POLICY NOTE

Ali Çufadar
Central Bank of Turkey[1]

Fatih Özatay
TOBB University of Economics and Technology

TEPAV Consultant[2]
Macroeconomic Studies Program

GOVERNMENT DEBT, DOLLARIZATION, AND THE OUTPUT EFFECT OF FISCAL CONSOLIDATIONS

The output effect of fiscal consolidations when government debt is at high levels has been at the core of economic policy discussions in the aftermath of the global financial crisis. This note shows that what matters for the effect of fiscal consolidation on output is not only the level of government debt but also the level of risk that stems from it. The currency composition of debt and the spillover effects of risk on the corporate sector are critical as well.

Introduction

When debt of the government is rather high and economy is in recession, does fiscal consolidation mitigate recessionary forces? Or does it lead to output collapse as has been widely stated during the recent European debt crisis? These questions have been at the core of economic policy discussions since the global financial crisis. To contribute to this discussion we report results of a recent study that focuses on the experience of large emerging market economies (EMEs) in the G-20 over the past two decades (Çufadar and Özatay, 2017).

---

[1] The views expressed herein are those of the authors and should not be interpreted as reflecting the views of the Central Bank of Turkey.
[2] http://www.tepav.org.tr/en/ekibimiz/s/1089/Fatih+Ozatay_+PhD

The theoretical literature on fiscal adjustments state two basic reasons for why a large fiscal consolidation might be conducive for growth. First, it decreases sovereign default probability and risk premium on government borrowing costs especially in economies with high public debt, which then spillovers to the rest of the economy through the interest rate and wealth sensitive demand components (the confidence channel). Second, it reduces the need for a severe fiscal tightening in the future, causing an increase in the expected permanent income of households and expected profits of firms, which rises current level of private demand (the expectations channel). Supply side effects of accompanying policies have also stated to play a role.[3]

An additional channel which has been overlooked so far in the literature on the effect of fiscal consolidations on output is that in EMEs with liability dollarization and high government debt, a rise in confidence and a decline in sovereign risk premium following a fiscal consolidation plan could be expansionary through positive balance sheet effects: in addition to reducing borrowing costs as in the confidence channel, fiscal consolidation could also precipitate a decline in demand for foreign currency denominated assets and thus contain currency depreciations and even in some cases trigger appreciations.[4] Çufadar and Özatay (2017) present a small open-economy macroeconomic model that incorporates this balance sheet channel as a novelty.

Basic features of the model

An important feature of the model is that sovereign default risk increases nonlinearly as the government debt-to-GDP ratio increases.[5] Moreover, the survival rate of entrepreneurs and the uncertainty regarding the quality of their projects (two important parameters of the financial accelerator) are linked to the default probability of the government.[6] Thus, corporate spreads rise as sovereign spreads rise. These effects are reinforced by liability dollarization. In a nutshell, in the absence of fiscal policy response, the working of the model is as follows.

An unanticipated external financial shock increases the sovereign borrowing premium. The shock triggers a sudden stop (decrease in capital flows and/or capital flow reversals), elevates foreign currency borrowing rates of government and the banking system and leads an immediate nominal depreciation of the domestic currency which causes inflationary

---

[3] The empirical evidence is mixed. While the early literature point to episodes of expansionary fiscal contractions, recent studies that analyze multi-year fiscal consolidation plans as opposed to individual fiscal shocks as in the early literature show that the effect on output depends on the type of adjustment and its persistence. Spending-based fiscal consolidations which are not temporary lead to either mild recessions or no recessions at all. Expansionary fiscal consolidations are possible especially if accompanied by structural reforms which signal "regime change" (see Alesina, Favero, and Giavazzi, 2015; Perotti, 2013 and the literature cited in these studies). Despite the fact that both the confidence and expectations channels stem from the presence of initial high government debt, the empirical literature has generally been silent on the role played by government debt in reaching these results. In another strand of the literature, Ilzetski, Mendoza, and Végh (2013) show that fiscal multipliers in highly indebted countries -debt of the government exceeding 60% of GDP- are negative. Corsetti, Kuester, Meier, and Müller (2013) find that when monetary policy is constrained due to a zero lower bound and risk perception is rather high, fiscal consolidation may stimulate economic activity.

[4] Currency mismatches in balance sheets of financial and non-financial corporate sector are at the core of the third generation currency crisis models (see for example, Cespedes, Chang, and Velasco, 2004).

[5] For a similar treatment, see for example, Corsetti, Kuester, Meier, and Müller (2013).

[6] Factors such as an increase in likelihood of government's reliance on future tax rate hikes, foreign exchange controls, and alike with heightened sovereign risk are shown as main underlying factors for the strong correlation between corporate and sovereign spreads (Durbin and Ng, 2005; Corsetti, Kuester, Meier, and Müller, 2013). Consequently, a reduction in sovereign risk could decrease the uncertainty regarding the quality of entrepreneurs' projects and increase the survival rate of firms.

pressures. Central bank reacts and increases the policy rate which feeds into deposit rates. Funding costs of banks increases both due to increases in foreign borrowing and deposit rates and raises entrepreneurs' borrowing cost via the financial accelerator mechanism. Due to nominal price staggering, nominal depreciation leads to real depreciation. Entrepreneurs' and government debt increase as a result of increase in borrowing costs and real currency depreciation depending on the share of foreign currency in total debt. Investment and consumption decline, and exports increase. Net effect is a decline in output, which leads to a higher government debt-to-GDP ratio. Higher debt puts a further upward pressure on sovereign default probability which increases the funding costs leading to a vicious spiral.

Results and discussion

The model is calibrated to account for the regularities observed during financial crisis in large EMEs. To simulate the effects of fiscal consolidation we subject total government expenditures to a negative shock that amounts to 3% of GDP and let it die-off gradually. Main results are the following.

1. The level of government debt (the probability of sovereign default corresponding to it) is important to evaluate effects of alternative fiscal policies on output. In the "high debt-high foreign currency composition case", relative to no fiscal policy response to a recessionary external shock case, fiscal consolidation reduces output losses considerably.[7] However, when government debt is at levels considered as "moderate" for EMEs, fiscal consolidation increases output losses relative to a no fiscal policy response case.[8]

These results stem from the fact that fiscal consolidation is conducive for growth to the extent that it decreases sovereign default risk and thus government borrowing rate significantly relative to a no fiscal policy response case by preventing an upward trend in government debt-to-GDP ratio. Since at low levels of government debt sovereign risk perception is rather low, fiscal consolidation is hardly effective on sovereign default risk.

---

[7] Our "high debt-high foreign currency composition case" corresponds to government debt 75% of GDP the 30% of which is in foreign currency in the period preceding the external shock –i.e. in the steady state. Note that, for emerging economies debt-to-GDP ratio that exceeds 60% is considered as high –see for example Ilzetski, Mendoza, and Végh (2013). Moreover, in EMEs in G20, in the last two decades or so, maximum debt ratios preceding a recession were slightly above 70% (Indonesia and Turkey) and foreign currency share of debt never exceeded 30% when debt is high (see Table A1 in Çufadar and Özatay; 2017).
[8] "Moderate" government debt level is taken as 40% of GDP.

Fig. 1. The break-even government debt-to-GDP and foreign currency share levels at which fiscal tightening and no response cases yield same output loss.
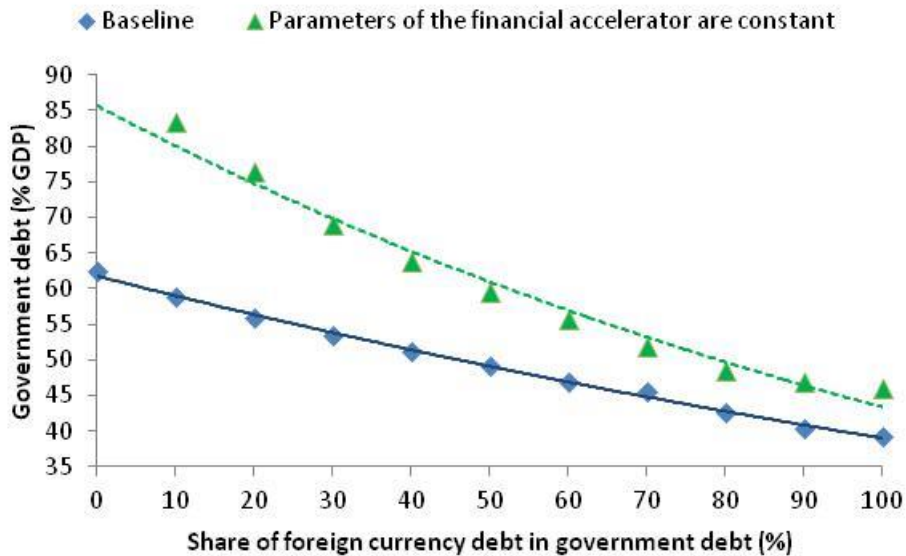
The diamonds indicate the break-even debt as % of GDP for each foreign currency share shown in the horizontal axis above which fiscal austerity is conducive for growth for the baseline case. The solid line shows the fitted threshold levels for the baseline case. The triangles and dotted line are for the case in which the riskiness of the entrepreneurs' projects and the survival rate of firms (parameters of the financial accelerator) do not change with a change in sovereign default risk.

2. The foreign currency share of government debt is important as well. When high debt is coupled with a significant foreign currency share, fiscal consolidation is good for output. However, even government debt is high, when its foreign currency component is at negligible levels, fiscal consolidation does not reduce the total output loss over the 20 quarters following the initial shock relative to no fiscal response case. Moreover, the short-run output losses it causes are considerable.

Fig. 1 depicts the threshold level of government debt as percent of GDP above which fiscal consolidation is good for output for each level of foreign currency share of government debt. The main message is that for countries with perverse balance sheet compositions -i.e. those countries with high levels of liability dollarization- fiscal consolidation mitigates recessionary forces at lower levels of debt compared to those countries that do not suffer from the liability dollarization problem.

Again the basic mechanism at play is risk. Fiscal consolidation, by reducing default risk of the government, decreases the borrowing rates of the government and the corporate sector; this is the usual channel. But, in addition, in case of a significant level of liability dollarization, a decline in default risk increases the risk adjusted relative returns of domestic currency denominated financial assets -hence mitigates depreciationary forces on domestic currency- and entrepreneurs borrowing costs decline due to an improvement in their balance sheets.

3. When a rise in the sovereign risk premium increases the riskiness of the entrepreneurs' projects and the survival rate of firms, fiscal consolidation becomes more conducive to output growth (the baseline case). When the parameters of the financial accelerator are not affected from the sovereign risk –i.e. when the parameters of the financial accelerator are constant- fiscal consolidation becomes output friendly at higher levels of government debt (the dashed line in Fig. 1 moves upwards -the threshold level of government debt-to-GDP ratio increases). This is because, now, the effect on corporate spreads of a reduction in sovereign risk is more limited.

4. These results indicate that what is important is not only the government debt-to-GDP ratio but also the sovereign risk perception it causes. Indeed, we simulated our model for the "high debt-high foreign currency composition" case assuming that there is no sovereign risk. While in the baseline case fiscal consolidation decreases output loss considerably relative no fiscal response case (as stated above), it significantly increases output loss relative no fiscal response case.

5. Results reported above are obtained when monetary authority gives response to deviations of inflation, output and rate of depreciation from their steady state levels. When the nominal depreciation rate is excluded from the reaction function, similar results are obtained. Finally, economies that export more and those with higher export price elasticities can better cope with external shocks. That is, the threshold level above which fiscal consolidation is conducive for growth shifts to upward direction. This arises because the rate of depreciation following an external shock now causes less output loss due to higher exports and hence the rise in the government debt-to-GDP ratio is constrained from above leading to a less rise in sovereign risk.

References

Alesina, A., Favero, C., and Giavazzi, F., 2015. The output effect of fiscal consolidation plans. Journal of International Economics, 96, 59-542.

Cespedes, L.,F., Chang, R., Velasco, A., 2004. Balance sheets and exchange rate policy. American Economic Review, 94(4), 1183-93.

Corsetti G., Kuester, K., Meier, A., Mueller, G.J., 2013. Sovereign risk, fiscal policy, and macroeconomic stability. The Economic Journal, 123 (February), F99-F132.

Çufadar, A., Özatay, F., 2017. Sovereign risk, public debt, dollarization, and the output effects of fiscal austerity. Journal of International Money and Finance, 72, 75-92. http://www.sciencedirect.com/science/article/pii/S0261560616301498

Durbin, E., Ng, D., 2005. The sovereign ceiling and emerging market corporate bond spreads. Journal of International Money and Finance, 24 (4), 631-649.

Ilzetski, E., Mendoza, E.G., Végh, C.A., 2013. How big (small?) are fiscal multipliers? Journal of Monetary Economics, 60(2), 239-54.

Perotti, R. 2013. Austerity myth: gain without pain? In: Alesina, A. and Giavazzi, F. (Eds.) Fiscal Policy after the Financial Crisis. University of Chicago Press and NBER.