EUROPEAN CENTRAL BANK
EUROSYSTEM

How is a firm's credit risk affected by sovereign risk?

18 December 2018

By Johannes Breckenfelder[1]

When a country sees its sovereign credit risk rise, do companies in that country also see their credit risk increase? We show that the answer is yes. Companies with a large public-sector ownership, as well as companies that borrow heavily from banks, are most affected. This suggests that the transmission of credit risk from sovereigns to non-financial companies occurs primarily through a fiscal and a financial channel, and points to the importance of reducing such risk spillovers and thereby overall risk in the economy, e.g. by means of the capital markets union.

When investors perceive a country to be more likely to default on its debt, the interest rates paid on the debt securities of that sovereign increase in order to compensate investors for the higher perceived default (or credit) risk. In such situations, it is often the case that banks and other financial intermediaries in that country see their credit risk and funding costs increasing as well. History has shown that if such a "spillover" of sovereign distress to the financial sector is strong enough, it can be associated with real economic costs (see, for example, Reinhart and Rogoff (2008)). We saw an example of that during the 2010 European sovereign debt crisis, with sovereigns in several euro area countries facing a rise in credit risk. While many empirical studies have demonstrated the existence of this so-called sovereign-bank loop, this Research Bulletin article addresses the question whether sovereign risk can also affect companies outside the financial sector. More precisely, it asks: Does sovereign risk affect or "spill over" to the credit risk of non-financial corporations? If so, through which channels does the spillover occur? The answers to these questions build on the results of a recent study by Augustin, Boustanifar, Breckenfelder, and Schnitzler (2018).

How does sovereign risk spill over to corporate credit risk?

Conceptually, sovereign and corporate credit risks can be linked either directly or indirectly. Indirectly, increased sovereign risk may simply signal bad macroeconomic fundamentals, which may in turn adversely impact corporates' profitability, making corporations' debt riskier. Directly, increased sovereign risk may have an impact on corporate credit risk via two channels. First, there is a fiscal channel, whereby increased sovereign risk may force a government to take fiscal actions that affect corporations by, for example, increasing taxation, reducing subsidies, or lowering the value of implicit and explicit government guarantees. Second, there is a financial channel, whereby increased sovereign risk worsens the health of the domestic financial sector (the sovereign-bank loop) which in turn is passed on to non-financial corporations via less favourable bank lending conditions.

Empirical evidence on the sovereign to corporate risk spillovers

Documenting the credit risk transmission between sovereigns and firms is empirically challenging as there are potential linkages between a government and the corporate sector that may give rise to biased or spurious interpretations. In the above-mentioned study, we address such challenges by exploiting the announcement of the first Greek bailout on 11 April 2010, a critical event in the European sovereign debt crisis. Importantly, instead of having a calming effect on the market, the bailout triggered a dramatic increase in the yields on Greek government bonds and in alternative measures of risk of the Greek sovereign such as credit default swap (CDS) spreads, which reflect the expected probability of a sovereign default, and its bid-ask spreads, which reflect liquidity risk. This is illustrated in Figure 1, with Greek CDS spreads increasing from an average of 337 basis points in the few months prior to the bailout (bps) to an average of 697 bps in the months following the bailout, and bid-ask spreads increasing from about 10 bps to about 35 bps over the same periods.

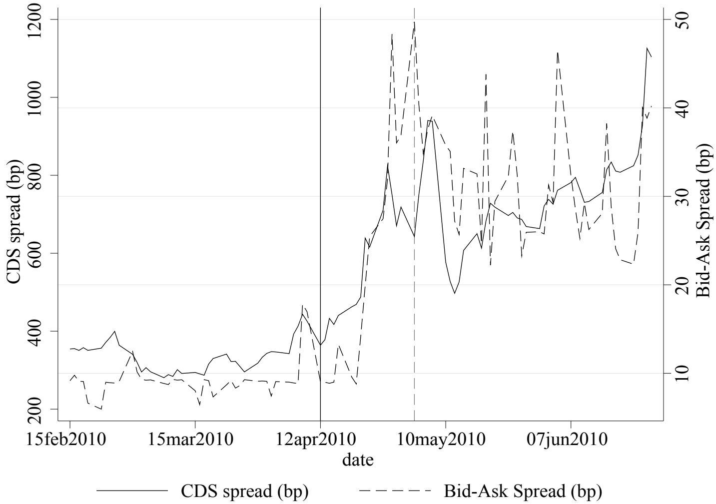

Figure 1 depicts the bid-ask spread on Greek CDS (in basis points) on the right axis and the Greek CDS spread (in basis points) on the left axis. The solid vertical line in the graph marks the bailout event on 11 April 2010. The dashed vertical line refers to 2 May 2010, the day that the Greek bailout package was finalised. The sample period spans from 15 February to 25 June 2010. Source: CMA Datavision.

Following the bailout announcement, the level of sovereign credit spreads increased for all European countries. This allows us to study a variation in sovereign credit spreads that is seemingly unrelated to corporate fundamentals, and so focus on the impact of an increase in sovereign risk in isolation. We use daily CDS spreads to capture changes in credit risk and rely on a sample of 226 firms from 15 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom). Note that Greece itself is not part of the empirical tests, but the announcement of its bailout serves as the event that altered sovereign risk in other European countries. Our empirical analysis suggests that a 10 per cent increase in the level of sovereign credit risk gives rise to an average 1.1 per cent increase in the level of corporate credit risk. This would imply, for instance, that the rise in the Italian sovereign spread from about 130 to about 260 in May 2018, increased corporate credit risk by 11 per cent.

We further investigate through which channels such spillovers take place. First, we find no support for the idea that risk is transmitted indirectly through a deterioration of macroeconomic fundamentals. Second, we explore the fiscal channel, which should be stronger for companies with closer ties to their respective domestic governments. We find that companies with a large public-sector ownership or those that have close business ties with the government are more strongly affected when their home country's sovereign risk goes up. Third, we investigate whether sovereign risk may be transmitted to non-financial companies through the financial sector. We find larger risk spillovers to non-financial companies for countries in which the banking sector holds a relatively larger fraction of domestic government debt, in line with the general findings of Gennaioli, Alberto and Rossi (2016), Altavilla, Pagano and Simonelli (2017) and Ongena, Popov and van Horen (2016), among others. In addition, Acharya, Eisert, Eufinger and Hirsch (2018) and Bottero, Lenzu and Mezzanotti (2016) suggest that companies relying mainly on banks affected by the sovereign debt crisis face a risk of credit rationing. We find a similar result in our sample: regardless of whether we measure bank dependence at the company level or the country level, the credit risk of companies most reliant on bank financing shows a higher sensitivity to increased sovereign risk.

Conclusions

To return to our initial questions, it appears that sovereign risk can indeed spill over to the credit risk of the non-financial sector. During the euro area sovereign debt crisis, this spillover occurred primarily through two channels: a fiscal channel and a financial channel.

Our results highlight the potential importance of reducing the likely spillovers of sovereign risk to corporate credit risk, e.g. by means of the capital markets union (CMU). With its ambition to further develop market-based sources of finance in Europe, the CMU may help contain both the fiscal and the financial channels of risk transmission. This is because it would stimulate non-financial corporations to use more diversified sources of finance, for instance substituting part of the their bank lending by issuing larger amounts in more liquid corporate bond markets. If companies rely less on bank lending and government support, they should be better protected from serious banking crises and sovereign distress.

References

Acharya, V. V., Eisert, T., Eufinger, C. and Hirsch, C. (2018), "Real effects of the sovereign debt crisis in Europe: Evidence from syndicated loans", *Review of Financial Studies,* forthcoming.

Altavilla, C., Pagano, M. and Simonelli, S. (2017), "Bank exposures and sovereign stress transmission", *Review of Finance,* Vol. 21 (6), pp. 2103-2139.

Augustin, P., H. Boustanifar, J. Breckenfelder and J. Schnitzler (2018), "Sovereign to Corporate Risk Spillovers", *Journal of Money, Credit and Banking,* Vol. 50 (5), pp. 857-891.

Bottero, M., Lenzu, S. and Mezzanotti, F. (2016), "Sovereign debt exposure and the bank lending channel: impact on credit supply and the real economy", *Bank of Italy Working Paper*, No 1032.

Gennaioli, N., Alberto, M. and Rossi, S. (2018), "Banks, government bonds, and default: What do the data say", *Journal of Monetary Economics*, Vol. 98, pp. 98-113.

Ongena, S., Popov, A. and van Horen, N. (2018), "The invisible hand of the government: Moral suasion during the European sovereign debt crisis", *American Economic Journal: Macroeconomics*, forthcoming.

Reinhart, C. M. and Rogoff, K. S. (2008), "This time is different: A panoramic view of eight centuries of financial crises", *NBER Working Paper,* No 13882.

[1] *Disclaimer: The article was written by Johannes Breckenfelder (Economist, Directorate General Research, Financial Research Division, European Central Bank). The author gratefully acknowledges the comments of Nordine Abidi, Lena Boneva, Paul Dudenhefer, Michael Ehrmann, Geoff Kenny, Manfred Kremer, Silvia Margiocco, and Zoe Sprokel. The views expressed here are those of the author and do not necessarily represent the views of the European Central Bank and the Eurosystem.*