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Government expenditure composition and fiscal policy spillovers in small open economies within a monetary union

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ABSTRACT

We examine the implications of government expenditure that is complementary to private consumption, and government investment that can improve the productivity of private capital, in a global DSGE model. We show that government investment can improve an economy's external competitiveness and stimulate private investment. If governments can finance this investment by reducing consumption that is not complementary to private consumption, then this is ex-ante budget-neutral, provides a small, but persistent stimulus without a deterioration in competitiveness, and leads to lower debt in the medium run. We also examine the cross-border transmission channels of government expenditure shocks in a monetary union when government consumption is complementary to private and public investment is productive. While both assumptions enhance cross-border spillovers, a direct import content is required to generate spillovers similar to those found in the empirical literature.

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1. Introduction

In small open economies (SOEs) belonging to a monetary union, fiscal policy is the only standard stabilisation instrument available to national authorities to smooth business cycle fluctuations. While the literature disagrees on the size and even the sign of fiscal multipliers, they are closer to an agreement that factors such as leakages into saving and imports (Ilzetzki et al., 2013) and the response of monetary policy to fiscal actions (Spilimbergo et al., 2009) matter. Smaller economies that are more open to trade and countries in which monetary policy offsets the fiscal stimulus will tend to have lower multipliers. In addition, the choice of fiscal instruments used can have important consequences. Expenditure rather than taxation measures are thought to have differential effects (Freedman et al., 2009).[1] But the type of government expenditure matters as well. Karras (1994) and Fiorito and Kollintzas (2004) argue that government consumption is, at least in part, complementary to private consumption. Similarly, as it has been argued long ago by Aschauer (1989) and Baxter and King (1993),

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[1] One reason is that increased expenditure has a direct impact on demand, whereas individuals may save at least some part of a tax cut.

and later used by Leeper et al. (2010) and Coenen et al. (2012a), government investment can influence the productivity of private capital.

Differently from D'Auria (2015), Leeper et al. (2010) and Coenen et al. (2012b), we use a multi-country model to examine the effects of government investment that can enhance the productivity of private capital, and government consumption that can be complementary to private consumption. Our analysis focuses on three aspects. First, we focus on small open economies within the European Monetary Union (EMU), as the majority of the euro area (EA) consists of such countries, and investigate the effects of different types of government expenditure in this setting.[2] We show that if government investment is productive, it can both stimulate the economy and improve its external competitiveness in the medium run.

Second, we argue that this gives rise to a potential trade-off for governments, which we illustrate by considering an ex-ante budget-neutral reorientation of government expenditure from consumption to investment. Such a measure may provide a stimulus without a reduction in external competitiveness, both in the short and medium run, if government consumption is not a strong complement to private consumption.

Third, we examine the spillovers of government expenditure measures, taken in the remainder of the euro area (REA), on a small open economy that is linked with the rest of the currency area through trade and a shared central bank. This differs from the literature, as complementarities of consumption and productive government investment modify the cross-border transmission channels of fiscal policy.[3] We find that trade linkages do play an important role in the cross-border transmission of fiscal policy shocks, but despite the amplification coming from consumption complementarities or the productivity of government investment, a direct import content of government spending is required to generate the sizeable spillovers found in some empirical studies (e.g. Beetsma and Giuliodori, 2011). The main reason is that the interest rate increase in response to the fiscal stimulus in the REA negatively affects private spending in the economy that does not participate in the fiscal expansion. Nevertheless, countries with stronger trade linkages with the REA are more affected by spillovers. This implies that if there is an increase in public investment in the EMU (e.g., the so-called *Juncker Plan*) that is not evenly distributed across countries, then countries with close trade linkages may still benefit from spillovers.[4]

To investigate the issues above, we extend the fiscal policy analytical capabilities of a global DSGE model, the EAGLE (Gomes et al., 2012), by introducing complementarity of government and private consumption and allowing government investment to be productive, as outlined above. Moreover, we allow for a direct import content of government spending, which takes into account that some government purchases in small open economies are on imported goods.

For the application of the model, we calibrate it to Ireland and Slovenia. The reasons for choosing these two countries are related to the new transmission channels in the model, which are applicable to small, very open economies in a monetary union, and where trade linkages are sufficiently different to help us analyse the role they play. To provide a potentially interesting policy perspective, we also wanted countries that have recently experienced fiscal difficulties.

Ireland and Slovenia satisfy the above criteria better than other countries. First, both countries are small and very open. For example, the World Bank indicator of trade openness shows the average ratio of trade-to-GDP in Ireland and Slovenia, respectively, is 182% and 139% over the 2010-2014 period.[5] Second, Ireland and Slovenia have very different trade linkages, which is an important transmission channel for fiscal policy spillovers in the literature (Corsetti et al., 2010). Our modifications of the model amplify these channels, and the choice of these two countries helps us to better illustrate the role of trade channels in the transmission mechanisms in the model. For instance, it allows us to investigate our a priori expectation that shocks originating in the EMU will not have as strong an effect on member states who trade primarily outside the union (such as Ireland) as those with stronger trade linkages (such as Slovenia). Third, both countries experienced considerable fiscal difficulties during the crisis and afterwards, which makes them interesting cases for the analysis of alternative government spending policies, such as the ex-ante budget-neutral expenditure reorientation.[6] Fourth, both countries have been members of a monetary union throughout the crisis and had no recourse to independent monetary policy. Finally, both countries differ along a number of structural dimensions, such as the degree of real and nominal

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[2] The number of countries of interest is even larger if one considers that many SOEs outside monetary unions peg their exchange rate to the currency of a much larger economy. As such, traditional instruments such as the nominal interest and exchange rates do not necessarily react as desired to macroeconomic developments. These economies are, therefore, in a similar situation to SOEs in a monetary union with such little weight in area-wide aggregates that nominal interest and exchange rates are effectively exogenous.

[3] To the best of our knowledge, these channels have so far not been explored in a structural model and in the context of a small open economy in a monetary union. Some have been investigated separately or in the context of a large economy with its own currency (e.g. Leeper et al., 2010; Corsetti and Müller, 2011; Coenen et al., 2012b) and without a focus on cross-border spillovers and the expenditure policy trade-off. The complementarity of government consumption and the productivity of government investment makes our analysis different from those reported in e.g. Kilponen et al. (2015) or Freedman et al. (2009).

[4] The *Juncker Plan* calls for an increase in public investment expenditure, with the hope that it could spur private investment and thus boost euro area economic growth.

[5] This trade-to-GDP indicator measures openness as the sum of exports and imports divided by GDP. Note that over the same period this ratio is substantially lower for the other euro area countries that had to considerably tighten fiscal policies, such as Cyprus (102%), Greece (61%) and Portugal (74%).

[6] Ireland needed to undergo a programme of financial assistance with official lenders, while Slovenia only narrowly avoided it. According to the government expenditure data, amongst the small euro area countries (ECB Statistical Data Warehouse) the largest fiscal consolidations were undertaken in our chosen countries, Cyprus, Greece and Portugal.