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Comparing budget repair measures for a small open economy with growing debt[☆]

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ABSTRACT

We quantify the macroeconomic and welfare effects of alternative fiscal consolidation plans in the context of a small open economy. Using an overlapping generations model tailored to the Australian economy, we examine immediate and gradual eliminations of the existing fiscal deficit with (i) temporary income tax hikes, (ii) temporary consumption tax hikes and (iii) temporary transfer payment cuts. The simulation results indicate that all three fiscal measures result in favourable long-run macroeconomic and welfare outcomes, but have adverse consequences in the short run that are particularly severe under the immediate fiscal consolidation plan. Moreover, our results show that cutting transfer payments leads to the worst welfare outcome for all generations currently alive. Increasing the consumption tax rate results in smaller welfare losses, but compared to raising income taxes, the current poor households pay much larger welfare costs. The adverse effects on wellbeing of current generations highlight political constraints when implementing a fiscal consolidation plan. However, after compensating current generations for all welfare losses, there is still an overall efficiency gain. This implies possibilities to devise a fiscal consolidation plan supported by a compensation scheme to improve wellbeing of future generations.

1. Introduction

Recent unfavourable macroeconomic conditions have put many advanced economies in a tough fiscal situation with large budget deficits and rapidly growing government debt. According to [International Monetary Fund \[IMF\] \(2010\)](#), Japan tops the list with a gross government debt-GDP ratio well over 200%. Greece is the second with gross debt over 150% of GDP. Countries with gross government debt-GDP ratios over 100% include Italy, Portugal, Ireland, and the United States. Major European countries face a similar debt problem. France and the United Kingdom are in the 80%–100% range, as is fiscally responsible Germany. Persistently sluggish economic growth has prevented the normal cyclical improvement in fiscal balances. Accordingly, fiscal consolidation has become a topical policy issue in Europe and America.

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Among advanced economies, Australia stands out as a special case as it has not experienced any economic recession over the last 25 years. However, since the global financial crisis, it has suffered from significant fiscal deficits that have resulted in fast-growing government debt. Specifically, the underlying cash deficit reached 4.2% of GDP in 2010 and 3.1% of GDP in 2014, with net (gross) Commonwealth government debt amounting to 12.8% (over 20%) in June 2014 (Australian Government, 2015). Similarly to many other developed countries, the Australian government is committed to returning its budget to surplus as soon as possible. According to the recent government projections in the 2015-16 Federal Budget (Australian Government, 2015), the government plans to gradually eliminate budget deficits by 2020, with a modest surplus of 0.4% of GDP forecasted for the final projection year of 2026.

A number of fiscal consolidation measures have been proposed to achieve this goal, including temporary tax increases and/or spending cuts. There is a significant degree of uncertainty regarding achieving this projected path to budget surpluses. Undoubtedly, the proposed budget repair measures will have some unpleasant macroeconomic and welfare impacts. However, ambiguity over potential outcomes of the proposed budget repair measures and disagreement on the timing of these interventions have exacerbated uncertainty and therefore stimulated heated debates among the Australian public and policymakers. More specifically, there are no clear answers to several fundamental questions: What exactly are the macroeconomic effects during the austerity period and in the long run? What are the effects on the wellbeing of households? Which households and generations will be the winners or losers and how much will they gain or lose comparatively? Which combination of policy actions is the most preferable – weighing up the macroeconomic effects and the implications for intergenerational and distributional equity?

In this paper, we aim to address these questions in the context of a dynamic general equilibrium, overlapping generations (OLG) framework. In particular, we aim to quantify and compare the economy-wide implications of several budget repair measures to achieve either the immediate elimination of the 2014 budget deficit (in 2015) or the gradual elimination of the existing budget deficit (starting in 2015), as projected by Australian Government (2015). These fiscal policy measures include: (i) temporary increases in the progressive income taxes; (ii) temporary increases in the consumption tax rate; and (iii) temporary cuts in the transfer payments. We are especially interested in the welfare implications for different age cohorts and household income types. Understanding these implications (and the macroeconomic effects) of the examined budget repair measures in the Australian context will benefit not only Australian fiscal policy but also other small open economies facing similar problems with large budget deficits and rapidly-growing public debt.

To undertake this quantitative analysis, we employ a small open economy OLG model that is calibrated to the Australian economy. The model comprises overlapping generations of heterogeneous households, perfectly competitive firms, a government sector incorporating essential fiscal policy settings, and a foreign sector with an exogenous interest rate. The heterogeneous households are different with respect to ages and skill types. The government sector consists of various public transfer programs and a variety of tax financing instruments such as progressive income, consumption, superannuation and corporate taxes. The government can also issue debt to finance its fiscal deficits. Importantly, the economic decisions made by households and firms (i.e., labour supply, saving and investment decisions) are subject to the distortions introduced by the fiscal policy. The rich structure of household heterogeneity and the detailed composition of government fiscal activities are essential to study the effects of various budget repair measures on macro aggregates and wellbeing of different households.

We first discipline households in our model to mimic the life cycle behaviour of Australian households, including labour supply and earnings and pension payments observed from the household survey data. We also calibrate our benchmark economy to target key Australian macroeconomic aggregates, the government budget deficits and net debt between 2000 and 2014. Next, we compute the baseline transition that assumes an unchanged budget deficit-GDP ratio (as observed in 2014) and allows for net government debt to gradually increase to a new steady state debt implied by the current budget deficit. Finally, we apply our model to simulate the two fiscal consolidation plans achieved by either increasing tax rates or cutting social benefits, and compare their macroeconomic and welfare effects with those derived under the baseline transition.

Our simulation results indicate that while all three budget measures achieve the same fiscal goal (of reducing and eventually eliminating government debt), the macroeconomic and welfare effects of each budget measure differ significantly across households, generations and over time. More specifically, each examined fiscal measure results in favourable long-run macroeconomic and welfare outcomes, but have adverse short run consequences that are particularly severe under the immediate fiscal consolidation plan. The current generations born before the fiscal consolidation are likely not be supportive of any of the fiscal measures as they would suffer significant welfare losses of (on average) up to 12% in their remaining resources due to cuts in transfer payments (including age pensions) or facing higher tax rates. In contrast, future generations are shown to experience welfare gains of up to 0.8% in their lifetime resources, as a result of no public debt in the long run allowing for smaller taxes or higher transfer payments.

We show that taxing consumption or income leads to opposing macroeconomics and welfare implications. In particular, temporary increases in the consumption tax rate generate only small economic distortions with the impact on per capita labour supply, assets and output being modest, but they reduce the welfare of poor households most. Conversely, temporary increases in progressive income tax rates have largely negative effects on the economy, but reduce the welfare of poor households least. Moreover, there are interesting welfare trade-offs when choosing between transfer payment cuts and tax hikes. Cutting the transfer payments results in the largest welfare losses for current low-income generations, but the highest welfare gains for future generations, compared to the two tax measures.

In general, our results highlight challenges for the government when implementing any of the proposed budget repair measures. We show that each of the fiscal consolidation plans improves the wellbeing of future generations, but at the expense of large welfare losses borne by current generations. However, when we introduce a system of income transfers administered by a hypothetical Lump Sum Redistribution Authority (LSRA), we find positive overall efficiency/welfare outcomes. This implies that it is possible to devise a fiscal consolidation plan to improve wellbeing of future generations, if the government introduces a redistribution program to offset

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