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Balance sheet effects and original sinners' risk premiums



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ABSTRACT

This paper describes an empirical model of country risk premiums and their determinants, relying on recent theories of balance sheet effects. We approach the latter by introducing a novel approach to country risk premiums that assumes that nominal exchange rates can move away from or towards equilibrium exchange rates, which allows exchange rate movements towards equilibrium to stimulate favourable competitiveness effects as opposed to adverse balance sheet effects. We investigate eight European emerging economies that suffer from “original sin” over the period 2001–2013, using the pooled mean group estimator of the dynamic panel error correction model. This methodology improves estimation efficiency and model performance, but also allows differentiation between long- and short-run country risk premium determinants. We find that, in the long run, country risk premiums increase in response to higher inflation and a higher total debt-to-GDP ratio, while they move in the opposite direction when the real GDP growth rate rises. Our results suggest that, in the short run, higher external debt service caused by exchange rate depreciation, i.e. the balance sheet effect, and market volatility tends to raise risk premiums, while higher international reserves and the federal funds rate tend to decrease them. Moreover, we show that the negative balance sheet effect is much stronger than the potentially favourable competitiveness effect, and that the rise in risk premiums is not due to the increase in the size of external debt, but to the larger debt burden represented by balance sheet effects.

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1. Introduction

The economic literature provides plenty of explanations for the determinants of sovereign spreads – differences between the interest rates that governments pay on their debts and the interest rates that, for example, the United States or Germany pay on their debt. Sovereign spreads are a proxy for the country risk premium, a measure of the risk associated with a country's probability to default on its debts. This premium, or spread, is compensation to the creditors for the risk of holding a risky asset until maturity. The notion to analyse country risk premiums stems from the fact that they differ between countries. In general, emerging market economies have higher risk premiums than developed ones, which naturally creates interest in the determinants and channels of impact for the premium. Theory suggests that country risk premiums depend on fundamental macroeconomic conditions because, in the long run, premiums are affected by the relative size of the debt itself, overall wealth, the current account deficit or surplus, and international reserves (Edwards, 1984). However, it is common that this long-run relationship breaks in the short run, especially in turbulent times. For example, after Lehman Brothers collapsed in 2008, the spreads on emerging market sovereign bonds rose swiftly, regardless of the fact that their macroeconomic indicators remained unchanged. This sort of behaviour suggests that there are also short-run determinants of country risk premiums that are unaccounted for in the above mentioned basic model. This paper tries to detect why country risk premiums deviate from the long-run equilibrium level, using market sentiment, monetary, and fiscal policy as possible risk premium dynamics drivers.

Monetary policy and exchange rates are of special interest in this analysis because there are opposing views on the impact they have on country risk premiums. Although conventional open economy models suggest that real exchange rate depreciation is expansionary, recent theories on imperfect capital markets and balance sheet effects indicate the opposite effect (Aghion et al., 2004; Céspedes et al., 2000). For example, if a country is highly indebted in foreign currency, then debt servicing increases together with real exchange rate depreciation. That, in turn, causes deterioration of a country's balance sheet, a fall in aggregate demand, and, consequently, in economic activity (Berganza et al., 2004). The contradicting theories cannot determine the importance and validity of these effects themselves, so additional empirical work is needed to determine the relevance of the competing theories. We build a model that empirically tests the existence of a positive relationship between country risk premiums and exchange rate depreciation, shown by the balance sheet effect. Among other things, we test if the increase in debt service caused by an unexpected real depreciation significantly raises country risk premiums in the short run. In this study, we find evidence of such positive balance sheet effects on risk premiums of European emerging countries.

As the Asian crisis of 1998 suggests, “original sinners” – countries with an inability to issue debt in local currency (Eichengreen et al., 2003) – are highly vulnerable to adverse balance sheet effects because foreign currency borrowing makes loan repayments more costly with exchange rate depreciation (Aghion et al., 2001; Krugman, 1999). Due to this exchange rate risk, which can easily turn into credit risk in times of distress, “original sinners” tend to have higher and more volatile risk premiums when compared to countries with similar macroeconomic fundamentals that have lower shares of foreign currency borrowing. For example, in our sample of European transition economies, the share of foreign currency government borrowing in total government borrowing reaches between one and two thirds, depending on the country, and this is only external borrowing. When domestic borrowing that is denominated in foreign currency is taken into account, the share of foreign currency borrowing reaches even higher levels.

This paper uses multiple strands of literature to build a new empirical model of country risk premium determinants. We combine three different strands of existing research to explain risk premium dynamics in countries that suffer from “original sin”. We use the small open economy model by Céspedes et al. (2000) and Gertler et al. (2007) as our baseline model, to which we add three supplementary concepts. First, we borrow the collateral value concept from Kiyotaki and Moore (1997) because it provides an appropriate framework to study the balance sheet effect. Afterwards, we construct the model so that it differs between long-run and short-run effects, thereby allowing both differences between countries that occur in the short run, and economic theory that should hold in the long run. This is obtained by a panel version of the error-correction model, i.e. the pooled mean group

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