Deciphering financial contagion in the euro area during the crisis

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December 2012

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Abstract

Financial market interdependence has been at the epicenter of the crisis in the euro area. This paper tests for the existence of financial contagion during this crisis, defined as the international transmission of country-specific shocks beyond the normal channels of financial interdependence. Since contagion relates purely to country-specific shocks, we combine the standard contagion test of Favero and Giavazzi (2002) with an innovative narrative approach to separate out global and euro area shocks from country-specific shocks. Financial contagion has been widespread during the crisis in the euro area. About 80 percent of country-specific shocks are contagious. We also find significant evidence of flight-to-safety effects between the core and the periphery of the euro area. Global and euro area shocks have been important drivers of sovereign bond yields in the euro area.

JEL Classification: E44; F34; F36; G01; G12.

Keywords: contagion; sovereign bond; euro; financial crisis; narrative approach.

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1 Introduction

Ever since the collapse of Lehman Brothers in September 2008, financial market interdependence has been at the epicenter of the global financial market mayhem. Much in the same fashion as the famous butterfly effect, shocks occurring in a specific asset market in a particular country seem to spread throughout the entire global financial system. The international transmission of country-specific shocks should not come as a surprise. The process of globalization has led to a relatively high level of economic and financial interdependence across countries. This being said, there is often a perception that the transmission of shocks is different, in particular stronger, during episodes of financial crises. Accordingly, financial contagion is said to exist when the transmission of unusually large country-specific shocks goes beyond the normal degree of financial market interdependence.

In this paper, we test for contagion between sovereign bond markets in the euro area during the financial crisis. Several countries which adopted the euro as a common currency are currently suffering from heightened financial market volatility. Large shocks in some countries are spreading through the whole area. Again, such a transmission of shocks should be expected given the large degree of financial integration across the euro area (Gonzalez-Paramo, 2011). This being said, anecdotal evidence suggests that the degree to which country-specific shocks are spreading to other countries has *changed* since the onset of the financial crisis. Accordingly, we test in a formal setting whether, since the onset of the financial crisis, the transmission of shocks specific to individual euro area countries differs from what the normal degree of financial market interdependence would imply. We follow the approach put forward by Favero and Giavazzi (2002) to model financial market interdependence and to test for the existence of financial contagion. This approach addresses several pitfalls identified in other studies which are outlined in our review of the literature.

Our main contribution to the empirical literature on financial contagion is the use of a narrative approach to separate out different sources of shocks. Financial markets are rocked by a wide range of shocks. We distinguish between global shocks, euro area shocks, and country-specific shocks. Global shocks typically affect all countries simultaneously, in the same way but not necessarily to the same extent. From the perspective of the euro area, the collapse of Lehman Brothers represented a global shock to their sovereign bond markets as investors were fleeing to the safe haven of riskless sovereign bonds. Euro area shocks affect several euro area economies simultaneously, but not necessarily in the same way. The creation of the European Financial Stability Facility in May 2010 led to a sharp decrease in sovereign bond yields in the periphery of the euro area, but an increase in the sovereign bond yields of Germany and the Netherlands. Country-specific shocks are, by definition, idiosyncratic to the country under consideration. A proper test of contagion, focusing on the transmission of unusually large country-specific shocks across borders, requires a proper identification of country-specific shocks to start with. Failing to separate out global shocks and euro area shocks from country-specific shocks may lead us to conclude, incorrectly, that contagion occurs when two national bond markets are actually affected by a common shock. The identification of different types of shocks relies on the historical record of financial news from Reuters. This identification procedure is interesting in and of itself as it provides significant qualitative information about the unfolding of the crisis.

We focus on the sovereign bond markets of nine euro area countries, namely Belgium, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain. The sample period extends from January 2007 to July 2012. Our results shows that financial contagion across sovereign bond markets in the euro area has been widespread during the crisis. About 80 percent of country-specific shocks are contagious. Interestingly, about one third of these contagious country-specific shocks induce opposite effects on some other

countries in the sample. This evidence points to flight-to-safety effects, whereby a shock in a country induces an opposite movement in the bond yields of some other countries. From a methodological point of view, this finding illustrates the need to identify each country-specific shock individually, instead of relying on sub-samples of the data and assuming that contagion necessarily entails stronger interdependence. The set of possible effects is quite large. The combination of the statistical approach of Favero and Giavazzi (2002) and our narrative approach allows us to consider the full set of possible effects, thus improving on the existing literature.

The remainder of this paper is organized as follows. Section 2 reviews the existing literature. Section 3 describes the empirical approach put forward by Favero and Giavazzi (2002) and explains how the narrative approach helps identifying different sources of shocks. Section 4 deals with data. Section 5 presents our estimation results in two steps, in line with the approach of Favero and Giavazzi (2002), and provides for further interpretation. Section 6 summarizes the main messages of our paper and outlines some avenues for future research.

2 Literature review

A large literature on financial contagion developed in the aftermath of financial crises in advanced economies in the late 1980s and early 1990s, and in emerging market economies during the 1990s. A lot of attention was devoted to define contagion. Several early contributions modeled contagion as a process through which shocks in one country would be transmitted to other countries. For example, Eichengreen, Rose and Wyplosz (1996) explored the impact of a currency crisis in one country on the probability that another country may also experience a currency crisis. Such an approach comes close to the epidemiological literature where the probability that someone catches a given disease is a

probability function of someone else's having this disease, other things equal. Furthermore, one may study which country characteristics make it more vulnerable to infection from a currency crisis elsewhere.

Later contributions have refined the definition of contagion (see, for example, Forbes and Rigobon, 2002). The process of globalization has led to a sharp rise in real and financial interdependence across countries. Thus, it should be no surprise that shocks in one country spread to other countries. Trade and financial linkages have been identified as two major avenues for the transmission of country-specific shocks (Van Rijckeghem and Weder, 2001; Forbes, 2002). But there has often been a perception that the strength of the transmission of shocks is different during crises. This is a different question. Are country-specific shocks transmitted across countries differently during financial crises? In this context, contagion has been defined as the international transmission of country-specific shocks *beyond* the normal channels of financial market interdependence.[1] This is the definition which we adopt in this paper.

The emerging literature on the crisis in the euro area can be divided along the lines of the early and late definitions of contagion. Several papers focus on the transmission of changes in bond yields or CDS spreads across euro area economies. Arezki, Candelon and Sy (2011) and Afonso, Furceri and Gomes (2012) assess the extent to which sovereign credit rating changes in a given country affect bond yields and CDS spreads in other countries. Similarly, De Santis (2012) examines how rating downgrades for Greece have affected other euro area countries. These three studies bear a large resemblance with the pioneering work of Eichengreen, Rose and Wyplosz (1996) for currency crises. Mink and De Haan (2012) use an event study approach to assess the impact of Greek rating downgrades on the stock returns of 48 commercial banks in Europe. Finally, Caceres, Guzzo and Segoviano (2010) construct a spillover coefficient for ten euro area countries and find that distress in one

[1] See Dungey et al. (2005) for an exhaustive review of methodologies to test for contagion.

country raises the probability of a credit event in other countries. As such, these studies cast light on the transmission of country-specific shocks across countries, but they do not test whether the strength of this transmission differs when unusually large shocks occur.

A range of other papers have focused on the later definition of contagion, testing whether sovereign bond yields or CDS spreads in some countries are affected differently when a country experiences an unusually large shock. Some of these contributions are inspired by the correlation approach to testing for contagion.[2] Missio and Watzka (2011) compute dynamic pairwise correlations between seven euro area economies, assuming that the crisis originates in Greece. Similarly, Fong and Wong (2012) make use of CoVaR, a measure of the value-at-risk associated with one country conditional on the value-at-risk associated with another country in crisis. Gomez-Puig and Sosvilla-Rivero (2011) use rolling Granger-causality regressions for pairs of euro area countries to assess the directionality of changes in bond yields across euro area countries. Zhang, Schwaab and Lucas (2011) examine the marked-implied probability of default of individual euro area countries, conditional on a credit even in Greece. In this context, they also compute dynamic pairwise correlation coefficients to assess time variation in these coefficients.

All these contributions, even though they cast light on the stability of the transmission of country-specific shocks, share a common pitfall: they allow only for a pairwise analysis of contagion. Hence, the underlying methodologies prevent a more encompassing assessment of contagion across several countries within a single model. More importantly, as forcefully argued by Dungey et al. (2005) among others, in order to test whether country-specific shocks are transmitted across countries beyond the normal degree of interdependence, we

[2]Boyer, Gibson and Loretan (1999) and Forbes and Rigobon (2002) show that the correlation coefficient during a crisis period may change purely because volatility increases during that period, and not because the degree of financial market interdependence has changed. Forbes and Rigobon (2002) propose an adjustment to the correlation coefficient estimated over the crisis period. However, this adjustment is only valid under the assumption that the financial market variable in the country where the shock originates is exogenous. This assumption is unlikely to be satisfied in the case of highly interdependent financial markets.

should model the normal degree of interdependence to start with.

Another common pitfall in some but not all of these studies is the failure to control for common shocks. Correlation in the data would equally result from a country-specific shock being transmitted across countries, or a common shock affecting both countries simultaneously. To the extent that contagion refers solely to the international transmission of country-specific shocks, we should control carefully for common shocks.

These two pitfalls - only pairwise comparisons, no common shocks - are addressed by Metiu (2012) and Caporin et al. (2012). Metiu (2012) extends the contagion model of Pesaran and Pick (2007). This model features simultaneous equations, one for each country, and includes common shocks. Importantly, the source of these common shocks is assumed (typically some high-frequency financial variable of global relevance such as the VSTOXX index). Moreover, shocks are assumed to come only from the periphery of the euro area (Greece, Ireland, Italy, Portugal and Spain). Thus, potential important shocks from core euro area economies are assumed away. Finally, Metiu (2012) only considers the time period between January 2008 and February 2012. Thus, the whole sample period is largely a crisis period.

Caporin et al. (2012) is the closest contribution to our paper. Again, part of the analysis relies on a model of simultaneous equations. In this model, contagion is tested using the limited-information approach put forward by Rigobon (2003). Again, common shocks are assumed to operate through a small number of global financial variables. This assumption is again questionable as there have been several shocks arising from the political process around the resolution of the crisis. Some political shocks have been very important for the dynamics of sovereign bond spreads, and it is unclear to what extent global financial variables measure them adequately. Moreover, the sample period between November 2008 and September 2011 overlaps almost entirely with the crisis period, as the authors acknowledge themselves. Thus, their finding of no contagion, only interdependence could well arise from

the fact that their analysis tests for contagion within a crisis sample, and does not compare a crisis sub-sample to a normal sub-sample.[3] Finally, the test of Rigobon (2003) does not allow to test for different types of contagion, not least flight-to-safety effects. Sometimes, during crises, a negative shock in one country induces a negative effect in another country, but a positive one in a third, safe-haven country. Such effects are important to analyze to better understand patterns of contagion.

Hence, we follow closely the approach put forward by Favero and Giavazzi (2002). Favero and Giavazzi (2002) construct a full model of simultaneous equations, one for each country. The reduced-form model is estimated to identify episodes of unusually large movements in sovereign bond yields. This set of unusually large movements defines the crisis sub-sample in our data.[4] We then use our narrative approach to separate out global shocks, euro area shocks and country-specific shocks, in order to have a proper test for contagion. Again, failing to control for common shocks, we may wrongly conclude that a country-specific shock is spreading to another country beyond the normal degree of financial market interdependence, when in fact both countries are hit by a common shock. Moreover, our narrative approach is flexible in the sense that we do not have to assume the source of common shocks to start with. The historical record of news will tell us what are the relevant common shocks. Finally, since this approach identifies each individual country-specific shock, we can test for different patterns of contagion, especially flight-to-safety effects. We now explain the empirical approach in more details.

[3] In fact, Caporin et al. (2012) find some evidence of statistical significance of contagion, but conclude in favor of no contagion on the basis of economic significance.

[4] Many other contagion methodologies require the definition of a crisis sub-sample (window) ex ante. The Rigobon (2003) test as well as the contribution of Bekaert et al. (2011) are two examples.

3 Empirical approach

Favero and Giavazzi (2002) develop a dynamic structural system of simultaneous equations to model financial market interdependence. For the sake of the exposition, we will focus on a two-country setup and exclude lags and common shocks. Of course, these assumptions will be relaxed once we implement the empirical approach.[5]

When there is no crisis, the model may simply be written as

$$\begin{aligned} s_{1,t} &= \beta_{12} s_{2,t} + \varepsilon_{1,t} \\ s_{2,t} &= \beta_{21} s_{1,t} + \varepsilon_{2,t} \end{aligned} \tag{1}$$

where $s_{i,t}$ denotes sovereign bond yields for country $i = 1, 2$ at time t, the β coefficients captures the normal degree of interdependence, and $\varepsilon_{i,t}$ is an unobservable country-specific shock for country $i = 1, 2$.

The reduced-form model is given by

$$\begin{aligned} s_{1,t} &= \frac{1}{\beta_{12}\beta_{21}} \left(\varepsilon_{1,t} + \beta_{12} \varepsilon_{2,t} \right) \\ s_{2,t} &= \frac{1}{\beta_{12}\beta_{21}} \left(\beta_{21} \varepsilon_{1,t} + \varepsilon_{2,t} \right) \end{aligned} \tag{2}$$

Thus, the sovereign bond yield in country 1 is affected by its own shocks, captured by $\varepsilon_{1,t}$, and also by shocks in country 2, captured by $\varepsilon_{2,t}$, transmitted according to the normal degree of interdependence, as measured by β_{12}. Similarly, the sovereign bond yield in country 2 is affected by its own shocks, captures by $\varepsilon_{2,t}$, and also by shocks in country

[5] We refer the reader to Favero and Giavazzi (2002) for an exhaustive presentation of their approach. Since we follow that approach closely, we only sketch the main steps within a simplified setup here.

1, captured by $\varepsilon_{1,t}$, transmitted according to the normal degree of interdependence, as measured by β_{21}.

Suppose now that the data generating process produces a number of unusually large shocks to sovereign bond yields. This set of unusually large shocks defines the crisis subsample. Again, contagion is defined as the transmission of a country-specific shock to another country, having controlled for the normal degree of interdependence. Favero and Giavazzi (2002) thus propose to augment the system of simultaneous equations with dummy variables which capture the effects of such large country-specific shocks. In this case, the system becomes

$$\begin{aligned} s_{1,t} &= \beta_{12} s_{2,t} + a_{11} d_{1,t} + a_{12} d_{2,t} + \varepsilon_{1,t} \\ s_{2,t} &= \beta_{21} s_{1,t} + a_{21} d_{1,t} + a_{22} d_{2,t} + \varepsilon_{2,t} \end{aligned} \tag{3}$$

where $d_{i,t}$ is a dummy variable taking a value of one when an unusually large shock has occurred in country $i = 1, 2$ at time t, and zero otherwise. Given the definition of contagion outlined above, the null hypothesis of no contagion is specified as $H_0 : a_{ij} = 0, \forall\ i \neq j$. Thus, having controlled for the normal degree of financial market interdependence through the β coefficients, the $a_{ij}, i \neq j$ coefficients will indicate whether an unusually large shock has been transmitted to other countries beyond the normal degree of interdependence.

In practice, however, we observe only sovereign bond yields, that is $s_{i,t}, i = 1, 2$. Favero and Giavazzi (2002) therefore start with an estimation of the reduced-form model of interdependence as in Equation (2). Since the data generating process produces some unusually large country-specific shocks, the residuals of the reduced-form model will feature some unusually large values. Such large values would be picked up by the dummy variables. Favero and Giavazzi (2002) create dummy variables taking a value of one on days where

country-specific residuals exceed three times their standard deviation.

But an unusually large residual value may occur for several reasons. Take the example of country 1. First, there may have been an unusually large shock in this country, which shows up as a large residual. Second, there may have been an unusually large shock in country 2, which gets transmitted to country 1, either according to the normal degree of financial market interdependence, or beyond the normal degree of financial market interdependence. Finally, and importantly, a large residual may obtain when both countries are hit by a common shock, either of a truly global nature (for example, the collapse of Lehman Brothers) or of a more regional nature (for example, the creation of the EFSF in May 2010). Without further information on the underlying shocks, we cannot properly test for contagion. We may wrongly conclude that an unusually large shock in country 1 has been transmitted to country 2 beyond the normal degree of interdependence, when these two countries have in fact been hit by an unusually large common shock.

A narrative approach provides a convenient to separate out global shocks, euro area shocks and country-specific shocks. More precisely, once unusually large values have been identified from the reduced-form residuals, we look at the historical record of news from Reuters to determine whether the large residual represents a country-specific shock (and in this case, in which country this shock occurs), a regional euro area shock, or a truly global shock. The combination of a statistical approach and a narrative approach brings at least three important benefits. First, as argued above, separating global and regional shocks from country-specific shocks is crucial for a proper test of contagion. Second, the historical record of news points to several different types of shocks, be it economic news, political events, ratings changes, etc. Several papers have assumed a specific source of shocks ex ante, often ratings changes, but there are potentially many more kinds of disturbances which may be transmitted beyond the normal degree of interdependence. The narrative approach does not make *a priori* assumptions about the source of shocks. Third, the source

of shocks itself may evolve over time. It may be that global shocks are more important at the onset of the crisis, while euro area and country-specific shocks become more prevalent as the crisis unfolds. The narrative approach provides for a flexible way to identify the relative importance of different sources of shocks over time.

Favero and Giavazzi (2002) include lags of the dependent variables to account for dynamics. The introduction of lags is also useful to obtain identification. As Equation (3) makes clear, the structural model of interdependence is not identified. Favero and Giavazzi (2002) restrict the lag structure in order to obtain identification. In effect, this restriction allows for the maximum amount of interdependence while constraining the shape of the dynamic response of each bond yield to structural shocks. Dungey et al. (2005) have cautioned against this identification strategy on the ground of weak instruments. Weak instruments are likely to be an issue mostly for equity market returns, for which persistency is rather small, but not so much for bond yields (the focus of our paper), for which persistence is substantial. In the end, allowing for the maximum amount of interdependence is essential in order to avoid to avoid labeling contagion what is actually normal interdependence. Thus, we will follow Favero and Giavazzi (2002) and restrict the lag structure.

To sum up, we estimate the reduced-form system, which turns out to be a vector-autoregressive model, and look at residuals. Unusually large values of residuals are used to construct a set of dummy variables which define the crisis sub-sample. Global, euro area and country-specific shocks are distinguished using a narrative approach. The resulting set of dummy variables is then included in the structural model of interdependence, which is identified through restrictions on the lag structure and estimated by three-stage least squares. The null hypothesis of no contagion can then be tested.

4 Data

We focus on the sovereign bond markets of nine euro area countries, namely Belgium, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain. The sample period ranges from January 2007 to early July 2012. Daily data are retrieved from Datastream. Sovereign bond yields are benchmark ten-year government bond yields. Bond yields are denominated in euros. Because of the common currency denomination, we do not face the problem that yields may move purely because of exchange rate changes.

Studies of sovereign bond market contagion within the euro area have focused on both bond yields and CDS spreads. In this paper, we have chosen to focus on bond yields but not CDS spreads. Bilal and Singh (2012) have shown that there have been policy actions which have moved bond yields substantially but not affected CDS spreads. The example of the Securities Markets Programme of the ECB illustrates this decoupling between bond yields and CDS spreads. Since policy actions with major effects on bond yields may represent an unusually large shock in our analysis, we have therefore chosen to focus only on sovereign bond yields.

The narrative approach helps us addressing the issue of non-overlapping trading hours across international financial markets. For example, a major shock in the United States may occur when European financial markets have already closed, such that there is no contemporaneous interdependence. Of course, European markets will react when opening on the following day. But a model of financial markets focusing on contemporaneous interdependence will probably miss the transmission of this shock from the United States. Some scholars have used two-day moving averages or even average weekly data in order to solve this problem. Yet, this remedy is clearly suboptimal as averaging amounts to smoothing the time series variation of financial market variables, thereby possibly missing some extreme observations which are the key focus of our analysis. In contrast, our focus

on the historical record of news allows us to track precisely at which time of the day a specific piece of news was released. In turn, we can match precisely news with movements in financial market variables.

5 Results

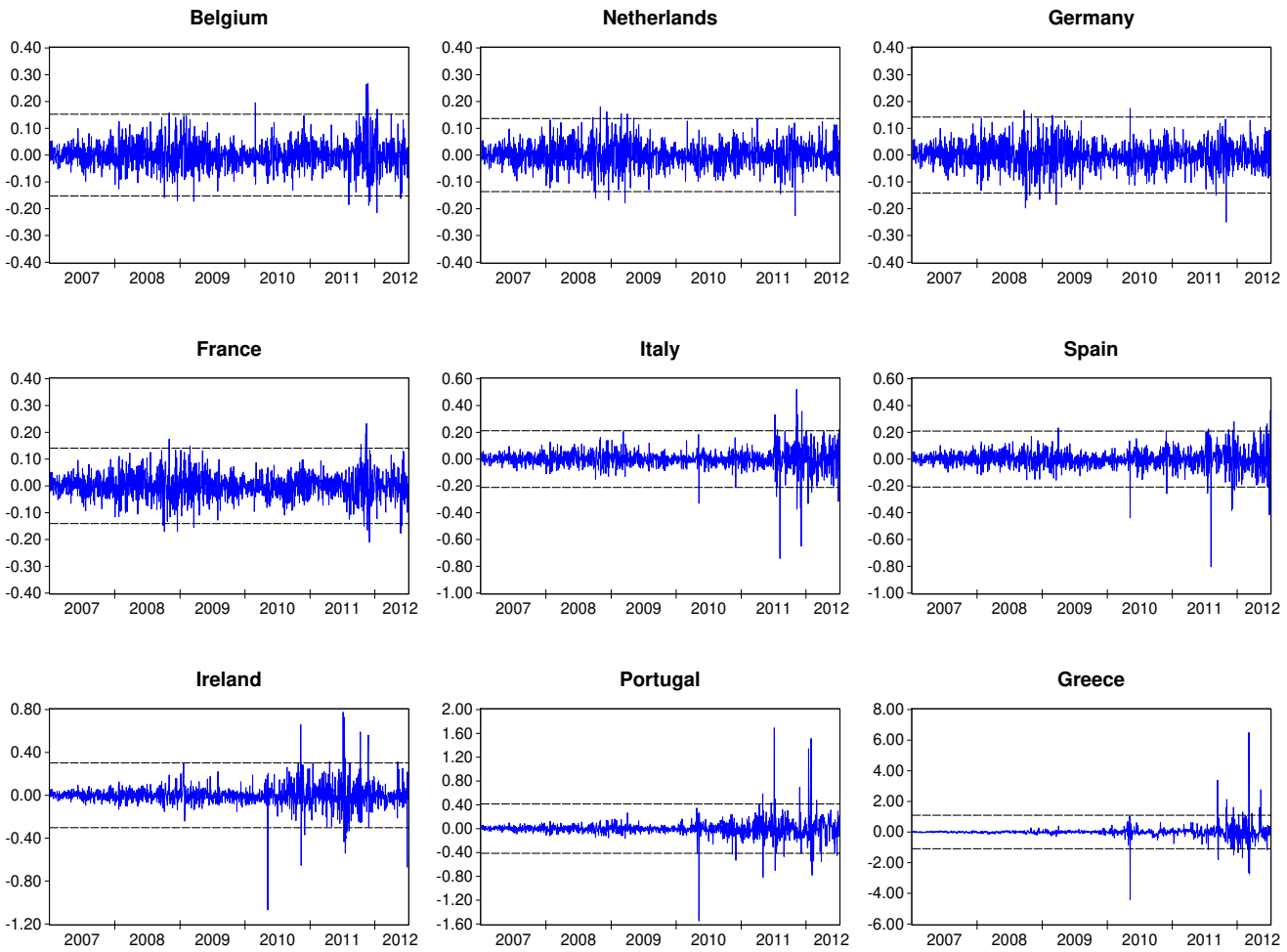
The empirical approach of Favero and Giavazzi (2002) starts with the estimation of the reduced-form model and the identification of country-specific shocks, and then proceeds with the estimation of the structural model and the test of contagion. We follow the same sequence for the presentation of our results.

5.1 Reduced-form model

We estimate the reduced-form VAR model assuming a maximum length of five lags and use the usual information criteria to assess the optimal lag length. The likelihood ratio test, the final prediction error (FPE) and the Akaike criterion (AIC) point to five lags, while the Schwarz criterion and the Hannan-Quinn criterion point to two lags. This different result is not surprising given the different emphasis that these criteria put on parsimony against goodness of fit. If we increase the maximum lag length to twenty or even fifty lags, the likelihood ratio test, FPE and AIC all point to twenty or fifty lags, while the Schwarz criterion and the Hannan-Quinn criterion still point to two lags. Given the large amount of coefficients to be estimated for the structural model of interdependence, we favor parsimony against goodness of fit and select two lags. This being said, goodness of fit remains very good as all adjusted R-squared statistics remain above 0.98. The estimated coefficients show large persistence in sovereign bond yields, leading support to our identification through lag restrictions.

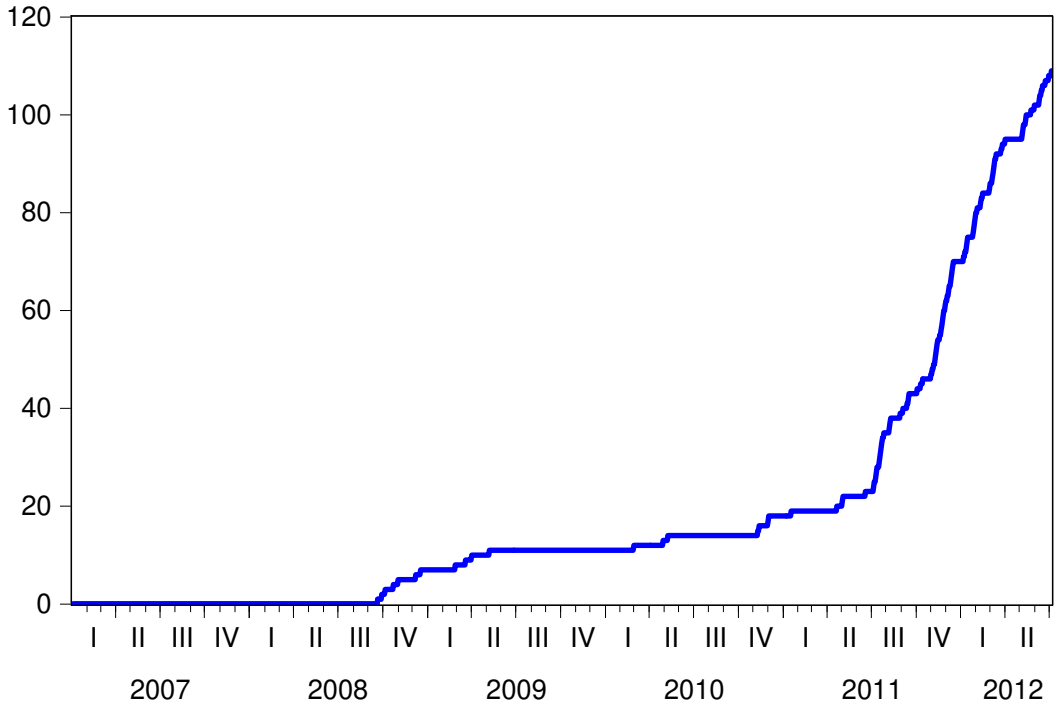
The residuals obtained from the reduced-form VAR model feature a number of values

Figure 1: Reduced-form residuals



Note: The scale of the vertical axis differs across countries.

Figure 2: Cumulative number of shocks



above three times their standard deviation. These extreme residuals indicate days of unusually large shocks to sovereign bond yields. Figure 1 displays these residuals for each country in our sample. As expected, we do not obtain any unusually large shock before September 2008. Even though there were some tensions in specific segments of financial markets already in 2007, sovereign bond markets in the euro area remained unaffected until the collapse of Lehman Brothers in September 2008. Then, a sequence of global shocks rocked financial markets worldwide, leading investors to buy sovereign bonds from many euro area countries. At the time, these sovereign bonds appeared largely riskless and were used as a safe haven.

The beginning of the crisis in the euro area in the first half of 2010 was marked by a significant divergence in sovereign bond yields within the euro area. Figure A1 in the Appendix depicts this divergence. Sovereign bond yields of so-called periphery countries increased substantially, notably in Greece, later followed by Ireland and Portugal. By the summer of 2011, the crisis intensified and the sovereign bond yields of Italy and Spain started to diverge too. As of today, the crisis continues despite several policy responses aimed at preventing financial market fragmentation within the euro area. Figure 2 shows the cumulative number of shocks, regardless of their type, over the sample period. Since the summer of 2011, the number of shocks has increased continuously. Importantly, these shocks represent both unusually large positive and negative shocks to sovereign bond yields.

Tables in the Appendix shows, for each day in which at least one country displays an extreme residual, in which country such extreme residuals were found. Red arrows stand for negative news in the sense that sovereign bond yields go up in an unusual manner, while green arrows display positive news as yields go down in an unusual manner. On this basis, the historical record of news from Reuters is used to distinguish between global shocks, euro area shocks and country-specific shocks. We found 10 global shocks, 38 euro area shocks, and 61 country-specific shocks. Global shocks occur largely in the second half

of 2008, coinciding with the collapse of Lehman Brothers. Euro area and country-specific shocks occur mostly from April 2010 until the end of the sample period. Euro area shocks are especially prevalent around EU Summits of heads of state or government. Of course, the information in this table does not present a full chronology of the crisis as we looked for news only on days when extreme residuals occurred.

5.2 Structural model and test for contagion

Once dummy variables have been constructed for global shocks, euro area shocks and country-specific shocks, we include them in the structural model of interdependence. As the structural model of interdependence is a system of simultaneous equations, testing for contagion simply amounts to testing whether a dummy variable picking up a shock specific to a given country is also significant in the equations for other countries.

The structural model is identified through restrictions on the lag structure. More specifically, for each country we include only its own dynamics and exclude lags of other countries. This assumption is broadly supported by the estimation output of the reduced-form model. In the latter model, the sum of the two own lags is always close to but below unity, while the sum of the two lags of other countries always lays around zero. Thus, as emphasized by Dungey et al. (2005), sovereign bond yields exhibit strong persistence, thereby making use of lag restrictions to obtain identification a valid strategy.

Estimation results for the structural model display little evidence of contemporaneous financial market interdependence in normal times.[6] This finding is consistent with a large body of empirical evidence showing that sovereign bond market interdependence in the euro area in normal times is almost fully driven by regional and global factors (European Central Bank, 2012).

[6]These results are not presented here but are available from the authors upon request.

Table 1: Evidence on contagion

Date	Shock	BG	NL	BD	FR	IR	ES	GR	IT	PT
19/09/2008	Global	0.137	0.138	0.169	0.129	0.139	0.118			
29/09/2008	Global		-0.129	-0.195	-0.140					
06/10/2008	Global	-0.154	-0.162	-0.175	-0.175	-0.151	-0.151		-0.150	
22/10/2008	Global	-0.093	-0.107	-0.150	-0.128					
31/10/2008	Global	0.159	0.179	0.157	0.181	0.203	0.173		0.176	
08/12/2008	Global	0.142	0.160	0.138	0.138	0.162	0.147			
17/12/2008	Global	-0.167	-0.165	-0.173	-0.176	-0.142	-0.155		-0.157	-0.166
26/02/2009	Global	0.126	0.144	0.138	0.139		0.140		0.122	0.160
19/03/2009	Global	-0.169	-0.173	-0.181	-0.150	-0.140	-0.157		-0.136	-0.173
01/04/2009	Local		0.156				0.245			
07/05/2009	Euro	0.085	0.132	0.125	0.125					
01/03/2010	Local	0.190							**0.129**	
29/04/2010	Euro							-0.819		-0.409
10/05/2010	Euro	-0.085	0.100	0.186	0.086	-1.050	-0.444	-4.381	-0.330	-1.521
10/11/2010	Local					0.654				**0.224**
12/11/2010	Euro					-0.640				-0.401
01/12/2010	Euro		0.083	0.107	0.090	-0.263	-0.232		-0.166	-0.232
02/12/2010	Euro					-0.430	-0.123		-0.106	-0.589
18/01/2010	Local					0.320				
21/04/2011	Euro					0.296				0.175
03/05/2011	Euro					-0.282		-0.512		0.591
04/05/2011	Local									-0.877
20/06/2011	Euro									0.390
06/07/2011	Local					**0.782**				1.658
07/07/2011	Euro					0.407				
11/07/2011	Euro	0.085	-0.101	-0.131		0.574	0.221		0.350	0.510
12/07/2011	Euro					-0.338			-0.136	-0.607
13/07/2011	Euro			0.085		0.729	-0.107			0.174
18/07/2011	Euro					0.367	0.202	0.479	0.171	
19/07/2011	Euro					-0.506	-0.227		-0.270	-0.366
20/07/2011	Euro					-0.446		-0.474	-0.138	-0.344
21/07/2011	Euro		0.082	0.086		-0.477	-0.159	-1.108	-0.261	-0.324
22/07/2011	Local					**-0.203**		-1.603		
25/07/2011	Euro						0.222		0.210	-0.305
27/07/2011	Euro		-0.080		-0.090	-0.336			0.105	
08/08/2011	Euro	-0.177	-0.087				-0.850		-0.790	
09/08/2011	Euro					-0.439				-0.248
10/08/2011	Local	**-0.095**	-0.149	**-0.086**	**-0.133**	**0.279**				
30/08/2011	Local					**-0.174**				-0.497
05/09/2011	Global		-0.106	-0.150			0.129	0.540	0.255	0.364
13/09/2011	Local							3.644	**0.114**	
15/09/2011	Euro	-0.100						-1.818		
16/09/1011	Local	**-0.196**	**-0.083**		**-0.105**		**-0.120**	-1.906	**-0.103**	

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Date	Shock	BG	NL	BD	FR	IR	ES	GR	IT	PT
04/10/2011	Local	0.145				**0.251**				
11/10/2011	Local					0.579				
14/10/2011	Local	**0.106**	**0.094**		0.156	**0.287**				
01/11/2011	Local		**-0.212**	**-0.245**	**-0.126**	**0.143**		1.943		
03/11/2011	Local							2.259		
07/11/2011	Local							**0.855**	0.295	
09/11/2011	Local	**0.103**			**0.092**		**0.179**	**-0.633**	0.519	
10/11/2011	Local	**0.091**			0.219			**1.049**	-0.351	
11/11/2011	Local								-0.365	
14/11/2011	Local	**0.086**					**0.172**		0.273	
15/11/2011	Euro	0.303			0.244	0.196	0.255	0.543	0.402	
18/11/2011	Euro			0.094	-0.160		-0.132		-0.127	
22/11/2011	Local	0.290							**0.166**	
23/11/2011	Local	0.342			**0.120**	**0.426**		**0.641**	**0.190**	
24/11/2011	Local	0.275				**0.653**			**0.160**	**0.411**
25/11/2011	Local	**0.145**				**0.244**			**0.209**	0.834
28/11/2011	Local	-0.154			**-0.096**	**-0.209**	**-0.118**	**0.854**		**0.437**
30/11/2011	Euro	-0.219			-0.145		-0.106		-0.149	
01/12/2011	Euro	-0.206			-0.253		-0.387		-0.373	0.273
05/12/2011	Euro	-0.214			-0.096		-0.429	0.910	-0.745	-0.460
07/12/2011	Euro	0.117		-0.094		-0.160	0.213	0.965	0.128	
08/12/2011	Euro	0.199			0.113		0.239	1.153	0.411	
12/12/2011	Local		**-0.086**					1.619	**0.164**	
13/12/2011	Local						**-0.107**	-1.191	**0.105**	
14/12/2011	Euro		-0.112		-0.083		0.279	-0.610	0.122	
15/12/2011	Local	**-0.108**					-0.194	**-0.725**	**-0.125**	
16/12/2011	Local					**-0.157**	-0.229	-1.244		
06/01/2012	Local							-1.034		
10/01/2012	Local	**-0.092**						1.237		**-0.282**
12/01/2012	Local	**-0.221**			**-0.129**		**-0.138**	**-0.865**	-0.342	
13/01/2012	Local	0.126						**-0.512**		**-0.238**
16/01/2012	Local							**0.567**		1.391
26/01/2012	Euro	-0.122					-0.221		-0.184	0.795
27/01/2012	Local	**-0.120**					**-0.230**		**-0.154**	-0.617
30/01/2012	Local								**0.202**	1.483
31/01/2012	Local							-1.534	**-0.166**	**-0.357**
01/02/2012	Euro / Local	-0.090					-0.158	1.343	-0.271	-0.699
03/02/2012	Local								**0.096**	-0.769
10/02/2012	Euro								0.133	-0.565
13/02/2012	Local									-0.506
15/02/2012	Local							1.173	**0.163**	
29/02/2012	Local							**-0.379**	**-0.154**	0.478
01/03/2012	Local				**-0.103**		**-0.105**	-1.289	**-0.211**	
06/03/2012	Local						**0.112**	-2.476	**0.140**	

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Date	Shock	BG	NL	BD	FR	IR	ES	GR	IT	PT
07/03/2012	Local							6.783		
08/03/2012	Local							1.615	**-0.122**	
09/03/2012	Local							-2.811		
12/03/2012	Local							-27.736		
14/03/2012	Local		**0.100**	**0.123**				-1.084		
23/03/2012	Local						**-0.128**	1.478		
27/03/2012	Local							**-0.708**		-0.595
02/04/2012	Euro	0.143	0.119		0.102					0.160
07/05/2012	Local					**-0.220**		1.569		**0.191**
08/05/2012	Euro					0.306		0.508		
09/05/2012	Local	**0.117**					0.243		**0.161**	
14/05/2012	Local						**0.222**	2.898	**0.201**	
15/05/2012	Local					**0.299**		1.518	**0.151**	**0.223**
24/05/2012	Local	-0.137			-0.172				**-0.103**	
31/05/2012	Local	**-0.126**			-0.152		**-0.144**			
11/06/2012	Euro						0.184		0.223	-0.379
12/06/2012	Local	**0.115**	**0.104**	**0.084**	**0.130**		0.289	**0.482**	**0.170**	**0.176**
14/06/2012	Local						0.208	**-0.461**		
18/06/2012	Local						0.271	-1.300	**0.108**	
22/06/2012	Local							**0.446**		-0.453
29/06/2012	Euro			0.102		-0.703	-0.445		-0.375	-0.161
05/07/2012	Euro						0.372		0.213	0.213

Note: Bold coefficients in red color highlight contagion episodes. Thus, as far as country-specific shocks are concerned, these coefficients indicate dummy variables for a given country which were also significant in the equations of some other countries. All coefficients are statistically significant at the 5% level. Blank cells correspond to coefficients which were not statistically significant and are thus not reported.

Financial contagion across sovereign bond markets in the euro area has been widespread during the crisis. Table 1 displays the estimation results. Most of the dummy variables capturing shocks specific to a given country are also significant in the equations of some other countries.[7] Out of the 61 country-specific shocks in our sample, 50 of these have been transmitted to at least one other country beyond the normal channels of interdependence. Therefore, about 80 percent of country-specific shocks are contagious. To take just one example, Bankia, a troubled Spanish bank, announced its partial nationalization on 9 May 2012, in a move to clean up its balance sheet plagued by toxic real estate assets. To the extent that public capital injections weigh on public finances, the Spanish government bond

[7]If there would be no contagion at all over the whole sample period, then there would be no red-color coefficient in Table 1.

yield increased significantly on that day. Moreover, this shock also affected the sovereign bond yields of Belgium and Italy on that day, even after controlling for the normal degree of financial market interdependence.

Interestingly, negative shocks do not always induce negative effects for other countries. Conversely, positive shocks do not always induce positive effects for other countries. This finding is important from a methodological point of view. As we emphasized above, the presence of asymmetric contagious effects points to the need for identifying each specific shock individually, rather than relying on sub-samples of the data and assuming that contagion necessarily entails stronger interdependence. Out of the 50 country-specific shocks which are contagious, 18 of these have been transmitted to another country with the opposite sign. Thus, about one third of the contagious shocks have an opposite impact on some other country in the sample. For example, on 1 November 2011, Greek Prime Minister Papandreou called for a shock referendum on the second bailout package for Greece. This call largely increased uncertainty about the commitment of the Greek authorities to implement the reforms attached to the bailout package. As a result, Greek sovereign bond yields rose massively (almost two percentage points on that day). But this referendum call also led to a significant rise in the Irish sovereign bond yield, and a significant fall in the sovereign bond yields of France, Germany and the Netherlands. This asymmetric contagious effect points to a flight-to-safety phenomenon, whereby investors sell riskier bonds and buy bonds which are perceived as being free from default risk.

Euro area shocks typically affect several countries in the euro area, but not necessarily in the same way. Out of the 38 euro area shocks, 21 of these lead to a similar (same sign) impact on countries in our sample. The impact of the remaining 17 euro area shocks does not take the same sign across all countries. Thus, the impact of euro area shocks differs across countries in almost half of the cases. Again, this finding is important from a methodological point of view and highlights the desirability of our narrative approach

to identify different types of shocks. For example, the creation of the European Financial Stability Facility (EFSF) on 10 May 2010, along with the announcement by the European Central Bank that it would purchase sovereign bonds through its Securities Markets Programme, led to a substantial fall in the sovereign bond yields of Ireland, Spain, Greece, Italy and Portugal, but to increases in the sovereign bond yields of France, Germany and the Netherlands. The different reaction across countries to this shock is not surprising. In this case, the creation of the EFSF essentially amounted to the abandonment of the no-bailout clause of the Maastricht Treaty. Thus, from that point onwards, the core European countries would agree to provide financial help to the periphery, such that fiscal developments in the latter would now impede on the former.

Finally, global shocks usually affect many countries at the same time and in the same way, but not necessarily to the same extent. This finding is reassuring as it lends support to our identification strategy based on the historical record of financial news. For example, on 6 October 2008, global equity prices plunged and led investors to flee to the safe haven (at least at the time) of sovereign bonds of euro area countries. On that day, this global shock thus led to a significant, synchronous fall in the sovereign bond yields of Belgium, France, Germany, the Netherlands, Ireland, Spain and Italy.

6 Concluding remarks

Anecdotal evidence suggests that the transmission of country-specific shocks across the sovereign bond markets of euro area countries has changed since the onset of the crisis. This paper tests for the existence of sovereign bond market contagion within a formal setup with the help of the empirical approach put forward by Favero and Giavazzi (2002). We supplement this approach with a narrative approach to separate out global shocks, euro area shocks, and country-specific shocks. Since financial contagion relates purely to

the transmission of country-specific shocks, it is necessary to identify global and euro area shocks from country-specific shocks. Otherwise, we may wrongly conclude that financial contagion exists when, in fact, two countries are affected by a common shock.

Financial contagion has been widespread during the crisis in the euro area. About 80 percent of country-specific shocks are contagious, in the sense that they transmit across countries beyond what the normal channels of interdependence would imply. We uncover significant evidence of flight-to-safety effects between the core and the periphery of the euro area. About one third of contagious country-specific shocks induce an opposite impact on some other country in the sample.

The combination of a statistical approach and a narrative approach to test for contagion allows us to conclude that financial contagion has been strong during the crisis in the euro area. Moreover, euro area shocks, mostly linked to policy responses to the crisis announced by euro area policymakers, have exerted a strong effect on sovereign bond spreads. However, our analysis does not allow us to draw conclusions about the ultimate success or failure of these policy responses.[8] The statistical approach identifies days during which sovereign bond markets exhibit unusually large movements. The test for contagion focuses squarely on those particular days. Yet, there are likely other days when important policy announcements were made and sovereign bond yields did not move in an unusually large manner. A fully encompassing analysis of the impact of *all* euro area policy responses on sovereign bond yields would require a systematic event study analysis, considering all days during which policy announcements were made, and not only those days when sovereign bond yields moved in an unusual manner.

Two avenues for further research deserve mention. First, the narrative approach could be pushed further to distinguish between various kinds of country-specific shocks, be it economic news, political news, rating changes, etc. In this way, the hypothesis that different

[8]Forbes (2012) provides a qualitative evaluation of various policy responses aimed at mitigating contagion.

kinds of country-specific shocks have different contagious effects could be tested. Second, in this paper, we have only considered a specific asset, namely a ten-year sovereign bond yield, for a range of countries. Financial contagion could also be tested not only across different countries but also across different classes within a single framework. For example, Chan-Lau et al. (2012) have documented the impact of sovereign risk on banking sector returns, while Mody and Sandri (2011) have examined the effect of financial sector stress on sovereign spreads during the crisis. We leave these avenues for future research.

Acknowledgements

The views expressed in this paper are those of the authors and do not necessarily represent those of the Swiss National Bank. We are grateful for helpful discussions and suggestions to participants in the brown-bag seminar of the Swiss National Bank, the 2012 Annual Congress of the Swiss Society of Economics and Statistics, the 2012 INFINITI Conference on International Finance, and the 2012 Money Macro and Finance Conference.

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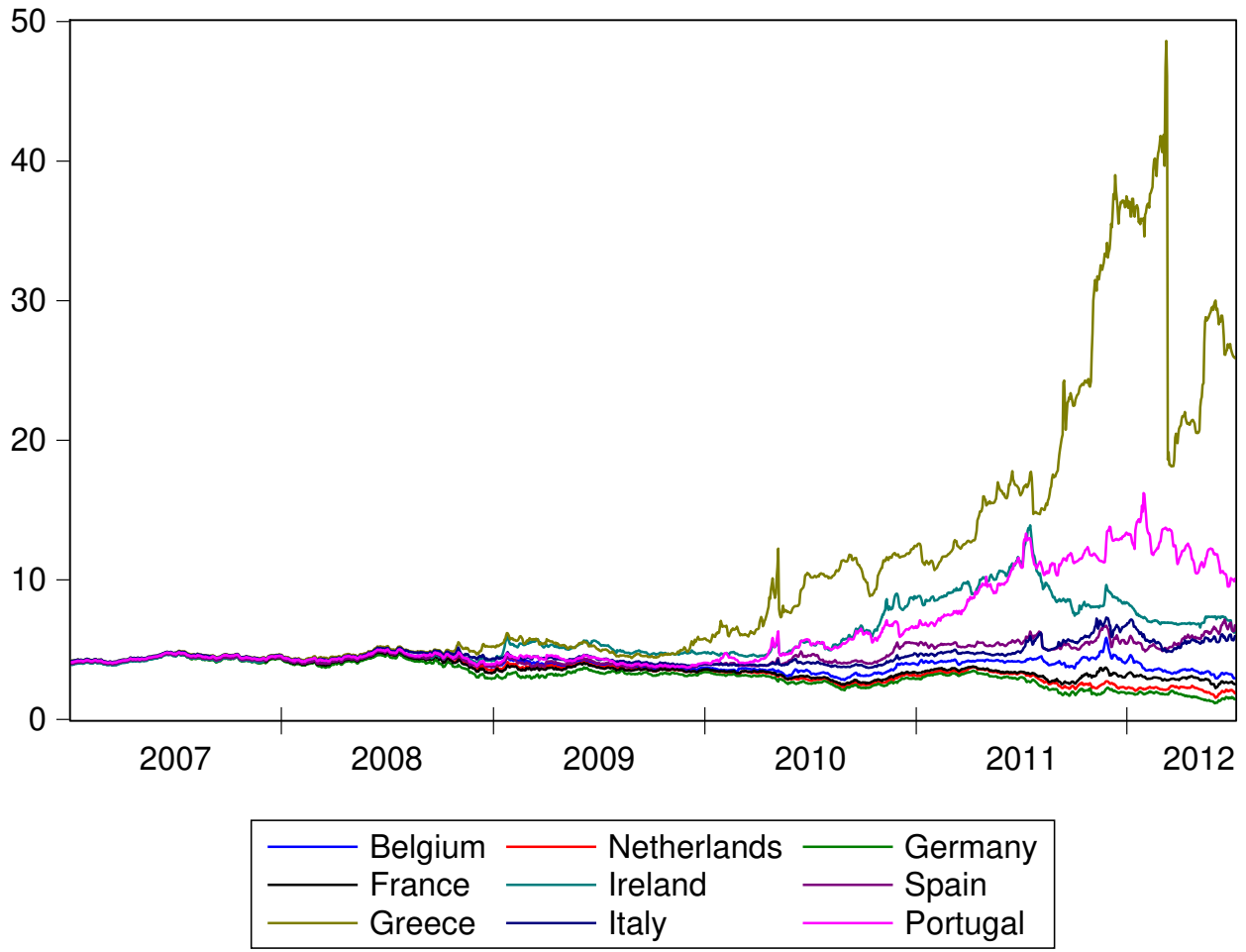
Figure A1: Ten-year sovereign bond yields, January 2007 - July 2012



Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
19/09/2008		↑	↑							Global	Treasury Secretary Henry Paulson called for the U.S. government to spend hundreds of billions of dollars to take toxic mortgage assets off the books of financial firms to restore financial stability in battered capital markets.
29/09/2008			↓	↓						Global	The U.S. House of Representatives voted against a compromise bailout plan that would have allowed the Treasury Department to buy up toxic assets from struggling banks.
06/10/2008	↓	↓	↓	↓						Global	Contagion from the U.S. credit crisis spread in Europe, gumming up interbank money markets as banks remained reluctant to lend to each other and investors fled to the safety of bonds.
22/10/2008			↓							Global	Bond prices rise as stocks fall on recession and earning fears.
31/10/2008	↑	↑	↑	↑						Global	The interbank cost of borrowing dollars overnight continue to ease following the Federal Reserve's interest-rate cut earlier in the week, fueling hopes that global efforts to bolster confidence in credit markets are taking hold.
08/12/2008		↑								Global	Stock markets around the world rebound, helped by several governments reinforcing their plans for countering the global economic crisis and by signs the U.S. was close to providing emergency finance for its automakers. Bond yields rose as a result and the U.S. dollar slipped as the need for a safe haven diminished.
17/12/2008	↓	↓	↓	↓						Global	The U.S. Federal Reserve enters uncharted policy territory as it chopped its benchmark interest rates to as low as zero and pledged to use "all available tools" to turn back a deepening recession.
26/02/2009		↑	↑	↑						Global	Bond prices fell after consumer confidence rose unexpectedly for a sixth month. Bonds fell as stocks in Europe and Asia rallied sapping the demand for safety.
19/03/2009	↓	↓	↓	↓						Global	The U.S. Federal Reserve stunned markets by announcing it would pump another USD 1 trillion into the ailing U.S. economy by buying long term government debt for the first time since the 1960s and by expanding its purchases of mortgage bonds.
01/04/2009		↑				↑				Local	Fortis announces that the votes on the new agreement with BNP Paribas will be postponed under general meeting at the end of April. / OECD states that Spanish cajas remain a risky sector.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
07/05/2009		↑								Euro	ECB lowers its policy rate and announces refinancing operations with a twelve-month maturity. These operations will be conducted as fixed rate tender with full allotment.
01/03/2010	↑									Local	Dexia wins EU clearance for restructuring. Dexia will suspend dividend payments and interest payments on instruments constituting own funds for three years.
29/04/2010									↓	Euro	German Finance Ministry says that euro area countries are defending their currency and that failing to find a solution to Greek crisis risks a domino effect.
10/05/2010			↑		↓	↓	↓	↓	↓	Euro	Europe's Finance Ministers approved yesterday a rescue package worth EUR 750 billion aimed at ensuring financial stability across Europe by creating the European Financial Stability Facility (EFSF). The Governing Council of the ECB has decided to conduct interventions in the euro area public and private debt securities markets (by way of its Securities Markets Programme) to ensure depth and liquidity in those market segments that are dysfunctional.
10/11/2010					↑					Local	Ireland's central bank governor conceded that a huge bank recapitalisation programme had failed to reassure investors, as borrowing costs mounted along with concerns its new fiscal plan would not avert a bailout.
12/11/2010					↓				↓	Euro	EU leaders reiterated holders of outstanding bonds would not be forced to take losses in any debt restructuring.
01/12/2010					↓	↓				Euro	Bond purchases by the European Central Bank and growing expectations it could expand the scheme turned down the heat on the euro zone's higher-yielding sovereign debt.
02/12/2010					↓				↓	Euro	ECB is reported buying sovereign bonds in the euro area and extends unlimited liquidity policy.
18/01/2011					↑					Local	A confidence motion called by Prime Minister Brian Cowen to shore up his leadership of the ruling Fianna Fail party weighed on Irish bonds.
21/04/2011					↑					Euro	Germany's Free Democrats will defend parliament's right to veto German payments into a future euro zone bailout fund.
03/05/2011									↑	Euro	Finland's eurosceptic True Finns party said it was sticking to its pre-election stance that it cannot support Portugal's bailout package.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
04/05/2011									↓	Local	Lisbon secured a 78 billion euro bailout.
20/06/2011									↑	Euro	Finance ministers delay granting emergency loans to Greece.
06/07/2011					↑				↑	Local	Moody's downgraded the sovereign debt of Portugal to junk, stoking fears it would eventually have to restructure its debt.
07/07/2011					↑					Euro	ECB raises its policy interest rates by 25 basis points.
11/07/2011					↑			↑	↑	Euro	European finance officials struggled to find ways to resolve the debt crisis.
12/07/2011					↓				↓	Euro	Peripheral bonds rallied on Tuesday as talk of central bank buying of some lower-rated debt.
13/07/2011					↑					Euro	The IMF joins Germany in pushing for private sector involvement.
18/07/2011					↑					Euro	Investors feared a euro zone meeting on Thursday would make little progress towards a solution to the regional debt crisis.
19/07/2011					↓	↓		↓		Euro	“The Reuters story that there will be a meeting on Wednesday of euro area finance ministers to narrow down the list of options is behind the tightening in peripherals," a trader said.
20/07/2011					↓					Euro	Germany and France are reported to have reached an accord on a comprehensive solution to the crisis.
21/07/2011					↓					Euro	Europe agrees sweeping new action on debt crisis.
22/07/2011							↓			Local	Fitch pledged to give Greece a higher grade after its bonds had been exchanged.
25/07/2011						↑		↑		Euro	Moody’s is concerned that the 21 July package will undermine confidence in other countries because it expects a debt write-off could hit investments in Spain and Italy. “The support package sets a precedent for future restructurings should the finances of another euro area sovereign become as problematic as those of Greece,” Moody’s said.
27/07/2011					↓					Euro	EFSF to get new powers before year-end.
08/08/2011	↓					↓		↓		Euro	ECB says that it will actively implement bond-buying.
09/08/2011					↓					Euro	ECB buys bonds in the market.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
10/08/2011		↓								Local	Dutch banks and insurers are willing to participate in refinancing aid for Greece, the chief treasurer of the Finance Ministry told parliament.
30/08/2011									↓	Local	Eletrobras in Talks to Buy Portugal Government Stake in EDP. The sale of EDP is one of the measures the Portuguese government pledged to take in exchange for a 78 billion-euro bailout from the European Union and the International Monetary Fund earlier this year.
05/09/2011			↓							Global	German yields hit a new record low as worries over the US economy and a series of challenges in Europe this week prompted investors to seek refuge in safe-haven debt.
13/09/2011							↑			Local	Uncertainty over Greek debt swap take-up.
15/09/2011							↓			Euro	Treasury Secretary Timothy Geithner will discuss with European finance ministers the possibility of leveraging the euro zone's bailout fund to make it more effective in fighting the region's debt crisis.
16/09/2011							↓			Local	French banks' participation in a Greek bond swap plan at the centre of a second Greek rescue package has reached over 90 percent and backing is likely to rise, French Finance Minister Francois Baroin said.
04/10/2011	↑									Local	Franco-Belgian financial group Dexia vowed on Tuesday to clean up its balance sheet.
11/10/2011					↑					Local	Ireland says Anglo, Nationwide IOUs will cost EUR 47 bln.
14/10/2011				↑						Local	Standard & Poor's cut the rating of French bank BNP Paribas as part of a downward revision of the country's banking sector.
01/11/2011		↓	↓	↓			↑			Local	Greek Prime Minister calls for shock referendum on the second bailout package for Greece.
03/11/2011							↑			Local	Opposition leader Samaras rejects sharing power and calls for Prime Minister to quit.
07/11/2011								↑		Local	Prime Minister Berlusconi faces increasing pressure to quit.
09/11/2011								↑		Local	Prime Minister Berlusconi will resign after a humiliating parliamentary setback.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
10/11/2011				↑				↓		Local	France snubs an EU call for more austerity, with ministers insisting that budget targets will be met. S&P issues an erroneous statement that France's sovereign debt has been downgraded. / Italy's Senate starts discussions on budget reforms.
11/11/2011								↓		Local	Italy's Senate passes key budget and economic reforms.
14/11/2011								↑		Local	The Italian Treasury sold three billion euros of notes due in September 2016 at a yield of 5.29 percent, the highest since June 1997.
15/11/2011	↑			↑		↑		↑		Euro	Massive bout of uncertainty across several countries.
18/11/2011				↓						Euro	European officials may start talks with the IMF on a mechanism for the ECB to lend to the IMF for sovereign bailouts in Europe.
22/11/2011	↑									Local	Belgian yields soar on political deadlock.
23/11/2011	↑				↑					Local	S&P lowers subordinated debt ratings on Dexia because it sees possibility the EC could impose a debt restructuring detrimental to subordinated bondholders.
24/11/2011	↑				↑					Local	A French finance ministry source said an interim agreement to guarantee financing at troubled Franco-Belgian bank Dexia would be signed within days.
25/11/2011									↑	Local	Fitch cuts Portugal rating to junk.
28/11/2011	↓									Local	Belgium reaches a budget deal.
30/11/2011	↓									Euro	Eurozone ministers agree to bailout fund leveraging rules.
01/12/2011	↓			↓		↓		↓		Euro	ECB Draghi says that ECB crisis response will be stronger if a deal on a new eurozone fiscal compact is reached.
05/12/2011	↓					↓		↓		Euro	German Chancellor and French President agree to rewrite the EU governing treaties before the forthcoming EU Summit of 9 December 2011.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
07/12/2011						↑				Euro	Top German official says he is pessimistic on EU Summit deal on a new fiscal compact.
08/12/2011						↑		↑		Euro	ECB plays down bond buying and rules out bolstering IMF resources.
12/12/2011							↑			Local	Troika starts inspection in Greece to flesh out new bailout plan.
13/12/2011							↓			Local	Talks on bond swap make progress and will continue.
14/12/2011						↑				Euro	Germany rebuffs calls for further ECB action after EU Summit.
15/12/2011						↓				Local	Spanish auction sells far more than expectations.
16/12/2011						↓	↓			Local	EFSF Regling says enough resources to cover up Spain. / Progress on Greek debt swap deal but success not guaranteed according to the IMF.
06/01/2012							↓			Local	PM Papademos warns about Greek economic collapse without cuts.
10/01/2012							↑			Local	Debt swap talks progress but no deal yet. Greek business household and corporate deposits continue their steady decline, the Greek central bank said.
12/01/2012	↓							↓		Local	Italian yields fall sharply after debt sale, helped by a substantial effect from ECB liquidity measures.
13/01/2012	↑									Local	Belgian budget goal challenged as 2011 deficit misses target.
16/01/2012									↑	Local	S&P downgrades the long-term rating of Portugal by two notches.
26/01/2012									↑	Euro	The ECB is no closer to agreeing on whether or not it will take losses on its Greek bond holdings.
27/01/2012									↓	Local	JP Morgan says that a restructuring of Portuguese debt is very unlikely in the near term.
30/01/2012									↑	Local	Financial markets push Portugal towards bond pariah Greece. Business and consumer confidence slumps further.
31/01/2012							↓			Local	Greece's private sector creditors could take a loss of more than 70 percent in a planned debt swap, Finance Minister Evangelos Venizelos said.

Date	BG	NL	BD	FR	IR	ES	GR	IT	PT	Type	News
01/02/2012							↑	↓	↓	Euro / Local	25 out of 27 EU states agreed to a German-inspired pact for stricter budget discipline, even as they struggled to rekindle growth from the ashes of austerity. / ECB may hold out on Greek swap until investor deal reached on debt burden.
03/02/2012									↓	Local	Bank of Portugal says banking system is more resilient, robust.
10/02/2012									↓	Euro	Juncker says that the ECB should contribute to the restructuring of Greek debt.
13/02/2012									↓	Local	The ECB/EC/IMF troika has encouraging views on Portugal, Wolfgang Schäuble says.
15/02/2012							↑			Local	Greek finance minster Venizelos accused European leaders of playing with fire by trying to oust the beleaguered country from the eurozone amid fears they want to delay releasing the EUR 130bn bailout until after Greek elections in April.
29/02/2012									↑	Local	Portugal's program is on track, but challenges remain, IMF says.
01/03/2012							↓			Local	"Greece has committed to a series of measures until the end of February. That is the condition for us to take the next step with the involvement of private creditors to bring about a reduction in total debt. And if it all goes to plan then we can agree a new programme for Greece, which would have the goal of enabling growth, bringing finances in order and reaching debt sustainability by 2020.", Wolfgang Schäuble says.
06/03/2012							↓			Local	Major Greek banks agree on bond swap deal.
07/03/2012							↑			Local	Six Greek pension funds are still holding out against joining a sovereign bond swap deal while another eight have agreed to take part, a government official said on Wednesday, a day before the deadline for the offer expires.
08/03/2012							↑			Local	Last day before Greek bonds are withdrawn from the market. Large uncertainty about final acceptance levels.
09/03/2012							↓			Local	Greece averted the immediate threat of an uncontrolled default on Friday, winning strong acceptance from its private creditors for a bond swap deal which will eat into its mountainous public debt and clear the way for a new bailout.
12/03/2012							↓			Local	Eurozone countries formally approved the 130 billion euro financial package that Athens needs to stay afloat, following the successful completion of the debt swap deal on Friday.

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14/03/2012							↓			Local	Greece's cabinet unanimously approved the terms of its international bailout on Wednesday.
23/03/2012							↑			Local	Greece on Friday said it had extended to April 4 a deadline for private creditors to swap foreign-law Greek government bonds they hold for new securities as part of a debt restructuring.
27/03/2012									↓	Local	Portuguese PM Coelho says markets are slowly recognizing efforts. Coehlo, speaking at the port of Simes in comments broadcast by SIC Noticias television station was referring to the drop in the yields of Portuguese two-year bonds today to below 10 percent.
02/04/2012	↑									Euro	Eurozone manufacturing activity dropped to a three-month low in March, with the "malaise" spreading to top economies Germany and France. Eurozone unemployment hits record as debt crisis bites.
07/05/2012							↑			Local	Greek conservative leader Antonis Samaras said on Monday he had failed to form a coalition government and had handed back the mandate to the country's president.
08/05/2012					↑					Euro	Convertibility risk (exit from eurozone) is back on the frontpage in the aftermath of the Greek election.
09/05/2012						↑				Local	Spanish banking group BFA and its troubled lender Bankia requested a partial nationalisation on Wednesday in a move to clean up its balance sheet and strengthen its solvency, hit by toxic real estate assets.
14/05/2012							↑			Local	Greece moving inexorably toward new elections. Greek leftists Syriza reject proposal for technocrat government.
15/05/2012							↑			Local	Greek political leaders meet on Wednesday to form a caretaker government that will lead the country into its second election in just over a month, with Greece's euro membership at stake in a mounting crisis rocking world markets.
24/05/2012	↓			↓						Local	Dexia SA starts exclusive talks with Sberbank about the sale of its Turkish bank unit Denizbank.
31/05/2012				↓						Local	French consumer spending in April rose more than forecast. French bond yield fall to record as investors look for return.
11/06/2012									↓	Euro	Euro zone finance ministers agreed on Saturday to lend Spain up to 100 billion euros to shore up its teetering banks and Madrid said it would specify precisely how much it needs once independent audits report in just over a week.

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12/06/2012						↑				Local	Concern over how difficult it may be for Madrid to access debt markets in the long term after its banks are bailed out kept investors at bay.
14/06/2012						↑				Local	Moody's cut the Spain's credit rating to just one notch above "junk", pushing borrowing costs ever higher and raising the prospect of a full-scale bailout.
18/06/2012						↑	↓			Local	Spanish bond yields hit a new euro-era high above 7 percent as initial relief after a pro-bailout vote in Greek elections gave way to pessimism about the problems surrounding the bigger Spanish economy.
22/06/2012									↓	Local	Portugal's economy contracts at a slower rate in May, central bank says.
29/06/2012					↓	↓		↓		Euro	Under pressure to prevent a catastrophic breakup of their single currency, euro zone leaders agreed on Friday to let their rescue fund inject aid directly into stricken banks from next year and intervene on bond markets to support troubled member states.
05/07/2012						↑		↑		Euro	Spanish and Italian bond yields spiked after ECB President Mario Draghi failed to deliver any hint that bolder monetary easing steps were on the way after the bank cut rates earlier in the day.