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SUPRANATIONAL EXECUTIVES AND
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Has the *Grexit* news spilled over into euro area financial markets? The role of domestic political leaders, supranational executives and institutions^(*)

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Abstract

This paper investigates whether speculation about Greece's exit from the euro has spilled over into other euro area countries' sovereign bond yields. Our empirical analysis is based on more than 64,000 news items on *Grexit* between December 2014 and October 2015, collected daily via the Factiva database. We can take account of *Grexit* news generally and, also, distinguish news items according to individual country press, domestic political leaders, supranational executives and institutions. Our results suggest that more news about *Grexit* drives up bond yields in European peripheral countries, but that there are no effects on European core countries. Thus, speculations about *Grexit* seem to be confined to more vulnerable economies. In addition, financial markets in peripheral countries react more to *Grexit* news associated to supranational executives and related institutions compared to news related to domestic politicians and European political bodies, due possibly to higher perceived credibility of the former with respect to the latter.

JEL classification: E43, E62, G12, G14

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1. Introduction

“A full exit looks bad enough for both Greece and the rest of the euro area that the search is on for alternatives”

The Economist, 11 July 2015

*Grex*it, the term coined in 2012 by Citigroup’s Willem Buiter and Ebrahim Rahbari who combined the words “Greek” or “Greece” with the word “exit”, refers to the possibility that Greece would leave the euro area because of its sovereign debt crisis. Since then, the concept has entered common parlance and is being used by the media worldwide. Moreover, the concept of *Grex*it regained popularity in December, 2014 when the Greek Parliament failed to elect a new president, leading to Parliament’s dissolution on 31 December, 2014 and the announcement of new elections to be held on 25 January, 2015. In the aftermath of the January elections, which were won by the Syriza party, the possibility of Greece’s exit from the euro area began to solidify and become viewed as a likely outcome and, even, as an extreme remedy to the ongoing crisis.¹

After a period of intense negotiations on a new bail out agreement between the Greek government and its creditors, on 27 June, 2015, Prime Minister Tsipras announced - without prior warning to the Eurogroup - that a national referendum would be held about whether to accept the bailout conditions proposed jointly by the European Commission (EC), the International Monetary Fund (IMF) and the European Central Bank (ECB), the so-called “Troika”, on 25 June, 2015. The referendum was interpreted as a choice for Greece between remaining in the euro area and leaving it, making euro area break-up a plausible scenario.²

¹ In fact, Michael Fuchs, deputy head of Merkel’s CDU faction in the German parliament, concluded that “the time when we had to rescue Greece is over. There is no more blackmail potential. Greece is not systemically relevant for the euro” (Rheinische Post, 31 December 2014).

² Germany’s Vice-Chancellor, Sigmar Gabriel, affirmed that if the Greeks voted no on 25 June, they would be voting “against remaining in the euro”. Moreover, Hollande declared that: “It’s the Greek people’s right to say what they want their future to be. It’s about whether the Greeks want to stay in the eurozone or take the risk of leaving”. Finally, Jean-Claude Juncker, President of the European Union, said: “It’s the moment of truth [...] I’d like to ask the Greek people to vote yes [...] No would mean that Greece is saying no to Europe” (The Guardian, 30 June 2015).

The majority of European leaders are of the opinion that Greece should remain in the monetary union, although the then UK Prime Minister Cameron held the opposite view. In turn, the president of the ECB, Draghi, affirmed that “the euro area was better equipped than it had been in the past to deal with a new Greek crisis”, but warned of “uncharted waters” if the situation were to deteriorate badly (Financial Times, 18 April 2015) and pointed out also that “a strong and credible agreement with Greece is needed, not only in the interest of Greece, but also of the euro area as a whole” (European Parliament, 15 June 2015). In the same vein, IMF President Lagarde, stated that the IMF “stands ready” for Greece talks (BBC, 27 June 2015).

The bailout referendum announcement provoked uncertainty over Greece’s future, together with an increase in worldwide media news of use of the word *Grexit*. This spread of *Grexit* news possibly favoured a widespread anxiety, which had an impact on traders and investors whose decisions are also based on news announcements. This apprehension was not limited to Greece. As shown in Figure 1, speculation rose along with the 10-year sovereign bond yields of both core and peripheral European countries.

[Insert Figure 1]

On 5 July, 2015, the bailout conditions were rejected by the majority of the Greek people, endorsing the Syriza government’s antipathy towards the austerity package imposed on Greece. However, on 13 July, 2015 the Greek government accepted a new bailout package involving massive cuts in public expenditure and new taxes. A period of clashes within the majority supporting the government resulted in a cabinet reshuffle in that same month, and new elections in September. These events reinforced Tsipras’s capacity to further implement austerity measures mitigating, at least temporarily, speculations about a Greek exit from the euro area. While rumours about a Greek exit, ongoing since December, 2014, had dramatic consequences for Greece, it is important to investigate whether these rumours also affected the rest of Europe.

Our paper addresses this issue by checking the effect of *Grexit* speculation on other euro area countries. An important role in this story was the volume of publicly accessible news related to *Grexit*. Intuitively, considering that financial markets had been aware of a possible Greek exit and, consequently, of a euro area break-up since (at least) the end of 2014, the more the press coverage on this topic, the higher the concern about an event with unpredictable outcomes for the whole euro area. We focus on Ireland, Italy, Portugal and Spain (as peripheral countries), and Belgium, France, Finland, Germany and the Netherlands (as core countries).³

An innovative aspect of this study is its use of the Factiva database to collect and construct our news variables on the possibility of *Grexit*, published daily from 1 December, 2014 to 31 October, 2015. The information contained in the dataset allows quantification not only of the overall impact of *Grexit* news but also its different effects based on its source, that is single country press, major political leaders (i.e. Cameron, Hollande, Merkel, Renzi, Tsipras), international executives (i.e. Lagarde and Draghi) and supranational institutions (i.e. Council of the European Union, European Parliament, European Council, EC, ECB, IMF). We are able to capture news heterogeneity along all these dimensions. More importantly, a disaggregated approach to the total volume of news is useful to better investigate the possible different sources of spillovers related to *Grexit*.⁴

Our paper builds on a well-established empirical literature, which analyses the reactions of financial markets to macroeconomic, fiscal and monetary policy announcements (e.g., Born et al., 2014; Hayo and Neuenkirch, 2015; Dräger et al., 2016). There is a strand in this literature that focuses on the impact of news and communications on sovereign bond yields in the context of the euro area debt crisis (Attinasi et al. 2010; Arru et al., 2013; Beetsma et al., 2013; Mohl and

³ Beetsma et al. (2013) adopt a similar approach and focus on the so-called GIIPS countries and other European countries to investigate how “news” affected domestic interest spreads vis-à-vis Germany and how it propagated to other countries during the recent crisis period. More recently, Caporale et al. (2014) consider 8 countries belonging to the euro area (Belgium, France, Germany, Greece, Ireland, Italy, Portugal and Spain), distinguishing between core and peripheral countries – the latter represented by the GIIPS in their paper – to analyze the effects of newspaper coverage of macro news on stock returns of such countries.

⁴ For instance, checking for the effect of *Grexit* news in one country’s press on another country’s government bond yields, or checking for the effect of *Grexit* news related to domestic politicians and supranational institutions.

Sondermann, 2013; Gade et al., 2013; Altavilla et al., 2014; Caporale et al., 2014; Saka et al., 2015; Bouzgarrou and Chebbi, 2015). Other studies focus on the effects of decisions by rating agencies regarding rating changes (Afonso et al., 2012).

Our study is also in line with contributions investigating the contagion effect, from Greece to other euro area countries, during the sovereign debt crisis. For example, Mink and de Haan (2013) use news reports on a Greek bailout to analyse their impact on bank stock prices in 2010, for 48 European banks. They find that news about a Greek bailout did not lead to abnormal returns, even for banks with no exposure to Greece or other highly indebted euro countries. Bhanot et al. (2014) show that increases in Greek yield spreads are associated with negative abnormal returns on financial stocks, in Portugal, Spain and the Netherlands between 2005 and 2011. Finally, Arezki et al. (2011) find that sovereign rating news (especially downgrades) in Greece during the period 2007-2010 had economically significant spillover effects, across both euro area countries and financial markets, by increasing financial instability.

Our paper is related also to the strand of literature investigating the role of the media in influencing financial markets. Some studies document a significant correlation between media and financial market activity (e.g., Klibanoff et al., 1998; Engelberg and Parsons, 2011; Peress, 2014) and propose investor psychology to explain the relationship between news and financial markets (see, e.g., Tetlock, 2007).

Compared to the previous literature, to the best of our knowledge, our paper is the first to check for the presence of spillover effects from Greece by analysing European financial markets' reactions to a specific news content, such as the appearance of the term "Grexit" in the global press, since the announcement of the Greek parliamentary elections in late 2014.⁵ In addition, our setting allows to study each country individually on the basis of different coefficients of the

⁵ Some studies attempted to identify the specific news events in one country that affect other countries; however, they tended to focus on Asian countries during the Asian crisis (e.g., Kaminsky and Schmukler, 1999; Baig and Goldfajn, 1999).

independent variables across countries (Favero et al., 2010; Favero and Missale, 2012).⁶

Our main results indicate that increased news on a possible Greek exit from the euro area drove up the government bond yields in the peripheral countries of Portugal, Italy and Spain (i.e. excluding Ireland). By contrast, no effects emerge in the European core countries. This would suggest the presence of some speculation effects related to *Grexit* news, but only for countries with similar underlying weaknesses to Greece during the observed period. General government consolidated gross debt (% of GDP) for 2015 shows the highest levels for Italy, Portugal and Spain, following the Greek value of 176.9% (based on the latest update of the EC database on 3 May, 2016). However, in Ireland the debt-to-GDP ratio was 93.8% in 2015 and was coupled with a GDP growth rate of over 7.5% in that same year.⁷

In a nutshell, our evidence seems to support a more general “market-based fiscal disciplining” mechanism at work in the monetary union,⁸ according to which financial markets, that react to *Grexit* news as signalling a potential euro area break-up, are likely to ask higher government risk premia from countries presenting higher public finance weaknesses such as our peripheral states. This is consistent with the findings in De Grauwe and Ji (2013) according to which, after years of neglecting high government debt, investors became increasingly worried about its level in the euro zone and reacted by increasing the spreads.⁹ Costantini et al. (2014) support this finding and show that fiscal imbalances (i.e. expected government debt-to-GDP differentials) are the main long-run drivers of sovereign spreads in nine EMU economies, so that investors closely monitor and severely punish the deterioration of such expected debt positions.

⁶ By allowing the coefficients of all the variables to be country-specific, we avoid pooled data which force the coefficients of the independent variables to be identical across countries.

⁷ Both these outcomes, combined with a decrease in the unemployment rate (less than 10% in 2015), were an inevitable consequence of structural reforms and determined policy efforts in Ireland which began in 2010 - when Ireland could no longer be self-financed from national resources - with the international bailout measures. The objectives of these policies included restoring the banking sector and implementing fiscal adjustment to relaunch fiscal sustainability and growth-enhancing reforms. As intended, Ireland had completed the program by the end of 2013.

⁸ For the US, see e.g., Goldstein and Woglom (1991) and Bayoumi et al. (1995); for European Monetary Union (EMU), see Bernoth et al. (2004) and Schuknecht et al. (2009).

⁹ More generally, a large part of the recent literature recognizes an adverse role of fiscal variables (i.e. public deficits and debt) on the rise of government bond yields for South euro area countries during and after the 2007–2009 financial crisis (von Hagen et al., 2011; Maltritz, 2012; Aizenman et al., 2013). Based on 2009 values, Daniel and Shiamptanis (2012) predicted a positive probability of a crisis for Greece and indicated some risk for other countries, particularly

Our results would also prove the existence of transmission mechanisms of policy and political uncertainty affecting economic outcomes (Baker et al. 2016). In our case, policy uncertainty, such as that related to *Grexit* news questioning the euro area's future, negatively affected financial markets by increasing risk premia especially in those countries with weaker economic conditions such as the peripheral ones (Erb et al. 1996; Brogaard and Detzel 2013; Kelly et al. 2016).

Finally, our main findings are confirmed through a refined analysis which focuses on political leaders and institutions. We find that the financial markets in peripheral countries react more to *Grexit* news content associated to supranational technical figures rather than European political leaders. Interestingly, increased volumes of news on *Grexit* produces a stronger influence of technical supranational institutions (e.g., the ECB) with respect to political institutions (e.g., the European Council). This might be explained by higher perceived credibility and a stronger commitment expressed by the former with respect to the latter. Indeed, technical supranational institutions include technicians who are more independent of political pressure and, basically, are bound by a formal public mandate. On the other hand, political institutions include politicians and their announcements might be more influenced by national electoral motivations and driven by contingent issues (e.g., political agenda priorities).

The rest of the paper is structured as follows. Section 2 describes the data and the empirical methodology. Section 3 presents the main results using the aggregated set of *Grexit* news. Section 4 provides the results from disaggregating this news by leaders and institutions. Section 5 concludes.

2. Empirical analysis

2.1 Data and main variables

We exploit the Factiva database (owned by Dow Jones & Co.), which provides and aggregates

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content from more than 36,000 sources, both licensed and free, from 200 countries, in 28 languages. The database carries a broad range of content and provides both local insights and global perspectives on business issues and current events, with a specific focus on current information on companies, industries and financial markets. This wide ranging information is drawn from sources such as newspapers, newswires, industry publications, websites and company reports.¹⁰

We searched for news containing the word “Grexit”, which is an internationally recognized expression that describes Greece’s potential withdrawal from the euro area. In doing so, we follow a rapidly growing literature on text search methods, in particular, using newspaper archives, to proxy for economic and policy conditions and measure a variety of outcomes (see Boudoukh et al. 2013; Alexopoulos and Cohen 2015; Baker et al. 2016).

Although the word “Grexit” allows cross-country media comparability, it seems not to be used extensively in Greece and by the Greek people. For example, in May 2015, the term “Grexit” appeared 27 times in *Kathimerini* newspaper, which is one of the Greek English language media compared to 39 and 31 times, respectively, in the *Handelsblatt* (German daily business newspaper) and in the UK *Financial Times*. This would suggest that continental newspapers were more focused on the subject than the domestic press, suggesting that discussion of *Grexit* was more concentrated outside rather than inside Greece. This might also reveal a different general perception of the Greek situation with respect to the real condition depicted by national media to their citizens.

On average, we counted more than 250 news items per diem that included the word *Grexit*, and more than 64,000 during the whole period 1 December, 2014 – 31 October, 2015.¹¹ Although

¹⁰ More specifically, the Factiva dataset includes information from national, international and regional newspapers (e.g., *The New York Times*, *The Washington Post*, *The Times*, *The Wall Street Journal*, *El Pais*, *The Financial Times*, *The Guardian*); magazines, journals and trade publications (e.g., *Forbes*, *Newsweek*); newswires (e.g., AFP, Reuters, Dow Jones), TV or radio podcasts (e.g., BBC, CNN, ABC, CBS, NBC, Fox); major news and business information websites, blogs and message boards; company reports; photo agencies (e.g., Reuters, Knight Ridder); and materials on the EUR-Lex website, giving access to the law of the European Union.

¹¹ It is straightforward that the number of daily *Grexit* news items before and after this period was close to zero. For this reason, the analysis focuses on this time span.

we exploited the richness of the dataset and its information power, we aggregated some *Grexit* news in minor European country press in a single variable, “*Other EA*” (including Austria, Belgium, Luxembourg, Portugal, Greece, Ireland, Slovenia, Slovakia, Estonia, Malta, Latvia, Lithuania, etc.) in the empirical analysis. Given the less frequent use of the term “Grexit” by the Greek press as well as Greek people, we also included Greek news in this more general group of “*Other EA*”.

We considered *Grexit* news emanating from France, Germany, Italy, Spain and the UK, separately. The news by country press enters one country at a time in the estimation model and captures the spillover effect of *Grexit* from one country – other than Greece – to other countries, during the observed period.

Another advantage of this dataset is that it allows us to associate *Grexit* news with major political leaders and institutional figures. We collected data related to Cameron, Hollande, Merkel, Renzi and Tsipras, as national political authorities, and Draghi and Lagarde, as supranational executives. As previously described for *Grexit* news by country press, we added the news variables by such figures one at a time. The idea is to capture the same news content in relation to two different spheres - a more political one, based on examining domestic policy-makers, and a more technical one, based on looking at supranational executives.

Finally, we applied the above-described approach to merge and extract news characterized by both *Grexit* and the presence of supranational institutions such as the European Council, the Council of the EU, the European Parliament, the EC, the ECB and the IMF. Again, we try to distinguish financial markets “feelings” and reactions to *Grexit* news with respect to political opinion within the euro area – expressed mostly by the European Council, the Council of the EU, the European Parliament – and to the more institutional vein – expressed mostly by the EC, the ECB and the IMF.

A limitation here is that it is not possible to assign an *a priori* positive or negative “sign” and

an evaluation to each sentence of news.¹² However, we can infer that the markets react to a specific content, such as the possibility of a Greek exit from the euro area, as the word “Grexit” immediately and directly would suggest. More intensive discussion, provided by the high number of daily *Grexit* news items, might generate fear and tension among the markets. Here, we are interested in the number of news items in order to measure their intensity and to test whether variations in the amount of news affect the stability of European financial markets. For clarity, the Appendix provides some examples of the news items included in our dataset.

To capture financial stability and how markets react to *Grexit* news, we use the changes in 10-year government bond yields as the dependent variable.¹³ It is possible that investors look at their own sovereign bonds as well as at those in other euro area countries to infer country’s financial security and fiscal health.

2.2 Methodology

We assess the spillover effects of Greek exit news on 10-year sovereign bond yields in the main European countries by considering the impact of daily news mentioning *Grexit*, collected over the period 1 December, 2014 and 31 October, 2015.

Specifically, we implement the standard Generalised Autoregressive Conditional Heteroschedastic - GARCH (1,1) - model, proposed originally by Bollerslev (1986), which is able to model the time-varying volatility of bond yields (see, among others, Kim et al., 2004; Bhanot et al., 2014 for similar applications). The conditional mean of the model is an augmented autoregressive process:

¹² Unlike news on macroeconomic issues with numerical content (e.g., on GDP growth or unemployment rates), where it is easier to distinguish between “positive” and “negative” outcomes as reported and interpreted by the media (see Caporale et al. 2014 for a recent contribution), the “qualitative” and “policy” content of *Grexit* news does not allow a clear negative or positive sign to be defined. Moreover, the huge number of news items collected (more than 64,000) and the various languages, makes it difficult to categorize this news. Finally, political leaders and supranational executives could only discuss the possibility of a Greek exit scenario, which likely increased anxiety in the financial markets, but had no effective decision power over such an event. For all these reasons, we focused on the amount of news rather than on their sign.

¹³ The choice of sovereign bond yields instead of government spreads would have been preferable to better focus on country specific issues. However, if government spreads are implemented, a benchmark country is needed and

$$\Delta B_t = \alpha + \beta \Delta B_{t-1} + \gamma \Delta Grexit_t + \delta ECB_NSMPnews_t + \eta X_t + \varphi W_t + \varepsilon_t \quad (1)$$

where ΔB_t is the change in the of end-of-day sovereign bond yields for each country at time t ; ΔB_{t-1} is the lagged dependent variable to remove autocorrelation;¹⁴ $\Delta Grexit_t$ is the daily change in the number of *Grexit* news items; $ECB_NSMPnews_t$ takes into account the ECB non-standard monetary policy news. This variable is included also to control, to some extent, for the weakness in the EMU during the observed period. The rationale for using such non-standard measures is generally that central bank conventional tools (i.e. interest rates and monetary aggregates) became less effective and not fully able to affect economic activity in the desired direction (see Wyplosz and Panizza 2016 for a detailed discussion). In this case, unconventional monetary policy announcements are likely to be interpreted as a signal of a general fragility of the euro area. Thus, they should be taken into account beyond idiosyncratic cases of vulnerability. X_t is a vector of the common controls for all countries and is composed of two indicators: (i) the European volatility index (VSTOXX) to control for financial turmoil (see also Arghyrou and Kontonikas, 2012; Glick and Leduc, 2012) and, more generally, for the level of uncertainty in the economy (Foerster, 2014); (ii) a risk aversion indicator, calculated as the difference between US AAA corporate bond yields and US 10-year government bond yields to account for global risks and to explain crises in financial markets (Codogno et al., 2003; Coudert and Gex, 2008; Favero et al., 2010).¹⁵

Finally, we introduce additional country-specific control variables stemming from releases of

movements in its bond yields could affect the final outcome (Dunne et al., 2002).

¹⁴ To this end, we applied the portmanteau test for white noise (Box and Pierce, 1970) and cannot reject the null hypothesis of independently distributed residuals. Hence, the residuals are independently distributed. In addition, based on the lagged dependent variable, we take account of all the information (e.g., including that relating to the possible indirect effects of group membership, say the effects of other peripheral countries on Italy) up to the period $t-1$, which might affect the dependent variable.

¹⁵ Our results are not affected by multicollinearity issues between our main explanatory variable and the controls since we found no troubling correlations among the regressors at the 1% level of statistical significance (i.e. the highest value is about 0.24).

news macroeconomic data, W_t , which might have affected our dependent variables.¹⁶ These data on macroeconomic releases were collected from Bloomberg and consist of market participants' expectations about all the available macroeconomic variables in their respective countries. The expected values are median forecasts collected up to one day before the release of the official data. We compute the difference between the actual value on the day of release, and the expected value. The series are standardized. They can be considered a measure of the specific surprise content in the most relevant macroeconomic data releases, for each country in our sample. This procedure allows us to control for possible movements in our dependent variables due to unexpected changes in the macroeconomic variables other than *Grexit* news. Table 1 presents the definitions and the descriptive statistics of all variables.

[Insert Table 1]

It should be noted that there might be potential issues of reverse causality between *Grexit* news items and sovereign bond yields in the European countries in our sample. To deal with this, we implemented a standard check in the time series analysis (see Hamilton 1994), in line with Gade et al. (2013), by running Granger causality tests for each country separately. We found no evidence of Granger causality in our dependent variables for *Grexit* news.¹⁷ These results are consistent with the idea that end-of-day sovereign bond yields in euro area countries do not influence the discussion of potential *Grexit* on the same day.

¹⁶ This approach was proposed by Altavilla et al. (2014).

¹⁷ We implemented the test regression by investigating whether the lagged values (up to 4) of the daily end-of-day change of bond yields helped to forecast the daily change in the number of items of *Grexit* news, by controlling for other exogenous variables and also for the lags of the dependent variable. For completeness, we applied the Granger test to Greece and found that endogeneity cannot be ruled out in that case. Therefore, the direction of causality between Greek bond yields and *Grexit* news is questionable. For this reason, and given our interest in capturing the potential spillover effects of such news, we exclude Greek bond yields (as the dependent variable) from the analysis.

3. Main results

Our empirical analysis provides several novel results supporting evidence that the risk of a euro area break-up event related to *Grexit* speculation spilled over to other European countries during the observed period. There are relevant differences across core and peripheral countries.

Specifically, Table 2 reports the results if the variable *Grexit news* in equation (1) is measured by the daily change in the total amount of *Grexit* news in the global press between 1 December, 2014 and 31 October, 2015. Interestingly, *Grexit* speculation spilled over only to peripheral countries (except Ireland). There are no statistically significant effects for core countries.

[Insert Table 2]

The sign of the coefficient on *Grexit news* is positive for Italy, Portugal and Spain, meaning that a daily increase in *Grexit* news leads to an increase in their government bond yields. As might be expected, recently, Southern European countries have been subject to more scrutiny by the global financial markets because of their greater vulnerability concerning domestic public finances, which also would question their financial stability. In addition, *Grexit* spilled over to increase financial tension. All these problems seem to be amplified by the financial turbulence induced by *Grexit* and the way that investors perceived the situations of peripheral countries when media coverage of *Grexit* increased around the world.

The pattern is different for core countries, where we observe no potential speculation effects due to *Grexit* news, revealing a lower sensitivity of financial markets to such news. The improved fiscal position and the decline in public debt in the case of Ireland in 2015 would explain why this country was less vulnerable to negative shocks, such as *Grexit* news, and was not affected greatly by euro area break-up speculation. Overall, these results reveal the structural fragility of the euro area and how “investors’ fears about this weak structure have manifested themselves by attacking

the euro through the government debt market” (Alessandrini et al. 2014, p. 6), again stressing the weakness of Southern with respect to Northern countries.

Similar interesting differences between core and peripheral countries are noted by Caporale et al. (2014). In their case, peripheral countries correspond to the GIIPS group where yield spread volatility reacts more strongly to macro news volatility. Our results are also close to those in Mink and de Haan (2013) although their study focuses on general news about Greece. More specifically, they confirm that worrying news about the economic situation in Greece can lead investors to reconsider the valuation of exposure to other countries facing similar problems in 2010 (Portugal, Ireland and Spain in their sample), based on a “wake-up call” hypothesis (see also Giordano et al., 2013).¹⁸

When we take account of individual countries’ exposure to Greek public debt,¹⁹ the main results are confirmed for both the core and the peripheral countries. This would suggest that the Greek debt channel is ruled out.

The ECB non-standard monetary policy news (*ECB non-standard MP news* in Table 2) has an interesting effect. Although these actions were justified on the basis of adverse events within the euro area,²⁰ the effect of their announcement appears to be different for core compared to peripheral countries in our sample. Specifically, ECB non-standard monetary policy news generates a decrease in the changes in government bonds for the former group of countries, but no statistically significant effect for the latter group. This would suggest that unconventional

¹⁸ According to some authors (e.g., Bekaert et al., 2011), a crisis initially restricted to one country can provide new information prompting investors to reassess the vulnerability of other countries, which spreads the crisis across borders. In our case, the Greek crisis would have induced investors to discriminate among bonds in terms of fiscal fundamentals. Another perspective on this situation is described by a “learning effect” (Mink and de Haan, 2013), suggesting that the probability that other GIPS-countries would manage sustainable fiscal policy is small if Greece does not manage credible commitment. This would give rise to the abnormal returns in GIPS-countries following news of Greece’s economic situation.

¹⁹ In detail, we included two additional controls in equation (1): i) share of Greek debt owned in 2015 by each country weighted by daily Greek government bond yields, and ii) its interaction with the *Greek news* variable. We computed the overall effect of *Greek news* on government bond yields for different values of this weighted Greek debt share. Weighting for daily Greek bond yields allows us to take account of the Greek country risk beyond the simple share of Greek owned debt. We exploited various sources such as the Bank for International Settlements (BIS), IMF, ECB and Datastream databases. For space reasons, the results are not reported here, but are available from the authors on request.

²⁰ For example, in January 2015, the expanded Asset Purchase Program (APP) was announced, which adds a purchase programme for public sector securities (PSPP) to the existing private sector asset purchase programmes, to address the

monetary policy announcements may be more beneficial for less troubled economies, generally characterized by a better fiscal position, than for peripheral and less stable countries. To the extent that such announcements are, reasonably, perceived as alternative strategies pursued by the ECB to improve unfavourable financial conditions for certain countries in the euro area, a sort of “self-fulfilling market sentiment” may prevail in the markets (De Grauwe, 2013; De Grauwe and Ji, 2013). As a consequence, more trusted countries – such as the core countries – would become the recipients of new liquidity inflows and a sort of refuge-haven asset for investors starting to look for safer places to invest, according to the “preferred habitat theory” (Hamilton and Wu, 2012). Ultimately, this would lower the interest rates and boost the economies of such countries.

Actually, some previous works (e.g., Szczerbowicz, 2015, Falagiarda and Reitz, 2015) suggest that periphery euro-zone countries are supposed to benefit most from such non-standard monetary policy. However, in our period of analysis, non-standard policy news related mainly to Quantitative Easing (QE). Thus, our result is consistent with recent policy works (e.g., Demertzis and Wolff, 2016) that find that periphery bond yields fell significantly, but only immediately after Draghi’s July 2012 “whatever it takes” speech. In contrast, the announcement and effective beginning of QE (respectively, on 22 January and 9 March 2015) seem not to have had a very relevant effect on these countries’ bond yields. Moreover, since a possible transmission mechanism of QE consists of reducing uncertainty about financial markets in the context of asset purchases, our results would suggest that this uncertainty channel works better in the safer environment of the core countries. This is in line with recent evidence provided by Weale and Wieladek (2016), that the uncertainty channel was an important transmission mechanism in the cases only of UK and US QE.²¹

For the European VIX (*EuroVix* in Table 2), it also affects peripheral and core countries differently. In detail, bond yields in the former group increase in the presence of financial turmoil,

risks of an overly prolonged period of low inflation.

²¹ Similarly, a recent study by Garcia Pascual and Wieladek (2016) highlights that, in the absence of structural and banking sector reforms, countries such as Italy would continue to benefit least from the ECB’s QE policy.

while they decrease in the latter group. Overall, this finding for *EuroVix* might stress a flight-to-quality effect, considering the better credit ratings of the core compared to the periphery countries. This effect was confirmed in the document presented to the European Parliament (2016) by the Directorate-General for Internal Policies of the Union, according to which banks in the core countries are buying bonds from their own governments, while banks in the periphery zone acquire bonds also from the governments of core countries, reflecting a lack of confidence in their own economic performance.

All the results in Table 2 were tested adding up to seven lags of the dependent variables among the regressors, to control further for autocorrelation; all are confirmed. We also ran the regressions splitting the sample by the bailout referendum date (i.e. 5 July, 2015). For the pre-referendum period, the main results in Table 2 are confirmed: peripheral countries (excluding Ireland) were negatively affected by *Grexit* news (i.e. their government bond yields increased), but the core countries were not. When considering the post-referendum period, we found no statistically significant results for either group of countries. This finding is not surprising. In fact, after the referendum, the Greek exit event was not realized, although the referendum outcome rejected the bailout conditions, suggesting a real possibility that Greece would leave the euro area. Since this did not happen, intuitively the financial markets were relieved and a Greek exit scenario became unrealistic.²²

In Table 3 we refine the analysis by distinguishing *Grexit* news by single country press. In detail, the variable *Grexit* in equation (1) is replaced by news on a Greek exit in the French, German, Spanish, Italian, British and “*Other EA*” press respectively, inserted one at a time. Table 3 shows that, while for government bond yields of core countries there is no effect of *Grexit* news regardless of country press, government bond yields of peripheral countries reacted strongly to increasing news. This is true not only for news in the domestic country press (i.e. *Grexit* news in

²² In addition, shortening the period, from July to December, implies that both the movement in government bond yields and the number of *Grexit* news items diminished considerably with respect to the pre-referendum period (recall Figure 1). Therefore, the lower variation in both the dependent and independent variables makes it more difficult to

the Italian press on Italian bond yields), but also news in other European countries' press. This would suggest the existence of a dual spillover dimension - concerning the effect of *Grexit* news on financial stability of countries different from Greece, and the effect of *Grexit* news in one country's press on another country's bond yields.

[Insert Table 3]

It is interesting that *Grexit* news even from countries' press outside the euro area, such as the UK, affects government bond yields in peripheral Europe even more than news appeared in the domestic press.²³ This result is in line with a very fresh analysis by Manasse (Il Sole 24 Ore, 26 June 2016) of what the effect on perception of sovereign risk for several European countries in the case of exit of some other country, that is, the "Brexit" victory in the UK referendum (23 June 2016). Manasse argues that the effects of "Brexit" on credit default swaps five-year spreads are fairly limited for all countries except Italy, Portugal and Spain where the risk of default became higher in the case of the "Leave" vote compared to a "Remain" vote. The common denominator of these events (i.e. *Grexit* and *Brexit*) seems to be the wave of increased uncertainty in the financial markets, leading to a flight from the sovereign debt of the most fragile countries in the euro area. Indeed, although the UK economy is stronger than the economy of Greece, meaning that *Brexit* will likely have a greater impact (in economic terms) on Europe than *Grexit*, (Pastor, 2016), the latter scenario could be more financially destabilizing for certain European countries, such as the peripheral ones, and politically contagious for the future of the whole EMU.

detect any statistically significant relationship between the two phenomena.

²³ For each country regression, we also tested whether the coefficients on *Grexit* news by the UK press are statistically different from those of *Grexit* news by other press, including domestic media. We find a positive result, highlighting the

4. The role of domestic political leaders, supranational executives and institutions

This part of the analysis focuses on the relationship between *Grexit* news and the role of executive and international figures, distinguishing between political and technical authorities. The aim is to understand whether these authorities are perceived differently by the financial markets in the debate about *Grexit*.

We consider news where “Grexit” content is merged with institutional actors and replace *Grexit* variable in equation (1) with this new set of variables, entered one at a time. In relation to executives, we distinguish between domestic political leaders (i.e. Cameron, Holland, Merkel, Renzi and Tsipras) and supranational authorities (i.e. Draghi and Lagarde), as reported in Table 4.

The results show that the financial stability of core countries is not statistically affected by *Grexit* news associated with political leaders and executives. There are exceptions in the case only of Tsipras for Belgium, Finland and France. This might be due to a higher level perceived anxiety by the financial markets if European integration effectively were challenged by the leader of the most troubled country in the euro area during that period.

[Insert Table 4]

Among the peripheral countries, more news about *Grexit* associated with European prime ministers and international executives leads to an increase in these countries’ government bond yields. Statistically significant effects arise only in the case of certain political leaders (i.e. Cameron, Merkel and Hollande), possibly due to their leading role within Europe. Among the supranational executives, the ECB President Draghi combined with *Grexit* news content exerts a statistically significant influence, which is robust across specifications. The fact that the President Draghi has a persistent effect on such countries could be ascribed to his role. Generally,

higher relevance of the UK press in this context for euro area financial markets.

technicians are bound by mandate to accomplish the tasks of their institutions (e.g., among others, targeting ECB inflation for Draghi). This makes them more independent of any political pressures. Different preferences (e.g., on monetary policy) between politicians and independent central bankers – representing their institutions – occur usually because of the existence of different constituencies (Ehrmann and Fratzscher, 2011). Accordingly, politicians are likely to focus primarily on domestic economic objectives rather than on the needs of the euro area as a whole. Ultimately, this different approach could lead investors to see “executive-technicians” as more transparent and neutral (see Van der Cruijsen and Eijffinger, 2008 for an empirical test).

The results in Table 4 are corroborated if we check for the effects of *Grexit* news associated with the main international institutions, either political (i.e. European Council, Council of the European Union, European Parliament) or technical (i.e. EC, ECB, IMF). The results are presented in Table 5 and mimic the logic used for the estimations reported in Tables 3 and 4 on the inclusion of *Grexit* news variables.

[Insert Table 5]

First, it is easy to note that the coefficients on *Grexit* news related to supranational technical institutions (i.e. below the line in Table 5) are always statistically significant and positive across the specifications for peripheral governments’ bond yields (except Ireland). In contrast, no statistically significant effects emerge for those countries in the case of the European political authorities (i.e. above the line in Table 5). Overall, this provides support for a different market reaction to the political sphere *versus* the technical one in the case of more vulnerable economies (i.e. Italy, Portugal and Spain). The point at stake is that, statutory constraints in the case of, for instance, the European Commission, would make such supranational institutions more independent of national interests and, ultimately, more influenced by credibility-trust

mechanisms.²⁴ This role of “trustee” in the case of the EC (Majone 2001) might explain why financial markets responded more promptly with respect to the case of European political authorities when debate on *Grexit* became more intense.²⁵

Second, the lack of any statistical significance of *Grexit* news emerges for core countries, regardless of the supranational institutions considered. There are some exceptions in the case of news associated with the European Parliament, which has a negative and statistically significant coefficient across core country specifications. The intuition behind this result may be that the aim of making Europe and, more precisely, the European Union, more consolidated and stable, is one of the main goals of the European Parliament. This possibly might foster a flight-to-quality effect towards such core countries, providing them with greater benefit based on their more solid economies, when the risk of a euro area break-up increased due to *Grexit* news speculation. Ultimately, this would result in a decrease in their government bond yields.

5. Conclusions

This paper has analysed the spillover effects due to the potential risk of a euro area break-up related to *Grexit*, on euro area financial markets, since the onset of Greek political instability in late 2014. In detail, we focused on the impact of specific news content, that is, “Grexit”, appearing in the daily press at the global level, on the 10-year government bond yields of some stressed and non-stressed European countries. We relied on a novel dataset that allowed us to extract a large set of daily news on *Grexit* published between 1 December, 2014 and 31 October, 2015.

Our empirical analysis produced a number of interesting results. Basically, we show that

²⁴ For a theoretical viewpoint, see Barro and Gordon (1983); for empirical evidence on Europe, see Ehrmann et al. (2013).

²⁵ In detail, the EC must be completely independent in the performance of its duties and must not take instruction from governments. Governments must respect the principle of independence (Article 213 EC). Another classical example of a trusteeship is the delegation of monetary policy to independent central banks to pursue a policy of price stability, as in

Grexit speculation spilled over to other euro area countries, severing bond yields. More precisely, we found an asymmetric reaction of financial markets to such news. We found that more news on *Grexit* drove up the government bond yields only of Italy, Portugal and Spain (i.e. peripheral countries excluding Ireland). This would suggest that the spillover effect related to *Grexit* news content was real, but only for more vulnerable economies during the period investigated.

Overall, this analysis of *Grexit* news provides support for the more general view that political news and uncertainty about government policy can have a negative effect on countries' financial stability (see also Pastor and Veronesi, 2012, 2013; Kelly et al. 2016). We contribute by showing that such adverse effects related to *Grexit* news spilled over from Greece to other Southern euro area countries. These spillover effects were more relevant for the more scrutinized economies in light of their worse fiscal position and high financial vulnerability during that period.

We provide new insights on the relationship between news with *Grexit* content and major European political leaders, supranational executives and related institutions. In a nutshell, our results suggest that only political figures in the leading countries in Europe affected government bond yields in peripheral countries in the context of an increase in *Grexit* news. More importantly, we provide robust evidence that the most important figure in an EMU institutional setting was President Draghi. Interestingly, we also show that the “Troika” was more relevant than its political counterparts (i.e. European Council, Council of the EU and the European Parliament) for Southern countries when debate on *Grexit* became more intense. This reveals a stronger influence of the “Troika” on financial markets, especially in the case of more troubled economies.

the case of the ECB (see Franchino 2002).

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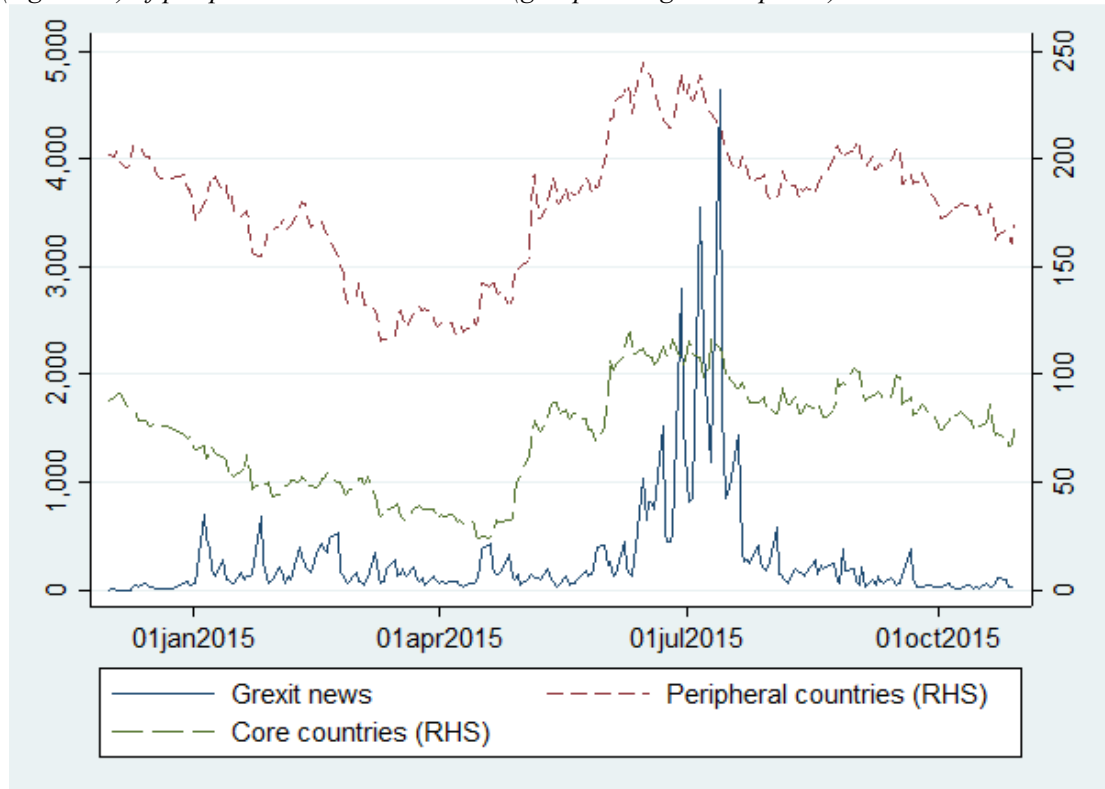
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Figures

Figure 1 - Daily number of Grexit news worldwide (left axis) and 10-year government bond yields (right axis) of peripheral and core countries (group average basis points).



Notes: Belgium, France, Finland, Germany, and the Netherlands are grouped in the core countries. Ireland, Italy, Portugal and Spain are included in the peripheral countries. Period: December 1, 2014 - October 31, 2015.

Source: Own elaborations on Factiva and Thomson Reuters Datastream databases.

Tables

Table 1 - Variables definition, source and summary statistics.

Variables	Definition	Mean	Std. Dev.	Min.	Max.
Dependent variables					
10-year government bond yields*	End-of-day 10-years government bond yields (used in Δ)				
<u>Peripheral countries</u>					
<i>Ireland</i>		1.21	0.27	0.66	1.78
<i>Italy</i>		1.76	0.30	1.14	2.41
<i>Portugal</i>		2.44	0.39	1.55	3.26
<i>Spain</i>		1.76	0.32	1.15	2.42
<u>Core countries</u>					
<i>Belgium</i>		0.85	0.26	0.34	1.33
<i>Finland</i>		0.69	0.25	0.19	1.16
<i>France</i>		0.84	0.25	0.35	1.32
<i>Germany</i>		0.54	0.21	0.07	0.98
<i>Netherlands</i>		0.69	0.26	0.22	1.20
Explanatory variables					
<i>Grexit news**</i>	Number of daily news (used in Δ) containing the word: <i>Grexit</i> from all over the world	274.73	517.47	0	4,648
<u>Country press**</u>					
	<i>Grexit</i> by a single country press:				
<i>France</i>		22.98	55.24	0	562
<i>Germany</i>		66.22	113.98	0	957
<i>Spain</i>		19.23	46.09	0	461
<i>Italy</i>		28.10	61.17	0	626

<i>United Kingdom</i>		13.60	24.80	0	188
<i>Other EA</i>		27.98	55.76	0	530
<u>Political leaders & executives</u> **	<i>Grexit</i> associated to:				
<i>Cameron</i>		2.44	6.03	0	55
<i>Hollande</i>		6.10	23.39	0	259
<i>Merkel</i>		14.59	38.99	0	357
<i>Renzi</i>		1.27	5.37	0	59
<i>Tsipras</i>		1.47	4.70	0	50
<i>Draghi</i>		4.49	8.18	0	54
<i>Lagarde</i>		3.00	7.81	0	55
<u>Institutions</u> **	<i>Grexit</i> associated to:				
<i>European Council</i>		0.75	3.18	0	35
<i>Council of the EU</i>		0.96	4.03	0	56
<i>European Parliament</i>		2.91	11.39	0	114
<i>European Commission</i>		4.96	12.53	0	140
<i>ECB</i>		16.72	35.36	0	320
<i>IMF</i>		17.53	32.29	0	185
Common control variables					
<i>EuroVix</i> *	European volatility index (VSTOXX), used in daily basis point changes	23.99	4.67	16.33	40.80
<i>Risk Aversion</i> *	Difference between US AAA corporate bond yields and US 10-year government bond yields (used in daily basis point changes)	0.66	0.09	0.51	0.90
<i>ECB non-standard MP news</i> ***	Dummy equal to 1 for ECB non-standard monetary policy announcements	0.04	0.19	0	1

Notes: Summary statistics are calculated for variables expressed in levels over the whole period. Information for additional country-specific control variables (i.e. W_i) related to news macroeconomic data are not reported in the table for the sake of space. Sources: Elaborations on *Datastream; **Factiva; *** Falagiarda, M., McQuade, P., & Tírpák, M. (2015). Spillovers from the ECB's non-standard monetary policies on non-euro area EU countries: evidence from an event-study analysis. ECB Working Paper Series 1869. European Central Bank, Frankfurt am Main.

Table 2 – *Grexit* news and government bond yields.

$\Delta(10\text{-year Government bond yields})$									
Variables	Peripheral countries				Core countries				
	Ireland	Italy	Portugal	Spain	Belgium	Finland	France	Germany	Netherlands
<i>yield (t-1)</i>	0.15*	0.02	0.08	-0.04	0.00	-0.00	0.02	-0.04	0.03
	(0.09)	(0.08)	(0.07)	(0.07)	(0.08)	(0.08)	(0.09)	(0.08)	(0.08)
<i>Grexit news</i>	0.06	0.20***	0.39***	0.24***	0.04	-0.08	0.05	0.01	-0.03
	(0.05)	(0.07)	(0.07)	(0.07)	(0.09)	(0.11)	(0.07)	(0.07)	(0.06)
<i>EuroVix</i>	0.02	0.22***	0.33***	0.23***	-0.11***	-0.09***	-0.09**	-0.15***	-0.10***
	(0.03)	(0.05)	(0.07)	(0.05)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
<i>Risk Aversion</i>	-0.05	0.12	0.26	0.08	-0.26	-0.23	-0.21	-0.33*	-0.37*
	(0.20)	(0.35)	(0.42)	(0.30)	(0.19)	(0.22)	(0.23)	(0.17)	(0.21)
<i>ECB non-standard MP news</i>	-2.03	-0.52	-3.42	-2.79	-2.92**	-2.65**	-2.38*	-1.74*	-2.79**
	(1.32)	(1.89)	(2.73)	(1.92)	(1.26)	(1.11)	(1.25)	(1.01)	(1.14)
Observations	234	234	234	234	234	234	234	234	234

Notes: GARCH(1,1) regressions of daily basis point changes in the sovereign bond yields on full sample period (1 December 2014–31 October 2015). Robust standard errors in parentheses. *** (**, *) indicates statistical significance at 1% (5%, 10%) respectively. *Grexit news* and *yiled(t-1)* variables are expressed in Δ as indicated in equation (1). Coefficients on *Grexit news* are rescaled and multiplied by 100.

Table 3 – *Grexit* news by country press and government bond yields.

$\Delta(10\text{-year Government bond yields})$									
Variables	<i>Peripheral countries</i>				<i>Core countries</i>				
	Ireland	Italy	Portugal	Spain	Belgium	Finland	France	Germany	Netherlands
<i>France</i>	0.20 (0.49)	1.20* (0.69)	2.55*** (0.65)	1.38** (0.63)	-0.01 (0.61)	-0.81 (0.80)	0.31 (0.60)	-0.21 (0.51)	-0.37 (0.47)
<i>Germany</i>	0.27 (0.25)	0.71** (0.34)	1.60*** (0.33)	0.89*** (0.34)	0.13 (0.34)	-0.41 (0.49)	0.22 (0.32)	0.03 (0.31)	-0.13 (0.28)
<i>Spain</i>	0.60 (0.52)	1.12 (0.87)	2.44*** (0.92)	1.54* (0.82)	0.14 (0.95)	-1.28 (0.96)	0.10 (0.86)	-0.33 (0.70)	-0.63 (0.68)
<i>Italy</i>	0.53 (0.40)	1.91*** (0.50)	3.16*** (0.51)	1.77*** (0.52)	0.45 (0.76)	-0.35 (0.93)	0.58 (0.66)	0.41 (0.69)	-0.13 (0.57)
<i>United Kingdom</i>	1.58 (1.21)	3.00* (1.68)	5.05*** (1.62)	4.11** (1.60)	1.98 (1.50)	-0.10 (1.61)	1.38 (1.35)	1.04 (1.40)	0.90 (1.18)
<i>Other EA</i>	0.49 (0.45)	1.30* (0.67)	2.73*** (0.65)	1.65*** (0.64)	0.23 (0.77)	-0.58 (0.90)	0.32 (0.70)	0.06 (0.64)	-0.39 (0.59)
Observations	234	234	234	234	234	234	234	234	234

Notes: GARCH(1,1) regressions of daily basis point changes in the sovereign bond yields on full sample period (1 December 2014–31 October 2015). Robust standard errors in parentheses. *** (**, *) indicates statistical significance at 1% (5%, 10%) respectively. *Grexit news* variables (e.g., *France*, *Germany*, etc.) are used one at a time and expressed in Δ . Their coefficients are rescaled and multiplied by 100. Controls and the lagged dependent variable are included in the estimations but not reported in the table for each regression.

Table 4 – *Grexit* news by political leaders & executives and government bond yields.

Δ (10-year Government bond yields)									
Variables	Peripheral countries				Core countries				
	Ireland	Italy	Portugal	Spain	Belgium	Finland	France	Germany	Netherlands
<i>Cameron</i>	2.78 (4.46)	15.21*** (5.83)	21.99*** (5.81)	17.86*** (6.17)	4.74 (3.96)	0.50 (6.33)	5.23 (3.38)	1.21 (3.33)	1.14 (2.75)
<i>Hollande</i>	0.67 (0.95)	1.57 (1.97)	4.01** (1.77)	2.54* (1.43)	0.39 (1.84)	-0.19 (1.82)	0.89 (1.45)	0.60 (1.33)	-0.51 (1.13)
<i>Merkel</i>	0.96 (0.67)	1.62 (1.07)	4.11*** (1.08)	2.61*** (0.92)	1.00 (0.93)	0.06 (1.08)	1.06 (0.77)	0.61 (0.80)	0.21 (0.69)
<i>Renzi</i>	5.90 (4.21)	5.66 (8.96)	14.40 (9.57)	8.19 (7.15)	3.87 (7.03)	2.22 (5.69)	4.43 (6.42)	4.86 (5.54)	-1.57 (4.63)
<i>Tsipras</i>	5.44 (5.66)	9.56 (9.32)	4.84 (16.53)	15.89 (10.34)	8.91* (4.98)	10.11* (5.41)	10.06* (5.63)	5.71 (4.33)	5.77 (5.55)
<i>Draghi</i>	2.04 (3.55)	11.12*** (4.29)	24.99*** (4.12)	14.47*** (4.42)	2.66 (3.83)	0.25 (4.00)	1.08 (4.17)	0.67 (3.87)	-0.36 (3.42)
<i>Lagarde</i>	-3.94 (3.57)	1.69 (4.32)	7.04 (4.31)	-5.48 (5.31)	-3.68 (2.96)	-3.01 (3.34)	-3.00 (3.40)	5.17** (2.26)	-4.51 (3.21)
Observations	234	234	234	234	234	234	234	234	234

Notes: GARCH(1,1) regressions of daily basis point changes in the sovereign bond yields on full sample period (1 December 2014–31 October 2015). Robust standard errors in parentheses. *** (**, *) indicates statistical significance at 1% (5%, 10%) respectively. *Grexit news* variables (e.g., *Cameron*, *Hollande*, etc.) are used one at a time and expressed in Δ . Their coefficients are rescaled and multiplied by 100. Controls and the lagged dependent variable are included in the estimations but not reported in the table for each regression.

Table 5 – *Grexit* news by international institutions and government bond yields.

$\Delta(10\text{-year Government bond yields})$									
Variables	Peripheral countries				Core countries				
	Ireland	Italy	Portugal	Spain	Belgium	Finland	France	Germany	Netherlands
<i>European Council</i>	-2.32 (5.70)	2.26 (17.49)	7.30 (25.89)	-1.28 (21.32)	-6.34 (8.80)	-6.11 (11.18)	-5.59 (9.59)	5.61 (11.63)	-9.91 (9.52)
<i>Council of the EU</i>	3.48 (4.31)	6.23 (13.14)	8.00 (19.80)	3.44 (17.14)	-1.37 (5.73)	-5.26 (8.50)	0.27 (7.85)	-7.78 (9.64)	-5.80 (4.96)
<i>European Parliament</i>	-3.92 (3.46)	2.00 (5.04)	10.89** (5.09)	6.44 (5.09)	-8.48** (3.48)	-9.88*** (3.32)	-9.68*** (3.72)	-12.81*** (3.05)	-11.74*** (3.42)
<i>European Commission</i>	1.97 (2.18)	4.17* (2.53)	10.19*** (3.41)	5.20* (2.72)	-0.21 (1.82)	0.04 (2.58)	-3.27* (1.82)	-0.88 (1.78)	-3.64** (1.78)
<i>ECB</i>	1.14 (1.16)	6.00*** (1.16)	8.41*** (1.46)	5.15*** (1.70)	1.02 (0.89)	-0.58 (1.52)	0.89 (0.74)	0.07 (0.69)	0.29 (0.64)
<i>IMF</i>	1.46 (1.43)	4.98*** (1.34)	6.59*** (1.53)	3.40** (1.59)	0.73 (1.11)	-1.24 (1.56)	1.37 (1.01)	0.64 (1.03)	-0.14 (0.87)
Observations	234	234	234	234	234	234	234	234	234

Notes: GARCH(1,1) regressions of daily basis point changes in the sovereign bond yields on full sample period (1 December 2014–31 October 2015). Robust standard errors in parentheses. *** (**, *) indicates statistical significance at 1% (5%, 10%) respectively. *Grexit news* variables (e.g., on *European Council*, *Council of the EU*, *European Parliament*, etc.) are used one at a time and expressed in Δ . Their coefficients are rescaled and multiplied by 100. Control variables and the lagged dependent variable are included in the estimations but not reported in the table for each regression.

Appendix

Some examples of *Grexit* news:

“European markets are braced for a wave of contagion from Greece on Monday, with heavy losses for southern European government bonds and regional stock markets expected as investors scramble to discount a possible "Grexit" that most had still assumed was unlikely as late as Friday afternoon.” (Reuters News, 28 June 2015).

“For years, German Chancellor Angela Merkel and other European leaders have said that Greece will stay in the euro no matter what, but it now appears that the 18 other states of the euro zone are hunkering down and preparing for a ‘Grexit,’ as a Greek departure has been dubbed.” (The Washington Post, 5 July 2015).

“Accusing Greece of ‘egotism’ and "betrayal" EU Commission president Jean-Claude Juncker said a 'no' vote would ‘look like Greece wants to distance itself from the eurozone’. That is very close to telling the Greeks that a 'no' vote would be tantamount to the so-called Grexit.” (The Sunday Independent, 5 July 2015).