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# The impact of fiscal positions on government bond yields in CEE countries



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## ABSTRACT

This paper investigates the influence of government debt and primary balance on long-term government bond yields in 10 Central and Eastern European (CEE) countries in the period 2000–2013. The results indicate that a one percentage point increase in the stock of government debt is associated with an increase in government bond yields of 2.7–4 basis points, while a one percentage point increase in the primary deficit to GDP ratio is associated with an increase in government bond yields of 12.9–24.3 basis points. We also find evidence of non-linearities in the debt-interest rate relationship, whereby the threshold after which the impact of debt turns from negative to positive is significantly lower than in advanced economies.

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## 1. Motivation and literature review

The impact of government debt (and/or deficit) on long-term interest rates (government bond yields) is a well-researched topic in the empirical literature. The recent global crisis, however, resulted in fiscal laxity in many countries, which raises concerns about the effects of these widening deficits (and debt) on government bond yields and, by extension, private capital formation and economic growth. The impact of fiscal positions on interest rates therefore remains in the focus of current and future analyses.

There are various channels through which government debt and deficit can influence interest rates. In the short run, an increase in government deficit boosts aggregate demand, thus increasing interest

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rates, both nominal and real. An increase in debt has the same effect, affecting aggregate demand through wealth effects on aggregate consumption. Long-run interest rates are influenced in a number of ways. First, under the assumption that Ricardian equivalence does not hold (which is a realistic assumption), an increase in deficits and debt crowds out private investment, resulting in a lower steady-state capital stock, higher marginal product of capital and higher interest rates (Engen and Hubbard, 2004). Second, fiscal policy variables can influence interest rates through the default risk premium. If there is a fear that government debt could default, a compensating increase in bond yields is required (Ardagna et al., 2007; Gruber and Kamin, 2010; Poghosyan, 2014). Thirdly, an increase in government debt calls for an increase in interest rates in order for investors to be willing to keep this debt in their portfolios. Finally, debt and interest rates are linked via inflationary expectations, whereby a fear of debt monetization results in a proportionate increase in interest rates (Gruber and Kamin, 2010). All the mentioned channels suggest a positive relationship between government debt and interest rates.

Empirical evidence, however, has been less clear. In their wide-ranging survey, Gale and Orszag (2003) recapitulate the conclusions of 59 studies and show that 29 studies find a “predominantly positive significant” effect of fiscal deficits on interest rates, while 11 studies find a “mixed” and 19 studies a “predominantly insignificant” effect. In addition, the empirical evidence on Central and Eastern European (CEE) countries is practically inexistent, as will become apparent from the literature review below.

Overall, the empirical literature on the government debt-interest rate relationship is vast and can be divided into two main categories: single country analyses and panel regression estimates. The single country analyses, however, focus mostly on the United States (see, for example, Engen and Hubbard, 2004; Laubach, 2009; and Thomas and Wu, 2009) and typically find a significant impact of fiscal imbalances on interest rates. The results for other individual countries have been less consistent. Moreover, as noted by Gruber and Kamin (2010), time series analyses of individual countries do not yield precise estimates. In this literature review, we therefore focus only on the strand of literature that investigates international evidence on the relationship between deficits and/or debt and interest rates.

Izak (2004) investigates the relationship between interest rates, debt, deficit, inflation and growth in a sample of 4 transition countries: the Czech Republic, Hungary, Poland and Slovakia. The period under investigation is 1994–2002. He finds that a one percentage point increase in the primary balance results in a decrease of 12 basis points in interest rates. As for debt, he finds puzzling evidence in terms of the sign in front of this variable.

Faini (2006) analyses EMU countries in the period 1979–2002. He finds that an expansionary fiscal policy in one EMU member country influences its interest rate spreads as well as the overall level of interest rates for the currency union as a whole. This finding points towards the importance of spillovers of fiscal policies among member countries. More precisely, a one percentage point increase in the government debt to GDP ratio is found to result in an increase of approximately 3 basis points in interest rates.

Kinoshita (2006) investigates the relationship between real long-term interest rates on government bonds and the share of current financial liabilities of the general government in GDP and the share of government final consumption expenditure in GDP. He uses a static panel framework and analyses 19 OECD member countries between 1971 and 2004, concluding that a one percentage point increase in the government debt to GDP ratio raises interest rates by approximately 2–5 basis points.

Ardagna et al. (2007) investigate 16 OECD countries in the period 1960–2002. In addition to the typical variables used in these models (such as debt, primary deficit, inflation and GDP growth), the authors also include global indicators of world fiscal imbalances. They find that a one percentage point increase in the primary deficit increases long-term interest rates by about 10 basis points, while a one percentage point increase in the government debt to GDP ratio raises interest rates by approximately 0.6 basis points. They also find a non-linear effect of debt, whereby public debt affects interest rates only for countries with above average levels of debt.

Hauer and Kumar (2009) use quarterly data for the G7 countries during 1960–2005 and examine whether the main determinants of long-term interest rates have changed in the countries under

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