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**Christian Conrad and
Klaus Ulrich Zumbach**

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Christian Conrad* and Klaus Ulrich Zumbach[†]

Heidelberg University, Germany

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Abstract

We quantify all statements by major European politicians reported by Reuters during the August 2011 to December 2011 period and show that political communication significantly affects European stock and bond markets as well as the EUR-USD exchange rate. Communication with respect to Italy induces the strongest market reactions. Financial markets consider the German bond market a safe haven.

Keywords: Political statements, high-frequency response, austerity measures, joint liability.

JEL Classification: E43, E62, G01, G12, C20

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*Corresponding author: Christian Conrad, Department of Economics, Heidelberg University, Bergheimer Strasse 58, 69115 Heidelberg, Germany, E-mail: christian.conrad@awi.uni-heidelberg.de; Phone: +49/6221/54/3173.

[†]E-mail: ulrich_zumbach@gmx.de

1 Introduction

We analyze whether the communication of European politicians with respect to the sovereign debt crisis affects European stock and bond markets as well as the EUR-USD exchange rate. For the August to December 2011 period we quantify all statements by major European politicians that refer to the debt crisis and are reported by the news agency *Reuters*. We then explain the changes in eight national stock and bond markets in the 15 minutes following each statement by the content of the communication. The empirical results show that the stock markets of the core European countries (Germany, France and Belgium) as well as the periphery countries (Greece, Ireland, Italy, Portugal and Spain) instantaneously increase in response to positive communication regarding the stance of the economy in the periphery countries or positive communication with respect to the Eurozone (EZ) as a whole. In sharp contrast, the response of the national bond markets is asymmetric, whereby mainly the Italian and German bond markets are affected. While negative communication regarding the economic situation in Italy leads to an immediate increase in 10-year Italian government bond yields, German government bond yields decrease. This finding is in line with the view that financial market participants consider the German bond market a safe haven and highlights that Italy plays a pivotal role among the periphery countries. During our sample period, Silvio Berlusconi's Italian government was under strong political pressure and finally had to resign in November 2011. Moreover, our results show that political communication concerning the periphery countries evokes stronger market reactions than statements on the EZ. While statements that suggest an expansion of the European Financial Stability Facility (EFSF) or shared liability for national debts do not lead to decreasing bond yields in the periphery countries, communication about the introduction of further austerity measures does reduce Italian yields. Finally, positive communication leads to a significant but weak appreciation of the EURO against the US dollar.

Our results extend upon and complement the recent work of Mohl and Sondermann (2012) and Beetsma et al. (2012) on the effects of political communication on sovereign bond spreads. Most importantly, while both studies employ daily data, we take a high-frequency perspective. Using high-frequency data allows us to monitor the effects of political communication on financial markets in real time and bypass problems with respect to identification and causality. In particular, we do not have to worry about potential control variables.

2 Data and Methodology

Our data set starts on August 01, 2011 and ends on December 06, 2011, i.e. it covers 92 trading days. We consider statements and the corresponding asset price changes lying within the trading hours from 9:00 a.m. to 5:30 p.m. Central European Time (CET).

2.1 Quantifying statements by European policy makers

We search all news reports from *Reuters* for statements by the EZ's 17 Heads of Government, their respective Finance Ministers, and the four leading EU representatives – the President of the EU Commission José Manuel Barroso, the President of the Euro Group Jean-Claude Juncker, the EU Economics Commissioner Olli Rehn, and the President of the European Council Herman Van Rompuy.

We separate the statements into two groups. In the first group, we collect all statements that refer to the economic situation or austerity measures in the following periphery countries: Italy (IT), Spain (ES), Portugal (PT), Ireland (IE) and Greece (GR). We code each statement, C_t^P, as +1 if the statement implies a positive outlook for the specific country or the introduction of new austerity measures, and as −1 otherwise.[1] For example, the Reuters report: *"Italian PM Berlusconi says new agreement on austerity package confirms solidity of ruling coalition"* on August 30, 2011 at 12:44 is coded as $C_t^P = +1$. The second group contains all statements that refer to the EZ as a whole, in particular to the EFSF, Eurobonds, the role of the ECB or the EURO as a currency. We code statements, C_t^{EZ}, as +1 when they – broadly speaking – suggest a shared liability for national debts within the EZ, e.g., statements that support the introduction of Eurobonds or the expansion of the EFSF. Statements with content opposed to such ideas are coded as −1. For example, the Reuters report: *"Germany's Merkel says Eurobonds are absolutely wrong"* on September 15, 2011 at 10:47 is coded as $C_t^{EZ} = -1$. We disregard all statements that are either neutral or do not portray a clear message. Overall, Reuters reported 778 statements of which 164 were unanimously quantifiable.

Table 1 provides a summary of the statements. Among the 164 statements, 77 (87) refer to the periphery countries (the EZ as a whole). 101 (or 62%) of the statements are coded as being positive (+1). Interestingly, for the EZ positive and negative statements

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[1]This approach of coding statements is commonly referred to as Content Analysis and has been used by, among others, Ehrmann and Fratzscher (2007) and Conrad and Lamla (2010) for analyzing the effects of central bank communication.

are almost balanced. On the contrary, 75% of the statements referring to the periphery countries are positive. Since these countries are at the center of the debt crisis, the high number of *positive* statements might be surprising at first sight. However, this can be explained by the fact that a large share of these statements refers to the introduction of new austerity measures. Finally, among the statements that refer to the periphery countries the majority are related to Italy (37) and Greece (28). This reflects the fact that during our sample period the political debate was very much focused on these two countries. In contrast, Spain was not yet under such scrutiny.

Table 1: Summary of Political Statements

		Positive		Negative		Total
Periphery (C_t^P)	IT	24	65 %	13	35 %	37
	GR	23	82 %	5	18 %	28
	ES	4	100 %	0	0 %	4
	IE	4	100 %	0	0 %	4
	PT	3	100 %	0	0 %	3
	Total	58	75 %	19	25 %	77
Eurozone (C_t^{EZ})		43	49 %	44	51 %	87
	Total	101	62 %	63	38 %	164

Notes: The table shows the number and the tone (positive/negative) of the statements that refer to the periphery countries and the EZ, respectively.

2.2 Financial Data

For the stock market indices of three core EZ countries (DAX (Germany), CAC (France), BEL20 (Belgium)) and the five periphery countries (FTSE MIB (Italy), IBEX (Spain), PSI20 (Portugal), ISEQ (Ireland) and ASE (Greece)), we calculate 15-minute returns as $r_{t,t+15} = 100 \times (\ln(P_{t+15}) - \ln(P_t))$. Similarly, we calculate the 15-minute change in the 10-year government bond yields of the respective countries, denoted by $i_{t,t+15}$. Finally, we consider the returns, $ex_{t,t+15}$, on the EUR-USD exchange rate. All financial data were obtained from Bloomberg.

2.3 Econometric Methodology

In order to measure the high-frequency response of the European capital markets to political communication, we follow Almeida et al. (1998) and regress the 15-minute change

in the respective financial market, $y_{t,t+15} \in \{r_{t,t+15}, i_{t,t+15}, ex_{t,t+15}\}$, on the political communication $C_t \in \{C_t^P, C_t^{EZ}\}$:

$$y_{t,t+15} = \beta_0 + \beta_1 C_t + \varepsilon_{t,t+15} \tag{1}$$

Note that equation (1) is not a time series regression. Instead, each observation reflects the respective capital market's 15-minute adjustment in response to the preceding communication.

3 Empirical Results

Table 2 provides a summary of the empirical results. Panel A shows how the national stock markets respond to communication regarding i) the periphery countries, C_t^P, and ii) the EZ, C_t^{EZ}. First, all stock markets significantly increase in response to positive communication regarding the periphery countries. The size of the response is strongest in Germany and Italy with an R^2 of 0.32 and 0.29, respectively. The R^2 for Portugal, Ireland and Greece are considerably lower. Second, statements in favor of a shared liability for national debts within the EZ lead to significantly positive returns in all stock markets except Greece. Note that in all stock markets the response to C_t^{EZ} is weaker than the response to C_t^P.

Panel B presents how political communication impacts on European bond markets. In general, the R^2's in the bond market regressions are lower than the corresponding ones in Panel A. We observe significant reactions to communication concerning the periphery countries in the German, French and Italian bond markets only.[2] The sign of the response of the German and French bond markets is positive, while the sign of the response of the Italian bond market is negative. More precisely, bad news regarding future economic development in one of the periphery countries leads to a rise in the 10-year Italian government bond yield by 0.85 basis points while the German yield decreases by 0.69 basis points. This bond market response is in line with the interpretation that financial market participants view the German bond market as a safe haven. The fact that Italy is the only periphery country for which we observe a significant market response may be explained by the observation that due to its financial and political situation, the country was under the spotlight in financial markets during our sample period. In comparison to Greece, Ireland,

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[2]Since Bloomberg reported the 10-year Irish government bond yields until October 11, 2011 only, the corresponding regressions are based on a shorter time period and, hence, include only 36/53 observations.

and Portugal, the Italian debt level has been too high to allow the country to be taken under the European rescue umbrella. Therefore, Italy's debt problem was considered to be the crucial issue in solving the European debt crisis. Since Italy plays such a pivotal role, we analyze the response in capital markets to communication with respect to Italy in more detail in Table 3. The result that the 10-year Greek government bond yields do not react to statements regarding the periphery countries (although a large amount of these statements refer specifically to Greece, see Table 1) may be explained by financial market participants who do not consider the rescue measures taken as being sufficient to solve the Greek debt problem.

Interestingly, only the German bond market significantly reacts to communication regarding the EFSF, Eurobonds, the ECB or the EURO. Statements that are in favor of an expansion of the EFSF, for example, lead to rising German bond yields. The finding that the periphery countries' government bond yields do not react at all to such statements is remarkable. It implies that the periphery countries do not 'benefit' from such statements.

As Panel C shows, political communication has a weak but significant influence on the EUR-USD exchange rate. Positive communication leads to a significant appreciation of the EURO within the 15 minutes following the statement.

Finally, Table 3 presents how financial markets respond to communication regarding Italy, C_t^I. Recall that 37 out of the 77 statements regarding the periphery countries are concerned with Italy. In comparison to Table 2, the estimated coefficients typically suggest a stronger market response and a higher R^2. Unsurprisingly, the Italian stock market reacts most strongly to positive communication about Italy. More precisely, after a positive statement the FTSE MIB increases on average by 0.29% in the ensuing 15 minutes. In addition to the German, French and Italian bond markets, the Spanish bond market now shows a significant (at the 10% level) reaction as well. In response to positive communication the government bond yields of the core (periphery) countries increase (decline). For example, if a major European politician communicates that Italy will introduce new austerity measures, the Italian government bond yield decreases by 1.49 basis points. Overall, our results highlight the pivotal role that Italy plays among the periphery countries and confirm the safe haven interpretation of the German bond market. Finally, the EUR-USD exchange rate also reacts more strongly to communication concerning Italy.

Table 2: Financial Market Response to Political Communication

C_t	# of Obs.	Core Countries			Periphery Countries				
		DE	FR	BE	IT	ES	PT	IE	GR
		Panel A: Stock Markets (dependent variable: $r_{t,t+15}$, change in %)							
		DAX	**CAC**	**Bel20**	**FTSE MIB**	**IBEX**	**PSI20**	**ISEQ**	**ASE[1]**
C_t^P	77	0.2282***	0.2160***	0.1630***	0.2307***	0.1785***	0.1167***	0.0923***	0.1120**
		(0.0357)	(0.0428)	(0.0329)	(0.0470)	(0.0398)	(0.0275)	(0.0334)	(0.0472)
	R^2	0.32	0.29	0.26	0.29	0.25	0.18	0.14	0.06
C_t^{EZ}	87	0.1784***	0.1478***	0.0930***	0.1537***	0.1321***	0.0889***	0.0735***	-0.0050
		(0.0273)	(0.0240)	(0.0225)	(0.0323)	(0.0268)	(0.0255)	(0.0233)	(0.0546)
	R^2	0.33	0.31	0.17	0.21	0.22	0.13	0.10	0.00
		Panel B: Bond Markets (dependent variable: $i_{t,t+15}$, change in basis points)							
		10-year government bonds[2]							
C_t^P	77	0.6929***	0.3608**	1.4409	-0.8470***	-0.1863	0.1151	8.2820	-1.1924
		(0.1523)	(0.1731)	(1.0245)	(0.2289)	(0.1867)	(0.1552)	(8.6568)	(0.8722)
	R^2	0.25	0.06	0.07	0.12	0.01	0.00	0.10	0.01
C_t^{EZ}	87	0.2376**	0.1623	-0.5044	-0.0761	-0.1829	-0.2773	-1.4056	0.3810
		(0.1110)	(0.1247)	(0.8002)	(0.1605)	(0.1672)	(0.3229)	(4.0341)	(0.7649)
	R^2	0.05	0.02	0.00	0.00	0.01	0.01	0.00	0.00
		Panel C: Exchange Rate (dependent variable: $ex_{t,t+15}$, change in %)							
		EUR/USD							
C_t^P	77	0.0563***							
		(0.0123)							
	R^2	0.21							
C_t^{EZ}	87	0.0322***							
		(0.0082)							
	R^2	0.15							

Notes: The table presents the estimates of β_1 in equation (1). Heteroskedasticity-robust standard errors are reported in parenthesis. ***, **, * indicate significance at the 1%, 5%, and 10% levels. [1]Due to the Greek trading hours (9^{30} - 16^{00} CET), the Greek stock market regressions are based on 67/71 statements respectively. [2]Since Bloomberg reported the yields on 10-year Irish government bonds until October 11, 2011 only, the corresponding regressions are based on 36/53 statements.

Table 3: Financial Market Response to Statements Regarding Italy

C_t	# of Obs.	Core Countries			Periphery Countries				
		DE	FR	BE	IT	ES	PT	IE	GR
Panel A: Stock Markets (dependent variable: $r_{t,t+15}$, change in %)									
		DAX	**CAC**	**Bel20**	**FTSE MIB**	**IBEX**	**PSI20**	**ISEQ**	**ASE**[1]
C_t^I	37	0.2361***	0.2485***	0.2007***	0.2857***	0.2125***	0.1155***	0.1403***	0.0897
		(0.0445)	(0.0572)	(0.0404)	(0.0609)	(0.0540)	(0.0307)	(0.0305)	(0.0815)
	R^2	0.45	0.41	0.44	0.42	0.35	0.36	0.43	0.03
Panel B: Bond Markets (dependent variable: $i_{t,t+15}$, change in basis points)									
		10-year government bonds[2]							
C_t^I	37	0.9595***	0.5702**	2.0974	-1.4918***	-0.4827*	0.4237	20.8583	-0.5587
		(0.1992)	(0.2195)	(1.4842)	(0.3325)	(0.2580)	(0.3373)	(19.0324)	(1.0818)
	R^2	0.44	0.16	0.09	0.30	0.08	0.02	0.26	0.01
Panel C: Exchange Rate (dependent variable: $ex_{t,t+15}$, change in %)									
		EUR/USD							
C_t^I	37	0.0698***							
		(0.0159)							
	R^2	0.38							

Notes: The table presents the estimates of β_1 in the regression $y_{t+15} = \beta_0 + \beta_1 C_t^I + \varepsilon_{t,t+15}$, where $y_{t,t+15} \in \{r_{t,t+15}, i_{t,t+15}, ex_{t,t+15}\}$. Heteroskedasticity-robust standard errors are reported in parenthesis. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively. [1]The Greek stock market regression is based on 28 statements. [2]Since Bloomberg reported the yields on 10-year Irish government bonds until October 11, 2011 only, the corresponding regressions are based is 11 statements.

4 Conclusion

Our results show that the communication of major European politicians during the sovereign debt crisis has a significant impact on the European financial markets. We find that statements regarding specific periphery countries evoke stronger market responses than statements focused on the EZ as a whole. While positive statements of either type lead to significant increases in the stock markets of all countries under analysis, only the German, French and Italian bond markets are affected by political communication. The bond market reactions imply that investors consider the German governments bonds to be a safe haven. Italian government bond yields decrease if political communication hints at improvements in the state of the economy or the introduction of new austerity measures, but they do not react to statements in favor of an expansion of the EFSF or the introduction of Eurobonds.

References

Almeida, A., R. Payne, and C. Goodhart (1998). "The effects of macroeconomic news on high frequency exchange rate behaviour." *Journal of Financial and Quantitative Analysis*, 33, 383–408.

Beetsma, R., M. Giuliodori, F. de Jong, and D. Widijanto (2012). "Spread the news: the impact of news on the European sovereign bond markets during the crisis. CEPR Discussion Papers 9043.

Conrad, C., and M. J. Lamla (2010). "The high-frequency response of the EUR-USD exchange rate to ECB communication." *Journal of Money, Credit and Banking*, 42, 1391–1417.

Ehrmann, M., and M. Fratzscher (2007). "Communication by central bank committee members: different strategies, same effectiveness?" *Journal of Money, Credit and Banking*, 39, 509–541.

Mohl, P., and D. Sondermann (2012). "Has political communication impacted bond spreads?" *Applied Economics Letters*, forthcoming.