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Fear or fundamentals? Heterogeneous beliefs in the European sovereign CDS market

Carl Chiarella [a], Saskia ter Ellen [b,*], Xue-Zhong He [a], Eliza Wu [a]

[a] University of Technology Sydney, UTS Business School, City Campus, PO Box 123 Broadway, NSW 2007, Australia
[b] Norges Bank, Bankplassen 2, P.O. Box 1179 Sentrum, 0107 Oslo, Norway

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ABSTRACT

This paper proposes a model for credit default swap (CDS) spreads under heterogeneous expectations to explain the escalation in sovereign European CDS spreads and the widening variations across European sovereigns following the Global Financial Crisis (GFC). In our model, investors believe that sovereign CDS spreads are determined by country-specific fundamentals and momentum. By estimating the model we find evidence that, while some of the recent movements in sovereign CDS spreads can be explained by deteriorating fundamentals for core European Union (EU) countries, momentum has also played a destabilizing role since the GFC in all sovereign credit markets studied.

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1. Introduction

Motivated by the ongoing turmoil in international debt markets and the development of the European sovereign debt crisis following the Global Financial Crisis (GFC), this paper examines if the interaction of market fundamentals and momentum played a significant and potentially destabilizing role on sovereign CDS spread movements over the recent crisis period. Sovereign credit risk has come to the forefront of market participants' concerns as recent crises have shown that well-developed countries are also prone to this risk and can also default on their liabilities. This concern is observable in the recent movements of sovereign credit default swap (CDS) spreads. For instance, as illustrated in Fig. 1, the CDS spreads for Eurozone countries were ranging from historically low levels of around 2 bps (for Germany) and 13 bps (for Greece) at the beginning of 2006 but had risen to levels of 25 bps and an alarming 270 bps, respectively, by the initial stages of the European Debt Crisis in early 2010. Cross-sectional differences in sovereign CDS spreads have also magnified, as the spreads of certain peripheral countries in the Eurozone such as Ireland and Greece increased much more dramatically than the spreads of core Eurozone countries such as Germany and the Netherlands. Various authors explain this development as being due to global risk repricing and increased risk aversion of international investors combined with weakening macroeconomic factors (Attinasi et al., 2009; Caceres et al., 2010; Gerlach et al., 2010; Sgherri and Zoli, 2009).

* Corresponding author. Tel.: +47 22 31 62 34.
E-mail addresses: carl.chiarella@uts.edu.au (C. Chiarella), saskia.ter-ellen@norges-bank.no (S. ter Ellen), tony.he-1@uts.edu.au (X.-Z. He), eliza.wu@uts.edu.au (E. Wu).

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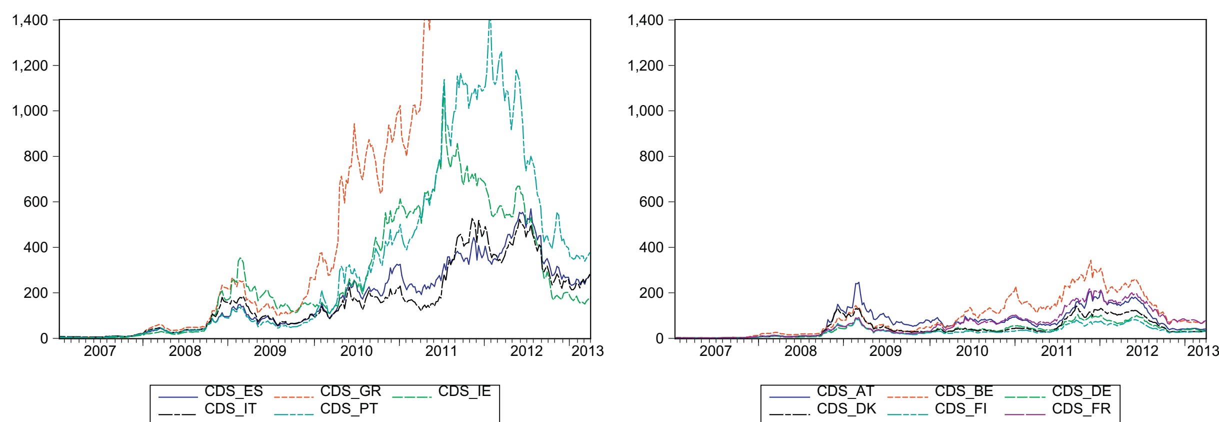

Fig. 1. The sovereign CDS spreads of eleven countries from our sample grouped as either 'peripheral' or 'core' countries. The group of peripheral countries consists of Greece (GR), Ireland (IE), Italy (IT), Portugal (PT) and Spain (ES). The group of core countries consists of Austria (AT), Belgium (BE), Denmark (DK), Finland (FI), France (FR) and Germany (DE). Note that the scaling of both graphs is equal to facilitate comparison.

In this study, we investigate whether the high sovereign credit spreads observed across Europe since the onset of the international crisis period were completely driven by (macroeconomic) fundamentals or were rather a result of the interaction of market fundamentals and momentum. Using a sample of thirteen European countries, of which ten are officially part of the European Monetary Union (EMU), we examine whether the widespread escalation in sovereign CDS spreads were the amplification effects of weakened fundamentals interacted with increasing market-wide momentum, while controlling for changes in global risk (re)pricing. In doing so, we uncover new evidence that indicates market momentum became more pervasive in sovereign CDS markets from 2007 to 2013. The dominant effect of momentum was magnified in peripheral Eurozone countries as mean reversion to fundamentals remained largely absent from the sovereign CDS markets for Greece, Hungary, Ireland and Portugal. In the core Eurozone countries, some of the recent movements in sovereign CDS spreads can be explained by the strains on fundamentals from having to support a weakening EMU and particularly the small group of troubled peripheral sovereigns, but we reveal that momentum has also played a large role in amplifying and destabilizing sovereign CDS spreads since the GFC.

The remainder of the paper is organized as follows. Section 2 summarizes the related literature. Section 3 explains how we calculate fundamental values for the different countries' sovereign CDS spreads. Section 4 describes the data used in our empirical analyses and Section 5 describes the heterogeneous agent model that we use to explain the large movements in sovereign CDS spreads from 2007 onwards and how it is estimated. Section 6 gives an overview and interpretation of our estimation results, and Section 7 concludes.

2. Related literature

It is important to understand the market dynamics of sovereign credit markets as escalations in governments' borrowing costs have undesirable welfare implications. This paper proposes a simple model of heterogeneous expectations on market fundamentals and momentum to explain the dynamics of such markets.

The literature traditionally relied on country fundamentals to predict sovereign risk levels but has struggled in the recent years to explain the increasingly substantial deviations of actual market spreads from those implied by macroeconomic fundamentals. For instance, Arghyroua and Kontonikas (2012), Beirne and Fratzscher (2013) and Ghosh et al. (2013) all find that before the crisis, spreads were too low, and the market pricing of sovereign risk was not fully reflecting fundamentals but rather international risks. However, recent works have also documented that the crisis led to a renewed interest in country-specific economic fundamentals for European economies (Jaramillo and Weber, 2013; Mody, 2009). While various non-fundamental based explanations have been provided, there remains a gap in the current understanding on the exact cause of the recent debt market turmoils in Europe. For example, Aizenman et al. (2013) find that spreads of European periphery countries were too high given fiscal space and other macroeconomic fundamentals, suggesting that these economies switched to a "pessimistic self-fulfilling expectational equilibrium". De Grauwe and Ji (2013) offer a similar interpretation by saying that the surge in spreads during 2010–11 was associated with "negative self-fulfilling market sentiments". Badaoui et al. (2013) agree that spreads were not fully reflecting fundamentals during the crisis but argue that the increase in CDS spreads during the crisis was caused by a surge in liquidity and demand for credit protection. Despite the general agreement on the inability of fundamental forces to fully account for recent sovereign credit spread movements, there is conflicting evidence regarding the non-fundamental based explanations.

We contribute to the debate on what has driven country spreads by providing a heterogeneous behavioral explanation for the escalation of the European Debt Crisis. Our main hypothesis is that market momentum, together with its interaction with fundamentals, played a dominant role in driving up CDS spreads of particularly the peripheral Eurozone countries beyond the levels warranted by their weakened economies. To date, there has not been a suitable theoretically motivated framework used to formally test this.

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