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# Credit rating agency downgrades and the Eurozone sovereign debt crises

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ABSTRACT

This paper studies the reaction of the Euro's value against major currencies to sovereign rating announcements from Moody's, S&P and Fitch CRAs during the Eurozone debt crisis in 2010–2012 based on event study methodology combined with GARCH models. We also analyze how the yields of French, Italian, German and Spanish government long-term bonds were affected by CRA announcements. Our results reveal that CRA downgrades, watchlist and outlook announcements had no impact on the value of the Euro currency but increased exchange rate volatility. At the same time, downgrades as well as negative outlook announcements increased the yields of French, Italian, and Spanish bonds and even affected the German bond's yields. This shows that the monetary union has led to a breakdown of the consequences of the rating shocks between currency value and sovereign bond yields. The reason is that part of the rating shock is absorbed by an internal repricing of sovereign bonds.

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## 1. Introduction

Since the bursting of the real estate bubble in the United States in the summer of 2007, European economies have been badly damaged by banking and sovereign debt crises. Most European Union member states suffered from rapidly increasing fiscal deficits. Credit rating agencies (CRAs) responded to these developments with a series of downgrades.[1] The Eurozone crisis reached its height during our period of study: the years 2010–2012. Within this period particularly severe downgrades occurred. For example, on January 13, 2012, S&P announced credit rating downgrades for nine EU member states, including France, which lost its AAA rating to AA+, while Portugal and Cyprus were assigned junk-bond ratings. In addition to this, 14 countries within the EU were given negative outlooks, while only Germany's premium credit rating remained unaffected. The goal of this paper is to examine the impact of CRA rating announcements on the exchange rate movements and bond yields of large Eurozone countries during the worst of the Eurozone crisis.

Sovereign credit ratings are employed as an indicator for the quality of a country's economic fundamentals and its perceived ability to repay its sovereign debt. Many investors sell the affected country's sovereign bonds if their ratings deteriorate. In most parts

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[1] The CRAs rating grades are defined in Table 1.

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**Table 1**
CRA rating grades and definitions.

| Moody's | S&P | Fitch | Definition |
|---|---|---|---|
| Aaa | AAA | AAA | Prime |
| Aa1 | AA+ | AA+ | High grade |
| Aa2 | AA | AA | |
| Aa3 | AA− | AA− | |
| A1 | A+ | A+ | Upper medium grade |
| A2 | A | A | |
| A3 | A− | A− | |
| Baa1 | BBB+ | BBB+ | Lower medium grade |
| Baa2 | BBB | BBB | |
| Baa3 | BBB− | BBB− | |
| Ba1 | BB+ | BB+ | Non-investment grade |
| Ba2 | BB | BB | Speculative |
| Ba3 | BB− | BB− | |
| B1 | B+ | B+ | Highly speculative |
| B2 | B | B | |
| B3 | B− | B− | |
| Caa1 | CCC+ | CCC | Substantial risks |
| Caa2 | CCC | | |
| Caa3 | CCC− | | |
| Ca | CC | | Extremely speculative |
| | C | | |
| C | SD | DDD | In default |
| | | DD | |
| | | D | |

of the world the ‘flight to quality’ goes hand in hand with the retreat of capital from the country and an ensuing devaluation of the domestic currency.[2]

However, the situation is different in the recent debt crisis of the Eurozone. The flight to quality is not necessarily a flight away from the common currency. The 19 member states share a common currency but retain full fiscal sovereignty, subject only to the rather toothless Stability and Growth Pact. Investors can retain the Euro but still shift their investments from downgraded countries to more stable ones. And indeed, there is anecdotal as well as strong empirical evidence that investors behave in this way. Beck et al. (2015) show that the 2013 announcement of the Swedish Central Bank (Riksbank) of having shifted its Euro currency reserves from Spanish and Italian bonds to German bonds was not a singular phenomenon.[3] They find that portfolio reallocation was common within the Eurozone, both with respect to external investors and intra-Eurozone investors. In the extreme, if investors in the Eurozone reacted to negative sovereign rating news by selling bonds of some member states and buying bonds of others, the Euro's value would not be affected at all.

The existence of the Euro currency union may decouple the usually highly correlated movements of prices of downgraded sovereign bonds and the country's terms of trade. In the absence of the Euro, the currency of a country with an unfavorable balance of payments would depreciate, its domestic goods would become cheaper to outsiders and its current account would consequently improve. This adjustment occurs when the demand for this country's export and import goods is relatively elastic. But, just as this country's current account would improve, those of the importing countries in the region would worsen. To maintain competitiveness, these other countries would then try to devalue their own currency. These ‘competitive devaluations’ could cause speculative attacks on one currency after the other. Such risk is absent within the Eurozone. Second, and closely related, the Euro protects ailing member states from a devaluation of its domestic goods vis-à-vis foreign goods (goods from the non-Eurozone states), and thus from a deterioration of its relative wealth position. The disadvantage is that with the common currency, single member states cannot engineer a currency devaluation in order to stimulate export-led domestic growth. disadvantage.

Our research focuses on the implications of this unique feature of the Eurozone during the period of maximum stress. We pose two research questions: First, how is the Euro currency's value affected by negative rating signals, given that intra-Eurozone reallocation of capital is feasible? Second, what impact do negative rating announcements of any member of the Eurozone have on the price of sovereign bonds of large Eurozone members? A particular strand of the credit rating literature points to cross-country contagion effects of rating news (e.g., Arezki et al., 2011; Böninghausen and Zabel, 2015) which affect some countries more than others (e.g., Afonso et al., 2012). The motivation for focusing exclusively on the highly liquid bonds of large countries is thus that within a currency union, cross-country contagion should be most visible in the large countries' bond yields.

Following prior research on the impact of sovereign rating changes, we focus mainly on their short-term effects. Therefore, we employ an event-study methodology combined with a multivariate GARCH model. The event study allows us to evaluate the effects of ratings changes made on different dates, while the GARCH methodology allows us to estimate their effects on both levels and volatilities, as well as take account of common shocks.

With this common methodology, we estimate two separate models: an exchange rate model and a CAPM model to explain sovereign bond yields for large Eurozone countries. The CAPM allows us to consider the broader market for all Eurozone borrowers' sovereign debt, rather than focusing on differentials between each borrower's yield and that of a single benchmark such as the German bund.

While the impact of CRA announcements on sovereign bonds' yields has been studied before, relatively little work so far has been undertaken on the association between the value of the currency and CRA rating announcements in the recent European debt crisis. Notable exceptions either ignore the specific implications of a currency union (Alsakka and ap Gwilym, 2012, 2013) or concentrate on longer-term effects of changing economic fundamentals and important policy actions including rating announcements (Ehrmann et al., 2013). There has been no specific research to date on the impact of downgrades and other announcements within a currency union on both the common currency's movements and the repricing of the country risk of large Eurozone members in times of crisis. Likewise, no research on the impact of CRA statements on currency fluctuations specifically examines the later, most severe phase of the European debt crisis. Our work contributes to fill these gaps.

We seek to identify whether rating announcements of Eurozone member states by the three leading credit rating agencies (Standard & Poor's, Moody's, and Fitch) were an active driving force for both the value of the Euro and large Eurozone members' government bond yields. Fratzscher (2011) has shown that the impact of sovereign ratings on capital outflows changed during the crisis.[4] Therefore, the focus in our analysis is the Eurozone debt crisis from 2010 to 2012, as we expect to find different results for this period compared to the prior period. Furthermore, we take concerns of CRA actions lagging behind the market into account (Ferri and Stiglitz, 1999; Reinhart, 2002) and scrutinize the results for possible reverse causality effects.

[2] For example, Chen et al. (2013) study the impact of rating changes on private investment starting from the assumption that sovereign rating downgrades are associated with an increase in capital outflows from the downgraded country.

[3] See the Swedish economic newspaper *Dagens Industri*, June 4, 2013.

[4] Specifically, Fratzscher finds that in the crisis period between 2007 and 2009 countries with a worse sovereign rating, worse institutions or higher short-term debt faced larger capital outflows than in an earlier period.

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