

Political economics of bailouts *

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Abstract

This paper provides evidence of political, institutional and economic determinants of bailout policies in the countries of the European Union. I use a new data set based on European Commission's rescue and restructuring aid decisions during the years 1995-2003 merged with information about electoral outcomes in European countries.

The main finding is that in countries with majoritarian democratic institutions bailouts are more likely, in particular during years preceding elections. Since bailouts are a targeted fiscal policy, the evidence supports the theory of Persson and Tabellini (2000) predicting that electoral systems shape incentives for fiscal policy choices. The second result shows that non-coalitional governments and governments with large percentage of seats in the lower house of the legislature supporting it make bailout decisions more frequently than coalition or minority governments. This result is consistent with Tsebelis (2002), in that the more veto players in the political system, the more difficult it is to make decisions.

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1 Introduction

Bailouts in the European Union have been investigated by the European Commission as a part of state aid control process since 1995. To rescue a firm, governments of member states need to get an approval of the Commission. During the years 1995-2003, a great heterogeneity in the number of approved bailout cases can be observed across countries (Głowicka, 2006):

Table 1: Number of bailouts per country.

Country	No of cases	Country	No of cases	Country	No of cases
Austria	6	Germany	26	Netherlands	2
Belgium	4	Greece	1	Portugal	5
Denmark	0	Italy	16	Spain	10
France	12	Ireland	0	Sweden	0
Finland	0	Luxembourg	0	UK	4

The objective of this paper is to find determinants of the strong variation in bailout policies.

What factors should be considered when explaining bailout policy? Anecdotal evidence suggests that bailouts are used by politicians for political objectives. For example, the poll scores of German chancellor Gerhardt Schröder peaked from an abnormally low level after his decision to bail out a large construction firm Philipp Holzmann in 1999. The title page of the *Tageszeitung* on the day after the decision was: “*Holzmann bails out Schröder*”,¹ suggesting that it was actually Schröder’s political career which was bailed out. Systematic empirical evidence provided by Neven and Röller (2000) confirms significance of political factors in the allocation of state aid in the EU: 90% of variation in total state aid granted to manufacturing sector across member states can be explained with a few political economy variables. Therefore, political variables are expected to play the key role in determining bailout policy.

Institutions are another factor relevant for bailout policy. Persson and Tabellini (2000, 2003) develop a theory and provide evidence of the causal impact of electoral rules and forms of government on economic policy. They predict that targeted fiscal policies are more likely to be used in countries with majoritarian electoral systems, since elections in those countries are often reduced to a heated fight in a few districts with swing voters. Therefore politicians have incentives to choose policies targeted to voters from those regions. The division of powers between dif-

¹Own translation. Original title: “Holzmann saniert Schröder”, *Tageszeitung*, November 26, 1999.

ferent levels of governments and institutions is also likely to influence bailout decisions, since it reflects the distribution of decision rights among bureaucrats and local and central politicians (Lijphart, 1999).

Last but not least, differences in the economies of countries might explain variation in bailouts. Relevant economic factors concern the mere existence of firms in trouble, as well as their ability to extract rents. Differences in economy size, phase in business cycle, share of declining industries in the country's economy or effectiveness of bankruptcy law all result in different number of insolvent firms and therefore different "demand" for a bailout. In each particular firm, active unions and intensive lobbying can help to extract a subsidy. High unemployment or poor living standards might justify a bailout from a social point of view.

This paper explains bailout policies in the EU by political, institutional and economic factors. The data set covers all bailouts approved by the Commission in the EU of 15 member states between 1995 and 2003. Bailouts are a unique type of government expenditure: targeted to particular firms and observed across EU countries. This creates an opportunity to exploit cross-country and time-series variation in institutional, political and economic variables to draw inference of determinants of a targeted fiscal policy. Even though EU countries are strong and old democracies and have the best institutions in the world, several interesting results emerge.

The main result of the paper is the finding that the more majoritarian democratic institutions in the country, the more likely bailouts are. In addition, in majoritarian countries bailouts are more likely during years preceding elections. Both results suggest that bailouts are used by some governments as pork-barrel to improve their reelection chances. This finding is consistent with theoretical predictions of Persson and Tabellini (2000) and empirical evidence for several targeted fiscal policies within countries (Strömberg, 2004; Cadot et al., 2006).

Another result is that the more federal the country in the division of powers, the more likely the bailouts. An explanation of this finding is not obvious. One possibility is that in federal countries bailouts are used as pork-barrel not only in central but also in local elections, so the frequency of bailouts is larger. Another reason could be asymmetric information of local politicians vs central ones: local politicians are closer to people and so may have better information about the needs of the economy and the society. They might also be more accessible to firms

and therefore easier to bribe.

Political strength of governments also matters for bailout decisions. On average, one-party governments bailed out more frequently than coalition governments. Moreover, the more seats in the lower house of the legislature supporting the government, the more likely bailouts. This result is consistent with Tsebelis (2002), in that the more veto players in the political system, the more difficult it is to make decisions.

The results fill in the gap in existing evidence on the link between institutions and economic outcomes. To the best of my knowledge, the relationship between electoral rules and targeted public spending was not tested empirically before. The likely reason is a difficulty in finding a targeted fiscal policy which can be observed across countries. I believe that European bailouts are a perfect object for this exercise. Furthermore, my result on electoral cycles contrasts with papers showing that elections-related rises of state aid exist in weak democracies, but not in EU15 (Dinç, 2005; Neven and Röller, 2000). Finally, this paper contributes to the debate on the actual impact of political institutions on economic outcomes, which is often put into question due to the likely endogeneity of the two variables (see Glaeser et al. (2004)). Here institutions matter, yet it is highly unlikely that bailout policy has any significant effect on the choice of institutions simply because in most cases it is a small scale and one-time event. In case of particular policy choices, institutions influence incentives of politicians to pick a certain policy (Börner, 2005). This paper shows that bailout policy in the EU is not an exception to this rule.

2 Theory and Predictions

Political economics literature has flourished in the last decade. Surveys focusing on different aspects of this literature can be found in Franzese (2002), Djankov et al. (2003), Persson and Tabellini (2004) and Börner (2005). I introduce in more detail a specific stream of this literature: political and institutional determinants of targeted public policies.

2.1 Electoral Rules

Electoral rules have three elements: voting district size, the formula translating votes into seats and ballot structure. All three are strongly correlated, leading to a common classification into three groups: majoritarian, proportional and mixed. The pure majoritarian rule combines the plurality formula (the winner takes all) with single-seat districts. The pure proportional rule grants the seats to parties proportionally to the total number of votes in the district and the district is the whole country. In the third group, the electoral rule is a mixture of the two extremes. Among the EU15 countries, France and the UK have classical plurality voting systems, while the Netherlands a classical proportional system. In Germany and Italy, a part of the lower house is elected in plurality voting and another part in proportional voting. The remaining countries have proportional electoral rules.

Theory predicts that compared to countries with proportional electoral rules, governments in countries with majoritarian rules have incentives to choose policies targeted to small groups rather than broad redistribution policies addressed to all voters. The intuition for this prediction is very simple: in those countries swing voters are easier to identify and target. Districts are usually defined geographically. In addition, politicians can be sure of support in some districts, while there are few and well known districts where competition for the seat is heated. In order to increase their winning chances, politicians have incentives to choose policies benefiting voters from those districts and not necessarily the rest of voters. As the result, interests of voters from different districts are not equally represented. On the other hand, in proportional systems the proportion of seats awarded to a political party is equal to the proportion of votes the party gets in the elections. This creates incentives to choose policies which target as broad coalition of voters as possible, e.g. through broad redistributive welfare state programs or universal public goods. Persson and Tabellini (2000) and Lizzeri and Persico (2001) derive this prediction in electoral competition models with binding electoral promises and Milesi-Ferretti et al. (2002) in a model where a coalitional government chooses policies maximizing joint utility of its members.

Several empirical studies found evidence for systematic differences in the composition of public spending between majoritarian and proportional democracies, both in cross-sectional

and panel data analysis. The effect of electoral system remains statistically significant even when controlling for other variables determining the composition of government spending: the percentage of young and elderly in the population, per capita income, the age and quality of democracy, openness in trade, etc. Milesi-Ferretti et al. (2002) examine the relationship between electoral systems and composition of fiscal policy in 20 OECD and 20 Latin America countries. They show that proportional systems spend more on transfers addressed to large social groups than majoritarian systems. What is more, in OECD countries (but not in Latin America countries) this effect exists even within proportional systems only: the higher the degree of proportionality of the electoral rule, the higher broad transfers. Persson and Tabellini (2003) and Persson and Tabellini (2004) look at 70 democracies and control for self-selection of countries into electoral systems. According to their estimates, countries with proportional systems have about 2% larger welfare spending than countries with majoritarian systems.

All the above papers provide evidence on higher broad redistributive public expenditure in proportional systems. Evidence showing the other piece of the puzzle - higher targeted public expenditure in majoritarian system is to the best of my knowledge not available. The reason why it was not examined before is likely to be that a well defined and common for many countries targeted public expenditure is difficult to find. I believe the European bailout control provides such a policy tool: bailouts large enough to be under the obligation of notification to the European Commission. A firm in distress is a well defined entity, its employees are people with names and its location is usually geographically limited, therefore a bailout is a targeted fiscal policy decision. In the light of the above literature, one should expect more bailouts in countries with majoritarian electoral rules than in those with proportional systems. Therefore, the first hypothesis I put forward to test in the data is: bailouts are the more likely, the more majoritarian electoral system in the country.

2.2 Electoral Cycles

Proximity of elections induces politicians to undertake projects or choose policies they would not choose otherwise. Franzese (2002) surveys the literature on macroeconomic electoral cycles. However, electoral cycles can be observed also in microeconomic policies when incum-

bent governments try to increase reelection chances by choosing particular actions. For example, Robinson and Torvik (2005) show that in order to win elections incumbent governments might undertake projects with negative surplus. Since no other politician would undertake such a project, the incumbent can credibly commit to it. Therefore, such a policy guarantees that voters benefiting from the project being undertaken will reelect the incumbent. In Dewatripont and Seabright (2006) political decision makers make effort to signal their diligence. Voters elect the politician who makes more effort, even if ex post it sometimes turns out that projects are loss-making.

Empirical evidence confirms that politicians often decide differently before elections than after elections. In Kalt and Zupan (1984) senators running for reelection to the U.S. Senate voted against their own ideology and in line with the interests of their constituents more often than senators not running for reelection. Persson and Tabellini (2003) show that during years with elections governments of countries with proportional electoral rule expand broad redistributive programs. This is, however, not the case for countries with majoritarian electoral rule. At the aggregate level, common for all countries is a drop in tax revenues during years with election, but the magnitude of the drop is stronger in countries with majoritarian rules. In all countries government expenditure is lower in the year after the elections. These results suggest that politicians postpone painful expenditure-cutting reforms until after elections, while they make voters happy in the election year with lower taxes and higher public spending. Using a data set of state-owned and private banks in 49 democratic countries, Dinç (2005) demonstrates that state-owned banks in developing countries give more loans in years before elections than in other years. However, for developed countries he finds no statistically significant effect of elections. Neven and Röller (2000) find the election dummy insignificant in the regression explaining variation of total state aid amount to the manufacturing sector in the EU countries in the 1990s.

Evidence therefore suggests that electoral cycles exist in public spending, but are less pronounced in developed countries. I test this finding for EU15, a group of the best developed democracies and economies in the world. I also test if electoral cycles in majoritarian systems are different from cycles in proportional systems.

2.3 Legal institutions

Bankruptcy law is an institution likely to have an impact on bailout policy. Some systems might be so effective in discouraging bankruptcy and rescuing firms from bankruptcy that the intervention of the government is not necessary. Other systems might be incapable of saving insolvent firms, providing more scope for government intervention. La Porta and de Silanes (1998) draw attention to an important aspect of bankruptcy law: protection of creditors rights to their claims from insolvent firms. The degree of creditor's rights protection has an impact on their incentives to give credits and on the credit's price. When the degree of protection is high, the price of credit is potentially lower, which might lead to less need for R&R subsidies. Cornelli and Felli (1997) show that extensive creditor rights protection is beneficial for *ex ante* efficiency. Therefore the hypothesis I want to test is whether more creditor's protection reduces the number of bailouts.

Creditors protection in bankruptcy law varies a lot among EU countries. According to the summary by Couwenberg (2001), Sweden has a reorganization procedure, which is very rarely used by firms in trouble because all creditors must receive at least 25% of their nominal claim. In contrast, creditors in France are automatically obliged not to start individual collection proceedings and keep the credit lines open, while management remains in charge of operations. In Germany since 1999 the reorganization procedure gives a lot of scope for bargaining between the creditor and the debtor about the future of the firm in trouble. In all four reorganization procedures in the UK, creditors actively take part in reorganizing debtor's operations.

2.4 Government

If politicians are assumed to have preferences over policy outcomes, ideological differences among politicians can drive different bailout decisions. Partisan cycles have been heavily studied in political economics, see e.g. Hibbs (1977); Kalt and Zupan (1984); Alesina (1988); Cusack (1997); Alesina et al. (1997). Cusack (1999) found that fiscal policy of left governments is countercyclical and fiscal policy of right governments is procyclical. This reflects different interests of constituents of the two political views. In this light, bailouts should be done by left governments during recessions and by right governments during booms. However, since a

bailout benefits both employees and shareholders, there is no clear prior about which political ideology should bail out more often.

Coalition governments are very common in the European Union. Tsebelis (2002) shows that the number of veto players in the coalition and the ideological distance among them affect policy outcomes the coalition is able to achieve. I will test if the number of governing parties has any impact on the probability of a bailout. On the one hand, more veto players means that it is more likely that one player will oppose a bailout decision, so bailouts in coalitions are less likely. On the other hand, a veto player can force the coalition to agree to a bailout, because he can threaten to quit.

2.5 Economics

In order to examine the impact of institutions on bailout policy, economic variables must be controlled for. Otherwise, an omitted-variable problem might show up: if countries with proportional rules have high unemployment and governments bail out to remedy this problem, the real reason for bailouts is lack of jobs and not proportional electoral rule. But if the unemployment variable is not in the model, electoral rule variable will capture the effect.

The four basic economic variables to control for are unemployment rate, current economic performance, wealth and country's size. Each of them may affect bailout decisions: high unemployment rate and poor current economic performance increase the social benefit to a bailout, while wealth and country's size play a role for bailout costs.

3 Data

The data set contains information about fifteen member states of the European Union during the years 1992-2003. The starting year is 1992, since it is the first year when a bailout took place which was later investigated by the Commission according to the guidelines issued in 1995. The last year of the time period is the year before the accession of 10 new member states from Eastern Europe. One observation is a country-year. In years 1992-1994, twelve countries were members of the EU. Austria, Finland, and Sweden joined in 1995 forming the so-called EU15.

Table 6 reports definitions of all variables and their sources and table 8 provides summary statistics for each variable.

The number of bailouts per country-year, being a measure of a targeted fiscal policy intensity, is the variable of the main interest for this study. The data is based on Competition Commissioner's decisions about rescue and restructuring aid taken between January 1995 and December 2003 provided by the European Commission.² Bailout schemes for small and medium enterprises were not considered. As dates of bailouts, dates of governments' decisions (intention) to subsidize were considered and not the dates of actual bailouts nor the dates of Commission's approvals, since the gaps between the three can be very large. The dates were retrieved case by case from Commission's documents.

Table 1 in the introduction reports bailout numbers in each country. Five EU member states never notified a bailout: all Scandinavian countries, Luxembourg and Ireland. In contrast to that, Germany bailed out 26 times in total.

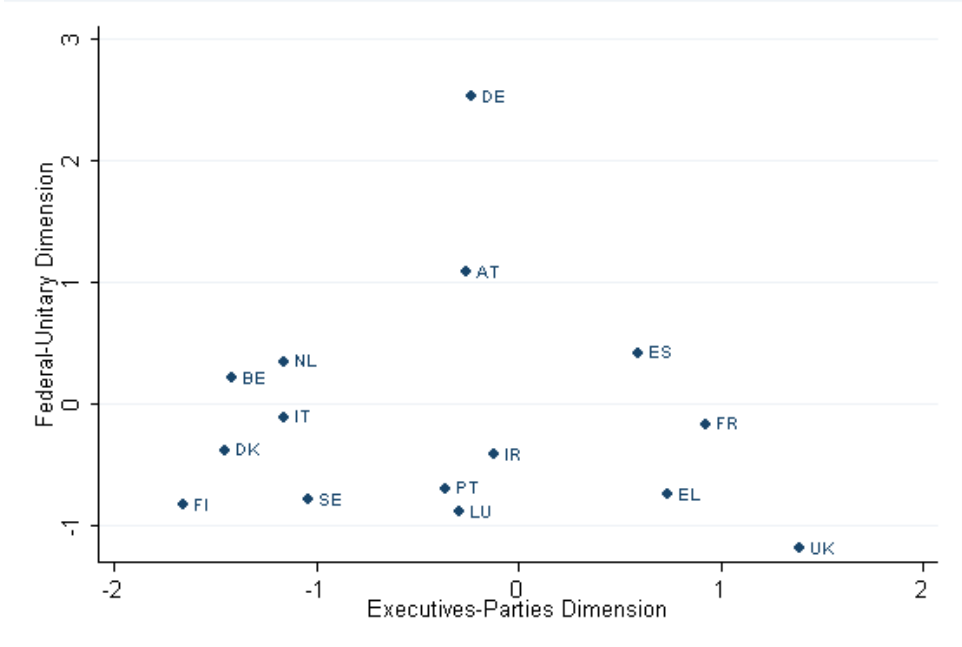
3.1 Institutional variables

Two institutional variables crucial in this study are the type of the electoral rule and the division of powers between local and central governors. Lijphart (1999) showed that these two dimensions provide a good picture of institutions in a democracy. In the sample of 36 democracies, he derived the executives-parties dimension (index) from five variables: the number of effective parliamentary parties, minimal winning one-party cabinet, executive dominance, electoral disproportionality and interest group pluralism. In the original index, the larger the value of the index, the less majoritarian the democracy and for the ease of interpretation, I multiplied the index by -1. The federal-unitary dimension is derived from federal status by constitution, degree of decentralization, bicameralism, constitutional rigidity, judicial review and central bank independence. The larger the value of the index, the more consensual the democracy. Variables within each dimension are correlated, but there is no correlation between variables from two different dimensions. This observation made Lijphart conclude that the the two indexes are in-

²Extensive data set description is available in Głowicka (2006)

dependent.³ I use the indexes generated by Lijphart for the period 1971-1996. Figure 1 shows the location of all EU15 countries along these two dimensions. The figure reveals that by far

Figure 1: Two-dimensional conceptual map of European democracies.



the most consensual democracy in the EU is Germany, followed then by Austria. The other member states are close together at the unitary side of the dimension. More variation can be observed in the executives-parties dimension with the UK being the most majoritarian state and Finland the most proportional one.

Dates of elections which determine the head of the government in each country were collected and cross-checked in several internet services (see table 6). A year with elections is defined as calendar year during which elections took place. Several out-of-schedule elections took place between 1992 and 2003. All dates are presented in table 7 in the appendix.

A variable measuring variation in creditor rights protection in bankruptcy law for 49 countries was created by La Porta and de Silanes (1998). The index is a sum of four dummies, each equal one if investor is protected by law in a particular issue and zero otherwise. The issues are: restrictions for reorganization, automatic stay on assets, secured creditors are paid first and management does not stay during reorganization. The more issues guaranteed by law, the more

³Duso (2002) used the same variables in the study of the impact of institutions on regulatory reform of telecommunications industry in OECD countries.

secure creditors are. Table 2 presents the scores among EU15 countries.

Table 2: The UK and France represent two extremes in creditor rights protection.

Creditor rights index	Country
4	UK
3	Denmark, Germany
2	Austria, Netherlands, Belgium, Italy, Spain, Sweden, Finland Luxembourg
1	Greece, Ireland, Portugal
0	France

3.2 Political variables

The data about governments' political characteristics comes from Parties - Governments - Legislatures Data Set (PGL) (Cusack and Fuchs, 2002; Cusack and Engelhardt, 2002). The data set contains very rich information about ideology, party composition and support in the lower house for each government. The observation for Ireland in 2003 is missing.

Ideological position in the left-right dimension is coded as -1 for left-wing governments, 0 for center governments and 1 for right-wing governments. Percentage of seats in lower house held by the government is a number between 0 and 100. The number of parties in the cabinet indicates whether the government is a coalition or not (I use a dummy for a coalition government). Government's share of votes against the opposition in the lower house is coded as an ordinal variable equal 1 if government has a minority, 2 if equal and 3 if majority share of votes. Finally, government's vote share in the last elections is coded as a number between 0 and 100.

3.3 Economic variables and controls

Economic variables come from IFS. Unemployment and real GDP growth are measured in percentage points. To control for the size of the country, logarithm of the size of population is used. Logarithm of GDP per capita proxies wealth of the country.

4 Methodology

Panel data allow me to use both cross-country and time-series variation in the estimation. Let i be a country index and t a year index. The following equation will be estimated:

$$Y_{it} = \alpha' X_{it} + \beta' Z_{it} + \gamma_i + \theta_t + u_{it} \quad (1)$$

where Y_{it} is a dummy variable equal one if there was at least one bailout in country i in year t and zero otherwise, X_{it} is a vector of exogenous institutional and political variables, Z_{it} is a vector of exogenous economic controls, γ_i is a country fixed-effect, θ_t is a year fixed-effect and u_{it} is the error term. Country fixed-effect γ_i captures unobserved time-invariant country characteristics, e.g. strength of unions, culture, etc. Time fixed-effect θ_t accounts for unobserved heterogeneity in the time dimension, e.g. EU-wide events like introduction of the common currency EUR, appointment of the new Commission, terrorist attacks in 2001, etc. Institutional and political variables will be tested separately due to potential endogeneity between the two groups. Since most of institutional variables are time-invariant, regressions with institutional variables do not include country fixed-effects. In that case, if the institutional variables are correlated with some unobserved country characteristics captured by the error term, the estimates might be biased. Including country fixed-effects to the regression nevertheless means that all variables constant in time need to be dropped. The results of such regression are included as a robustness check in section 5.1. Country-fixed effects are however included in all regressions with political variables, since political variables change over time.

Estimation procedure is a maximum-likelihood probit regression with standard errors clustered at the country level to avoid bias due to country-level autocorrelation. The equation is estimated based on ten countries with at least one bailout. Then the estimates are used to predict bailout policy in the remaining five countries. The results of each regression include the result of a specification test (link test), goodness of fit test, area under ROC curve and the number of correctly predicted outcomes.

5 Results

5.1 Institutions and Elections

Table 3 reports results of the regressions testing the hypotheses about institutional determinants of bailouts. The difference between the two models is how elections are treated: in the first

Table 3: Probit regressions: institutions and elections as determinants of bailouts.

Variable	Model 1		Model 2	
	Par. estimate	St. error	Par. estimate	St. error
Executives-Parties Dimension	0.481***	0.125	0.286*	0.159
Federal-Unitary Dimension	0.716***	0.128	0.831***	0.112
Creditor rights	0.139	0.245	0.178	0.237
Year of elections	-0.330	0.419		
Year before elections	0.162	0.348		
MAJ year of elections			1.109	0.904
MAJ year before elections			1.129**	0.454
MIXED year of elections			-0.281	0.397
MIXED year before elections			-0.216	0.542
PROP year of elections			-0.990	0.624
PROP year before elections			-0.025	0.437
Unemployment rate	-0.006	0.068	-0.021	0.068
Real GDP growth	0.116	0.105	0.078	0.101
log Population	-0.241	0.150	-0.237*	0.127
log GDP per capita	0.055	0.628	-0.748	0.855
year 1992	0.128	0.931	-0.133	0.893
year 1993	1.348*	0.696	1.303*	0.763
year 1994	0.642	1.079	0.706	1.061
year 1995	1.496*	0.790	1.754**	0.870
year 1996	1.924***	0.662	1.877***	0.635
year 1997	1.734**	0.681	1.494**	0.672
year 1998	2.120***	0.772	2.312***	0.745
year 1999	1.230*	0.730	1.578**	0.745
year 2000	0.337	0.547	0.614	0.515
year 2001	1.589***	0.582	1.443***	0.544
year 2002	1.706***	0.580	1.851***	0.670
Constant	1.229	5.696	9.126	7.984
N/correctly predicted	117/90		117/97	
Nonzero N/ corr pred	48/33		48/37	
Pseudo R2	0.3135		0.3512	
Area under ROC curve	0.8424		0.8744	
Goodness-of-fit test, p-value	0.1242		0.0003	

Standard errors clustered at country level in parentheses. ***(**,*) denotes significance with 1% (5%, 10%) level in a two-tailed Wald test.

model there is one dummy variable for election years, so that all countries are assumed to have the same impact of elections on bailout decisions. In the second model there is an election year dummy for each electoral rule: separately for countries with majoritarian, proportional and mixed systems. Both regressions pass the link specification test. However, the second regression outperforms the first one in all other diagnostic tests. Prediction of both bailout and no-bailout events improves, goodness-of-fit test is now passed and the sensitivity-specificity trade-off is better resolved (area under ROC is larger).

The results regarding institutions are consistent with the theory presented in section 2.1. First, the more majoritarian country's constitution, the more likely bailouts in that country in all years. The effect is large in magnitude and statistically significant in both regressions, even though it gets weaker in model 2. Second, the more federal the country, the more likely bailouts in that country in all years. This effect is large in magnitude and significant in both model specifications. Creditor's rights in bankruptcy protection turn out to be irrelevant.

The estimates for the set of six dummies in the second model specification provide evidence that electoral cycles in bailout policy exist. In majoritarian systems in years just before election years bailouts are more likely than in other years. In contrast to that, in proportional systems bailouts are less likely to take place in years with elections (11.3% significance).

Out of economic controls the estimate of the coefficient for GDP growth rate is almost significant with a positive sign. Such a result suggests that *ceteris paribus* countries during booms bail out more frequently than countries in recession. In contrast, unemployment and population estimates are insignificant. The results therefore do not provide strong evidence of the impact of slowdowns in economic cycle on bailout decisions.

The estimates of the parameters for year dummies are interesting on their own, since they reflect the reaction of bailout policies to unobserved common events. In both specifications the estimates follow the same pattern: they increase until the year 1998 dummy with the highest estimate, then they drop to a very low estimate for the 2000 dummy and they pick up subsequently. Which events could be responsible for this pattern? The drop in 1999 and 2000 might be a result of the appointment of the new Commission with the Competition Commissioner Mario Monti, who started a reform of state aid policy. In 1999 the new rescue and restructuring

guidelines were introduced, which were supposed to limit the number of bailouts in the EU. The increase in 2001 is likely to be a result of terrorist attacks which were followed by a few bailouts of airlines.

Since the regressions are based only on data from countries with at least one bailout, I can use data from countries without bailouts to test the accuracy of the models' out-of-sample prediction. Model 1 predicts one year with bailout in Denmark with more than 50% chance and five other years with bailouts in Denmark, Luxembourg and Ireland with more than 30% chance. In model 2, bailout probability never exceeds 30% in all country-years without bailouts from the data set. This suggests that the model with election cycles for each of the electoral systems separately is able to capture differences in bailout policies very well.

Robustness

The main concern about the results in the previous subsection is self-selection. It is possible that not the institutional differences but unobserved heterogeneity among countries drives the results. To check if this concern is sound, equation 1 is estimated with country fixed effects. For this to be possible, three variables constant in time have to be dropped: Executives-Parties and Federal-Unitary indexes and creditor rights index, but the coefficients of variables representing electoral cycles for each electoral rule and economic controls can be estimated. The results are presented in table 4 and largely confirm earlier findings with the significant and positive estimate of the coefficient for the pre-election year dummy in majoritarian countries.

5.2 Government

Table 5 reports estimates of government characteristics as bailout policy determinants. The data set is reduced to 116 observations due to a missing observation for Ireland in 2003. Each regression includes year and country fixed-effects and a constant (2003 and Portugal are left out). Model 1 contains all political and economic variables I consider. To test the prediction of Cusack (1999) that governments with different ideologies choose fiscal policy differently depending on the business cycle, specifications with an interaction term of ideology with unemployment (model 2) and coalition with unemployment (model 3) were also estimated. Each

Table 4: Probit regression with both year and country fixed-effects.

Variable	Par. estimate	St. error	t	p-value
MAJ year of elections	.822	.873	0.94	0.346
MAJ year before elections	.859	.395	2.17	0.030
MIXED year of elections	-1.520	.683	-2.23	0.026
MIXED year before elections	-1.480	1.094	-1.35	0.176
PROP year of elections	-.786	.649	-1.21	0.226
PROP year before elections	.130	.407	0.32	0.749
Unemployment rate	-.080	.090	-0.89	0.374
Real GDP growth	-.042	.153	-0.27	0.784
log Population	-21.134	12.311	-1.72	0.086
log GDP per capita	-8.461	8.219	-1.03	0.303
Constant	446.957	277.204	1.61	0.107

Year and country fixed-effects included, not reported. Number of observations: 117. Pseudo R2= 0.4246

model passed the link specification test.

Two variables characterizing government's political strength turn out statistically significant. Percentage of seats in lower legislative house held by the government comes out consistently with a positive and significant coefficient, while the coefficient of the coalition dummy is significant and negative in the first two models.⁴ These results suggest that *ceteris paribus* politically strong governments are more likely to make bailout decisions: one-party governments bail out more often than coalitions and the larger government's support in the legislature, the more likely bailout decisions.

The estimates of coefficients for ideology and ideology interacted with unemployment are insignificant. Hence, on average, ideological position of governments is irrelevant for bailout policy irrespective of the business cycle.

Economic factors with the strongest impact on bailout policy are country's wealth and size. *Ceteris paribus*, smaller or poorer countries are more likely to bailout. Since descriptive statistics in table 1 suggest rather the opposite, this finding shows the importance of econometric analysis. When controlling for other variables, it turns out that big or rich countries bailout frequently for reasons other than their size or wealth. Estimate of unemployment's coefficient is significant in model specification 2, with a negative sign suggesting that the lower unemployment rate, the more likely bailouts. Since this model specification includes also an interaction

⁴Correlation coefficient between the two variables is only .31.

Table 5: Probit regressions: government characteristics as determinants of bailouts.

Variable	Model 1	Model 2	Model 3
Gov. seats	0.115*** (0.039)	0.115*** (0.038)	0.137** (0.056)
Gov. vote share	-0.077 (0.051)	-0.074 (0.053)	-0.101 (0.069)
Ideology	0.209 (0.340)	0.731 (0.947)	0.204 (0.351)
Coalition	-2.328** (1.087)	-2.248* (1.184)	-0.440 (2.822)
Ideology*Unemployment		-0.052 (0.095)	
Coalition*Unemployment			-0.154 (0.210)
Unemployment rate	-0.191 (0.146)	-0.211* (0.128)	-0.133 (0.163)
Real GDP growth	0.107 (0.153)	0.125 (0.155)	0.121 (0.152)
ln Population	-18.080 (10.992)	-18.698* (11.233)	-19.731* (11.837)
ln GDP per capita	-13.379* (7.896)	-13.692* (8.047)	-12.818 (7.833)
N/correctly predicted	116/97	116/94	116/100
Pseudo R2	0.4339	0.4358	0.4376

Standard errors clustered at country level in parentheses. Year and country fixed-effects included, not reported. ***(**,*) denotes significance with 1% (5%, 10%) level in a two-tailed Wald test.

term of unemployment and ideology, the more precise interpretation of this coefficient is that the negative relationship is statistically significant when the interaction term nullifies, i.e. for central governments (ideology= 0).

6 Conclusions

In the influential book “The Economics of Shortage”, which coined the term *soft-budget constraints* in economics, Janos Kornai wrote that *there is a close relationship between the set of economic phenomena (...) and the set of institutional phenomena (...): the latter largely explains the former one.*⁵ Institutional settings in which politicians make decisions create incentives both

⁵Kornai (1980), p.569.

for politicians and for citizens affected by the decisions and in this way they influence economic outcomes (Börner, 2005). According to the results in this paper, electoral rules and the division of power between central and local institutions (consensus dimension) significantly affect bailout policy: governments in majoritarian or federal countries bail out more often. Another finding is that politically strong governments are more likely to bailout.

What lesson can be drawn from this evidence? Since electoral and institutional motivations of politicians matter for bailout policies, inefficient bailouts are likely to be very common. In the European Union, the use sound economic analysis in the state aid control process could help to reduce their number.

7 Appendix

Table 6: Data set: variables, definitions and sources.

Variable	Definition and Source
Number of bailouts	Number of bailouts in a given year, in a given country. Source: DG Competition, European Commission
Institutional variables	
Executives-parties dimension	An index for a given country reflecting how majoritarian its democracy is Source: Lijphart (1999)
Federal-unitary dimension	An index for a given country reflecting how consensual its democracy is Source: Lijphart (1999)
Years with elections	Dummy equal one if in a given year, in a given country elections that determine the head of the government took place. Source: International Institute for Democracy and Electoral Assistance (IDEA), Elections around the World (www.electionworld.org) and Election Resources on the Internet (www.electionresources.org)
Creditor rights	0-weak, 4 strong creditor rights Source: La Porta and de Silanes (1998)
Political variables	
Ideology	Based on The Center of Political Gravity of the Cabinet index, expressing ideological position of the government. -1 for left-, 0 for center- and 1 for right-wing parties. Source: PGL data set, Cusack and Fuchs (2002)

Table 6 – continued

Variable	Definition and Source
Government seats	Percentage of seats in lower house held by the government Source: PGL data set, Cusack and Fuchs (2002)
Government's vote share	Percent of votes in elections for the governing parties. Source: PGL data set, Cusack and Fuchs (2002)
No of gov. parties	Number of parties in the cabinet. Source: PGL data set, Cusack and Fuchs (2002)
Economic variables	
Population	Number of citizens Source: Economic Research Service, US Dept. of Agriculture
Real GDP growth	Real GDP growth rate in %. Source: IFS
Unemployment rate	Unemployment rate in %. Source: IFS
GDP per capita	GDP per person in EUR. Source: IFS

Table 7: Dates of legislature elections in the EU15 between 1992 and 2003.

Country	Dates of elections
Austria	09.10.1994, 17.12.1995, 03.10.1999, 24.11.2002
Belgium	21.05.1995, 13.06.1999, 18.05.2003
Denmark	21.09.1994, 11.03.1998, 20.11.2001
Finland	19.03.1995, 21.03.1999, 16.03.2003
France	21.03.1993, 25.05.1997, 09.06.2002
Germany	16.10.1994, 27.09.1998, 22.09.2002
Greece	10.10.1993, 22.09.1996, 09.04.2000
Ireland	25.11.1992, 06.06.1997, 17.05.2002
Italy	06.04.1992, 28.05.1994, 21.04.1996, 13.05.2001
Luxembourg	12.06.1994, 13.06.1999
Netherlands	03.05.1994, 06.05.1998, 15.05.2002, 22.06.2003
Portugal	01.10.1995, 10.10.1999, 17.03.2002
Spain	06.06.1993, 03.05.1996, 12.03.2000
Sweden	18.09.1994, 21.09.1998, 15.09.2002
United Kingdom	09.04.1992, 01.05.1997, 07.06.2001

Table 8: Summary statistics for all variables.

Variable	N	Mean	St.Dev.	Min	Max
Year with bailout	171	.2807018	.4506617	0	1
Executives-Parties Dimension	171	-.3340351	.9250396	-1.66	1.39
Federal-Unitary Dimension	171	-.105614	.9229238	-1.19	2.53
Creditor Rights	171	1.929825	1.009245	0	4
Ideology	168	-.0297619	.712805	-1	1
Coalition	169	.6686391	.4721013	0	1
Gov. seats	169	55.22672	10.39441	0	81.80243
Gov. vote share	169	48.37399	10.0231	0	69.31438
Real GDP growth	171	2.821877	2.320378	-3.327971	11.57062
Population	171	2.50e+07	2.59e+07	392552	8.24e+07
GDP per capita	171	20874.21	7461.151	8399.4	45962.89
Unemployment rate	171	9.189134	4.426782	1.6	23.662

The statistics cover all observations, including no-bailout countries not used in the regressions.

References

- A. Alesina, N. Roubini, and G. Cohen. *Political Cycles and the Macroeconomy*. Cambridge, MA: MIT Press, 1997.
- Alberto Alesina. Macroeconomics and politics. *Nat. Bur. Econ. Res. Macroecon. Annu.*, 3: 13–61, 1988.
- Kira Astrid Börner. Political institutions and incentives for economic reforms. Dissertation, Ludwig-Maximilians-Universität München, 2005.
- Olivier Cadot, Lars-Hendrik Röller, and Andreas Stephan. Contribution to productivity or pork barrel? The two faces of infrastructure investment. *Journal of Public Economics*, 90(6-7): 1133–1153, 2006.
- Francesca Cornelli and Leonardo Felli. Ex-ante efficiency of bankruptcy procedures. *European Economic Review*, 41(3):475–485, April 1997.
- Oscar Couwenberg. Survival rates in bankruptcy systems: Overlooking the evidence. *European Journal of Law and Economics*, 12(3):253–273, November 2001.
- Thomas R. Cusack. Partisan politics and public finance: Changes in public spending in the industrialized democracies, 1955-1989. *Public Choice*, 91(3-4):375–95, June 1997.
- Thomas R. Cusack. Partisan politics and fiscal policy. *Comparative Political Studies*, 32:464–86, 1999.
- Thomas R. Cusack and Lutz Engelhardt. The PGL file collection: File structures and procedures. *mimeo*, 2002. Wissenschaftszentrum Berlin.
- Thomas R. Cusack and Susanne Fuchs. Documentation notes for Parties, Governments, and Legislatures data set. *mimeo*, 2002. Wissenschaftszentrum Berlin.

- Mathias Dewatripont and Paul Seabright. “Wasteful” public spending and state aid control. *Journal of the European Economic Association*, 4(2-3):513–522, 2006.
- I. Serdar Dinç. Politicians and banks: Political influences on government-owned banks in emerging markets. *Journal of Financial Economics*, 77(2):453–479, August 2005.
- Simeon Djankov, Edward Glaeser, Rafael La Porta, Florencio Lopez de Silanes, and Andrei Shleifer. The new comparative economics. *Journal of Comparative Economics*, 31:595–619, 2003.
- Tomaso Duso. On the politics of the regulatory reform: Econometric evidence from the OECD countries. *Discussion Paper FS IV 02-07*, 2002. Wissenschaftszentrum Berlin.
- Robert J. Franzese, Jr. Electoral and partisan cycles in economic policies and outcomes. *Annual Review of Political Science*, 5:369–421, 2002.
- Edward L. Glaeser, Rafael La Porta, Florencio Lopez de Silanes, and Andrei Shleifer. Do institutions cause growth? *Journal of Economic Growth*, 9(3):271–303, 09 2004.
- Ela Głowicka. Effectiveness of bailouts in the EU. CIC Working Papers SP II 2006-05, Wissenschaftszentrum Berlin, May 2006.
- Douglas A. Hibbs, Jr. Political parties and macroeconomic policy. *The American Political Science Review*, 71(4):1467–1487, December 1977.
- Joseph P. Kalt and Mark A. Zupan. Capture and ideology in the economic theory of politics. *American Economic Review*, 74(3):279–300, June 1984.
- Janos Kornai. *Economics of Shortage*. New York : North-Holland Pub. Co., 1980.
- Rafael La Porta and Florencio Lopez de Silanes. Capital markets and legal institutions. In *Beyond the Washington Consensus: Institutions Matter*. 1998.
- A. Lijphart. *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*. New Heaven: Yale University Press, 1999.
- Alessandro Lizzeri and Nicola Persico. The provision of public goods under alternative electoral incentives. *American Economic Review*, 91(1):225–239, 2001.
- Gian Maria Milesi-Ferretti, Roberto Perotti, and Massimo Rostagno. Electoral systems and public spending. *The Quarterly Journal of Economics*, 117(2):609–657, May 2002.
- Damien J. Neven and Lars-Hendrik Röller. The political economy of state aid: Econometric evidence for the member states. In Damien J. Neven and Lars-Hendrik Röller, editors, *The Political Economy of Industrial Policy in Europe and the Member States*, pages 25–36. Edition Sigma, 2000. ISBN 3-89404-211-7.
- Torsten Persson and Guido Tabellini. *Political Economics: Explaining Economic Policy*. MIT, 2000.
- Torsten Persson and Guido Tabellini. *The Economic Effects of Constitutions*. MIT, 2003.
- Torsten Persson and Guido Tabellini. Constitutions and economic policy. *Journal of Economic Perspectives*, 18(1):75–98, Winter 2004.

James A. Robinson and Ragnar Torvik. White elephants. *Journal of Public Economics*, 89: 197–210, 2005.

David Strömberg. Radio's impact on public spending. *The Quarterly Journal of Economics*, 119(1):189–221, 2004.

George Tsebelis. *Veto Players: How Political Institutions Work*. Princeton, NJ: Princeton Univ. Press, 2002.