Our currency, your problem? The global effects of the euro debt crisis

Livio Stracca

European Central Bank (ECB), sonnemannstraße 20, 60314 Frankfurt am Main, Germany

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ABSTRACT

In this paper, I look at the global effects of the euro debt crisis, using an event study approach. After identifying a number of euro crisis events in the period that goes from 2010 to 2012, I analyse their impact on equity returns, exchange rates and government bond yields in 40 non-euro area countries. The main finding of this study is that euro debt crisis events have contributed to a rise in global risk aversion accompanied by a fall in equity returns, mainly in the financial sector. Moreover, I find that the effect on bond yields is not statistically significant for the whole set of countries, but it has a significant - though small - impact on countries with a high risk rating. Finally, the paper also focuses on transmission channels by looking at how pre-determined country characteristics influence the strength and direction of the contagion effect. I find that the most consistent conduits of contagion are: (i) trade exposure to the euro area, (ii) EU membership, and (iii) whether a currency is pegged to the euro.

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1. Introduction

The European sovereign debt crisis has attracted global attention, making headlines around the world. Its effects on the world economy have been discussed by policy makers in main international summits, such as the G7 and G20. Against this background, this paper attempts to measure the impact of the European sovereign debt crisis on global financial markets, using an event study approach. More generally, the crisis may be seen as a particularly interesting pseudo-natural experiment for studying global transmission channels of shocks, thanks to the fact that it was punctuated by events and decisions at the political level, arguably more so than other crisis episodes in the past. Moreover, these decisions were taken both at national and European level, thus adding a further layer of complexity. It is therefore comparatively easier to identify "truly exogenous events driving the evolution of the euro crisis.

In this paper, I identify the “euro debt crisis” as a phenomenon affecting the euro area in its entirety. For this reason, I focus on the common factor in the sovereign spreads of the euro area high yield countries (Italy, Spain, Portugal, Ireland and Greece) vs. Germany. In this regard, I interpret a worsening of the crisis as a shock increasing the distance of euro area high-yield government bonds from – and the substitutability with – German bonds. Of course, one might argue that

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*Tel.: +49 69 13447329.
E-mail address: livio.stracca@ecb.int

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fluctuations in the spreads between sovereign bond yields within the euro area are to be expected also in good times not characterised by crises. As a matter of fact, such movements may well reflect country fundamentals and factors other than a worsening of the euro debt crisis, such as increases in global risk aversion and shifts in sentiment elsewhere. However, this is not true for sharp increases in government bond yield spreads within a monetary union. Indeed, these fluctuations have been widely associated with a worsening of market sentiment on the viability of the euro area in the medium to the long term. For this reason, in this paper I make use of this second type of movements for the identification of crisis events.¹

The empirical analysis is based on data ranging from January 2010 to December 2012, which mostly cover the European sovereign debt crisis period. As already mentioned above, I identify crisis events as days characterised by large idiosyncratic movements in the common factor in the five sovereign spreads of Italy, Spain, Portugal, Ireland and Greece that cannot be explained by global factors and by data releases. Indeed, I find that this common factor is characterised by fat tails and occasional “jumps” which are likely to be related to specific news influencing market perceptions on the future evolution of the sovereign debt crisis. After identifying a pool of crisis events, I examine their impact on daily equity returns, equity returns for the financial sector, bond yields and exchange rates in 40 non-euro area countries (19 of which belonging to the OECD). To do so, I use a standard event study approach (see MacKinlay, 1997 for a survey of event studies in economics).

Generally speaking, there are advantages and disadvantages associated with event studies. To begin with, in event studies the identification of exogenous shocks is easier and cleaner with respect to the case of macroeconomic models. In this regard, Gürkaynak and Wright (2013) even argue that many important macro-finance questions can only be studied the identification of exogenous shocks is easier and cleaner with respect to the case of macroeconomic models. The analysis in this paper is consistent with the definition of contagion contained in Dungey et al. (2005) – the transmission of unanticipated local shocks to another country or market – and is less related to that of Forbes and Rigobon (2002), where contagion is an increase in correlation during periods of crisis.

Moreover, the analysis is also closely related to the literature which focuses on the identification of channels of contagion (see Van Rijckeghem and Weder, 2001). Fratzscher (2009) looks at the global effects of negative US-specific macroeconomic shocks during the Lehman crisis. Interestingly, he shows that these shocks have triggered a significant strengthening of the US dollar, rather than a weakening. Macroeconomic fundamentals and financial exposure of individual countries are found to contribute to the transmission process of US shocks. In particular, he shows that countries with low foreign exchange reserves, weak current account positions and high direct financial exposure vis-à-vis the United States experienced larger currency depreciations during the crisis.²

To my knowledge, recently two papers on the international transmission of the euro debt crisis have been published (Aizenmann et al., 2011; Claessens et al., 2011). Aizenmann et al. (2011) look at the effects of the global financial crisis (Lehman) and of the euro debt crisis on stock and bond market indices in developing countries, up to end-2011. In order to identify crisis events their paper looks at (i) daily news from the euro area and at (ii) abnormal (very large) returns in four financial indicators (the VIX, the 3-month EONIA swap, the 5-year CDS index for Europe and the Fitch 1-year default probability of Western Europe).³ After identifying euro crisis-related events in this way, the authors look at abnormal returns around event dates. They find that responses in developing countries to euro crisis events are generally rather small, significantly weaker compared to the responses to the global financial crisis. However, it is noteworthy that Aizenmann et al. (2011) do not consider in their analysis events that took place in 2012, the year which arguably marked the peak of the euro debt crisis. Moreover, they also find that the effect is larger in countries having a higher trade exposure to the euro area, which is measured by exports to the euro area divided by the country’s GDP. Unlike Aizenmann et al. (2011), Claessens et al. (2011) look at firm-level stock returns in EU and non-EU countries (for the most part advanced countries – over one third from Japan) and focus their attention on three specific events, namely: (i) 10 May 2010 (positive), (ii) 8–10 June 2011 (negative), and (iii) 21 July 2011 (positive). After having selected these three events, they run a cross sectional regression for each of them and they find that firms’ financial dependence matters for the impact of these events when it is interacted with country-level bank exposure to euro area high-yield countries. Moreover, they show that this effect is positively related to trade linkages to the same countries.

This paper has a somewhat different focus compared with both Aizenmann et al. (2011) and Claessens et al. (2011). First, the main objective of my study is to understand the global implications of crisis events, how they transmit to both advanced

¹ Note that in this paper I do not provide with a precise definition of the European sovereign debt crisis is. Such an episode may encompass (i) market expectations of a sovereign default in a large euro area country, (ii) simultaneous defaults in more than one euro area country, possibly brought about by a self-fulfilling spiral of lack of confidence, (iii) event re-denomination risk, or (iv) the prospect of a break up of the euro area. What the crisis scenario exactly implies was probably unclear even in the minds of market participants.

² Fratzscher et al. (2012) look at the global effects of the non-standard monetary policy operations in the euro area, in particular the very long term operations (VLTRO).

³ The VIX stands for the Chicago Board Options Exchange Market Volatility Index; the EONIA for Euro OverNight Index Average; and CDS for Credit Default Swap.
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