector Profitability

Overreliance on monetary policy poses risks to financial stability that extend beyond the effect on house prices and household leverage. Expansionary monetary policy “promotes additional risk-taking, which could increase systemic risks even when they are already high” (Orsmond and Price 2016). The theme of the Reserve Bank of Australia's conference in 2017 was ‘Monetary Policy and Financial Stability in a World of Low Interest Rates’.⁸ At this conference, RBA Assistant Governor Luci Ellis and APRA Executive General Manager

⁷ To the extent that there are fundamental drivers to Australia's high house prices that go beyond interest rates, one of the largest is likely to be a chronic underinvestment in transport infrastructure, which increases the “locational value of land” (Lowe 2016). Increased public investment in transport infrastructure, which would also relieve some of the burden on monetary policy, would therefore go a long way to addressing both of the key causes of high house prices.

⁸ Papers are available at <https://www.rba.gov.au/publications/confs/2017/>. The theme of the 2012 conference was Property Markets and Financial Stability (<https://www.rba.gov.au/publications/confs/2012/>)

Charles Littrell (2017) explored the consequences of low interest rates for financial stability in the context of Australia's macroeconomic environment and institutional arrangements. They note that more extreme interest rate cycles lead to more extreme credit cycles and to more extreme valuation cycles in all assets, including stocks and bonds. Low interest rates "tend to magnify both the upswing and the downswing in prices of leveraged assets, thereby also magnifying the potential for financial distress".

Other recent discussions of the interaction between extreme monetary policy and financial stability include IMF (2016b), IMF (2017d), Cœuré (2016) and Tarullo (2014).

Macroprudential policies can help to control these risks and allow monetary policy to go further than would otherwise be prudent. But more supportive fiscal policy would reduce the need for monetary policy to reach such extremes in the first place.

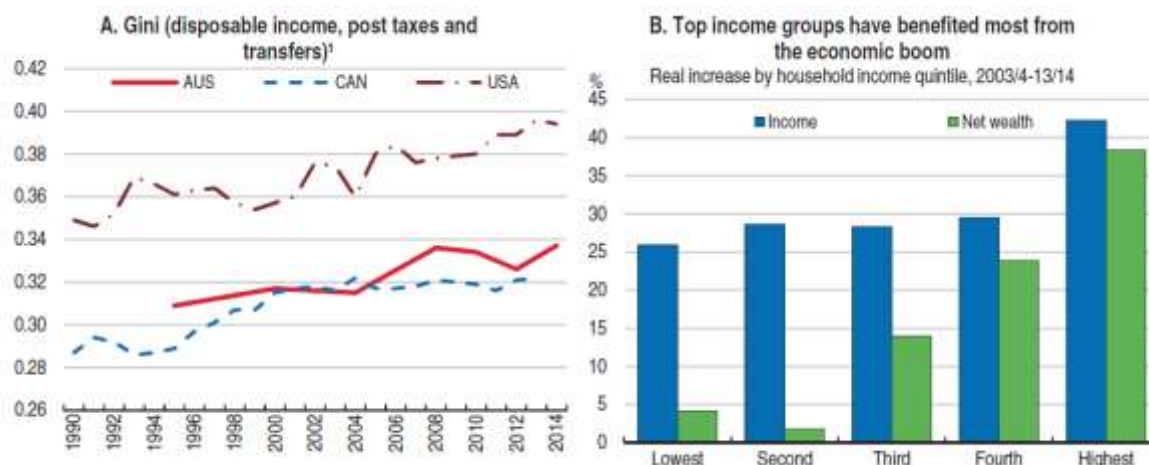
Separately, extremely accommodative monetary policy, and in particular unconventional policy tools, can undermine the profitability of the banking system. Banks may find it difficult to charge depositors when nominal interest rates are negative. Persistently flatter yield curves diminish the profitability of maturity transformation, which is central to bank business models in many countries. Particularly in an environment of weak growth, and where banks' balance sheets are already weighed down with bad loans, lower profitability can not only compromise financial stability but also undermine the financial intermediation process necessary for the effective functioning of monetary policy. This point has not been reached in Australia but it is a major concern in the Eurozone and Japan.

Of course, in many cases accommodative monetary policy is better for financial stability and for the economy than a counterfactual of no action. Accordingly, assessments of the effectiveness of extreme monetary policy are generally expressed in terms of whether such policy had a "net positive" impact (for example, Cœuré 2016). But once the point has been reached where monetary policy comes with costs, a counterfactual of supporting demand through some other channel – such as fiscal policy – must be preferable.

C Inequality

As many commentators have observed, rising inequality is a global issue and is receiving increasing policy attention (see for example OECD (2015b)). Australia is not immune to this phenomenon. Inequality in Australia has been rising in recent years, with wealth inequality rising by more than income inequality (Figure 2).

Figure 2 Measures of Income and Wealth Inequality in Australia⁹



In Australia, wealth is distributed more unevenly than income (ABS 2015). The middle quintiles hold the highest proportion of their wealth in housing, but the wealthiest 20% hold a higher absolute amount of wealth in housing.

Fiscal policy is relevant to inequality in three broad ways. The first two are related to the mix of tax and spending policies (see IMF 2017a):

- Firstly, tax and welfare policies play a central role in income redistribution
- Secondly, government spending on public education, health care and social insurance is necessary to ensure “equality of opportunity” and enable people to “acquire and maintain the appropriate skills to fully participate in and adapt to a changing economy through quality education and health, as well as insurance against risks such as employment shocks”

⁹ Extracted from OECD (2017)

The third mechanism is that inadequate government spending in aggregate has implications for inequality via and the consequential level of reliance on monetary policy.

Extremely accommodative monetary policy increases asset prices, which disproportionately benefits the wealthy because they own a disproportionate share of assets. In Australia where most household wealth is in housing, this is most apparent in the growth of house prices.

This may look like a windfall gain for asset owners, but it represents a transfer from those who are seeking to accumulate assets in the future and will have to pay more for them.

This effect is most apparent in two areas:

- **Housing:** those seeking to buy a home in the future will have to save more for a deposit and take on more debt to buy the same home
- **Retirement income:** those still saving for retirement (and who do not already hold significant assets) will have to save more and/or take on more risk in order to generate the same level of retirement income (see, for example, Stevens 2015).

A final issue is that different forms of stimulus have uneven effects on different parts of the economy. If monetary stimulus has a large effect on asset prices, commodity prices and the prices of imported goods and services (through exchange rate depreciation), but a small effect on the local labour market and wages, it could result in a relatively worse outcome for real wages. The purchasing power of workers could fall relative to the purchasing power of wealthy asset owners. Fiscal stimulus in the form of government investment, on the other hand, may have a more direct impact on the local labour market and wages. But this clearly depends on the form of the fiscal stimulus.

Studies of the impact of monetary stimulus on inequality are complicated by the question: what is the appropriate counterfactual? It is likely that supportive monetary policy is better than no stimulus, and the comparison against an “equivalent” level of fiscal stimulus depends on the makeup of this stimulus (for example, increased public services and welfare have a different impact to across-the-board tax cuts) (see, for example, Bivens 2015, O’Farrell et al 2016). There is also a strong case that insufficient stimulus – whether monetary or fiscal – is the worst scenario for inequality, as it leads to higher unemployment, a deeper downturn, and

lower wages. This consideration adds to the argument for aggressive use of counter-cyclical fiscal policy when monetary policy is constrained (see E below).

D Industry Adjustment

Overreliance on monetary policy increases the magnitude of interest rate cycles and would be expected to result in larger movements in asset prices and the exchange rate over the cycle. This can magnify the rebalancing required between industries as different business models become economic or competitive at different points in the cycle, and experience suggests that this transition is never seamless (Lowe 2015). For example, an exaggerated house price cycle induces a large investment in construction capacity which may be redundant when the cycle unwinds. A very high exchange rate might cause uncompetitive export industries to shut down, only to become competitive again when the exchange rate falls.¹⁰ This is not to say that the economy should be shielded from long term fundamentals. The point is that overreliance on monetary policy can cause prices to move beyond fundamentals in both directions, and the resulting adjustment can be costly.

All else equal, a more countercyclical role for fiscal policy would reduce the magnitude of these cycles and therefore the extent of any unnecessary adjustment.

E Monetary Policy May be Constrained or Ineffective

Finally, it is worth adding that the greatest cost of overreliance on monetary policy arises when it has become constrained or ineffective. As outlined in Section [3], this may arise because of the zero nominal lower bound, but it may also arise because central banks are reluctant to ease sufficiently aggressively due to some of the concerns noted in this Section. Comments by Lowe (2016) quoted above appear to confirm that the RBA has been constrained by concerns about the build-up of household debt and the risks to financial stability, and that in any case monetary policy becomes increasingly ineffective at low rates

¹⁰ Exchange rates can also be driven above or below fundamentals by extreme monetary policy of other countries (DeBelle 2013). This is an example of potential cross border implications of inadequate fiscal policy.

even before the zero nominal lower bound is reached. When this is the case, appropriate support from fiscal policy is crucial to support demand and to prevent the economy slipping into a deflationary spiral. Government spending at this point can unambiguously increase output without crowding out private investment or consumption. And a structurally higher level of public investment should reduce the likelihood that monetary policy will find itself so constrained in the future.

6. Government Accounting

The considerations outlined above suggest that the level of public investment should both be increased and made more counter-cyclical, but that restraint continue to be exercised in relation to recurrent spending.

This is consistent with the recommendations for Australia of the IMF (2017b) and the OECD (2017). The distinction between recurrent and capital expenditure is also central to the “Golden Rule” of public finance, which states that over the business cycle, government borrowing should equal net capital investment and recurrent expenditure should be funded out of recurrent revenue (Abelson 2012).

In practice, however, such recommendations cannot be implemented correctly without accurate accounting that distinguishes between recurrent and capital forms of spending and revenue. This has been a major problem that the Commonwealth Government sought to address through two key features of the May 2017 Budget (Australian Government 2017, Weight and Wakerly 2017).

Accounting Changes in the 2017 Budget

Firstly, although the Government will continue to focus on the ***underlying cash balance*** as its primary fiscal measure, it will also give greater prominence to the ***net operating balance*** as a measure of how closely the recurrent spending is being funded by recurrent revenues. Net operating balance excludes net capital investment by the Commonwealth (it is also an accrual rather than a cash measure).

However, grants to the States for the purpose of capital investment are treated as operating items and detract from both the underlying cash balance and the net operating balance. Therefore, the second

relevant feature of the May 2017 Budget is an “adjusted net operating balance” which excludes grants to the States for the purpose of capital investment (Statement 4).

Government acquisition of financial assets is already excluded from both the underlying cash balance and the net operating balance. This includes loan and equity contributions to other entities which undertake investment in physical infrastructure, such as the equity investment of \$8.4 billion in the Australian Rail Track Corporation for Inland Rail and the equity investment of up to \$5.3 billion in WSA Co for the Western Sydney Airport. These items should be included when considering the overall level of public investment.

The relationship between underlying cash balance, net operating balance, adjusted net operating balance and total capital spending is presented in Table 1 below.

Table 1 Key Measures from the 2017-2018 Budget (\$bn and % of GDP)

| | Underlying Cash Balance | Direct Capital Investment | Depreciation (Implied) | Net Capital Investment (Direct) | Net Operating Balance | Capital Spending within Net Operating Balance | Adjusted Net Operating Balance | Financial Asset Investments for Policy Purposes | Total Capital Spending |
|--------------------|-------------------------|---------------------------|------------------------|---------------------------------|-----------------------|---|--------------------------------|---|------------------------|
| | A | B | C = A - B | D | E | F = D + E | G | H = A + E + G + (*) | |
| \$bn | | | | | | | | | |
| 2007-08 | 19.8 | 7.3 | 4.7 | 2.6 | 23.5 | 7.1 | 30.6 | -5.1 | 9.9 |
| 2008-09 | -27.0 | 9.7 | 5.6 | 4.1 | -25.9 | 12.9 | -13.0 | 7.9 | 31.6 |
| 2009-10 | -54.5 | 11.2 | 4.8 | 6.4 | -47.4 | 23.9 | -23.6 | 4.3 | 41.0 |
| 2010-11 | -47.5 | 10.0 | 4.7 | 5.3 | -46.9 | 15.4 | -31.4 | 7.0 | 33.0 |
| 2011-12 | -43.4 | 10.5 | 5.6 | 4.9 | -39.9 | 15.5 | -24.4 | 5.9 | 33.9 |
| 2012-13 | -18.8 | 8.0 | 7.0 | 1.0 | -22.9 | 10.1 | -12.8 | 4.8 | 24.0 |
| 2013-14 | -48.5 | 9.6 | 5.7 | 3.9 | -40.3 | 21.4 | -19.0 | 9.4 | 43.7 |
| 2014-15 | -37.9 | 11.4 | 8.7 | 2.7 | -38.1 | 9.3 | -28.8 | 12.6 | 34.6 |
| 2015-16 | -39.6 | 10.5 | 6.7 | 3.8 | -33.6 | 8.8 | -24.9 | 14.1 | 34.7 |
| 2016-17 (e) | -37.6 | 12.0 | 10.0 | 2.0 | -38.7 | 11.9 | -26.8 | 17.1 | 42.7 |
| 2017-18 (e) | -29.4 | 13.5 | 13.0 | 0.5 | -19.8 | 12.6 | -7.3 | 22.9 | 50.6 |
| 2018-19 (e) | -21.4 | 13.8 | 9.0 | 4.8 | -10.8 | 10.2 | -0.6 | 19.8 | 45.1 |
| 2019-20 (p) | -2.5 | 14.7 | 9.8 | 4.9 | 7.6 | 8.4 | 16.0 | 16.4 | 40.5 |
| 2020-21 (p) | 7.4 | 15.8 | 9.8 | 6.0 | 17.5 | 7.2 | 24.7 | 14.8 | 38.7 |
| % of GDP | | | | | | | | | |
| 2007-08 | 1.7% | 0.6% | 0.4% | 0.2% | 2.0% | 0.6% | 2.6% | -0.4% | 0.8% |
| 2008-09 | -2.1% | 0.8% | 0.4% | 0.3% | -2.1% | 1.0% | -1.0% | 0.6% | 2.5% |
| 2009-10 | -4.2% | 0.9% | 0.4% | 0.5% | -3.6% | 1.8% | -1.8% | 0.3% | 3.2% |
| 2010-11 | -3.4% | 0.7% | 0.3% | 0.4% | -3.3% | 1.1% | -2.2% | 0.5% | 2.3% |
| 2011-12 | -2.9% | 0.7% | 0.4% | 0.3% | -2.7% | 1.0% | -1.6% | 0.4% | 2.3% |
| 2012-13 | -1.2% | 0.5% | 0.5% | 0.1% | -1.5% | 0.7% | -0.8% | 0.3% | 1.6% |
| 2013-14 | -3.0% | 0.6% | 0.4% | 0.2% | -2.5% | 1.3% | -1.2% | 0.6% | 2.7% |
| 2014-15 | -2.3% | 0.7% | 0.5% | 0.2% | -2.4% | 0.6% | -1.8% | 0.8% | 2.1% |
| 2015-16 | -2.4% | 0.6% | 0.4% | 0.2% | -2.0% | 0.5% | -1.5% | 0.9% | 2.1% |
| 2016-17 (e) | -2.1% | 0.7% | 0.6% | 0.1% | -2.2% | 0.7% | -1.5% | 1.0% | 2.4% |
| 2017-18 (e) | -1.6% | 0.7% | 0.7% | 0.0% | -1.1% | 0.7% | -0.4% | 1.3% | 2.8% |
| 2018-19 (e) | -1.1% | 0.7% | 0.5% | 0.3% | -0.6% | 0.5% | 0.0% | 1.0% | 2.4% |
| 2019-20 (p) | -0.1% | 0.7% | 0.5% | 0.2% | 0.4% | 0.4% | 0.8% | 0.8% | 2.0% |
| 2020-21 (p) | 0.4% | 0.8% | 0.5% | 0.3% | 0.8% | 0.3% | 1.2% | 0.7% | 1.9% |

(e) Estimates

(p) Projections

(*) Other Capital Grants

For 2017-18 the adjusted net operating balance is in deficit by only 0.4% of GDP (compared to 1.6% of GDP for the underlying cash balance). The key implication is that the cash deficit represents investment in the future, not that Australia is “living beyond its means”.

Continued Bias against Public Investment

This development is welcome, but in several respects government accounting will continue to bias against adequate public investment.

Firstly, the government has retained the underlying cash balance, which includes all forms of capital spending other than the purchase of financial assets, as the primary measure for meeting its objective of returning the budget to surplus.

Secondly, even under the adjusted net operating balance measure, many categories of spending which are investments in economic substance will continue to be classified as recurrent expenditure under the accounting framework. In education, for example, the construction of a new school would be a capital item, but the education of tomorrow’s workforce is treated as recurrent expenditure. In economic substance, a significant proportion of education expenditure is a productive investment in the human capital stock of the nation. In principle, this investment should be capitalised and only the depreciation should be reflected as current expenditure. In other words, cutting education expenditure should not benefit the recurrent balance, because the existing human capital stock will continue to depreciate. Treating education as a current item creates a bias against adequate investment.

Similarly, some portion of healthcare expenditure could be treated as investment that contributes to future output (this is done in OECD 2016a). Likewise, maintenance expenditure often has the economic character of investment (see Section [8]).

Finally, (adjusted) net operating balance excludes capital investment entirely, and there is no additional target or strategy for determining what an appropriate level of capital investment should be. Accordingly, if net operating balance were used as the primary measure of budget balance, the ability to exclude capital investment would allow government to spend without discipline. We discuss possible targets for the capital budget in Section [9].

7. Fiscal Space

The most common argument against an increase in the level of public investment is that government debt is already too high. Part of the reassessment of fiscal policy that has taken place in recent years has been a reassessment of the concept and measurement of fiscal space. This is broadly defined as the distance between current debt levels and some debt limit beyond which further borrowing would be unsustainable or the economy would become unstable.

Approaches to Fiscal Space

There are several methodologies for estimating available fiscal space, but all have limitations and there is no consensus as to a single correct measure (OECD 2016a, IMF 2016c, IMF 2011).

Quantitative approaches to estimating a “debt limit” have been developed, but given their sensitivity to assumptions and model specification, most policy analysis uses these models to illustrate the trends and underlying mechanisms at work rather than to provide precise debt limits. Assessing fiscal space is ultimately a matter of judgment informed by a variety of quantitative and qualitative tools.

A number of general observations are relevant to fiscal space in the current macroeconomic environment (see OECD 2016a, Botev et al 2016, IMF 2017a (in particular Box 1.4)):

- Very low interest rates have clearly increased fiscal space
- In the long run, fiscal space depends on the differential between real interest rates and the rate of potential output growth. Analysis of a policy change must take into account the effect on GDP and on long term growth, not just the effect on the stock of debt
- Well designed, productivity enhancing public investment can increase fiscal space, particularly when there is existing slack in the economy and infrastructure deficiencies (IMF 2016a, OECD 2016a, IMF 2017a).
- Conversely, cutting public investment can lead to infrastructure bottlenecks and low productivity, which results in lower growth and less fiscal space in the long run
- In a depressed economy, fiscal expansions can reduce hysteresis, protect long run GDP potential, and can therefore be self-financing even before the investment returns are considered (DeLong & Summers 2012)

- Foreign currency denominated debt presents greater risks than debt in the national currency of a country with sovereign monetary policy. The position of countries like Greece and Argentina should be distinguished from that of countries like Australia, the US, the UK and Japan

A key determinant of fiscal sustainability is the differential between the real interest rate and the growth rate. In advanced economies, this differential has been declining over the past 25 years, and is now negative in many countries (IMF 2017a). This includes Australia, where real interest rates are currently around 0.8% for 10 year debt and 1.1% for the longest maturity on issue (August 2040) (RBA 2017a), significantly below expected growth rates of around 2.9% (IMF 2017b) to 3.0% (Australian Government 2017). The decline in the interest rate-growth differential is likely to be the result of structural factors and the trend is unlikely to reverse in the near term (IMF 2017a). Such structural factors could include demographics, adjustment to a regime of lower and more stable inflation, decreased risk appetite and a shortage of safe assets.

Assessments of Australia's Fiscal Space

The latest IMF assessment for Australia (IMF 2017b) provides a range of indicators in the form of an External and Fiscal Debt Sustainability Analysis, but does not suggest a quantitative debt limit. Its conclusion was simply that “Australia still has substantial fiscal space despite recent public debt increases, which allows for a gradual approach to fiscal consolidation and higher growth-friendly spending.”

Similarly, the OECD's (2017) latest assessment was simply that “There is fiscal space available to support the economy if required ... [Australia should use] all policy levers to support the economy if downside risks materialise, relying more heavily on fiscal policy.”

In terms of market access, demand for Australia government bonds is extremely strong.¹¹

¹¹ At the auction for new bond issuance on 5 July 2017, a single buyer purchased the full \$800m of bonds available, in what was the largest amount bought by a single entity in auctions since 1982 (AOFM 2017, Woodhouse and McCrum 2017). The bond matures in 2029 and priced at a 2.72% nominal yield or around 0.5% in real terms. In total, there were 42 bids for \$3,574m of total demand, and the worst bid was at 2.74%, only 2 basis points behind the best bid.

Australia's net debt is projected to be around 21% of GDP at the end of 2017 (IMF 2017b), significantly below that of the US (82%), the UK (80%), and Japan (120%) (IMF 2017a).¹²

Nonetheless, these countries continue to be able to borrow at extremely low rates – there is no indication that investors are unwilling to lend out of concern for their solvency.¹³

Available quantitative estimates also suggest Australia has significant fiscal space.

- Fournier & Fall (2015) estimated Australia's debt limit to be around 250% of GDP using a market access approach.
- Moody's (2016), using a similar methodology, estimated that as of 2014 Australia had remaining fiscal space of 214.5% of GDP – that is, Australia could take on an additional 214% of GDP in debt before reaching its debt limit.
- OECD (2016a) provides estimates for a range of advanced economies using the long-term fiscal sustainability methodology in Bi (2011) and Bi and Leeper (2013). These estimates are centred around a range of 120-160% of GDP.

These estimates, while not precise or determinative, strongly suggest that fears of debt sustainability should not prevent Australia from undertaking otherwise justified public investment.^{14,15}

8. Selection of Public Investments

What form should an increase in public investment take? This partly depends on context – some instruments can act quickly and are well suited to short run stabilisation, while others take time to plan and execute and must be incorporated into the structural level of public investment over the cycle.

¹² Similarly, Australia's gross debt (44%) is significantly lower than the gross debt of the US (108%), the UK (89%), and Japan (239%)

¹³ The opposite concern is more commonly raised – that there is a shortage of safe assets.

¹⁴ In our view, these quantitative models are conservative in an important respect: they assume the risk free interest rate is exogenous and that the sovereign pays a risk premium over this rate to reflect probability of default. In our view this assumption may be appropriate for a country borrowing in a foreign currency, but it does not reflect the realities of the macroeconomy or financial system in a country like Australia. In Australia, the risk free interest rate is largely determined by local monetary policy which in turn responds to the strength of the economy including the stance of fiscal policy. The combination of low growth and high real interest rates is much less likely in this setting. A possible resolution for a country with high debt and sovereign monetary policy is a combination of fiscal restraint that induces extreme monetary loosening: over time debt is reduced not only by primary surpluses, but also by a negative real interest rate – growth differential. This mechanism is not possible in models where the risk-free interest rate is exogenous.

¹⁵ Arguably, a government with a sovereign currency always has the option to create new money in order to repay its debts or fund new spending, so there can never be any situation in which a government is forced to default or is unable to fund new spending. For recent arguments in favour of monetary financing, see Buiter (2016) and Turner (2015). For a discussion of the risks, see English et al (2017).

The usual principles of cost-benefit analysis apply – the macroeconomic argument for increased public investment does not extend to poorly selected or executed projects.

Education

One of the most important long-run drivers of labour productivity is the level of investment in the skills of workers through training and education (PC 2016, OECD 2016b). High quality education also has other benefits for individuals and society, including better health, longevity, tolerance and social cohesion (Australian Government 2011).

Australia’s performance in the OECD’s PISA tests for 15 year-olds has been declining since 2000 and differences in outcomes by socioeconomic background are large (Australian Government 2011, OECD 2017).

Education is an investment in human capital. The returns on this investment are difficult to quantify, but attempts based on various methodologies suggest that both the private and social returns are high. Estimates of the financial returns for Australia are presented in Table 2 below.

Table 2 Financial Returns to Education in Australia (2012)

| | | Financial Internal Rate of Return (Real) | |
|--|-------|--|--------|
| | | Private | Public |
| Upper secondary or post-secondary non-tertiary | Men | 16% | 15% |
| | Women | 9% | 19% |
| Tertiary | Men | 9% | 10% |
| | Women | 9% | 10% |

Source: OECD 2016b, Indicator A7

These rates of return are significantly above most estimates of the social discount rate for Australia. Further, they reflect financial benefits only (impact on income tax collections, social contributions, social transfers and unemployment benefits). Social returns would be higher if some value is attributed to wider social benefits of education.

Infrastructure

Efficient infrastructure investment enhances productivity and contributes to short and long run growth (IMF 2014, PC 2014). The Productivity Commission has noted “Widely held views that deficiencies in

certain aspects of Australia’s infrastructure — such as in roads, rail, and ports — are holding back productivity growth and affecting the amenity of our cities and regional areas” (PC 2014). Robust project selection, careful management and appropriate governance frameworks are crucial to ensure that public infrastructure projects do not suffer from poor productivity, cost overruns, and delays (PC 2014, IMF 2015b, IMF 2017a).

Large infrastructure projects take time to plan and build, making them less appropriate for any short-term stabilisation role of fiscal policy. Maintaining a fiscal contingency plan including a “revolving pipeline of ready-to-implement infrastructure projects” may help (IMF 2017b). Infrastructure spending could form a large part of a sustained, structural increase in public investment, or a response to a persistent shortfall in demand.

Some have argued that there is a political bias towards “headline grabbing” or “nation building” infrastructure projects, which have a high risk of cost overruns and are sensitive to errors in demand forecasting (Olsen & Wessel 2017). Maintenance of existing infrastructure is therefore argued to offer some of the highest return and lowest risk investment opportunities.

Maintenance of Existing Infrastructure

Deferring maintenance and allowing infrastructure to deteriorate does not eliminate the need to repair it at some point. In many cases, “prevention is cheaper than cure” – a small outlay on maintenance can avoid more costly, major repairs at a later date (Olsen & Wessel 2017). In substance, this kind of maintenance is an investment with a high financial rate of return.

The timing of maintenance is flexible – it can be “turned on and off” – which makes it appropriate as a countercyclical policy tool in short run stabilisation.

Maintenance is generally characterised as recurrent expenditure and therefore suffers from the bias described in Section [4], particularly given that it may be politically easier to defer than other forms of spending.

Privatisation and “Capital Recycling”

Privatisation should be undertaken only when it is justified on efficiency grounds, not as an end in itself (PC 2014). Selling public assets to reduce government debt is likely to result in poor outcomes, particularly when sale processes and regulatory frameworks are designed to maximise sale proceeds.

ACCC Chairman Rod Sims has expressed concerns that such privatisations lead to unregulated monopolies which hurt productivity and the economy in the long run (Hatch 2016, ACCC 2016).¹⁶

There is a particularly high risk where privatisation of one asset is used to fund a new infrastructure project (“capital recycling”). As the Productivity Commission has argued, this represents the linking of two separate decisions, and “because government debt is fungible it is technically equivalent to the government using the privatisation proceeds to reduce government debt and financing the new infrastructure project through debt issuance” (PC 2014). These decisions should be analysed independently and linking them is likely to distort decision making.

Supporting Productivity Enhancing Reforms

Many productivity-enhancing reforms involve upfront costs, such as transitional support for disadvantaged groups or revenue losses from the removal of distortionary taxes. Expansionary fiscal policy can ease the path to such reforms (IMF 2016a).

Fiscal policy can also target the areas of the economy most likely to provide long term productivity benefits, such as research & development incentives (IMF 2016d).

Financial Investments in the Private Sector

While macroeconomic considerations may favour a large increase in government investment (see Section 9 below), too few public projects may meet cost benefit analysis and be ready for execution. Discipline is important to ensure that poor or hasty public investments are not made. In this scenario, financial investment in the private sector should be an option. This could be implemented through the Future Fund and would have the following benefits:

- If the investment is in domestic securities (eg the local stock market), it will reduce risk premia on existing assets and encourage new private investment

¹⁶ Furthermore, even from the narrow perspective of government finances, privatisations with no efficiency rational are likely to be counterproductive in the long run. Private investors will demand a higher rate of return from privatised assets than the interest rate government currently pays on its debt. By selling an asset and paying down debt, government may save 2% per year in interest, but will lose an income stream of perhaps 7-8%. Government gross debt will fall initially but rise over time. Net public worth will not change initially and will fall over time.

- If the investment is in foreign securities, it will put downward pressure on the exchange rate, supporting local demand and the competitiveness of Australian industries
- In either case, it will improve the long run financial position of government so long as the investment provides a return above the bond yield, which is currently a very low threshold. For example, long term borrowing currently costs the Government around 1% in real terms (RBA 2017a) whereas the Future Fund's return target is 4-5% in real terms (Future Fund 2017). Net debt (which is net of financial assets) would be unchanged initially and would fall over time as investment returns are realised. A stronger financial position could have significant value given perceptions that governments are constrained by fiscal space (Section 7 above)

9. Fiscal Rules for the Capital Budget

We have argued that fiscal policy in general, and public investment in particular, should be countercyclical. There are two primary reasons for this view:

1. There are costs to overreliance on monetary policy (Section [5]). All else equal, countercyclical fiscal policy relieves some of the burden from monetary policy, and results in less extreme movements in interest rates, exchange rates and asset prices over the cycle
2. The opportunity cost of public investment is lower (higher) when interest rates are lower (higher), because the marginal private investment and consumption that it crowds out has a lower (higher) value (section [4]). More public investments should therefore pass the hurdle rate of return in cost benefit analysis

In a world of perfect information, [2] could simply be reflected in a lower or higher social discount rate and the aggregate level of public investment would be determined by cost benefit analysis: all projects that achieve the hurdle rate would be funded. In practice, however, cost benefit analysis of individual projects is not the key determinant of aggregate budget policy, and probably never will be. Neither the "true" social discount rate, nor the return expected on given projects, is known with sufficient

precision for cost benefit analysis alone to identify the efficient level of public investment.¹⁷ Aggregate government investment in practice is almost always determined on the basis of macroeconomic or political considerations, then rationed between competing projects.

Cost benefit analysis is critical to ensuring that poor or inefficient projects do not proceed, but it provides only a weak protection against government overspending when the economy is near full capacity, and little incentive for government to invest more when there is substantial slack.

Without some rule or guidance as to what the efficient level of public investment might be over the business cycle, relying on cost benefit analysis could risk an inefficiently high level of government spending when the economy is strong and interest rates are high, and an inefficiently low level of government spending when the economy is weak and interest rates are low. Hence, except for the 2009-10 stimulus, Australia's fiscal policy has been mildly *procyclical* over recent years (IMF 2017c).

In our view, a quantitative guideline would assist government to achieve a public investment profile that is appropriate to the macroeconomic context.¹⁸

The Form of a Fiscal Rule for Public Investment

There has been extensive discussion in recent years concerning possible fiscal rules.¹⁹ Detailed analysis and specification of a fiscal rule for public investment is beyond the scope of this paper, but we set out some criteria and suggest a possible form that such a rule might take consistent with the recommendations for fiscal policy set out in this paper. Such a fiscal rule for public investment should:

- Specify the structural or average level of public investment over the cycle
- Provide for symmetric variation around this structural level over the cycle: it should target higher investment during a downturn and lower investment when the economy is strong

¹⁷ For example, the imprecision of estimates of the social opportunity cost of capital are such that most authorities recommend sensitivity testing: Infrastructure Australia (2016) for example requires CBA results to be presented with a central discount rate of 7% and sensitivity testing at 4% and 10%. The returns on a given project will be similarly sensitive to assumptions about which only approximate ranges can be estimated with any confidence.

¹⁸ The rationale for such a rule need not be Keynesian demand management as such. It may simply be a practical approximation of the level of spending that would prevail under perfect information where the aggregate level of investment is determined solely on the basis of cost benefit analysis.

¹⁹ For discussions of fiscal rules and their relevance in the context of public investment, see Guerguil et al (2017), Kumhof & Laxton (2013) and Serven (2007). The IMF also maintains a dataset of fiscal rules in force at <http://www.imf.org/external/datamapper/fiscalrules/map/map.htm>.

- Be objective and robust to political pressure. As much as possible, it should be based on observable indicators of the real economy rather than on accounting aggregates or unobservable macroeconomic variables
- Be used in an accounting framework which reflects the economic distinction between investment and recurrent expenditure (see Section [4])

A possible form that satisfies these criteria would be a rule that varies public investment according to the deviation of real interest rates from an average or neutral level:

$$GI = A + B(r^* - r)$$

Where GI = Government Investment as a % of GDP

A = Parameter for the average level of GI over the cycle

B = Countercyclical parameter

r^* = Neutral real interest rate

r = Current real interest rate

The current real interest rate r could be directly observed as the yield on intermediate term inflation indexed government bonds.²⁰ This would incorporate the expectations of financial markets of the course of monetary policy over a timeframe relevant to the budget. It would therefore help to avoid a situation where fiscal stimulus arrives after a recovery has already taken hold.

The neutral real interest rate r^* could be a trailing historical average of the actual real interest rate r . This would ensure that the adjustment is explicitly symmetrical over the cycle. Or it could be based on some fundamental estimate of the real interest rate that achieves an efficient mix of consumption and investment, such as the social time preference rate. Alternatively, to reflect debt sustainability and fiscal space considerations, it could be linked to estimates of long run GDP growth.²¹

A sufficiently high countercyclical parameter B would cause the real interest rate r to deviate less from the neutral rate r^* . When r is below r^* , additional government investment would add to demand and to

²⁰ Alternatively, nominal interest rates could be used instead of real interest rates – this would have the effect that for a given real interest rate, government investment would be higher (lower) in periods of lower (higher) inflation
²¹ Any of these approaches would suggest a neutral real interest rate r^* that is significantly higher than the today's real interest rate of less than 1% - so this rule would suggest that an above average level of public investment is required today.

inflationary pressure, cause the central bank to raise real interest rates, and cause financial markets to anticipate this tightening; the opposite would occur when r is above r^* .

The average or structural level of government investment A should be sufficient to replace depreciation of the existing public capital stock and to grow it in line with expected output growth. Based on the arguments in this paper, it should be higher than recent historical rates of public investment. Actual values will depend on the accounting framework used – in particular whether various items that are investment in substance (such as education) are treated as investment or as recurring expenditure.

By responding to interest rates (rather than, for example, an estimate of the output gap) this specification would directly enhance the effectiveness of monetary policy. It also directly reflects the efficiency argument for countercyclical public investment (more projects should pass cost benefit analysis when interest rates are low).

In practical terms, we would see this as a strategic guideline to an efficient level of public investment within an efficient macroeconomic policy framework. We would not expect that this to be adopted as a mandatory or binding target for government.

10. Conclusions

This paper has considered the arguments for a more countercyclical fiscal policy in Australia, with a particular focus on the case for higher public investment.

In the view of this paper, over-reliance on monetary policy and under-reliance on fiscal policy has contributed to relatively poor growth rate in recent years. Over-reliance in monetary policy has also contributed to poor housing affordability and inequality and risks to financial stability. When demand is persistently weak and interest rates are very low, additional monetary easing is less effective and comes with higher risks. Australia has arguably reached the point at which monetary policy is not doing enough to support demand, partly because it is constrained by concerns for financial stability. In this situation, supportive fiscal policy can be an effective complement to monetary policy and can “crowd in” private investment by improving the demand outlook.

Low interest rates strengthen the case for public investment and increase the fiscal space available to finance it. Education and infrastructure are two of the most important forms of investment in the future productivity of economy, and structurally higher levels of spending in these areas is likely to be beneficial so long as projects are selected and implemented efficiently. Infrastructure maintenance is a low risk, flexible form of investment that can be “turned on and off” more easily and could be a valuable short run stabilisation tool.

Government accounting should distinguish clearly between recurrent spending and investment. The increased focus on net operating balance announced in the 2017-18 budget is welcome, but the accounting framework and fiscal strategy will continue to bias against adequate public investment. Further enhancement to the accounting framework and development of a quantitative guideline for the capital budget would assist government to achieve a public investment profile that is appropriate to the macroeconomic context.

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