## The Eurotower Strikes Back: Crises, Adjustments and Europe's Austerity Protests\*

Federica Genovese<sup>†</sup> Gerald Schneider<sup>‡</sup> Pia Wassmann<sup>§</sup>

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#### Abstract

The 2008 global financial crisis came with fears — and, for some, hopes — that a new wave of public mobilization would emerge in industrialized countries. Especially throughout the European Union (EU), the epicenter of the crisis, large protests were expected. Yet, the energy with which social groups mobilized against the proposed austerity measures quickly fizzled. This article provides new evidence for why this was the case. In line with Neo-Keynesian theory, we argue that the interest rate adjustments and political announcements of the European Central Bank (ECB) limited the potential for mass unrest in the member states of the Economic and Monetary Union (EMU) affected by the crisis. We provide evidence for our argument with yearly panel data and a new original dataset of monthly political protests between 2001 and 2013. Our analyses support the hypothesis that the ECB was able to successfully assuage dissatisfaction with the limited reform options of the Eurozone member states in the wake of the Eurocrisis.

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<sup>&</sup>lt;sup>†</sup>University of Essex, fgenov@essex.ac.uk

<sup>&</sup>lt;sup>‡</sup>University of Konstanz, gerald.schneider@uni-konstanz.de

<sup>§</sup>Leibniz University Hannover, wassmann@niw.de

#### 1 Introduction

In 2010, at the height of the Eurozone crisis, the retired French diplomat Stéphane Hessel published Indignez-Vous!, a 32 page-long pamphlet that called on the people of Europe to revolt against the injustices of the capitalist world. The former Résistance fighter and concentration camp survivor bemoaned, among other things, the "international dictatorship of financial markets that threatens peace and democracy" (p. 11, authors' translation). The booklet became an unexpected international bestseller and inspired several protest groups, including the Occupy movement and the Spanish Movimiento 15-M, which tried to counter the planned measures imposed by debt-ridden governments following the global financial crisis through demonstrations, sit-ins and other forms of political opposition.

Despite the global scale of attention these protesters have received, the new social movements largely failed to galvanize long-term support and stop the contested fiscal adjustments. This article examines why the mass protests staged by trade unions and other stakeholders quickly faded. Whereas political protests in Greece and Spain at a point became more frequent and led to the formation of new parties with distinctive anti-austerity platforms, most crisis-ridden Eurozone members, including states such as Italy or Ireland, experienced far less overt indignation regarding the failures of the financial industry than the media and intellectual leaders had predicted.

This article proposes a theory for the ephemeral nature of mass protests during the early stages of the Eurocrisis. Our theory focuses on the role of monetary institutions in shaping social discontent when a crisis hits. We predict that, if public debt is low or fiscal institutions are flexible, social forces have difficulties mobilizing the masses, as the potential losers of reforms can count on plausible compensatory measures. However, if public debt is either high or fiscal policy is constrained, the potential losers are much more willing to take their fears to the streets since they know that they cannot count on any compensation. The anticipation of financial pain should therefore increase the occurrence of mass protests unless monetary institutions take over the pain-reducing role

national governments have traditionally played in times of crises. We expect that mass protests in the Eurozone would have increased unless EU institutions had not forcefully introduced a new line of crisis management.

Specifically, we identify the actions of the European Central Bank (ECB), which culminated in July 2012 with President Draghi's famous reassurance note to do 'whatever it takes',¹ as the mechanism that ultimately decreased some of the worries among the European publics. Citizens' reluctant acceptance of the ECB direction, we argue, buffered the ongoing social crisis. Our theoretical contribution is consistent with classical models of social conflict in times of economic stress (Alesina and Drazen 1991), but stands in contrast with theories that see an undermining impact of EU integration on European welfare states (Streeck 2011, 2013). Despite the pain suffered in the months after September 2008, we believe that the Euro and its masters have in part sheltered the losers of the crisis from the uncertain adaptation costs they would have faced without the single currency.

Our study also presents, to the best of our knowledge, the first comparative analysis of post-2008 European political protests, which we understand as largely anti-government activities in the form of mass mobilization. Our paper first analyzes yearly data on general strikes, i.e. politically motivated strikes that we assembled for EU countries using first and secondary sources. In a second step, we employ a new dataset of EU monthly political protests, including large rallies and far-reaching demonstrations, between January 2001 and December 2013, which we match to information on ECB interventions and political announcements. The results lend strong support to our theoretical conjecture, showing how international policy makers have avoided the upsurge of large-scale public protests in Europe.

<sup>&</sup>lt;sup>1</sup>BBC. 2012. ECB will act to save euro, says Mario Draghi. July 26, 2012. http://www.bbc.com/news/business-18998083,228/2014. Accessed on September 6, 2014.

### 2 Financial Crises, Policy Responses and Mass Protests

Political mass protests indicate how contested the proposals or decisions to reform the economy are (Ahlquist 2010; Kelly and Hamann, 2009; Levi et al., 2009; Visser, 1992). In times of crises, the leaders of political groups and social movements rely on this form of extra-parliamentary activity to pressure governments to adopt measures that influence their constituencies. However, mass protests are also costly and can be halted if foreseen social demands are met. Focusing on the link between crisis response and mass protests directed against the national government, our theoretical discussion first reviews the terms under which we should expect crises to affect social stability. We then examine the circumstances in which different types of policy intervention and institutional settings may exacerbate or mitigate mass protests in times of crises.

#### 2.1 Public Reactions to Financial Crises

Theories of collective action suggest that mass protests are a function of social discontent (Tilly, 1978; Olson, 1965). In the domain of economic policymaking, anticipated or realized welfare loss fuels the frustrations that trade unions and other social organizations capitalize on to mobilize for strikes and demonstrations. The pressure from the streets can then transform into large-scale social unrest. Thus, contingent on unexpected financial shocks, mass protests become an instrument through which civil groups compete in the conflict over who should shoulder the costs of economic adjustments. Alesina and Drazen's (1991) classic war-of-attrition game illustrates the dynamics of this distributive conflict: According to their model, competing social groups advance far-reaching demands in times of high financial stress, aiming to ensure that the other side carries the larger part of the adjustment burden. As no party has an incentive to give in, reforms are delayed, the crisis is deepened, and social friction increases (Alesina and Drazen, 1991).

Banking and currency crises should induce social conflict, as both types of crises generate controversial discussions over which groups should pay for the adjustment measures. Banking crises typically raise the question of whether taxpayers or shareholders should

finance attempts to "save" the banks, while currency crises drive a wedge between public sector workers and wage earners on the one hand and capital owners on the other hand. Either type of financial shock causes stress in the electorate, as political leaders become the targets of the blame that accompanies retrenchment (Breunig and Busemeyer 2012). Governments can avoid the blame through welfare protection, because classical Keynesian spending shields the masses from the costs of restructuring the economy through painful adjustment (Vis and Van Kersberg, 2013). So, if debt expansion is an option, this will be the government's first attempt to solve the crisis and prevent mass protests. However, when debt is too high and restructuring is the only option due to institutional constraint, the economic downturn associated with financial crises incentivizes political groups to mobilize anti-government support outside their core constituency (Ahlquist and Levi 2013; Hamann et al., 2013a and 2013b). This begs the question of how the government reacts to these circumstances.<sup>2</sup>

Recent research taking up this question has analyzed the interaction between the electorate, social groups and the government in times of high financial pressure. The bulk of this research has focused on relations between employers, employees and governments. For example, Ahlquist (2010) shows that executives in EU countries have had strong incentives to conclude policy pacts with unions and employers "during times of high unemployment and in countries aspiring to comply with the Maastricht criteria" (Ahlquist, 2010: 585). This is because the consequence for failing to close a social pact is a growing risk of mass strikes and a loss of votes at the ballot box (Harmann et al., 2013a and 2013b). Nevertheless, social pacts are not the only instrument governments can choose in order to counter the negative electoral effects of financial crises and the policy reforms they provoke, especially in view of protests that do not only involve workers but broader fringes of the public. In this article, we concentrate on key macroeconomic instruments national and supranational policymakers can manipulate to preserve social cohesion in

<sup>&</sup>lt;sup>2</sup>One might object that, if the public knows that the government has wiggle room, it might make more sense to protest in an attempt to get the government to commit to compensatory measures. In contrast, if the government has no room to maneuver, there might be little point in protesting in the hope of getting concessions. However, this distinction is only valid for sluggish crises with minor financial repercussions, which we do not study in this paper. In more drastic events, the pain of the crisis and the urgency for response are so large that governments should expect swift and powerful protests.

times of economic turmoil. In particular, we argue that the peculiarities of monetary and fiscal regimes that determine the choice of macroeconomic reactions to a crisis are a crucial part of the puzzle that we need to unravel in order to understand the mechanisms behind recent protests in Europe.

#### 2.2 Government Responses to the Eurocrisis

We have suggested that financial crises almost inevitably result in a massive loss of confidence in an economic system and the policymakers held responsible for the financial turmoil. The Eurozone crisis is no exception: the collapsing trust in 2008-2012 manifested itself with a sudden drop of risk appetite in international markets and an increasing fear of financial collapse among the general public. Under this type of circumstances, policymakers can respond to the loss of confidence in a number of ways. In the domain of fiscal policy-making, they can increase welfare spending and pursue expansionary fiscal policies. By contrast, the traditional monetary tools to stimulate the economy involve slashing interest rates and expanding money supply. During the 2008 financial crisis, a variety of new tools were used, like massive bond-buying programs. Quantitative easing and related measures were grounded on the advice of leading macroeconomists that the global financial crisis required unorthodox fiscal as well as monetary responses (Blanchard et al., 2010). According to new Keynesian models, an increased money supply can stimulate the output growth of an economy at least in the short run and under the assumption of risk aversion (Benchimol and Fourçans, 2012). However, not all European countries in the 2008-2012 years were able to engage in Keynesian politics. In fact, preferences over the strategy of crisis management differed widely within the European Union. We argue that preferences especially varied because of the different policy constraints members and nonmembers of the Eurozone faced.

#### Policy Response under Flexible Currencies

To understand the different responses to crises among the EU members, we start by considering the social effects of crises in a regime with floating exchange rates. According to the Mundell-Fleming model, during 'normal' economic times real income and interest rates are stable because investors' confidence is constant. Consequently, governments implement policies that seek to increase income and exports while controlling the interest rates (Broz, 2002). In a crisis, however, investors' confidence drops and interest rates surge. This increases the costs of borrowing, reduces the inflow of capital and lowers the liquidity of the economy.

These dramatic developments in the course of a crisis should affect public preferences. The likely losers of the crisis will ask for financial buffering and wage protection to offset adjustment costs, which usually translate into higher debt. In a small open economy, decision makers can chase the specter of prolonged distributive fights away through fiscal concessions, possibly coupled to a depreciation of the currency and a restructuring of the banking sectors. Buying social peace through deficit spending, however, is no panacea, as it exposes the vulnerable segments of the society to rising inflation. Central bankers can fight this trend in a floating exchange rate system through interest rate adjustments or the simple reassurance that they will contribute to the crisis management (Baerg, 2014). The handling of the European banking crises in the early 1990s illustrates how monetarily sovereign countries typically rely on a mix of fiscal and monetary policies to bring their economy back in shape. In Sweden in 1993, for example, the fiscal stimulus increased the sovereign debt to GDP ratio by 31-percentage points, driving it beyond 80 percent. Yet, the devaluation of the Krona allowed the governments to inject significant funds in job insurance and ultimately prevented mass mobilization against the adjustments the crisis required.

In light of this reasoning, fiscal stimuli in combination with expansionary monetary policy or currency depreciation should mitigate the costs of adjustments and preserve the political status quo. However, the mechanism between crises, reforms and protests should be different in countries adhering to a fixed exchange rate.<sup>3</sup>

<sup>&</sup>lt;sup>3</sup>It is worth noting that debt crisis and other types of financial crises often occur in tandem. A debt crisis, if it did not exist at the outset of the financial crisis, is almost inevitably the consequence of slow attempts to solve the crises. Nevertheless, unexpected crises such as the 2008 crash are only loosely endogenous to anticipated deficits, despite the close relationship between banking shocks and debt expansion.

#### Policy Responses within Monetary Unions

Unlike the EU countries outside the EMU, governments of Eurozone member states should not be able to influence mass mobilization because they do not possess the full set of policy options. While the so-called Maastricht criteria reduce their possibilities to engage in Keynesian deficit spending, depreciations are no longer feasible unless a country decides to leave the common currency. This makes it almost inevitable that Euro governments have to think about measures that aim at stimulating economic growth or debt consolidations. Liberalizations tend to increase the conflict level within a society at least in the short run, as the workforce cannot move easily from contracting to expanding sectors (Bussmann and Schneider, 2007). Debt consolidations, on the other hand, meet the resistance of those who are about to lose income. As the cutbacks of the state affect the civil service, resistance will largely come from groups that represent the public sector.

Note, however, that this discussion lacks an important actor that has the ability to ease the adjustment burden in the Euro area: the European Central Bank (ECB). To understand what role the ECB could have played to preserve social stability in the European Union during the recent crisis, it is important to understand its nature. The Bank, which was conceived in 1994 as a politically independent body under the Maastricht Treaty, began its mandate in 1999. The ECB found itself in a dramatic position after the collapse of the Lehman Brothers and the release of a 'revised' budgetary forecast for Greece. On the one hand, President Trichet recognized that the ECB was not allowed to engage bond markets in the attempt to 'save' the Euro, as per Article 127 of the Treaty on the Functioning of the European Union, which explicitly sets out that the "principle objective of the ECB shall be to maintain price stability". On the other hand, however, it became clear that states had no capacity to reverse the signal that the Euro was losing credibility. The markets thought the 200-billion Euros Fiscal Stimulus Plan of December 2008 was necessary but not sufficient. Meanwhile, the EU Council seemed to take too long to arrange a meeting on economic governance. In 2010, investors became particularly worried about the possible expulsion of Greece from the monetary union. As the difference between German and Greek bonds hit nearly 60 percentage points in the summer of 2011,

Greece had seen more than 10 massive general strikes.

We argue that the moment in which European leaders decided for a more political ECB to emerge, mass protests across Europe started declining. This expectation is in line with the principle of forward guidance, according to which the management of expectations through communication is of central importance (Blinder et al., 2008). As an economy moves towards what Keynesians describe as the "liquidity trap", a situation in which individuals hoard money and the economic output falls because of deflation fears, forward guidance is a psychological tool through which political agents change their beliefs about the development of the economy once the crisis is over. Eggertsson and Woodford (2003: 143, italics in original) argue that open-market interventions will fail unless the central bank alters the "expectations regarding how monetary policy will be used after the constraint is no longer binding, and the central bank again has room to maneuver." We therefore expect that measures underlining the long-term commitment of the ECB to the Euro should signal its resolve to keep the EMU together.

In particular, we identify two joint reasons why ECB actions affected mass protests in the Euro zone. First, the ECB decreased deposit facility rates to stimulate investments and induce import demand. This move received significant media attention. For example, *The Guardian* called the new head, Mario Draghi, 'the savior of the Euro zone' after he pledged the ECB would have bought government bonds from member states that were finding it hard to fund their borrowing. The change of ECB deposit rates also initiated discussions that led to the Outright Monetary Transactions program, which economist Martin Feldstein (2013) assessed to be a much more relevant and effective reform than the parallel Fiscal Stability Treaty.

Second, after the outbreak of the crisis the ECB started using press conferences to channel confidence in financial and labor markets, in line with the emphasis of Neo Keynesians for monetary policy making through public pronouncements. The strategy of going on air with 'Eurocrisis updates', employed by President Draghi especially since 2012, was particularly crucial. Consequently, it is plausible that the ECB statements also affected the mood of civil society. After all, despite the complaints of some German ECB board

members, most national representatives felt Draghi's prominent line of crisis management to be the right move.

In light of this discussion, social mobilization in the Eurozone should have halted as soon as the ECB took a more political role in terms of interest rate manipulation and in terms of publicly framing its crisis management in order to protect social welfare. In line with this argument, the ECB intervention on sovereign bond spreads possibly became effective before the actual buying program was put in place (De Grauwe, 2011), because Europeans' confidence in the economy arguably changed after the ECB signaled intentions of reform. Consequently, we expect the ECB mediated the costs of public debt adjustments, which would have otherwise led to an upsurge in mass protests in the Eurozone.

In sum, our Neo Keynesian theoretical framework leads us to two hypotheses that we empirically test below. First, and rather generally, we expect that constraints to expansionary fiscal policy in times of crisis should spur the occurrence of mass protests as national governments have little room to apply compensatory policies – but this effect should be mediated by monetary action. So, secondly and specifically for the Eurozone, we expect that the actions of the ECB appeared social discontent in the course of the Eurocrisis.

#### 3 Empirical Analysis

To empirically assess the hypotheses outlined above, we rely on two different datasets. The first part of the empirical analysis investigates our first hypothesis, which focuses on the link between crises and public unrest conditional on policy constraints to governmental responses. For this test, we concentrate on the EU-15 states minus Luxembourg.<sup>4</sup> Focusing on the period between 1980 and 2013, we study the trends in general strikes as one type of large-scale political protests for which we have high quality yearly data.

<sup>&</sup>lt;sup>4</sup>These countries are Austria, Belgium, Denmark, Germany, Greece, Finland, France, Ireland, Netherlands, Italy, Portugal, Spain, Sweden, United Kingdom.

In the second part of the empirical section, we present a more fine-grained analysis of the Eurozone crisis based on monthly data of political protests in six selected EU states, namely Germany, Greece, Ireland, Italy, Spain and the United Kingdom. This second analysis allows us to evaluate the effect of the ECB's political action undertaken at the occurrence of protests after 2008.<sup>5</sup>

#### 3.1 Protests, Crises and Policy Constraints

#### Yearly Data on General Strikes and Macroeconomic Dynamics

For our first test, our main outcome of interest is the occurrence of mass protests and demonstrations at the state-year level. General Strikes are measured as the number of political strikes against a government's national policies related to pensions, labor laws, welfare and economic reforms. These events come from the dataset presented in Hamann et al. (2013a and 2013b), who collected general strikes data from the Review of the European Industrial Relations Observatory and the European Protest and Coercion Database. Information on the most recent years was also collected through the UK Labour Research Department, and was crosschecked with selected BBC news reports. The appendix includes further details on the dataset. The variable ranges from zero to six events per year.<sup>6</sup>

Crisis events are measured with banking crises, as these represent the most relevant and exogenous financial shocks in the past three decades. *Banking Crisis* is a binary variable based on Laeven and Valencia (2012) and indicates with a value of 1 whether a country is under significant financial pressure, and 0 otherwise. A banking crisis is defined as a financial distress in the banking system as indicated by significant bank runs, losses in the banking system, and banking policy intervention in response to significant losses in the banking system (Laeven and Valencia, 2008).

<sup>&</sup>lt;sup>5</sup>Note that our work is distinct from former studies on social protests, which focus on other drivers of discontent. See for example Ponticelli and Voth 2011, and XXX in this Special Issue.

<sup>&</sup>lt;sup>6</sup>In Germany, no general strike can be observed, given that these are unconstitutional. However, more nuanced political protests have recently occurred in Germany, and are coded in the monthly dataset described below

<sup>&</sup>lt;sup>7</sup>Note that we use Laeven and Valencia's updated dataset as of 2012. We also included what the

We use the national debt to GDP ratio as our main variable for governments' fiscal constraints. The variable *Debt* corresponds to the IMF public debt to GDP ratio, which we updated with Eurostat data for the years 2012 and 2013 (Abbas *et al*, 2011). Since we focus on events around 2008, one might object that the real focus of the Eurocrisis policies was the balance of payments rather than sovereign debt. However, the ratio of gross government debt and the cumulative current account deficit as a share of GDP are correlated, and countries with high current account deficits have generally had high debt ratios, especially countries above the 60 percent threshold. Putting aside other minor considerations (i.e. the fact that the data is not cyclically-adjusted), our IMF debt measure ranges from 11.5 percent in Finland 1981 to 175.1 in Greece 2013.

Figure 1 provides a description of the incidence of the politically motivated strikes in the dataset. Greece is the most strike-prone state in our sample. Italy, Spain and Portugal also present a significant density of protests, followed by France and Belgium, which however do not reach equivalent levels for the 2008-2013 period, i.e. the years following the Eurocrisis. Remarkably, we observe no general strikes for either of the non-EMU countries, namely the United Kingdom, Denmark and Sweden. Admittedly, in Sweden, high legal constraints to general strikes exist, which may bias the results. Yet, the descriptive evidence carries some weight for our theory, because it suggests that in these countries high fiscal burdens do not exacerbate social discontent. It is then plausible that, in light of the monetary discretion these states possess, Denmark, Sweden and the UK did not experience general strikes during the Eurocrisis.<sup>8</sup>

#### Estimation Strategy

Our first hypothesis is centered on the effect of macroeconomic policy constraints on mass protests at the time of a crisis. A possible set-up for our empirical test is a time-series cross-sectional analysis where general strikes are a function of a crisis interacted with

authors define as 'borderline' crises, namely the cases of France 2008, Italy 2008 and Sweden 2008. Our empirical implications are not sensitive to this different definition. Moreover, Laeven and Valencia's (2010) discussion on the significant market valuation of financial institutions in France and Italy leaves up to interpretation whether these can be interpreted as crisis cases (p. 21).

<sup>&</sup>lt;sup>8</sup>Note also that these countries have no special characteristics with respect to legal constraints on strikes or union density. Sweden presents as high levels of constraints as Germany, while the UK has virtually no constraints.

the time-varying national debt levels. This would technically constitute a difference—in—difference—in—differences estimation, because of the double treatment caused by crisis and EMU membership (Angrist and Pischke 2009). However, as it is true of many time series in the social sciences, we cannot assume that either general strikes or their antecedents are stationary, since the political and economic processes at hand are likely to share common trends.

Testing the data for stationarity, we find that several of our independent variables contain unit roots, which make the estimated coefficients of time series models inefficient and possibly spurious. Moreover, while the strike levels do not follow a statistically significant unit root process in the aggregate, the by-country Philips-Perron tests indicate that a few series have important trends.<sup>9</sup> To overcome this caveat, we rely on Error Correction Models (ECMs), which can be used to model both stationary and non-stationary time series in cross-national panels (DeBoef and Keele, 2008).

Estimating the ECM functional form is different from running static analyses: while the latter estimates correlations over levels, ECM is a general specification analogous to an autoregressive distributed lag (ADL) model. Therefore, ECM estimates the 'speed' at which a dependent variable returns to equilibrium after long- and short-run changes in an independent variable. Note, however, that the approach comes with some trade-offs. First, the interpretation of the results is more involved than a simple fixed effects estimation, as it requires calculating long-run multipliers. Second, ECMs impose a lagged dependent variable, which may be correlated with the error by its correlation with the time-invariant component of the error term, leading predictor variables toward negligible values. Finally, the ECM specification precludes the use of unit fixed effects (Kiviet 1995). Nevertheless, it has been shown that the ECM, which addresses the classical omitted variable bias, provides accurate results in dynamic processes (Freeman, 2002; Beck and Katz, 2011). Additionally, this approach can allow us to disentangle the short-and long-term reactions that may emerge in social protests after economic changes. Thus, we adopt a linear ECM estimation that, in the full specification, looks like equation (1).

<sup>&</sup>lt;sup>9</sup>See Appendix for the results of these tests.

$$\Delta GeneralStrikes_{it} = \alpha_0 + \alpha_1^* GeneralStrikes_{it-1} + \beta_1^* \Delta Crisis_{it-2} + \beta_2^* Crisis_{it-2} + \beta_3^* \Delta Debt_{it} + \beta_4^* Debt_{it-1} + \beta_5^* \Delta Crisis_{it-2} * Debt_{it-1} + \beta_6^* \Delta \mathbf{X}_{it} + \beta_7^* \mathbf{X}_{it-1} + u_{it}$$
 (eq. 1)

In our notation, General Strikes constitutes the outcome variable, which is our first proxy of large anti-government protests. The suffix i indexes the country and t the year. The parameter  $\alpha_0$  denotes the unknown intercept for each country i, while u is the error term. The parameter  $\beta_1$  corresponds to the immediate effect of a banking crisis, while  $\beta_2$  stands for the long-term effect of a crisis across future years. Note that our indicators of Crisis are measured with a two-year lag in order to evade the concern that banking crises may in fact follow – rather than cause – a sovereign debt bubble (Reinhart and Rogoff, 2009; Laeven and Valencia, 2012).  $^{10}$ 

The parameters  $\beta_3$  and  $\beta_4$  denote the coefficients of change in debt and debt levels, respectively. The interaction parameter  $\beta_5$  is the coefficient of interest, because it indicates the effect of high debt levels conditional on the occurrence of a crisis. If our theory is correct, the parameter  $\beta_5$  should be negative for the non-EMU states, since a crisis followed by Keynesian fiscal policies and central bank activity should reassure the masses and decrease the chance of protests. By contrast, we expect this interaction to be null for EMU states, because according to our theory, political mobilization should increase rapidly as the crisis hits countries with little macroeconomic flexibility unless international institutions mitigate the fears in the Eurozone as a crisis erupts. Consequently, if this parameter were to be significantly different than zero in the EMU subsample, we would cast doubt on our second hypothesis on the role of the ECB.<sup>11</sup>

Note that by interacting a level variable with a change variable, we are interested in understanding whether there are long-term features of the debt variable that magnify the effect of the occurrence of a financial shock (i.e. the change from a state of no crisis to a crisis). We implicitly set other forms of the interaction between debt and crisis to zero. We think two observations justify this decision. First, the way the crisis affects the

<sup>&</sup>lt;sup>10</sup>Our choice of lags is consistent with Laeven and Valencia, who show that sovereign debt crises follow banking crises in a window of 1-2 years. See Laeven and Valencia 2012:13 (figure 5).

<sup>&</sup>lt;sup>11</sup>The interaction term is calculated from debt levels and occurrences in crisis. This is called an ECM with a dead-start effect (i.e. the debt level conditional on a change from 0 to 1 on the crisis variable).

short-term effects of debt is not of interest here, because all European countries hit by the crises of the past thirty years have substantively increased their deficits in the short-run, and we do not want to over-specify the model with this obviously powerful mechanism. Second, because *Crisis* is a binary variable, we do not want to burden its explanatory power using also the long-term aspects of this variable.

We also estimate the coefficients of a set of indicators,  $X_i$ , that the literature identifies as alternative explanations for general strikes. We control for Inflation (World Bank Indicators), under the assumption that a sustained increase in the price level of goods increases economic uncertainty and decreases the terms of collective agreements, hence incentivizing citizens to protest. We also collected the national *Unemployment* rate (World Bank Indicators), because this is a main labour market variable that could increase or decrease labor mobilization. However, in our main analyses we report estimations that omit this variable, since we find that debt and unemployment rate are too highly correlated ( $\rho =$ .55) to make us confident about our coefficients. Finally, we include the variable Government Ideology, which measures the partisanship of the incumbent executive. We use the Schmidt Index of cabinet composition, which is a scalar that goes from 1 to 5. A strong majority of right-wing parties is coded as 1, while a majority cabinet of left-wing parties is coded as 5 (Armingeon et al. 2011). In the ECM context, this variable estimates the persistence of a government (long-term effect) and the change of government (short-term effect), which means that we implicitly capture the influence of elections and parliament dissolutions. As a robustness tests, we include additional control variables, such as legal constraints and union density, which however do not alter our results.

We estimate equation (1) for the entire sample (i.e. all EU-15 countries minus Luxemburg) and for the subsample of EMU countries. While we ran different permutations and the results are consistent across model specifications, we primarily concentrate on the regression results for the years after the beginning of the Euro discussions following the Maastricht Treaty. Specifically, we draw inferences on the years between 1995 and 2013, although starting at 1993 (the year the Maastricht Treaty was officially adopted) or 1999

(the year the ECB was established) does not substantively affect the results. 12

#### *Findings*

We start by evaluating the partial correlations between the two explanatory variables of interest, i.e. fiscal constraints in terms of large debt to GDP ratios and the occurrence of banking crises, and our first main outcome variable, *General Strikes*. The first specification in Table 1 reports the estimates for the whole sample between 1980 and 2013. The lagged dependent variable is negative and less than 1, which means that the estimation is stable and consistent with the feedback theory underlying error correction specifications. Substantively, we find that the short- and long-run effects of debt on political unrest is positive and statistically significant, while banking crises alone are only weakly associated with strikes. The coefficients for debt are relatively small, but note that debt to GDP ratios can easily move by a few percentage points a year. To fully understand the impact of a shock to debt, one needs the long-run multiplier that we estimated using the Bewley approach (De Boef and Keele 2008). For example, a 10 percentage points level raises the chance of political strikes by roughly 7 percentage points. The additional covariates are also well-behaved, pointing to the exacerbating effects of inflation and right-wing government orientation on changes in strikes activity.

We are interested in understanding whether trends in political protests changed after the introduction of the Euro, which constrained EMU countries in their discretion for fiscal policies due to the Maastricht criteria. Thus, in a second specification we limit our focus to the years between the ratification of the Maastricht Treaty and today. Remember that Denmark, Sweden and the UK do not present political strikes across this timeline; therefore, specification 2 focuses only on EMU countries. We again find that debt has both short- and long-term positive effects on the occurrence of political strikes. In addition, we find that banking crises has a positive and statistically significant impact. This confirms that protests were particularly affected by the 2008 events. Specifically, the 2008 global crisis had the total effect of increasing political protests by roughly 20 percentage points.<sup>13</sup>

<sup>&</sup>lt;sup>12</sup>The panel-specific Bartlett's statistics for white noise indicate that there is no significant variance heterogeneity that would warrant the use of autoregressive conditional heteroskedasticity models.

 $<sup>^{13}</sup>$ In unit points, .66/.57\*1=1.15, which is roughly 20 percent in a scale from 0 to 6 annual political

More critically, our main puzzle is whether, conditional on the eruption of a crisis, a country's level of fiscal constraints in terms of debt can predict the beginning of political strikes. To address this question, we estimate our full model with the multiplicative term in equation (1). According to specification 3 in Table 1, the interaction of debt and crisis is positive but statistically trivial. The long-run multiplier points to the negative relationship that we expect to see in independent monetary systems. However, as expected, this effect is not distinguishable from zero. We then reject the hypothesis that EMU countries with higher debt systematically experience more strikes after a crisis. Figure 2 illustrates the same result from a different angle. The left plot shows the marginal effects of debt in the absence of a crisis, while the right plots represents the marginal effect after a crisis. The slope of the regression line in the instance of crisis is marginally steeper. However, the difference that debt makes conditional on the crisis is very small. This is an important finding that bears on the expectation that other institutional forces, such as the ECB, may have influenced protests in the Eurozone. 14

Our results are robust to a number of sensitivity checks reported in the online appendix. Our dependent variable can be thought of as a binary outcome, so we re-estimated our model specifications with logistical regressions to find that the pattern identified in the linear regressions holds. We obtain similar results in a standard fixed effects framework. The inferences are identical if we dichotomize the debt variable and estimate the effect of 'high debt' on political protests, and the qualitative implications hold also if we exclude Greece as the most strike-prone country. Moreover, if we substitute the outcome variable with economic strikes measured as days not worked (International Labour Organization data), we also find that, while high debt and the incidence of a crisis positively influence the occurrence of labour strikes in all the countries, the interaction between the two is

strikes. It should be then clear that the coefficient of the change in banking crisis is negative, but this should not be understood as a negative 'net' effect of crises on strikes. Although the coefficient indicates that, in the immediate short-term, the impact of a crisis outbreak is not conducive to strikes *per se*, one needs to interpret the effects in the context of the broader equilibrium relationship of the ECM. Based on the long-term multiplier, a crisis has positive and substantial effect on strikes.

<sup>&</sup>lt;sup>14</sup>Evidently, it is also possible that less protest-prone societies may have lower debt due to smaller political cleavages that are associated with low deficit policies. However, we do not observe these selective trends when we look at the course of debt manipulation in non-EMU states vis-à-vis Euro countries before the 2008 crisis.

reliable only for non-EMU countries. In other words, banking crises do not condition the effect of fiscal policy on economic strikes in EMU countries. By contrast, a one-off occurrence of a banking crisis with high debt decreases labor mobilization in non-EMU countries; this is consistent with the theory that fiscal policy can mediate the link between crises and social mobilization.<sup>15</sup>

In short, our evidence indicates that, despite the fact that most EMU countries do not have the capacity to employ fiscal policy and shape social mobilization as non-Eurozone member states do, these constrains did not entail that EMU countries with higher debt systematically experienced more mobilization after the 2008 crisis. Thus, we are left to explore what may have influenced the trend of protests during the recent financial crisis.

#### 3.2 Austerity Protests and the Appeasing Role of the ECB

Our finding that protests in the Eurozone increased only marginally after the 2008 events and hardly differed across EMU states stands in contrast with the theoretical expectation that countries facing higher constraints for fiscal policies are less prepared to manage political protests in times of crises. Following the second part of our argument, this finding may be explained by the politics of international institutions, and specifically the actions of the ECB. In what follows we test this second hypothesis looking at fine-grained data for the Eurocrisis.

#### Monthly Data on Eurocrisis Protests and ECB Actions

We rest our assessment of the second hypothesis on a newly compiled dataset of monthly data that includes a number of original variables. We first collected information on monthly political protests from a large corpus of newspaper articles published between January 2001 and December 2013. Because our interest lays in national mobilization, we identified six countries for which we could collect such data. The countries are Germany, Greece, Ireland, Italy, Spain and the United Kingdom. These cases are different while still featuring some important similarities. Namely, they were all subject to the 2008

<sup>&</sup>lt;sup>15</sup>The findings are also consistent if we substitute banking crises with currency crises.

crisis, they have similar macroeconomic variables (at least in pairs), and the industrial relations of these member states are all sufficiently covered by international newspapers. Our country selection approach is spelled out in more detail in the Appendix. In short, we focused on countries that, based on our yearly dataset, pair on the following specific variables: debt to GDP, government ideology, banking crisis, unemployment rate, and inflation.

Qualitatively, the six selected countries have experienced similar trends in inflation and debt to GDP in the past ten years. Moreover, international media cover these countries regularly, and therefore the quality of the information on these countries is relatively high. Quantitatively, we use the matching algorithm by Nielsen (2014) to make sure that these countries are in fact comparable based on the macroeconomic covariates. The data collection took place in the spring of 2014. The two news databases from which we retrieved the articles are the online archives of the New York Times (NYT) and the British Broadcasting Company (BBC). We scraped all texts with meaningful labels such as general strikes and protests in combination with the name of one of the six countries under consideration. After obtaining the articles, we coded the information as a binary variable, indicating whether general strikes or other forms of political protests were directed against the national government in any given month.

Figure 3 shows the occurrence of political protests in this dataset. We contrast these events with each country's long-term interest rate (ten-year yield on government bonds), which is a measure of short-term financial stress we collected from Eurostat (2014). Several patterns emerge. As we already found in the yearly data, Greece represents the most strike-prone EU country. More importantly, the data shows that the countries that experienced higher financial pressure after 2008 – Greece, Ireland, Italy and Spain – did see a rise of strikes, but with mixed magnitudes. In Ireland, for example, no significant political protests occurred on an average year before 2008, while five mass protests occurred afterwards. By contrast, Italy moved from seven to eight protests. We also see little variation after 2012. The UK, which is our only non-EMU country in this sample, experienced as many political protests as Spain between July 2012 and December

#### 2013.

We have argued that the explanation for this mixed scenario is that national governments did not manage to credibly back up their fiscal policies during the crisis and that at some point international monetary institutions had to intervene. In order to empirically test this conjecture, we need measurements of ECB action during these years. Following our theory, we use two types of indicators. The first measure is *ECB Press Release*, which corresponds to the number of press announcements that the ECB has made with regard to the Euro and the financial crisis in Europe. We collected all ECB press releases categorized under the topic 'Financial Stability' on the Bank's official website. For the statistical analyses we coded the month of an announcement with a 1, and 0 otherwise. The second measure of ECB activity is the *ECB Deposit Rate*. This indicator measures the interest that national banks earn after depositing excess funds in the ECB overnight. It reflects the type of monetary stimulus that the ECB may have given at different times during the crisis to incentivize national banks to keep circulating money.

Figure 4 illustrates the ECB action data for the months between September 2008 and December 2013. We show the level of the deposit facility interest rate, a selection of ECB announcements, and the aggregate number of protests coded for our countries excluding the UK. Noticeably, mass mobilization followed the drop of the ECB rate in early 2009, perhaps also because President Trichet noted that "risks persisted [...] in an environment where wholesale funding costs remains elevated". This wave of protests, however, stops with the establishment of the EU Risk Board in December 2010. Only one political event occurred in Europe in the first half of 2011, until the summer Banking Stress Test, which triggered political demonstrations by artificially devising an adverse economic scenario where banks halted lending to households and business. Draghi's July 2012 'whatever-it-takes' speech seems to have mitigated these events, beside the last coordinated European-wide strikes of November 2012, which were announced to protest against international disagreements over shared liability and the German veto on EU

<sup>&</sup>lt;sup>16</sup>https://www.ecb.europa.eu/press/pr/activities/prud/html/index.en.html.

<sup>&</sup>lt;sup>17</sup>ECB Press Release of 15 December 2008. http://www.ecb.europa.eu/press/pr/activities/prud/html/index.en.html.AccessedonMay31,2014.

bonds. While this provides tentative support for our second conjecture, we now resort to econometric analyses to systematically evaluate how ECB crisis decision making affected the incidence of mass protests in key crises states inside and outside the Eurozone.

#### Estimation Strategy

Our monthly data presents a similarly stationary structure as the yearly data. While the protests variable is weakly stationary, some of the covariates and, remarkably, the ECB deposit rate, present unit roots. We then stay consistent with the methodological discussion from the previous section and estimate linear Error Correction Models for the monthly data. The full model follows equation (2), which includes the two sources of ECB action identified in the theory plus a multiplicative term. We run this regression on the 2008-2013 data period to which the theory applies more critically.

$$\Delta \ PoliticalProtests_{it} = \alpha_0 + \alpha_1^* PoliticalProtests_{it-1} + \beta_1^* \Delta Press_{it} + \beta_2^* Press_{it-1} + \beta_3^* \Delta DepositRate_{it} + \beta_4^* DepositRate_{it-1} + \beta_5^* Press_{it-1}^* DepositRate_{it-1} + \beta_6^* \Delta Press^* \Delta DepositRate + \beta_7^* \Delta \mathbf{X}_{it} + \beta_8^* \mathbf{X}_{it-1} + u_{it}$$
 (eq. 2)

The suffix i indexes each of the six selected countries, and t indicates each month. Political Protests constitutes political demonstrations, strikes and anti-austerity protests directed against the national government. The parameter  $\beta_1$  corresponds to a change in ECB press releases, while  $\beta_2$  represents the long-term issuing of ECB press releases. The parameter  $\beta_3$  is the effect of a change in the ECB deposit interest rate, while parameter  $\beta_4$  is the effect of persistent levels of the deposit interest rate, which captures the enduring level of fiscal stress. Because the effect of ECB actions may be most prominent when the two mechanisms are in place, we also estimate  $\beta_5$  and  $\beta_6$ , which are respectively the coefficients of the interaction between the long-run and short-run effect of ECB announcements and ECB deposit rates. These interactions model the conditional effects of both the short and long-term aspects of the two interacted variables. We expect the interaction terms to be negative. Moreover, we believe ECB measures to be more salient in EMU countries, so we also anticipate the ECB variables to be more statistically and substantively significant for this subset of countries (i.e. excluding the UK). We estimate equation (2) controlling for a number of additional factors, **X**. Unemployment is the monthly average unemployment rate, and Inflation is the monthly rate of price stability, both of which come from Eurostat. Government ideology is the yearly cabinet composition measure that we recode based on the month when governments changed.

#### *Findings*

Specifications 1 and 2 in Table 2 report the estimates for the full sample, which includes both EMU countries and the UK. We first calculated coefficients without the interaction term. While the short- and long-run effects of ECB press releases is negative, they do not reach statistical significance. The ECB deposit rate has a mixed impact on protests: it is negatively correlated with political protests only in the long run, but is also not statistically significant. Including the interaction term improves the coefficients. In specification 2 we find that, conditional on a decreasing deposit rate, an increase in ECB press releases has a negative and statistically significant effect on strikes, as we expected in line with the forward guidance approach to monetary policy making. The coefficient for the immediate change of ECB deposit rates conditional on more press releases is not significant. This means that the decision making of the ECB during the recent crisis mitigated strikes within a one-year lag. However, the long-run multiplier for the interaction term does not reach statistical significance. This indicates that the effect is noisy and cannot be distinguished from zero.

Note that we expect the ECB effect to hold for EMU countries in particular. In order to evaluate whether this emerges in the data, we re-estimated the regressions without the United Kingdom, which is the only non-EMU country in our new dataset. Specifications 3 and 4 report these results. The estimation without the interaction is similar to what we found in the full sample, although the ECB press release effects are marginally stronger. In the interaction model we find that EMU countries are more sensitive to ECB interventions, and the interaction coefficient of the lagged variables is larger. More importantly, we find that the multiplier is statistically significant, indicating that an increase in ECB press releases conditional on changing ECB deposit rates reduces political protests. Specifically, conditional on the level of the deposit rate of one percent, one ECB

public announcement depresses protests in EMU states by roughly 8 percentage points, all else equal. Evidently, the ECB press releases combined with action on the interest rate effectively influence the welfare in the Eurozone. In line with our Neo Keynesian expectations, public actions and declarations seem a particularly useful channel to understand how the ECB has decreased the worst fears in the crisis-ridden countries.

It is worth pointing out that the results are robust to excluding the polarized cases of our sample. On the one hand, Germany did not experience any particular protest wave after 2008, possibly because as of this year its debt was still below the Maastricht threshold levels and the government could use policy instruments such as the car-scrap bonuses. On the other hand, Greece experienced a radical increase in strikes also due to the loss in international reputation after the gimmicky disclosure and the IMF intervention. Our claims hold even if we drop Germany and Greece. This provides further support to our theoretical argument for the effect of the ECB crisis management on political protests across the Eurozone.

# 4 Austerity and Political Protests in the Post-Crisis Europe

The recent global financial crisis has sent shock waves across Europe, threatening the collapse of the Economic and Monetary Union. Although the economic recession is still evolving, concerns over the disruptive social consequences of the Eurocrisis have quickly become reality. Yet, despite an initial wave of intensive protests against the planned austerity measures that some member state governments proclaimed to be indispensable, most opposition movements faded quickly. We have argued that the unorthodox policy making of the European Central Bank in the Eurozone quelled the action that trade unions, civil organizations and public intellectuals had called for since 2008.

Our argument has several implications. First, it sheds light on the 'democratic deficit' debate raised in Europe after the outbreak of the recent crisis. One side of this debate

deplores the top-down decision-making that has manifested itself in the attempts to rescue the Euro. In particular, this perspective is concerned with the risks of future fiscal burden sharing given the unaccountability of the ECB. We think that, in view of our study, these concerns are at least partly flawed. While we agree that the ECB has gained considerable power in recent years, our evidence also suggests that, without its pronouncements, the social crisis in Europe would have been deeper than it turned out to be. Our empirical results indicate that monetary unions matter a great deal in determining the likelihood of protests after a financial shock, although they manage social unrest differently than independent monetary regimes. We have shown that signals from international monetary institutions mitigate the political conflict that emerges in fixed currency systems like the EMU in the aftermath of a crisis.

Second, our empirical evidence lends considerable support to the conjecture that, somehow ironically, the very institution behind the currency that symbolically stands for the deep financial troubles of several EU member states stopped the struggling economies from tipping over into social unrest. One interpretation of our findings is that the social problems of the Eurozone are in fact rooted in the policy making of nation states rather than in the technocratic institutions that have stepped in 'to rescue the member states' (Milward, 1992). After all, the ECB does not officially negotiate with the European leaders. Moreover, while it is technically an independent institution, it has limitations based on the say of the Executive Board and the European Council. Note that our results are far from suggesting that the ECB rescue measures are economically efficient. Some experts have indeed argued that they have prolonged the crisis. Our analysis, however, suggests a political rationality of the 'whatever it takes' policies, which can sometimes appease contending social forces that struggle over which side should shoulder the burden of fiscal consolidation. In sum, we think the confidence that Europeans developed on the ECB's actions is not a function of hopes of grandeur of the ECB, which justifies the market intervention as part of the Bank's mandate. Rather, it is a function of national politicians evading their proposals on fiscal decision making. In other words, the current evolution of the post-2008 crisis indicates that the democratic deficit, if at all, is really

a function of classical problems related to state sovereignty and national credibility, and not the rise of the EU institutions. The case of Greece fits well our argument: Greek protests were in part magnified because of the Troika intervention, but certainly also because the national policy makers breached transparency and accountability to their own people (Featherstone, 2011).

In light of this discussion, we have reasons to believe that Europeans trusted the direction of the ECB leadership more than their national leaders. Evidently, the ECB could promise active money supply and currency protection as the crisis evolved. But words mattered a lot as well. Figure 5 shows the weighted volume of key words we found in the ECB press releases before and after September 2008. As one can see, before the Eurocrisis the Bank was concentrated on risk and stability. However, in the aftermath the discourse turned into a message of Europeanism. Governance also became a much more cited word than it used to be beforehand. While this is only suggestive evidence for a possible preference change, it indicates how the Bank has been well versed in speaking a language that could to some extent comfort the masses.

In conclusion, this article analyzes the relation between financial crises, policy responses and political action in the contemporary European setting. Relying on new developments in the theory of monetary policy making, we identify important links between economic events and political reactions with particular attention to the dynamics in the Eurozone. Like other major crises around the world, we expect the Eurocrisis to continue shaping the agenda of Western Europe in the years to come. Ultimately, our study suggests that politically sensitive crisis management could prevent the supranational organization from drifting further apart.

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150 0 190 97 97 0 80 90 00 10 Debt to GDP Greece 80 90 00 10 Germany Sweden 80 90 00 10 France Spain **General Strikes** 80 90 00 10 Portugal Finland year Netherlands 80 90 00 10 Denmark **Banking Crisis** 80 90 00 10 Belgium Italy 9 Austria Ireland 80 90 00 S 0 2 Ó Þ 9 General strikes

Figure 1: Banking Crises, Debt and General Strikes

Debt to GDP (%)

This plot illustrates the yearly general strikes by country. See main text for data sources.

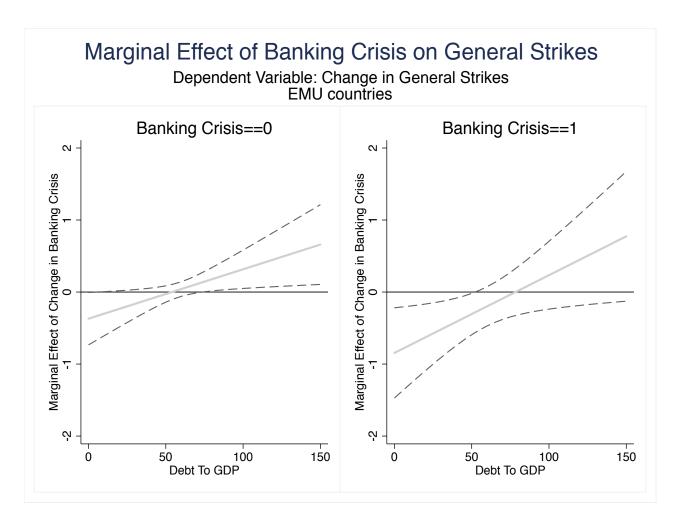


Figure 2: Banking Crises, Debt Levels and General Strikes in EMU countries, 1995-2013. By showing the marginal effects of Change in Banking Crises on General Strikes in 12 EMU countries, this plot illustrates that banking crises conditional on different levels of debt do not have statistically reliable effects on general strikes in these countries. Note that the estimations are based on the relevant interaction model in Table 1.

Figure 3: Political protests before and after the Eurocrisis: Monthly Trends in Selected EU Countries. Jan04 Jan08 Jan12 Jan04 Jan08 Jan12 UK Monthly Political Protests Monthly Political Protests Political Protests Political Protests ε ε 0 Monthly Long-term Interest Rate Monthly Long-term Interest Rate Long-term Bonds Interest Rate Long-term Bonds Interest Rate 07 70 01 01 Jan04 Jan08 Jan12 Jan04 Jan08 Jan12 Germany Spain Monthly Political Protests Monthly Political Protests Political Protests Political Protests I ε 0 ε 0 Monthly Long-term Interest Rate Monthly Long-term Interest Rate O 10 20 Long-term Bonds Interest Rate Long-term Bonds Interest Rate Jan04 Jan08 Jan12 Jan04 Jan08 Jan12 Italy Monthly Political Protests Monthly Political Protests Political Protests Political Protests 1 ε ε 0 0

Monthly Long-term Interest Rate Monthly Long-term Interest Rate Long-term Bonds Interest Rate Long-term Bonds Interest Rate 50 10 10

Protest data comes from our original dataset. Monthly yields on government bonds were collected from the Eurostat (2014).

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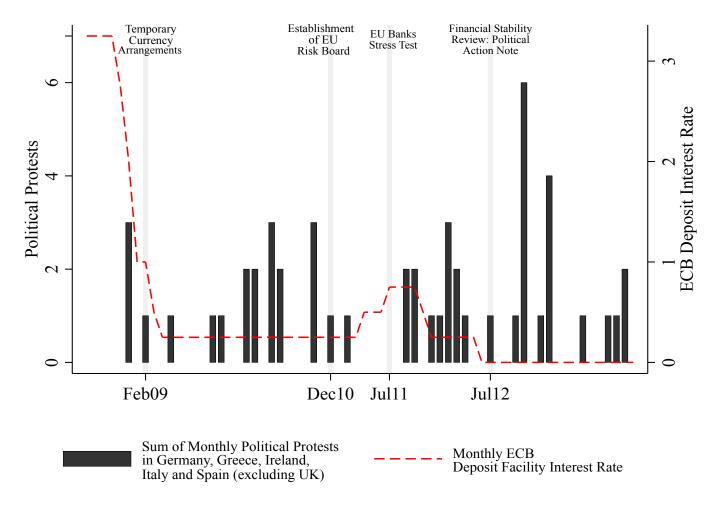
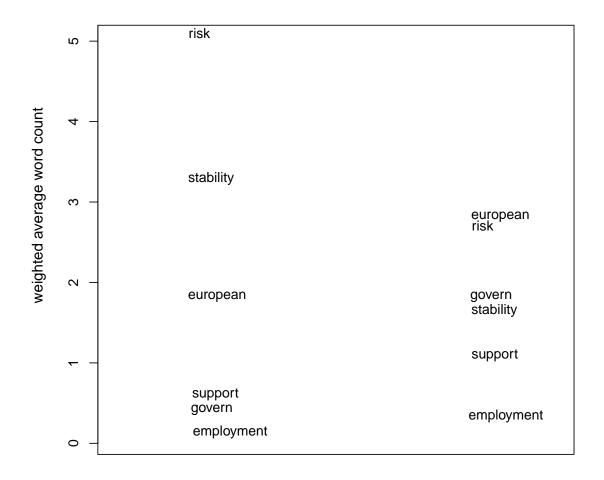


Figure 4: The Eurocrisis and the Role of European Institutions: Monthly ECB Deposit Rates and Protests. The protest data is aggregated for the five selected EMU countries.



pre-crisis releases (Jan01-Aug08) post-crisis releases (Sep08-Dec13)

Figure 5: The Eurocrisis and the Role of European Institutions: Word Trends in ECB Press Releases Before and After the 2008 Events. The plot shows that the weighted counts of key words in the ECB press releases change from before to after the 2008 crisis. Note that we divided the ECB press releases into pre-August 2008 (N = 34) and post-September 2008 (N = 45) texts.

## **Tables**

| Dependent variable:             | General strikes $\delta$ |               |               |  |  |
|---------------------------------|--------------------------|---------------|---------------|--|--|
|                                 | All countries            | EMU countries | EMU countries |  |  |
|                                 | 1980-2013                | 1995-2013     | 1995-2013     |  |  |
|                                 | (1)                      | (2)           | (3)           |  |  |
| $General\ strikes\ _{t-1}$      | -0.65***                 | -0.57***      | -0.58***      |  |  |
|                                 | (0.078)                  | (0.10)        | (0.094)       |  |  |
| $Banking\ crisis\ _{t-2}$       | 0.19                     | 0.66*         | 0.66*         |  |  |
|                                 | (0.18)                   | (0.39)        | (0.39)        |  |  |
| Banking crisis $\delta_{t-2}$   | -0.065                   | -0.21         | -0.48         |  |  |
|                                 | (0.067)                  | (0.16)        | (0.30)        |  |  |
| $Debt_{\ t-1}$                  | 0.005**                  | 0.007**       | 0.007**       |  |  |
|                                 | (0.003)                  | (0.003)       | (0.003)       |  |  |
| $Debt\ \delta$                  | 0.020**                  | 0.030**       | 0.029**       |  |  |
|                                 | (0.010)                  | (0.013)       | (0.013)       |  |  |
| Banking Crisis $\delta_{t-2} X$ |                          |               | 0.004         |  |  |
| $Debt_{t-1}$                    |                          |               | (0.005)       |  |  |
| Inflation rate $_{t-1}$         | 0.021                    | 0.14**        | 0.15***       |  |  |
|                                 | (0.016)                  | (0.059)       | (0.054)       |  |  |
| Inflation rate $\delta$         | 0.090*                   | 0.18*         | 0.18*         |  |  |
|                                 | (0.049)                  | (0.10)        | (0.10)        |  |  |
| $Gov't\ ideology\ _{t-1}$       | -0.009                   | -0.050*       | -0.049*       |  |  |
|                                 | (0.019)                  | (0.027)       | (0.027)       |  |  |
| $Gov't\ ideology\ \delta$       | -0.050**                 | -0.001        | 0.002         |  |  |
|                                 | (0.024)                  | (0.086)       | (0.084)       |  |  |
| Constant                        | -0.25                    | -0.50*        | -0.50*        |  |  |
|                                 | (0.20)                   | (0.26)        | (0.25)        |  |  |
| Long-Run Multipliers            |                          |               |               |  |  |
| Banking Crisis                  | 0.29                     | 0.93*         | 0.53          |  |  |
|                                 | (0.23)                   | (0.499)       | (0.47)        |  |  |
| Debt                            | 0.008***                 | 0.012***      | 0.011***      |  |  |
|                                 | (0.001)                  | (0.002)       | (0.002)       |  |  |
| Banking Crisis $X$ Debt         |                          |               | -0.010        |  |  |
|                                 |                          |               | (0.009)       |  |  |
| N                               | 405                      | 179           | 179           |  |  |
| Countries                       | 15                       | 12            | 12            |  |  |
| Within $\mathbb{R}^2$           | 0.39                     | 0.36          | 0.36          |  |  |

Table 1: Crises, General Strikes and Fiscal Policy. Error correction OLS models. Data aggregated at the yearly level. Dependent variable is Change in General Strikes. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

| Dependent variable:             | Political Protests $\delta$ |          |               |           |
|---------------------------------|-----------------------------|----------|---------------|-----------|
|                                 | All countries               |          | EMU countries |           |
|                                 | 2008 - 2013                 |          | 2008 - 2013   |           |
|                                 | (1)                         | (2)      | (3)           | (4)       |
| Political Protests $_{t-1}$     | -0.96***                    | -0.96*** | -0.98***      | -0.98***  |
|                                 | (0.069)                     | (0.068)  | (0.073)       | (0.072)   |
| $ECB\ Press\ Release\ _{t-1}$   | -0.033                      | -0.018   | -0.061        | -0.043    |
|                                 | (0.063)                     | (0.060)  | (0.076)       | (0.074)   |
| ECB Press Release $\delta$      | -0.028                      | -0.038   | -0.039        | -0.050    |
|                                 | (0.024)                     | (0.032)  | (0.030)       | (0.039)   |
| $ECB\ Deposit\ Rate\ _{t-1}$    | -0.015                      | 0.011    | -0.017        | 0.014     |
|                                 | (0.020)                     | (0.019)  | (0.025)       | (0.024)   |
| ECB Deposit Rate $\delta$       | 0.048                       | 0.015    | 0.050         | 0.015     |
|                                 | (0.044)                     | (0.071)  | (0.057)       | (0.090)   |
| $ECB\ Deposit\ Rate\ _{t-1}\ X$ |                             | -0.046** |               | -0.056*** |
| $ECB\ Press\ Release\ _{t-1}$   |                             | (0.016)  |               | (0.017)   |
| ECB Deposit Rate $\delta$ X     |                             | -0.064   |               | -0.069    |
| ECB Press Release $\delta$      |                             | (0.090)  |               | (0.11)    |
| $Unemployment_{t-1}$            | 0.009**                     | 0.009**  | 0.008**       | 0.000**   |
|                                 | (0.004)                     | (0.004)  | (0.004)       | (0.003)   |
| $Unemployment\ \delta$          | 0.066**                     | 0.068**  | 0.070*        | 0.073**   |
|                                 | (0.033)                     | (0.034)  | (0.036)       | (0.037)   |
| Inflation $_{t-1}$              | 0.025***                    | 0.028*** | 0.026**       | 0.030**   |
|                                 | (0.008)                     | (0.009)  | (0.011)       | (0.012)   |
| Inflation $\delta$              | 0.020**                     | 0.020**  | 0.022**       | 0.022**   |
|                                 | (0.009)                     | (0.009)  | (0.010)       | (0.010)   |
| $Gov't \ party_{t-1}$           | 0.003                       | 0.003    | 0.015*        | 0.014*    |
|                                 | (0.011)                     | (0.010)  | (0.009)       | (0.008)   |
| Gov't party $\delta$            | 0.011                       | 0.010    | 0.013         | 0.010     |
|                                 | (0.016)                     | (0.016)  | (0.023)       | (0.023)   |
| Constant                        | 0.002                       | -0.007   | 0.001         | -0.011    |
|                                 | (0.040)                     | (0.037)  | (0.049)       | (0.045)   |
| Multiplier                      |                             |          |               |           |
| $ECB\ Deposit\ Rate\ X$         |                             | -0.042   |               | -0.050*   |
| ECB Press Release               |                             | (0.026)  |               | (0.029)   |
| N                               | 384                         | 384      | 320           | 320       |
| Countries                       | 6                           | 6        | 5             | 5         |
| Within $R^2$                    | 0.48                        | 0.48     | 0.49          | 0.50      |

Table 2: The Eurocrisis, the ECB and Political Protests: Interaction of Deposit Rate and Press Releases. Error correction OLS models. Data aggregated at the monthly level. Dependent variables are Change in Political Strikes for all the six countries and only the five EMU countries, respectively. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

## Appendix

This online Appendix includes:

- 1. A data memo with description of data sources and methods of data collection
- 2. Supplementary analyses conducted for robustness tests and further validation

## Data

## Yearly Data: General Strikes

In the the paper we focus on the political events, and in the first empirical part we concentrate on yearly *general strikes* as a measure of political protests across all sectors. These strikes are defined as organized endeavors of active and non-active workers to protest against economic and/or social policies. General strikes events come from the dataset presented in Hamann et al. 2013. This data is based mainly on the European Industrial Relations Review of the European Industrial Relations Observatory (EIRO) and the European Protest and Coercion Database. 18 Most recent years' information was also collected through the UK Labour Research Department and was checked with selected BBC news reports. The authors shared the raw data that supplements their published series, which in the current version ranges up to 2013. Their dataset looks at general strikes directed at governments in their role as legislators for five major issues: pension reform, labor law reform (rules governing centralized bargaining, dismissals and redundancy, etc), wages (this includes national wage freeze, changes to the minimum wage, and rules governing overtime pay at the national level only, not for the public sector), welfare (social insurance reform outside of pensions) and economic policy (cuts in discretionary spending – i.e. social services, public housing, health care – and privatization). The data captures only the frequency, i.e. the general counts, of political strikes, because it is not easy to find information on number of workers involved or working days lost for general strikes as these forms of protest may also involve non-union workers, informal workers, and de facto other non-employed people.<sup>19</sup>

For additional robustness checks, we also collected yearly data on *economic strikes*. These strikes are defined as active refusal by active workers to protest against economic and/or social conditions of work, including adjusting wages, changing benefits, and general working practices. Our proxy for economic strikes is the average number of days (as aggregation of daily shifts or hours) lost in lock outs and strikes per 1,000 employees. Our main source for the years from 1980 to 2000 is the International Labour Organization online database, which reports data up to 2008. For the years between 2001 and 2013, we rely on a number of different sources, given that ILO presents lost of missing series and has not updated the website since 2008. We use the adjusted average days not worked from the national statistical offices from the 'Strikes in Europe' iconographic report produced by the European Trade Union Institute (ETUI).

<sup>&</sup>lt;sup>18</sup>See http://web.ku.edu/ronfran/data/.

<sup>&</sup>lt;sup>19</sup>The authors excluded four strikes from their original collection as they did not fit in the general theme of social policy and labor market reform that they discuss in their papers. Excluding these strikes however does not change our main inferences.

### Monthly Data: Countries Selection

Our goal is to focus on a subset of EU countries that can provide us a good group for 'most similar' cases where we can observe the patterns derived from our theory. We want to leverage the distinction between EMU and non–EMU countries to evaluate whether this characteristic generates significant differences across strikes. At the same time, we need high-quality information that - we realize - is not retrievable for all EU countries.

Qualitatively, we are interested in gathering information for countries that went through the 2008 banking crisis, and that presented similar macroeconomic trends around this event. This should automatically exclude Finland, which did not go through the crisis, and possibly also France and Portugal, which constitute marginal crisis cases according to Laeven and Valencia (2012).<sup>20</sup> Countries with a too parsimonious debt before the crisis are also excluded, since we are also interested in seeing how fiscal policy can refrain strikes but also be constrained during the crisis. In other words, it is unclear whether we should select countries like Ireland and Spain, which had gone through high deficit restructuring and high growth period during the 1990s, or Sweden and Denmark, which as of 2005 had debt to GDP ratios of 42 and 31.5 percent, respectively. Note however that we still want to have a representative case for the non-EMU countries. It is then in our interest to at least select the UK, which had both a rising debt and a busting banking sector around these years.

Regarding the EMU countries, Greece is an important candidate given its relevance in the course of the Eurocrisis. Italy matchs Greece because of the high guarantees on bank liabilities and the significant debt levels they featured even before the crisis. Spain was also one of the critical countries in the midst of the Eurocrisis, and similarly to Ireland went through a period of high economic growth while still maintaining an average level of yearly unemployment above 10 percent. Finally, Germany matches the UK on general banking status and inflation records, despite being an EMU member.

Of course, these are different other pairs that may be worth examining in the context of the EU15. For example, Austria, Belgium and the Netherlands are also interestingly similar countries with comparable economic sizes, mid-range deficits (especially Austria and the Netherlands), and all went through the 2008 crisis. Despite these evident similarities that could enrich our inferences on the Eurocrisis, we decided to restrict the monthly strike data selection to Germany, Greece, Ireland, Italy, Spain, and the United Kingdom. This is in part due to the fact that in the process of data collection we realized that we could not access enough news on these countries to not bias our estimations. Moreover, it was a compelling decision based on a quantitative selection of cases. We followed the causal inference research that attempts to study observational data as if at random. In other words, we quantitatively constructed a subsample of our dataset in which the countries vary meaningfully on key variables of interest (e.g. fiscal and monetary policies) but are similar in all other ways. Nielsen 2014 has proposed a parametric model to estimate causal quantities of interest in a pre-matched sample. Matching is a technique that helps create samples of units that are 'close' to each other in a dimensional space defined by a set of covariates. More specifically, Nielsen's method finds the closest possible matched pairs in terms of specified covariates. We use this algorithm because it allows us to generate matches without the need to specify a 'treatment' variable. In sum, the method

<sup>&</sup>lt;sup>20</sup>Laeven and Valencia argue that for France and Portugal, the funds allocated for bank restructuring purposes were not used, so it is unclear how much they were needed.

maximizes the variance in countries of interest while ignoring the outcome variable.

We identifies the most similar cases based on a generalized pairwise distance called the Mahalanobis distance. This distance is calculated for the EU15 countries between 1980 and 2013 after selecting certain particular cases that the software requires to start the matching. Given our qualitative reasoning, we selected Greece, Spain, Ireland and – separately – the United Kingdom. We run the algorithm conditioning on five co-variates: debt to GDP ratio, banking crisis, inflation rate, unemployment, and ideology of the ruling government. Table A.1 shows the first matched pairs in order of match quality, which provide further support to our case selection. Clearly Italy is a good match for Greece, and we can use it to understand the different dynamics that led Greece to loan from the IMF while Italy did not. Ireland seems to constitute a whole different case, despite the heavy impact of the crisis: according to the matching calculations, it is comparable to a non-EMU country like Denmark. While we would have liked to code data for Denmark, we realized that it was hard to find Danish political strikes data at the monthly level, and that generally the country provides too little empirical variation. However, we still include Ireland in our subsample because it would allow us to possibly understand a counterfactual, i.e. a case that almost works as a non-EMU despite being in the Euro. Spain matches the Netherlands, which means that we can keep either for the sake of our empirical tests. Note also that our intuition that Germany and the UK would match each other is confirmed, so we collected data for those two countries as well.

| Mahalanobis | Unit                   | Debt to GDP | Government | Banking crisis | Unemployment | Inflation |
|-------------|------------------------|-------------|------------|----------------|--------------|-----------|
| distances   | matched                | (%)         | Ideology   | onset          | rate         | rate      |
| 0.004       | Greece                 | 89.56       | 4          | 1              | 8.88         | 10.52     |
|             | Italy                  | 101.88      | 3          | 1              | 9.81         | 5.55      |
| 0.056       | Ireland                | 68.08       | 2          | 1              | 10.83        | 4.54      |
|             | Denmark                | 54.95       | 2          | 1              | 6.95         | 3.54      |
| 0.066       | Spain                  | 49.52       | 4          | 1              | 16.66        | 5.58      |
|             | Netherlands            | 62.66       | 2          | 1              | 6.35         | 2.36      |
| 0.005       | Germany                | 54.64       | 2          | 1              | 7.585        | 1.92      |
|             | $\mathbf{U}\mathbf{K}$ | 53.14       | 3          | 1              | 7.730        | 2.75      |

Table A.1: The best matched pairs to pre-identified EU members, based on Mahalanobis distance calculated on the variables in the table with Nielsen's (2014) case-match algorithm. The cases that we ultimately selected for data collection are in bold. Figures on the co-variates are average values for the period 1980-2013 except for government ideology and banking crisis, which are at the median. Results based on 94830 possible matches.

### Monthly Data: Political Protests

In the second part of the paper we concentrate on political events at the monthly level for which we could find enough information in broad interest English—speaking newspapers. Our countries of interest are Germany, Greece, Ireland, Italy, Spain and the United Kingdom (see case selection above).

We collected monthly data for political protests from all newspaper reports stored in the online archives of the New York Times and The British Broadcasting Company and dated between 2001 and 2013. The collection was computer–facilitated. We first performed a key-search of the archives of each of the two newspaper websites, using relevant compound words ("protest", "strike", "mobilization", "industrial action", "demonstration", combined with "EU" and the name of each of the six countries, e.g. "Germany"). <sup>21</sup> We then generated urls specific to the lists that corresponded to the chronological list of displayed articles. We used a Python script to extract the content of each that extracted each parse HTML file corresponding to each electronic article page (i.e. the article 'body'). Then we extracted all the paragraphs of the HTML tag starting at the root of each article (in Python language, 'p'), clean them from spaces and collapsed into one-string files. <sup>22</sup> We collected roughly 380 newspaper articles released between 01 January 2001 and 31 December 2013.

More than 50 percent of the collected newspaper articles were discarded, because they did not centrally focus on the politics or economics of protests (e.g. strikes on the US with broad reference to movements in Europe). Moreover, of the remaining articles we removed the opinion eds and commentary notes that did not actually report factual information on strike events. Finally, we only selected articles that focused on large national events, and not events that were recorded only for one city (e.g. London). These decisions led us to focus on events reported in 142 singular newspaper articles. Breaking down the articles by events in each of our six country, we have 21 articles on Germany, 29 on Greece, 18 on Ireland, 29 on Italy, 23 on Spain and 22 on the United Kingdom.

We coded a variety of information from the articles. We recorded the date of the report, the date in which the protest(s) took place, as well as the date in which – according to the reporter – it was announced. Since our data is aggregated at the month level but it is possible that several protests are reported, announced or evolving on the same month, we also record these additional information. Some articles also note whether the event had a time line and how many days it would take, so we coded the amount of days if included. Similarly, some articles indicate the (often approximate) number of people involved in the protest, which we tracked throughout the coding exercise.<sup>23</sup>

Finally, in an additional variable we distinguish whether the identified events into economic strikes and political protests. The former is intended as active refusals by employees to work under the conditions required by employers, and arise principally in response to economic conditions (e.g. deterioration of wages and work benefits) and labor practices. Political protests instead refer to stoppages and protests by a substantial proportion of active and non-active workers in the endeavour to achieve political objectives. These

<sup>&</sup>lt;sup>21</sup>We limited the search to the years from January 2001 to May 2014, although we then truncated the coding to 2013.

 $<sup>^{22}</sup>$ We use the Python package BeautifulSoup to scrape the content of the links. For some articles that resulted in invalid links we manually cut and pasted the content.

<sup>&</sup>lt;sup>23</sup>If it was reported that 'thousands' of people strike, we coded this with a number of 1000).

involve more directly public activities and services (e.g. shutting down public transportation, hospitals, and other public utilities, and can also include general strikes).

## Monthly Data: ECB Announcements

Our monthly data for announcements of EU institutions is based on press news releases by supranational institutions in charge of EU affairs. In particular, we concentrate on the press releases of the European Central Bank (ECB). The ECB has released notes and announcement to the press since its establishment in 1999. These are available on the ECB website, and are categorized into topics. We concentrate on the press releases assigned to the topic 'Financial Stability.' The ECB press releases sum up to 78 announcements distributed across 45 months. These are all generally relevant for the purpose of our analysis, especially because the ECB itself categorizes them as 'relevant' information on financial stability. So, we rely on all the press releases in our investigation.

We additionally collected reports from the European Council (EC) Newsroom and the European Monetary and Economic Affairs Commissioner's Speeches between 2001 and 2013. Regarding the EC press releases, these are available since 1958 on the Press Release database at www.europa.eu. We key-searched releases and announcements that included the words 'Fiscal Stability', 'Fiscal Agreement', 'Fiscal Pact', and 'Fiscal Growth'. We cross-checked the outcome files with statements and news released by the Eurozone Portal of the EC. However, since the EC news releases are rather heterogenous and do not stick to one style (some are more opinion—based, some are not) we only relied on these news as additional empirical material.

The dates of the ECB press releases we analyze in this paper are available here: https://www.ecb.europa.eu/press/pr/activities/prud/html/index.en.html.

# Robustness Tests: Yearly Data

## Unit Root Tests

| Fisher-type unit-root test for multiple panels |        |  |  |  |
|--|--------|--|--|--|
| Phillips-Perron tests                          |        |  |  |  |
| Variable                                       | P >  t |  |  |  |
| General Strikes                                | 0.00   |  |  |  |
| Banking Crisis                                 | 0.00   |  |  |  |

0.99

Ho: All panels contain unit roots

Debt to GDP

Ha: At least one panel is stationary

Phillips-Perron unit-root test for single panels Subsample: MacKinnon t-test

| Country         | P >  t |
|-----------------|--------|
| General Strikes |        |
| Austria         | 0.00   |
| Belgium         | 0.00   |
| France          | 0.00   |
| Finland         | 1.00   |
| Germany         | 1.00   |
| Greece          | 0.03   |
| Ireland         | 1.00   |
| Italy           | 0.07   |
| Netherlands     | 0.00   |
| Portugal        | 0.01   |
| Spain           | 0.00   |

#### Ordered Logit Error Correction Model Estimations

| Dependent variable:             | General Strikes $\delta$ |               |               |  |
|---------------------------------|--------------------------|---------------|---------------|--|
|                                 | All countries            | EMU countries | EMU countries |  |
|                                 | 1980-2013                | 1995-2013     | 1995-2013     |  |
|                                 | (1)                      | (2)           | (3)           |  |
| $General Strikes_{t-1}$         | -3.87***                 | -3.10***      | -3.14***      |  |
|                                 | (1.06)                   | (0.61)        | (0.60)        |  |
| Banking Crisis $_{t-2}$         | 0.37                     | 1.76**        | 1.81**        |  |
|                                 | (0.38)                   | (0.74)        | (0.77)        |  |
| Banking Crisis $\delta_{t-2}$   | -0.27                    | -0.70         | -2.35         |  |
|                                 | (0.22)                   | (0.50)        | (1.66)        |  |
| $Debt_{t-1}$                    | 0.026***                 | 0.034***      | 0.034***      |  |
|                                 | (0.007)                  | (0.007)       | (0.007)       |  |
| $Debt \ \delta$                 | 0.051***                 | 0.10***       | 0.10***       |  |
|                                 | (0.018)                  | (0.031)       | (0.035)       |  |
| Banking crisis $\delta_{t-2} X$ |                          |               | 0.024         |  |
| $Debt_{t-1}$                    |                          |               | (0.029)       |  |
| Inflation Rate $_{t-1}$         | 0.086*                   | 0.53***       | 0.55***       |  |
|                                 | (0.047)                  | (0.10)        | (0.082)       |  |
| Inflation Rate $\delta$         | 0.27***                  | 0.61***       | 0.60***       |  |
|                                 | (0.063)                  | (0.23)        | (0.23)        |  |
| $Gov't\ Ideology_{t-1}$         | -0.003                   | -0.25**       | -0.25**       |  |
|                                 | (0.12)                   | (0.098)       | (0.099)       |  |
| $Gov't\ Ideology\ \delta$       | -0.39***                 | -0.45*        | -0.44         |  |
|                                 | (0.14)                   | (0.27)        | (0.27)        |  |
| N                               | 405                      | 179           | 179           |  |
| Countries                       | 15                       | 12            | 12            |  |
| Pseudo $\mathbb{R}^2$           | 0.26                     | 0.25          | 0.25          |  |

Table A.2: Crises, General Strikes and Fiscal Policy: Error Correction Ordered Logistic Models. Dependent variable is Change in General Strikes. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

#### Fixed Effects OLS Model

| Dependent variables:            | General strikes |  |
|---------------------------------|-----------------|--|
|                                 | EMU countries   |  |
|                                 | 1995–2013       |  |
| Banking crisis $\delta_{t-2}$   | -0.28           |  |
|                                 | (0.18)          |  |
| $Debt_{t-1}$                    | 0.011           |  |
|                                 | (0.007)         |  |
| Banking crisis $\delta_{t-2} X$ | 0.004           |  |
| $Debt_{t-1}$                    | (0.002)         |  |
| Inflation rate $_{t-1}$         | 0.013           |  |
|                                 | (0.065)         |  |
| $Government\ ideology\ _{t-1}$  | -0.085**        |  |
|                                 | (0.036)         |  |
| Constant                        | -0.26           |  |
|                                 | (0.59)          |  |
| N                               | 179             |  |
| Countries                       | 12              |  |
| Fixed Effects                   | yes             |  |
| Within $\mathbb{R}^2$           | 0.25            |  |
| Overall $\mathbb{R}^2$          | 0.52            |  |

Table A.3: Crises, General Strikes and Fiscal Policy: Fixed Effect OLS Models. Models without autoregressive control. Dependent variables are General Strikes. All lagged variables are measured with one year lag. Standard errors clustered on country in parentheses. Country and time fixed effects not reported. \* p < .1, \*\* p < .05, \*\*\* p < .01.

#### Dichotomous Debt Variable

| All countries       EMU         1980-2013       1995-2013         General Strikes $_{t-1}$ -0.64***       -0.58***         (0.069)       (0.13)         Banking Crisis $_{t-2}$ 0.26       0.84*         (0.22)       (0.46)         Banking Crisis $_{t-2}$ -0.092       -0.31*         (0.072)       (0.17)       (0.17)         Debt High $_{t-1}$ 0.35**       0.50**         Debt High δ       0.16       0.076         (0.13)       (0.35)       0.38         Banking crisis $_{t-2}$ X Debt High $_{t-1}$ 0.024       0.11**         Inflation Rate $_{t-1}$ 0.024       0.11**         (0.017)       (0.057)       0.057*         Inflation Rate $_{t-1}$ 0.078       0.12         Gov't Ideology $_{t-1}$ -0.005       -0.040         Gov't Ideology $_{t-1}$ -0.008**       0.014         Constant       -0.08**       0.014         N       414       179         Countries       15       12         Within $_{t}^{2}$ 0.36       0.37         Overall $_{t}^{2}$ 0.30       0.37 | Dependent variable:                                | General Strikes $\delta$ |           |  |
|---|--|--------------------------|-----------|--|
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  |  | All countries            | EMU       |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |  | 1980-2013                | 1995-2013 |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $General Strikes_{t-1}$                            | -0.64***                 | -0.58***  |  |
| $Banking \ Crisis \ \delta_{t-2} \\ & (0.22) \\ & (0.46) \\ & -0.092 \\ & (0.072) \\ & (0.17) \\ & (0.17) \\ & (0.15) \\ & (0.22) \\ \\ Debt \ High \ \delta \\ & 0.16 \\ & (0.13) \\ & (0.35) \\ \\ Banking \ crisis \ \delta_{t-2} \ X \ Debt \ High \ _{t-1} \\ & (0.13) \\ & (0.34) \\ \\ Inflation \ Rate \ _{t-1} \\ & (0.017) \\ & (0.017) \\ & (0.057) \\ Inflation \ Rate \ \delta \\ & (0.048) \\ & (0.096) \\ & Gov't \ Ideology \ _{t-1} \\ & (0.019) \\ & (0.019) \\ & (0.033) \\ Gov't \ Ideology \ \delta \\ & -0.068^{**} \\ & 0.014 \\ & (0.027) \\ & (0.091) \\ Constant \\ & -0.008 \\ & -0.125 \\ & (0.081) \\ & (0.114) \\ N \\ Countries \\ & 15 \\ & 12 \\ Within \ R^2 \\ & 0.36 \\ & 0.37 \\ \\$   |  | (0.069)                  | (0.13)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking Crisis $_{t-2}$                            | 0.26                     | 0.84*     |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |  | (0.22)                   | (0.46)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking Crisis $\delta_{t-2}$                      | -0.092                   | -0.31*    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |  | (0.072)                  | (0.17)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $Debt\ High\ _{t-1}$                               | 0.35**                   | 0.50**    |  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |  | (0.15)                   | (0.22)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Debt High $\delta$                                 | 0.16                     | 0.076     |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |  | (0.13)                   | (0.35)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking crisis $\delta_{t-2} X$ Debt High $_{t-1}$ |                          | 0.38      |  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |  |                          | (0.34)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $Inflation \ Rate \ _{t-1}$                        | 0.024                    | 0.11**    |  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |  | (0.017)                  | (0.057)   |  |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$   | Inflation Rate $\delta$                            | 0.078                    | 0.12      |  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |  | (0.048)                  | (0.096)   |  |
| Gov't Ideology $\delta$ $-0.068^{**}$ $0.014$ Constant $-0.008$ $-0.125$ (0.081) $(0.114)$ N       414       179         Countries       15       12         Within $R^2$ 0.36       0.37   | $Gov't\ Ideology_{t-1}$                            | -0.005                   | -0.040    |  |
| Constant  |  | (0.019)                  | (0.033)   |  |
| Constant $-0.008$ $-0.125$ (0.081)       (0.114)         N       414       179         Countries       15       12         Within $R^2$ 0.36       0.37   | $Gov't\ Ideology\ \delta$                          | -0.068**                 | 0.014     |  |
|   |  | (0.027)                  | (0.091)   |  |
| N       414       179         Countries       15       12         Within $R^2$ 0.36       0.37  | Constant   | -0.008                   | -0.125    |  |
| Countries         15         12           Within $R^2$ 0.36         0.37  |  | (0.081)                  | (0.114)   |  |
| Within $R^2$ 0.36 0.37  | N  | 414                      | 179       |  |
|   | Countries  | 15                       | 12        |  |
| Overall $R^2$ 0.30  | Within $R^2$                                       | 0.36                     | 0.37      |  |
| I I   | Overall $\mathbb{R}^2$                             | 0.27                     | 0.30      |  |

Table A.4: Crises, General Strikes and High Debt. Error Correction OLS models. Dependent variables are Change in General Strikes. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

#### Pre- and Post 1999 Period

| Dependent variable:                   | General Strikes $\delta$ |           |  |
|---------------------------------------|--------------------------|-----------|--|
|                                       | All countries            | EMU       |  |
|                                       | 1980-1999                | 1999-2013 |  |
| $General \ Strikes \ _{t-1}$          | -0.89***                 | -0.59***  |  |
|                                       | (0.070)                  | (0.092)   |  |
| Banking Crisis $_{t-2}$               | -0.039                   | 0.85*     |  |
|                                       | (0.062)                  | (0.49)    |  |
| Banking Crisis $\delta_{t-2}$         | -0.007                   | -0.56**   |  |
|                                       | (0.050)                  | (0.28)    |  |
| $Debt_{t-1}$                          | 0.003***                 | 0.009*    |  |
|                                       | (0.002)                  | (0.003)   |  |
| $Debt \ \delta$                       | 0.013***                 | 0.029**   |  |
|                                       | (0.004)                  | (0.014)   |  |
| Banking crisis $\delta_{t-2} X$       |                          | 0.005     |  |
| $Debt_{t-1}$                          |                          | (0.005)   |  |
| $\overline{Inflation \ Rate_{\ t-1}}$ | 0.030                    | 0.19**    |  |
|                                       | (0.021)                  | (0.086)   |  |
| Inflation Rate $\delta$               | 0.082*                   | 0.19*     |  |
|                                       | (0.041)                  | (0.10)    |  |
| $Gov't\ Ideology_{t-1}$               | 0.032*                   | -0.056    |  |
|                                       | (0.018)                  | (0.035)   |  |
| $Gov't\ Ideology\ \delta$             | -0.073                   | 0.017     |  |
|                                       | (0.068)                  | (0.12)    |  |
| Constant                              | -0.27                    | -0.73*    |  |
|                                       | (0.15)                   | (0.38)    |  |
| N                                     | 242                      | 132       |  |
| Countries                             | 15                       | 12        |  |
| Within $R^2$                          | 0.56                     | 0.41      |  |
| Overall $R^2$                         | 0.47                     | 0.34      |  |

Table A.5: Crises, General Strikes and Fiscal Policy: Post- and pre-1999. Error Correction OLS models. Dependent variables are Change in General Strikes. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

#### **Union Characteristics**

| All countries         EMU           General Strikes $_{t-1}$ -0.71***         -0.58***           Banking Crisis $_{t-2}$ 0.10         0.34           Banking Crisis $_{t-2}$ -0.032         -0.55*           Banking Crisis $_{t-2}$ -0.002*         -0.006***           Debt $_{t-1}$ 0.005**         0.006***           Debt δ         0.008*         0.015**           Banking crisis $_{t-2}$ X         0.004*         (0.007)           Banking crisis $_{t-2}$ X         -0.004***         -0.007           Debt $_{t-1}$ -0.004***         -0.007           Banking crisis $_{t-2}$ X         -0.004***         -0.007           Debt $_{t-1}$ -0.004***         -0.007           Banking crisis $_{t-2}$ X         -0.004***         -0.007           Banking crisis $_{t-2}$ X         -0.004**         -0.003           Banking crisis $_{t-2}$ X         -0.004**         -0.013*  | Dependent variable:                   | General Strikes $\delta$ |           |  |
|---|---------------------------------------|--------------------------|-----------|--|
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | All countries            | EMU       |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | 1980-2013                | 1995-2013 |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $\overline{General\ Strikes\ _{t-1}}$ | -0.71***                 | -0.58***  |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.077)                  | (0.086)   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking Crisis $_{t-2}$               | 0.10                     | 0.34      |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.14)                   | (0.32)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking Crisis $\delta_{t-2}$         | -0.032                   | -0.55*    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.044)                  | (0.27)    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $Debt_{t-1}$                          | 0.005**                  | 0.006***  |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.002)                  | (0.002)   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $Debt \ \delta$                       | 0.008*                   | 0.015**   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.004)                  | (0.007)   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Banking crisis $\delta_{t-2} X$       |                          | 0.007     |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | $Debt_{t-1}$                          |                          | (0.004)   |  |
| $\begin{array}{c ccccc} Union \ Density \ \delta & 0.029^{**} & -0.013 \\ & (0.014) & (0.027) \\ Inflation \ Rate \ _{t-1} & 0.025 & 0.087^{***} \\ & (0.017) & (0.031) \\ Inflation \ Rate \ \delta & 0.069^{**} & 0.093^{**} \\ & (0.033) & (0.042) \\ Gov't \ Ideology \ _{t-1} & -0.015 & -0.046 \\ & (0.019) & (0.030) \\ Gov't \ Ideology \ \delta & -0.12^{**} & -0.12^{**} \\ & (0.053) & (0.056) \\ Constant & 0.003 & -0.19 \\ & (0.12) & (0.16) \\ N & 401 & 175 \\ Countries & 15 & 12 \\ Within \ R^2 & 0.43 & 0.36 \\ \end{array}$  | $\overline{Union\ Density\ _{t-1}}$   | -0.004***                | -0.003    |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.001)                  | (0.002)   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Union Density $\delta$                | 0.029**                  | -0.013    |  |
| $\begin{array}{c} Inflation \ Rate \ \delta \\ Inflation \ Rate \ Rat$    |                                       | (0.014)                  | (0.027)   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | Inflation Rate $_{t-1}$               | 0.025                    | 0.087***  |  |
| $\begin{array}{c} & & & & & & & & & \\ Gov't\ Ideology\ _{t-1} & & & & & & & & \\ & & & & & & & & & \\ & & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ Gov't\ Ideology\ \delta & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & $ |                                       | (0.017)                  | (0.031)   |  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  | Inflation Rate $\delta$               | 0.069**                  | 0.093**   |  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |                                       | (0.033)                  | (0.042)   |  |
| $\begin{array}{ccccc} Gov't \ Ideology \ \delta & -0.12^{**} & -0.12^{**} \\ & (0.053) & (0.056) \\ Constant & 0.003 & -0.19 \\ & (0.12) & (0.16) \\ \hline N & 401 & 175 \\ Countries & 15 & 12 \\ Within \ R^2 & 0.43 & 0.36 \\ \end{array}$  | $Gov't\ Ideology_{t-1}$               | -0.015                   | -0.046    |  |
| $ \begin{array}{c cccc} & & & & & & & & & & \\ & & & & & & & & $  |                                       | (0.019)                  | (0.030)   |  |
| Constant $0.003$ $-0.19$ (0.12)       (0.16)         N $401$ $175$ Countries $15$ $12$ Within $R^2$ $0.43$ $0.36$   | $Gov't\ Ideology\ \delta$             | -0.12**                  | -0.12**   |  |
|   |                                       | (0.053)                  | (0.056)   |  |
| N       401       175         Countries       15       12         Within $R^2$ 0.43       0.36  | Constant                              | 0.003                    | -0.19     |  |
| Countries         15         12           Within $R^2$ 0.43         0.36  |                                       | (0.12)                   | (0.16)    |  |
| Within $R^2$ 0.43 0.36  | N                                     | 401                      | 175       |  |
|   | Countries                             | 15                       | 12        |  |
| Overall $R^2$ 0.35 0.30   | Within $R^2$                          | 0.43                     | 0.36      |  |
|   | Overall $\mathbb{R}^2$                | 0.35                     | 0.30      |  |

Table A.6: Crises, General Strikes and Fiscal Policy: Union Characteristics. Error Correction OLS models. Dependent variables are Change in General Strikes. Standard errors clustered on country in parentheses.

#### Greece Excluded

| Dependent variables:            | General Strikes $\delta$ |
|---------------------------------|--------------------------|
|                                 | EMU w/o Greece 1980-2013 |
| $General Strike_{t-1}$          | -0.71***                 |
|                                 | (0.15)                   |
| $Banking \ Crisis \ _{t-2}$     | 0.18                     |
|                                 | (0.21)                   |
| Banking Crisis $\delta_{t-2}$   | -0.31                    |
|                                 | (0.22)                   |
| $Debt_{t-1}$                    | 0.002***                 |
|                                 | (0.001)                  |
| $Debt \ \delta$                 | 0.010*                   |
|                                 | (0.005)                  |
| Banking crisis $\delta_{t-2} X$ | 0.005                    |
| $Debt_{t-1}$                    | (0.003)                  |
| $Inflation \ Rate_{t-1}$        | 0.001                    |
|                                 | (0.005)                  |
| Inflation Rate $\delta$         | 0.033**                  |
|                                 | (0.015)                  |
| $Gov't\ Ideology_{t-1}$         | -0.017                   |
|                                 | (0.025)                  |
| $Gov't\ Ideology\ \delta$       | -0.071**                 |
|                                 | (0.037)                  |
| Constant                        | -0.019                   |
|                                 | (0.078)                  |
| N                               | 301                      |
| Countries                       | 11                       |
| Within $\mathbb{R}^2$           | 0.36                     |
| Overall $\mathbb{R}^2$          | 0.30                     |

Table A.7: Crises, General Strikes and Fiscal Policy: Greece Excluded. Error Correction OLS models. Dependent variables are Change in Political Strikes. Standard errors clustered on country in parentheses.

#### **Economic Strikes**

| Dependent variable:             | Economic Strikes $\delta$ |               |                   |  |
|---------------------------------|---------------------------|---------------|-------------------|--|
|                                 | All countries             | EMU countries | Non-EMU countries |  |
|                                 | 1980-2013                 | 1995-2013     | 1995-2013         |  |
|                                 | (1)                       | (2)           | (3)               |  |
| Economic Strikes $_{t-1}$       | -0.78***                  | -0.84***      | -1.21***          |  |
|                                 | (0.080)                   | (0.073)       | (0.11)            |  |
| Banking Crisis $_{t-2}$         | 0.024                     | -0.080        | 0.25              |  |
|                                 | (0.083)                   | (0.18)        | (0.34)            |  |
| Banking Crisis $\delta_{t-2}$   | -0.072                    | -0.038        | 0.85              |  |
|                                 | (0.085)                   | (0.27)        | (0.64)            |  |
| $Debt_{t-1}$                    | 0.001                     | 0.001         | 0.010***          |  |
|                                 | (0.001)                   | (0.001)       | (0.002)           |  |
| $Debt\ \delta$                  | 0.005                     | 0.006         | -0.022            |  |
|                                 | (0.004)                   | (0.004)       | (0.018)           |  |
| Banking crisis $\delta_{t-2} X$ |                           | -0.002        | -0.018*           |  |
| $Debt_{t-1}$                    |                           | (0.004)       | (0.010)           |  |
| Inflation Rate $_{t-1}$         | 0.024***                  | -0.050***     | 0.093***          |  |
|                                 | (0.007)                   | (0.013)       | (0.033)           |  |
| Inflation Rate $\delta$         | 0.004                     | -0.012        | 0.085**           |  |
|                                 | (0.015)                   | (0.042)       | (0.035)           |  |
| $Gov't\ Ideology_{\ t-1}$       | 0.003                     | 0.033**       | 0.027***          |  |
|                                 | (0.018)                   | (0.016)       | (0.002)           |  |
| $Gov't\ Ideology\ \delta$       | 0.042*                    | 0.001         | 0.016             |  |
|                                 | (0.023)                   | (0.057)       | (0.077)           |  |
| Contant                         | 0.95***                   | 1.00***       | 0.67***           |  |
|                                 | (0.14)                    | (0.14)        | (0.13)            |  |
| N                               | 343                       | 145           | 57                |  |
| Countries                       | 14                        | 11            | 3                 |  |
| Within $\mathbb{R}^2$           | 0.42                      | 0.49          | 0.64              |  |
| Overall $\mathbb{R}^2$          | 0.40                      | 0.46          | 0.64              |  |
|                                 |                           |               |                   |  |

Table A.8: Crises, Economic Strikes and Fiscal Policy. Error correction OLS models. Dependent variable is Change in Economic Strikes. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

# Robustness Tests: Monthly Data

## Unit Root Tests

| Fisher-type unit-root test for multiple panels |        |  |
|--|--------|--|
| Phillips-Perron tests                          |        |  |
| Variable                                       | P >  t |  |
| Political Strikes                              | 0.00   |  |
| Economic Strikes                               | 0.00   |  |
| ECB Deposit Rate                               | 0.32   |  |
| Unemployment                                   | 0.98   |  |

 $Ho:\ All\ panels\ contain\ unit\ roots$ 

Ha: At least one panel is stationary

#### Fixed Effects OLS Model

| Dependent variable:                 | Political Protests  |                     |  |
|-------------------------------------|---------------------|---------------------|--|
|                                     | All countries       | EMU countries       |  |
|                                     | Jan 2008 - Dec 2013 | Jan 2008 - Dec 2013 |  |
|                                     | (1)                 | (2)                 |  |
| $ECB\ Press\ Release\ _{t-1}$       | 0.020               | 0.005               |  |
|                                     | (0.024)             | (0.024)             |  |
| $ECB\ Deposit\ Rate\ _{t-1}$        | 0.008               | 0.009               |  |
|                                     | (0.020)             | (0.020)             |  |
| $ECB \ Deposit \ Rate \ _{t-1} \ X$ | -0.050**            | -0.059**            |  |
| $ECB\ Press\ Release\ _{t-1}$       | (0.022)             | (0.026)             |  |
| $Unemployment_{t-1}$                | 0.007***            | 0.005*              |  |
|                                     | (0.002)             | (0.003)             |  |
| $Inflation_{t-1}$                   | 0.005               | 0.002               |  |
|                                     | (0.010)             | (0.012)             |  |
| $Gov't \ party_{t-1}$               | 0.010               | 0.020               |  |
|                                     | (0.024)             | (0.017)             |  |
| Constant                            | -0.047***           | -0.054***           |  |
|                                     | (0.011)             | (0.010)             |  |
| N                                   | 384                 | 320                 |  |
| Countries                           | 6                   | 5                   |  |
| Fixed Effects                       | yes                 | yes                 |  |
| Within $\mathbb{R}^2$               | 0.02                | 0.02                |  |
| Overall $\mathbb{R}^2$              | 0.09                | 0.09                |  |

Table A.9: Interaction of Deposit Rate and Press Releases: Fixed Effects OLS models. Data aggregated at the monthly level. Dependent variables are Political Strikes for all the six countries and only the five EMU countries, respectively. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.

#### Greece and Germany Excluded

| Dependent variable:           | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ |           |
|-------------------------------|--|-----------|
|                               |  |           |
|                               | 2001- 2013   | 2008-2013 |
| Political Protests $_{t-1}$   | -0.93***   | -0.96***  |
|                               | (0.13)   | (0.13)    |
| $ECB\ Deposit\ Rate\ _{t-1}$  | -0.020***  | -0.023**  |
|                               | (0.006)  | (0.010)   |
| ECB Deposit Rate $\delta$     | 0.079***   | 0.103***  |
|                               | (0.012)  | (0.031)   |
| $ECB\ Press\ Release\ _{t-1}$ | 0.007  | 0.048***  |
|                               | (0.035)  | (0.017)   |
| ECB Press Release $\delta$    | -0.018   | -0.015    |
|                               | (0.027)  | (0.010)   |
| ECB Deposit Rate $_{t-1}$ X   | -0.018***  | -0.065*** |
| $ECB\ Press\ Release\ _{t-1}$ | (0.005)  | (0.024)   |
| ECB Deposit Rate $\delta$ X   | -0.032   | 0.014     |
| ECB Press Release $\delta$    | (0.030)  | (0.069)   |
| $Unemployment_{t-1}$          | 0.004***   | 0.002***  |
|                               | (0.001)  | (0.001)   |
| $Unemployment \ \delta$       | 0.12***  | 0.13***   |
|                               | (0.005)  | (0.025)   |
| Inflation $_{t-1}$            | 0.034*   | 0.023     |
|                               | (0.019)  | (0.032)   |
| Inflation $\delta$            | 0.030**  | 0.034     |
|                               | (0.013)  | (0.021)   |
| $Gov't \ party_{t-1}$         | 0.003  | 0.011     |
|                               | (0.010)  | (0.007)   |
| Gov't party δ                 | -0.019   | 0.13***   |
|                               | (0.015)  | (0.035)   |
| Constant                      | 0.038  | 0.034     |
|                               | (0.053)  | (0.021)   |
| N                             | 465  | 192       |
| ~                             | 3  | 3         |
| Countries                     | 3  | J         |

Table A.10: Crisis, ECB Deposit and Strikes: UK, Germany and Greece Excluded. Error correction OLS models. Data aggregated at the monthly level. Dependent variables are Change in Political Strikes for all the six selected countries. All lagged variables are measured with a one month lag. Standard errors clustered on country in parentheses. \* p < .1, \*\* p < .05, \*\*\* p < .01.