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Do bailouts buy votes? Evidence from a panel of Hessian municipalities

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Abstract

I study whether bailouts of local governments carry electoral benefits for state governments with a dataset covering 421 municipalities in the German state of Hesse over the period 1999-2011. I find that past bailouts have no economically significant effect on the municipality-level vote share of the parties that formed the state government in subsequent state elections. On the other hand, bailouts lead to vote increases for the ruling parties in subsequent local elections. On balance, these results suggest that electoral concerns are not the reason why central governments find it difficult to commit to a no-bailout policy.

Keywords: Subnational bailouts, state-level elections, local fiscal policy **JEL codes**: H30, H74, H77, D72

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1 Introduction

In many countries, the central government pays discretionary transfers to fiscally distressed subnational jurisdictions. Examples include Germany where the federal government has provided special transfers to two indebted states in the early nineties (Seitz, 1999), Italy where chronically unstable regional public health systems regularly receive ex-post financing from the center (Bordignon and Turati, 2009), and Sweden where the central government often grants additional funding to indebted municipalities (Pettersson-Lidbom, 2010). Such transfers, usually referred to as bailouts, can be very costly. First, there are direct costs. The bailout of the two states in Germany, for example, cost around 15 billion Euro over a period of ten years. More importantly, however, bailouts may distort the behavior of subnational governments have an incentive to over-borrow if the central government responds to subnational borrowing with a bailout (Rodden et al., 2003). For example, Pettersson-Lidbom (2010) estimates that in Sweden bailout expectations are responsible for an increase in municipal debt by more than 20%.¹

If bailouts cause inefficient subnational borrowing, why do central governments not simply implement a no-bailout policy? Without the possibility of additional transfers, the incentives of subnational governments should remain undistorted and their borrowing should be efficient. The usual answer is that a no-bailout policy involves a dynamic commitment problem (Kornai, 1979). Once a subnational government faces a fiscal crisis, it might be in the interest of the central government to grant it additional resources. If subnational governments are aware of this possibility, they will continue to harbor bailout expectations even if the central government announces a no-bailout policy ex-ante.

¹Baskaran and Hessami (2012) even suggest that bailout expectations might have been partially responsible for the recent debt crises in several EU countries.

One reason why central governments might find it difficult to follow through with a nobailout policy are electoral considerations. A central government that is concerned with its reelection might face strong incentives to grant bailouts to a subnational jurisdiction if it believes that such additional resources will increase the number of votes it can gain in that jurisdiction. For this explanation for the persistence of subnational bailout expectations to be valid, however, it must be the case that voters in jurisdictions that received a bailout in the previous legislative period reward the central government in the next election.

I study in this paper whether bailouts carry electoral benefits for the central government using a panel of 421 municipalities in the German state of Hesse over the period 1999-2011. During this period, the Hessian state government provided bailouts to almost ten percent of its municipalities. Simultaneously, two state and three local elections were held. Hessian municipalities hence provide a compelling institutional laboratory to study the electoral consequences of subnational bailouts.

My methodology involves estimating models that relate municipal bailouts in the previous legislative period to the change in the municipal-level vote/seat share of the incumbent parties in the next state and local elections. To identify the causal effect of bailouts on the incumbent parties' vote/seat share, I rely on a selection on observables approach. More specifically, I treat the allocation of bailouts as quasi-random conditional on legislative term fixed effects and time-varying control variables. This approach would be invalid if there are omitted variables that systematically influence both the likelihood of a municipality receiving a bailout and its propensity to vote for the governing parties at the next election. I argue further below that the estimates are likely to be robust to such an omitted variable bias.

In a first step, I relate bailouts paid during the 1999-2002 and 2003-2007 state-level legislative periods to the municipal-level vote share of the governing parties in the state elections of 2003 and 2008, respectively. If voters reward the state government for bailouts, we should observe that bailouts are positively related to the subsequent municipal-level vote share of the parties that formed the state government in the previous legislative period. The estimates, however, indicate that bailouts have no effect on the vote share of the governing parties in Hesse. These zero-effects are precisely estimated, which points to an economically rather than only statistically insignificant effect of bailouts.

In a second step, I investigate whether the ruling parties at the state level benefit at local rather than state elections from providing a bailout. That is, I relate bailouts in the last local legislative period (1999-2000², 2001-2005, 2006-2010) to electoral outcomes in the local elections held in 2001, 2006, and 2011, respectively. The results suggest that the share of seats in the local council won by the parties forming the state government increases if a municipality received a bailout in the second half of last local legislative period.

There are two explanations for why the ruling parties benefit at the local but not at the state level. Voters might either believe that politicians from the local branches of the ruling party were instrumental in convincing the state government to grant their municipality a bailout. Consequently, they may feel more grateful to the local rather than the state-level politicians. Alternatively, voters might believe that voting for the ruling parties in local rather than in state elections is a more effective way to express their gratitude. That is, changes in voting patterns within individual municipalities in response to a bailout have negligible effects on state election outcomes. In local elections, on the other hand, a change in individual voting patterns can have a significant impact. I explore in a final step which of these two explanations is valid by studying whether the effect of bailouts on municipal election outcomes varies according to the ideological composition of the municipal council.

The findings of this paper have interesting implications for future theoretical work on bailout transfers. That state-level politicians do not benefit from the bailouts they provide

²While the legislative period before the election in 2001 did last from 1997-2000, I only consider bailouts paid from 1999 onwards because the ideology of the state government changed after the state election of 1999. When voting at the local election in 2001, therefore, voters should associate bailouts before 1999 not with the incumbent state government but rather with the opposition parties, i. e. the parties that had formed the state government before 1999.

contradicts several theoretical contributions in political economics that perceive the central government as opportunistic with respect to its transfer policy (Lindbeck and Weibull, 1987; Dixit and Londregan, 1998; Goodspeed, 2002; Robinson and Torvik, 2009; Kaiser and Tau-gourdeau, 2012). While I find that the ruling parties benefit from bailouts in subsequent local elections, it is unclear to what extent state-level politicians will tailor their bailout policy in anticipation of such electoral outcomes. The primary concern of state-level politicians should be their reelection in the next state elections. If bailouts do not help in this pursuit, then state governments should have few incentives to allocate them in view of political considerations. It is consequently likely that they choose to allocate bailouts according to true fiscal need. On balance, therefore, the results in this paper support the theoretical approaches which assume that the central government behaves as a welfare-maximizer when it comes to subnational bailouts (Wildasin, 1997; Inman, 2001; Doi and Ihori, 2006; Akai and Sato, 2008; Crivelli and Staal, 2008; Breuillé and Vigneault, 2010; Goodspeed and Haughwout, 2012).

This paper contributes to the literature on fiscal federalism by focusing on the central government's role in the bailout game. While the behavior of subnational governments that harbor bailout expectations is well understood (Rodden et al., 2003; Bordignon and Turati, 2009; Pettersson-Lidbom, 2010; Baskaran, 2012a), little is known about the incentives that central governments face. In particular, there are no studies that explore whether central governments benefit electorally by providing bailout transfers. Most existing contributions on the central government's bailout policy, in contrast, focus on its political determinants rather than its consequences. For example, Sorribas-Navarro (2011) finds that the Spanish central government is more likely to provide bailouts to regions with a large number of swing

voters.³ Whether bailout transfers translate into more votes for the central government, however, remains unexplored.

The remainder of this paper is structured as follows. The next section describes the administrative structure of Hesse, provides a brief description of Hessian local politics, and discusses the municipal bailouts during the sample period. Section 3 introduces the empirical methodology to estimate the causal effect of bailouts on electoral gains. Section 4 collects the results. Section 5 concludes.

2 Political developments and fiscal institutions in Hesse

Hesse is located in the center of the German Federation. It has about six million inhabitants who live in 426 municipalities. 421 municipalities are organized into twenty one counties. Five large municipalities have a special status and are expected to assume both municipal and county responsibilities: they are called county-independent cities. I exclude these special status municipalities from the subsequent analysis since they are not fully comparable to the remaining 421 regular municipalities. In addition, Hesse has four forest areas. I exclude these areas from the analysis as well since they have no inhabitants.

Municipalities offer their inhabitants a broad array of goods and services. These goods and services can be classified according to whether their provision is mandatory or voluntary. Municipalities are required by law to provide mandatory goods. For example, all municipalities must provide primary schooling, municipal daycare services, and civil protection.

³A related literature studies whether the regional allocation of general intergovernmental transfers can be explained by political variables. Arulampalam et al. (2009) show that political alignment and the existence of swing voters is important for the amount of transfers that Indian regions receive from the central government. Dahlberg and Johansson (2002), Johansson (2003) and Brollo and Nannicini (2012) obtain similar results by studying discretionary grants paid by the Swedish and Brazilian central governments to their municipalities, respectively. A limited number of papers study whether local incumbents benefit in municipal elections from general transfers (Solé-Ollé and Sorribas-Navarro, 2008; Litschig and Morrision, 2009). The electoral consequences of general federal transfers for incumbent representatives in US House elections have been explored by Levitt and Snyder (1997).

Examples of voluntary goods are swimming halls, sports venues, but also hospitals. Municipalities are not required to provide these goods, but may choose to do so if they have the necessary fiscal resources.

Municipalities fund their expenditures through user fees, municipal taxes, and transfers. User fees are supposed to cover the cost of specific services. To fund general expenditures, municipalities must raise tax revenues or rely on transfers. Among the multitude of municipal taxes, two carry real fiscal importance: the property tax (*Grundsteuer B*) and the business tax (*Gewerbesteuer*). Municipalities are free to choose the rates for these taxes⁴. That these two important taxes are under local control allows municipalities to expand the provision of both mandatory and voluntary goods according to their own discretion.

The state government pays, in very general terms, two types of transfers to municipalities. The first type of transfers are rule-based general and special purpose grants. In particular, every year municipalities receive general purpose transfers (*Schlüsselzuweisungen*) according to a pre-specified formula that accounts for their tax capacity (Baskaran, 2012b). In addition, municipalities receive annual special purpose transfers for the provision of specific public goods. For example, municipalities receive transfers for providing primary and secondary schools. Since these transfers are based on pre-specified formulas that omit ideological variables, it is a reasonable conjecture that the allocation of these general and special purpose transfers is independent of electoral considerations.⁵

The second type of transfers are ad-hoc grants (*Bedarfszuweisungen*) that are paid out of a special fund (*Landesausgleichsstock*) set up by the fiscal equalization law and financed by resources allocated to the fiscal equalization scheme.⁶ The purpose of these transfers is

⁴They technically do not choose a rate but rather a tax factor that is multiplied with a federationwide base rate. However, the tax factor determines the effective tax rate. Note that from 2003 onwards, municipalities may not choose less than a minimum tax factor for the business tax throughout the federation.

⁵However, Litschig (2012) shows with Brazilian data that even formula-based transfer programs can be subject to political manipulation.

⁶The *Landesausgleichsstock* is part of the Hessian fiscal equalization scheme and codified in Art. 28 of the Hessian Fiscal Equalization Law.

to offer additional support to municipalities that face "extraordinary" fiscal strains and to alleviate any "fiscal burdens" due to the implementation of the Hessian fiscal equalization law and other legal stipulations related to municipal finance.

Details about the conditions under which these bailout transfers will be granted are given in a publication by the state government called *Richtlinien über die Gewährung von Zuweisun*gen aus dem Landesausgleichsstock (guidelines for the provision of transfers from the state equalization fund).⁷ The *Richtlinien* state, in a nutshell, that to obtain a bailout, a municipality has to submit a written request to an administrative body called *Regierungspräsidium* (regional board). There are three *Regierungspräsidien* in Hesse, each responsible for a certain number of municipalities. In the administrative hierarchy of Hesse, the *Regierungspräsidium* is located just below the state tier. It is led by a president who is classified as a political official (*politischer Beamter*) and directly appointed by the state government. Typically, he is a member of one of the parties forming the state government.

The *Regierungspräsidium* assesses whether the request of a municipality for a bailout is well-founded. If it reaches the conclusion that the request is unfounded, it has the authority to reject the request at this stage. Otherwise, the request is passed over to the state interior ministry together with an assessment by the *Regierungspräsidium*. The final determination on whether to grant a bailout is then made by the interior ministry in consultation with the state finance ministry.

While the *Richtlinien* specify general requirements under which bailouts will be granted, there are no strict and definite criteria. The *Richtlinien* state, for example, that bailouts will only be paid if municipalities cannot resolve their budgetary problems on their own and if the municipality itself is not to blame for these problems. However, they neither state when exactly a municipality cannot resolve its budgetary problems nor under what conditions a

 $^{^{7}}$ Two versions of the *Richtlinien* existed during the sample period: one published in 1993 and the other in 2003. Both have essentially the same stipulations.

municipality should be held responsible for its fiscal problems. Consequently, the decision of either to grant or to refuse a bailout is effectively a discretionary one that is ultimately made by a politician: the state interior minister.

Voters should be well aware about whether their municipality has received a bailout in the recent past. Bailouts are well publicized by the local media and actively discussed by local politicians. Voters should also know that bailouts are granted discretionarily. Even if voters are not explicitly aware of the formal arrangements, the terminology used by news outlets and in press releases by local politicians often insinuates that bailouts are a discretionary choice of the state government. It is often stated that the state government "grants" a bailout, that it "reaches out" to a municipality, or alternatively that it "refuses to help".⁸

Figure 1 presents a map of Hessian municipalities. Municipalities are classified according to the number of bailouts they have received during the 1999-2010 period. 382 municipalities received no bailout during these years. 30 municipalities got between one and four. Nine municipalities received five or more bailouts.

Figure 2 shows the distribution of the number of bailouts per municipality in more detail. In subfigure (a), we see that among the 39 municipalities that received at least one bailout during the 1999-2010 period, fourteen received exactly one. Subfigure (c) shows that the volume of bailout payments steadily increased until the very end of the sample period. In 1999, total bailout payments were 2.78 million Euros. In 2008, this number had increased to 14.18 million Euros. In 2010, however, the volume had dropped to 5.03 million Euro.

⁸See e. g.

http://www.fr-online.de/kreis-offenbach/haushaltsdefizit-land-hilft-dietzenbach-nicht, 1473032,14958064.html,

http://www.fuldaerzeitung.de/nachrichten/kinzigtal/Kinzigtal-SPD-kritisiert-die-CDU; art40,662322,

[•] http://www.cdu-heppenheim.de/index.php?ka=1&ska=2&idn=114.

As voters should be aware of both that a bailout has been granted recently and that it was a discretionary decision by the state government, it is possible that they reward the ruling parties for past bailouts in the next state or local elections.⁹ However, bailouts may carry some costs for the recipient municipalities as well. As in many other institutional settings where large municipal fiscal imbalances result in increased central supervision (Hopland, 2013), municipalities that receive a bailout in Hesse are in principle required to cut expenditures and raise tax rates. While the extent to which the state government enforces such austerity measures is subject to discretion, it is plausible that if they are too strict, municipal voters will be disinclined to support the state government in subsequent elections. In any case, bailouts and possible austerity measures come as a package, and the goal of this paper is to explore the net-effect of this package on electoral outcomes.

State elections are held after the end of a legislative period. The length of a legislative period used to be four years, but was extended to five years in 2002.¹⁰ As all German States, Hesse has a unicameral parliamentary system at the state level. The electoral rule is complicated, but its essential feature is that voters ultimately elect political parties according to a proportional rule. While there are elements of a majoritarian system, the parties receive seats in the legislature roughly proportional to their state-wide "second-vote" share¹¹. If one of the parties has more than fifty percent of the seats, it can form a single-party government.

⁹Geißler (2009) questions whether the *Bedarfszuweisungen* are bailouts from a legal viewpoint. He argues that these transfers are not bailouts because the *Landesausgleichsstock* is technically part of the municipal equalization scheme. Therefore, the resources out of this fund belong in legal terms to the sphere of municipal revenues. Nevertheless, that the state government ultimately decides discretionarily on whether a municipality is entitled to *Bedarfszuweisungen* implies that they are bailouts from an economic viewpoint.

¹⁰The extension was approved by a popular referendum in 2002. Two arguments were made in favor of this extension (Hessischer Landtag, 2002). First, as most other German States had a five-year legislative period, the extension would bring Hesse in line with the rest of the federation. Second, the extension would give the state government and state parliamentarians more time to govern without being distracted by a looming election.

¹¹The relevant votes are called second vote because voters can cast two votes in state elections. The "first-vote" is only marginally important for the allocation of seats.

If none of the parties have more than fifty percent of the seats, a coalition government has to be formed.

In the regressions with state election outcomes, I focus on the state elections held in 2003 and 2008. State elections are held early in the year in Hesse (either in January or February). I therefore define in the state level regressions the relevant legislative periods as starting in the election year and ending in the year immediately before the next election. That is, the legislative period after the election in 1999 is defined as lasting from 1999 until 2002. The next legislative period starts in 2003 and lasts until 2007. I do not consider the legislative periods before 1999 and after 2008 in the state level regressions.¹²

Local elections are held at the same time in all municipalities, but at a different date than the state elections. I focus in this paper on the local elections held in 2001, 2006, and 2011 (all held in March). In general, all parties that are of relevance at the state level also participate at the local elections. While there are a number of small parties and municipality-specific groups that have noticeable success, the large state-level parties dominate the political landscape at the local level as well.

The electoral law at the local level is very complicated. For example, voters can cast multiple votes for several party lists but also delete individual candidates from any of the party lists for which they vote (so called *kumulieren* and *panaschieren*). All votes are aggregated and seats in the local council of a municipality are allocated roughly according to the aggregated vote shares. Hence, there is no standard party vote share at the local level.

¹²More specifically, I have data on bailouts from 1997-2011. I neglect the bailouts in 1997 and 1998 as the state government was formed by a SPD-Green Party coalition prior to 1999. I also do not use the bailout data after 2008 in the state election regressions. In a nutshell, the state election of 2008 resulted in a hung parliament. The right-wing parties were unable to form a government with majority support in the state parliament. A left-wing majority was technically possible. However, in its effort to achieve a stable coalition the SPD leadership in Hesse made some deeply unpopular decisions. Yet, it failed nonetheless to form a government. New elections where held in 2009 and resulted in a CDU-FDP victory and large losses for the SPD which were attributed to the behavior of its leadership after the 2008 election. I neglect the 2009 election because of its exceptional nature. After 2009, no new state elections have been held in Hesse as of yet.

In any case, the parties should ultimately be concerned with the number of seats they gain in the local council and not with the number of votes as such. Therefore, if bailouts have positive electoral consequences at the local level, they should lead to a larger seat share in the local council for the parties that are in power at the state level.

For most of the 1999-2011 period, there were four politically relevant parties in Hesse: the SPD (*Sozialdemokratische Partei Deutschlands*), the CDU (*Christlich Demokratische Union*), the Green Party (*Büdnis 90 / Die Grünen*), and the FDP (*Freie Demokratische Partei*). The SPD is a social-democratic party and to the left of the political spectrum. The CDU is a culturally conservative and economically moderately pro-market oriented. The Green Party focuses on environmental issues and is considered to be left-wing. The FDP is culturally liberal and strongly pro-market oriented. It is typically considered to be a right-wing party. In 2008, a new left-wing party, called *Die Linke*, emerged as an alternative to the SPD. The SPD and CDU are often referred to as "big" parties because they typically receive more than 30% of the votes in state level elections in Germany. Accordingly, the other parties, in particular the Green Party and the FDP, are usually referred to as "small" parties.

Two types of state governments governed Hesse during the sample period. In the legislative period from 1999 to 2002, the government was formed by a CDU-FDP coalition. From 2003 to 2007, a sole CDU government was in power. After a brief hung parliament following the elections in 2008, which necessitated a caretaker government, new elections in 2009 led once more to a CDU-FDP coalition. In this paper, I always consider the aggregated vote share of the CDU and FDP as outcome variable. Treating the CDU-FDP coalition as essentially one large right-wing party is reasonable since voters who are supporters of either of the two big parties often vote for the corresponding small party for strategic reasons. For example, supporters of the CDU sometimes vote for the FDP, the "small" right-wing party, to help the FDP to over-come the so called "five-percent hurdle" in state-level elections (note that at the local level the five-percent hurdle was abolished in Hesse in 2001).

The five-percent hurdle implies that parties will only receive seats in the state legislature if they have more than five percent of the votes in the whole of Hesse. Therefore, if a CDU supporter wants to see a large seat share for the right-wing party block (and thereby either prevent a left-wing government or ensure a right-wing government) and she is uncertain whether the FDP will over-come the five percent hurdle, she should vote for the FDP as her vote is more decisive if she does so. Similarly, disenchantment with the CDU might result in a decline of the vote share of the FDP if many CDU supporters have voted strategically in the previous election. In short, many voters think in terms of left-wing versus right-wing party blocks rather than in terms of the individual parties, and this should be reflected by the definition of the variables used in the empirical analysis.

Subfigure (a) in Figure 3 compares the average aggregated vote share of left-wing (SPD and Green Party) and right-wing (CDU and FDP) parties in the two state elections held in 2003 and 2008. It distinguishes between the average vote shares in municipalities that received at least one bailout in the previous legislative period and the vote shares in municipalities that received at no bailouts. The figure suggests that municipalities that received bailouts during the previous legislative favored left-wing relative to right-wing parties in both elections. However, the development of the vote share from one election to the next is very similar for both groups of municipalities. Subfigure (b) provides a corresponding figure for the three local elections held in 2001, 2006, and 2011. At first sight, this subfigure suggests that the seat share of the left-wing parties in the local council has been higher in bailout than in no-bailout municipalities in every local election. However, the development over time in the seat shares appears to be once again similar for both types of municipalities.

3 Empirical methodology

My aim is to study whether a bailout of a municipality in legislative period t - 1 carries electoral benefits for Hessian state governments in the election at the beginning of the next legislative period. This question can be analyzed in a standard regression framework by estimating the following model:

$$\Delta v_{i,t} = \alpha_E b, \text{Early}_{i,t-1} + \alpha_L b, \text{Late}_{i,t-1} + \boldsymbol{\beta} \mathbf{x} + \mu_t + \epsilon_{i,t}, \tag{1}$$

where $\Delta v_{i,t} = v_{i,t} - v_{i,t-1}$ is either the change in the share of aggregated votes between two state elections or the change in the share of aggregated seats between two local elections for the right-wing parties (CDU and FDP) in a municipality *i*. $\epsilon_{i,t}$ is the error term. μ_t are legislative fixed effects and **x** is a vector of appropriately defined control variables.

b, Early_{*i*,*t*-1} captures whether a municipality received at least one bailout in first part of the previous legislative period (operationalized by a dummy variable) or total bailout transfers in the first part of the previous legislative period (operationalized by a continuous variable, deflated to 2005 Euros) divided by mean population size over the entire legislative period. Correspondingly, b, Late_{*i*,*t*-1} captures bailouts in the second half of the previous legislative period.

I estimate separate coefficients for bailouts paid in the early and late part of a legislative period because their electoral consequences might be different.¹³ Voters might recall bailouts paid shortly before an election more than bailouts that were paid long ago and vote accordingly. I define as late bailouts all bailouts paid at most two years prior to the next election. Early bailouts are defined according to the length of the legislative period. If the legislative period only last four years (i. e. state legislative periods before 2003), then the early period lasts two years. If the legislative period lasts five years, the early period lasts three years.

 $^{^{13}\}mathrm{I}$ thank an anonymous referee for pointing out this possibility.

The legislative term fixed effects are included to account for state-wide changes in the government's popularity. The vector \mathbf{x} consists of the average in the previous legislative period of the following variables: the change in the number of municipal inhabitants, the share of the population below 6 years, the share of the population between 6 and 14 years, the share of the population over 65, municipal tax capacity, municipal debt per capita, and the unemployment rate.

Municipal tax capacity is a measure of the revenue-raising capacity of a municipality. It is based on (but not identical to) municipal tax revenues.¹⁴ Debt per capita is the prevailing stock of debt of a municipality, divided by municipal inhabitants. Both the tax capacity measure and debt per capita are deflated to 2005 Euros. The unemployment rate is defined here as the number of unemployed divided by the number of municipal inhabitants.

Despite the inclusion of control variables, there is, given the kind of observational data that I use in this paper, the possibility that there remain omitted variables affecting both the likelihood of bailouts and the vote share of the incumbent state government. However, since I control for the long-term political affiliation of municipalities by using only the change in vote shares as dependent variable and legislative term fixed effects, such omitted variables must vary systematically within municipalities and within legislative periods.

Nonetheless, it is still possible that the central government is more likely to provide bailouts to municipalities in which it expects a loss in votes at the next election for some unobserved reason not sufficiently accounted for by the control variables. In this case, the treatment effect of bailouts might be underestimated. Alternatively, the central government might provide bailouts to municipalities where it anticipates a large vote gain in the future for reasons unrelated to bailouts. In this case, the treatment effect might be overestimated.

 $^{^{14}}$ The tax capacity is a measure reported in the Hessian Municipal Statistics Yearbook. It is constructed by multiplying the various tax bases with the average of the relevant tax rates prevailing in the state in a given year. This measure is supposed to reflect the *ability* of municipalities to raise tax revenues. It is therefore a more accurate indicator of tax capacity than tax revenues.

While it is possible that such unobserved time-varying variables exist, it is unlikely that they will systematically influence the state government's bailout policy. Given the inherent uncertainty about how voters within individual municipalities are going to change their voting patters from one to the next election, it is implausible that the state government would base its bailout policy on such expected changes. Consequently, it seems reasonable to presume that there is no residual correlation between the error-term and the bailout variables.

4 Results

4.1 State elections

In this section, I report the results for state-level elections. I collect separate estimation results for models with and without control variables. Hypothesis tests are always conducted with heteroscedasticity and cluster-robust standard errors (reported in parentheses below the coefficient estimates in the regression tables). Clustered standard errors are included to account for autocorrelation, the unit of clustering hence is the municipality.

The results in Table 1 indicate that bailouts have no electoral consequences for the governing parties in the state election, irrespective of whether they are paid early or late in the previous legislative period. The effect is always statistically insignificant. More importantly, however, the estimates are also very small in economic terms. Ignoring the statistical insignificance for the moment, I find that the change in the vote share of the governing parties in municipalities that received a bailout in the late part of the previous legislative period is at most 0.22 percentage points higher than in municipalities without any bailouts in the second part of the previous legislative period. For bailouts in the early part of the previous legislative period, the estimated coefficient is not even positive. The second column in each set of models studies the effect of the total volume of bailout payments, scaled by mean population size. The results show that an additional 100 Euros per capita in bailout transfers in the second half of the previous legislative increases the vote share by at most 0.19 percentage points. Once more, the estimated coefficient is not even positive for bailouts in the first half of the previous legislative period.

As indicated by the relatively small standard errors, the bailout effects are precisely estimated. The 95% confidence intervals for the estimated coefficients cover less than 1.5 percentage point around 0. It thus appears that bailouts have no beneficial consequences for the incumbent parties in the next state election.

4.2 Local council elections

The previous results show that bailouts carry in subsequent state elections no electoral benefits for the right-wing parties. However, state elections are not the only type of elections held in Hesse. The municipal council in each municipality is elected in regular local elections and it is possible that voters reward the local party branches rather than the state government as such for bailouts.

In the following, I check whether bailouts indeed increase the seat share of the rightwing parties. I consider the local elections held in 2001, 2006, and 2011. Similar to the regressions with the electoral outcomes at the state level, I relate bailouts in the legislative period immediately predating a particular election with the change in the aggregated share of seats gained by the CDU and the FDP. Given the timing of the local elections, there are three instead of only two legislative periods available for these regressions.

Note that since the CDU-FDP coalition assumed power at the state level in 1999, I relate only the bailouts in 1999 and 2000 to the electoral outcomes in 2001. Voters should attribute bailouts prior to 1999 to the previous state government formed by the SPD and the Green Party. Another point to note is that after the state election in 2008 no stable government could be formed (see footnote 12). The previous CDU state government functioned as a caretaker until new elections could be held in 2009. In this election, a CDU-FDP coalition was elected. Consequently, it is reasonable to classify the 2008-2010 period as one with a right-wing state government. In summary, I study whether bailouts between 1999 to 2000 affected the right-wing seat share in the local election of 2001, the bailouts between 2001 to 2005 the right-wing seat share in 2006, and the bailouts between 2006 and 2010 the right-wing seat share in 2011.

The results are collected in Table 2. Models (I) to (IV) in this table largely mirror those reported in Table 1. One difference to Models (III) and (IV) of Table 1, however, is that I additionally include in the list of control variables a dummy that indicates whether the local council was dominated by right-wing or left-wing parties in the previous legislative period. More specifically, this dummy variable is 1 if the right-wing seat share in the previous legislative period was larger than the left-wing seat share, and else 0. This dummy is included to control for possible incumbency effects on electoral outcomes that could be correlated with bailouts (Lee, 2008).

Mirroring the findings in the state-level regressions, the results in Models (I) to (IV) suggest that bailouts paid in the first half of the previous legislative period have no effect on electoral outcomes at the local level. On the other hand, the results point to a larger effect of bailouts paid in the second half of the previous legislative period than in the state-level regressions. The aggregated seat share of the CDU and the FDP in the municipalities that received a bailout in the second half of previous legislative period increases by about 1.2 to 1.6 percentage points. In addition to being economically larger than in the previous regressions, the effect is almost statistically significant. Similarly, the models using the volume of bailout transfers per capita paid in the second half indicate that a rise of 100 Euros per capita in bailout transfers increases the vote share by about 0.96 to 1.24 percentage points. In these regressions, the bailout variable is highly significant.

Hence, bailouts paid in the second half of the previous legislative period have a much larger effect on the electoral fortune of the ruling party at the local than at the state level. As indicated in the introduction, there are two explanations for this pattern of results. First, voters might believe that it is the local politicians of the CDU and FDP who were instrumental in acquiring a bailout and that, therefore, it is them who should be rewarded. Alternatively, voters might believe that rewarding the ruling parties in state elections will have little impact as the voting patterns in any individual municipality are negligible for state-level electoral outcomes. Therefore, they might opt to reward the ruling parties in local elections but to focus on other issues when voting in state elections.

One way to indirectly explore the validity of both explanations is through the regressions reported in Models (V) and (VI) of Table 2. These models include interactions of the bailout variables with the dummies indicating the ideology of the previous municipal council. More specifically, I explore whether the effect of a bailout on the vote share of the right-wing parties depends on whether the local council has been dominated in the previous legislative period by either right- or left-wing parties.

If voters believe that it is local right-wing politicians that are responsible for securing a bailout, then the increase in seats of right-wing parties after receiving a bailout should be larger in municipalities where the council was dominated by right-wing parties in the previous legislative period. This argument is based on the idea that local right-wing politicians have more influence with the state government if they originate from a municipality that favors right-wing parties.

If, on the other hand, voters believe that it is more effective to express their gratitude in local rather than state elections, the gain in seat share of right-wing parties should be larger in municipalities where the council is dominated by left-wing parties. The idea underlying this argument is that an increase in the seat share of right-wing parties matters more if it can lead to a switch in the ideological alignment of a municipality. The results indicate that the gain in seats of right-wing parties in response to a bailout is smaller in municipalities with right-wing dominance (or, respectively, higher in municipalities with left-wing dominance). However, the results are somewhat erratic.

For the models with a bailout dummy, the increase in the right-wing seat share in response to a bailout in the *second* half of the previous legislative is about 1.97 percentage points lower in right-wing than in left-wing municipalities. The coefficient is not statistically significant, however. For bailouts in the first period, there are no meaningful differences for right-wing and left-wing municipalities in electoral outcomes.

On the other hand, the increase in the right-wing seat share in response to 100 Euros per capita in bailout transfers in the *first* half of the previous legislative period is 0.91 percentage points smaller in municipalities with a right-wing relative majority. This interaction effect is statistically significant. For bailouts in the second half of the previous legislative period, there are no differences between right-wing and left-wing municipalities.

The findings for the models with the bailout dummy and the volume of bailouts are thus to some extent inconsistent. That is, the regression with the bailout dummy suggest the existence of interaction effects with council ideology for late bailouts while those with the volume of bailouts suggest significant interactions for early bailouts. The reason for the erratic nature of the results is presumably that too many parameters have to be estimated with a limited number of bailouts in these models. For example, there are only five observations in my sample with both a relative right-wing majority and bailouts in the second half of a legislative period. Therefore, individual observations can have a large influence on the coefficient estimates.

Nevertheless, both Model (V) and (VI) suggests that that right-wing governments benefit from – either early or late – bailouts only in municipalities where the previous council was dominated by left-wing governments. More specifically, considering that the estimates for the "base effects" of the bailout variables are 1.36 and 0.97, respectively, the size of the estimates for the interaction effects indicate that right-wing parties do not benefit at all from bailouts in municipalities where right-wing parties were dominant in the previous legislative period.

It appears that the reason why bailouts carry only benefits at the local level is that voters believe it to be more effective if they reward the right-wing parties in the next municipal elections. This finding that there are no electoral benefits at the state but some benefits at the local level has interesting implications for whether the bailout policy of the state government will be distorted. I discuss these implications in the next section.

5 Conclusion

I ask in this paper whether central governments gain votes by providing bailouts to subnational jurisdictions. Using Hessian municipalities as a natural laboratory, I find that bailouts carry no meaningful electoral benefits for the ruling parties in state-level elections. On the other hand, the local politicians from the parties forming the state government seem to be rewarded by voters.

One reasonable implication of the finding that bailouts carry no benefits for state elections is that state governments are unlikely to distort their bailout policies in favor of politically decisive municipalities. While state-level politicians might be concerned about the success of the local party branches, their careers are ultimately dependent on the outcome of state elections. If bailouts carry no benefits in these elections, then the most straightforward course of action for state-level politicians is to grant them according to true fiscal need. Moreover, only relatively few municipalities receive bailouts in each legislative period. Swaying votes in these few municipalities might not be worthwhile from the perspective of state governments. Finally, persistent politically motivated allocations of bailouts may actually result in electoral losses in municipalities that do not benefit from bailouts. The conclusion that political considerations are unlikely to influence the allocation of bailout transfers contradicts much of the existing literature on the determinants of general intergovernmental transfers. The consensus in this literature is that political variables matter. Brollo and Nannicini (2012), for example, find that the Brazilian federal governments provides more transfers to municipalities with mayors that are politically aligned with the ruling parties at the center. Consequently, some caution regarding the interpretations advanced in this paper is appropriate. That the parties forming the state government in Hesse benefit at the local level implies that electoral considerations cannot be fully excluded. To conclusively determine that electoral considerations do not bias the state government's bailout policy, future research should explore whether and to what extent state-level politicians are concerned with electoral outcomes at the local level.

Irrespective of the potential explanations for the findings, they neither indicate that bailouts are efficient nor that politicians do not try to buy votes through transfers. Even if they do not carry electoral benefits for the central government, the availability of bailouts is likely to distort local fiscal policy and result in inefficiently high levels of spending and debt. Similarly, there remains the possibility that politicians use other types of transfers, in particular regular intergovernmental transfers, to score political gains. A further avenue for future research, therefore, is to explore in other institutional contexts whether the political effects of bailout transfers are indeed different from those of regular intergovernmental grants and to establish the causes for any such differences.

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	(1)	(11)	(111)	(1V)
$Bailout_{t-1}, Early$	-0.053		-0.051	
	(0.539)		(0.487)	
$Bailout_{t-1}, Late$	0.220		0.125	
	(0.589)		(0.610)	
Value of $bailouts_{t-1}$, Early		-0.068		-0.109
		(0.331)		(0.293)
Value of $bailouts_{t-1}$, Late		0.125		0.187
		(0.348)		(0.352)
Δ Population $_{t-1}$			-0.008***	-0.008***
			(0.002)	(0.002)
Δ Population 6-14 $_{t-1}$			2.284***	2.298***
			(0.658)	(0.659)
Δ Population < 6 $_{t-1}$			0.408	0.432
			(0.908)	(0.907)
Δ Population > 65 $_{t-1}$			1.379***	1.373***
			(0.527)	(0.526)
Δ Tax capacity _{t-1}			0.008***	0.008***
			(0.002)	(0.002)
Δ Debt per capita $_{t-1}$			0.001	0.001
			(0.001)	(0.001)
Δ Unemployment rate_{t-1}			0.515	0.506
			(0.744)	(0.743)
Legislative term fixed effects	Yes	Yes	Yes	Yes
Municipalities	421	421	419	419
Observations	842	842	838	838
F	2841.885	2842.032	944.066	942.388

Table 1: BAILOUTS AND ELECTORAL OUTCOMES IN STATE ELEC-TIONS, AGGREGATED VOTE SHARE OF CDU AND FDP, HESSIAN MUNICIPALITIES.

^a This table presents results for models that relate municipal bailouts in the previous legislative period to the change in the aggregated vote share of the CDU and FDP in the 2003 and 2008 state elections. The effect of bailouts is allowed to differ according to whether they were granted early (first two or three years depending on the legislative period) or late (last two years) in the previous legislative period. The state government was formed by a coalition between the CDU and the FDP between 1999 and 2002. From 2002 to 2007, a sole CDU-government was in power.

^b Standard errors in parentheses.

^c Hypothesis tests are conducted with heteroscedasticity robust standard errors. Standard errors are also clustered at the level of the municipality. ^d Stars indicate significance levels at 10% (*), 5% (**) and 1%(***).

		(77)	(***)		(* *)	(7.77)
	(1)	(11)	(111)	(1V)	(V)	(V1)
$Bailout_{t-1}, Early$	0.130		0.187		0.376	
	(1.060)		(1.060)		(1.424)	
$Bailout_{t-1}, Late$	1.640		1.189		1.361	
	(1.230)		(1.238)		(1.471)	
Value of $bailouts_{t-1}$, Early		0.205		0.299		0.969^{**}
		(0.251)		(0.247)		(0.468)
Value of bailouts $t-1$, Late		1.235^{**}		0.962^{*}		0.551
		(0.510)		(0.508)		(0.495)
$Bailout_{t-1}, Early \times Right-wing rel. majority_{t-1}$					-0.500	
					(2.031)	
$Bailout_{t-1}, Late \times Right-wing rel. majority_{t-1}$					-1.965	
					(3.098)	
Value of bailouts_{t-1}, Early $\times~ \text{Right-wing rel.}~ \text{majority}_{t-1}$						-0.914*
						(0.509)
Value of $\text{bailouts}_{t-1}, \text{Late} \times \text{Right-wing rel. majority}_{t-1}$						0.136
						(2.031)
Δ Population _{t-1}			0.001	0.001	0.001	0.001
			(0.002)	(0.002)	(0.002)	(0.002)
Δ Population 6-14 $_{t-1}$			-0.234	-0.139	-0.212	-0.047
			(1.291)	(1.289)	(1.291)	(1.290)
Δ Population < 6 $_{t-1}$			-1.805	-1.687	-1.845	-1.786
			(1.614)	(1.610)	(1.617)	(1.615)
Δ Population > 65_{t-1}			-1.465	-1.447	-1.430	-1.421
			(0.998)	(1.004)	(0.998)	(1.003)
Δ Tax capacity _{t-1}			-0.005	-0.005	-0.005	-0.005
			(0.004)	(0.004)	(0.004)	(0.004)
Δ Debt per capita _{t-1}			0.002	0.002	0.002	0.002
			(0.002)	(0.002)	(0.002)	(0.002)
Δ Unemployment rate _{t-1}			-1.261	-1.167	-1.245	-1.149
			(0.892)	(0.899)	(0.892)	(0.901)
Right-wing rel. majority $_{t-1}$			-1.528***	-1.514***	-1.479***	-1.470***
			(0.342)	(0.341)	(0.343)	(0.341)
Legislative term fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Municipalities	421	421	421	421	421	421
Observations	1263	1263	1259	1259	1259	1259
F	138.007	140.263	54.272	54.777	47.526	48.075

Table 2: BAILOUTS AND ELECTORAL OUTCOMES IN MUNICIPAL ELECTIONS, AGGREGATED SEAT SHARE OF CDU AND FDP IN MUNICIPAL COUNCILS, HESSIAN MUNICIPALITIES.

^a This table presents results for models that relate municipal bailouts in the previous municipal legislative period to the change in the aggregated seat share of the CDU and the FDP in the municipal council elections of 2001, 2006, and 2011. The effect of bailouts is allowed to differ according to whether they were granted early (first three years) or late (last two years) in the previous legislative period. The state government was formed by a coalition between the CDU and the FDP between 1999 and 2002. From 2002 to 2007, a sole CDU-government was in power. From 2008 to 2009, a CDU caretaker government was formed by a CDU-FDP coalition.
 ^b Hypothesis tests are conducted with heteroscedasticity robust standard errors. Standard errors are also clustered at the level of the municipality.
 ^c Stars indicate significance levels at 10% (*), 5% (**) and 1%(***).



Figure 1: GEOGRAPHICAL PREVALENCE OF BAILOUTS IN HESSE. This Figure presents the total number of bailouts that individual municipalities received during the 1999-2010 period. Five county-free cities and four forest areas are dropped from the sample. The geocodes for the administrative boundaries of the Hessian municipalities were obtained from the German Federal Agency for Cartography and Geodesy.



8 Figure 2: DESCRIPTIVE STATISTICS ON BAILOUTS: This figure presents the number and volume of bailouts across municipalities during the 1999-2010 period of Hessian municipalities.



Figure 3: VOTE AND SEAT SHARES OF LEFT-WING AND RIGHT-WING PARTIES IN BAILOUT AND NO-BAILOUT MUNIC-IPALITIES IN STATE AND LOCAL ELECTIONS. This figure presents for the state elections held in 2003 and 2008 the average vote share and for the local elections held in 2001, 2006, and 2011 the average seat share of left-wing (SPD and Green-Party) and right-wing (CDU and FDP) parties in municipalities that received and in municipalities that did not receive a bailout in the previous legislative period. The average vote shares for bailout municipalities are indicated with "B" in the figure, the average for no-bailout municipalities is indicated with "NB".

Table A.1: DEFINITION AND SOURCE OF VARIABLES

Label	Description	Source	
Δ CDU + FDP second vote share	First difference of the aggregated second vote share of the right-wing parties between two state elec- tions in a given municipality.	Own construction based on data from the Hessian State Statistical Office	
Δ CDU + FDP seat share	First difference of the aggregated seat share of the right-wing parties in the local council between two local elections.	Own construction based on data from the Hessian State Statistical Office	
Bailout $_{t-1}$, Early	Dummy variable $=1$ if at least one bailout in the early part (either the first two or three years) of the previous legislative period, 0 else.	Own construction based on data from the Hessian State Interior Ministry	
Bailout $_{t-1}$, Late	Dummy variable $=1$ if at least one bailout in the late part (last two years) of the previous legislative period, 0 else.	Own construction based on data from the Hessian State Interior Ministry	
Value of bailouts p. c. $_{t-1},$ Early	Sum of total bailout payments in the early part (either the first two or three years) of the previous legislative period (deflated by federal CPI) divided by average population size in the legislative period.	Hessian State Interior Ministry	
Value of bailouts p. c. $_{t-1},$ Late	Sum of total bailout payments in the late part (the last two years) of the previous legislative period (deflated by federal CPI) divided by average pop- ulation size in the legislative period.	Hessian State Interior Ministry	
Δ Population $_{t-1}$	Average change (first difference) in population size of municipality in previous legislative period.	Hessian municipal statistics yearbook	
Δ Population< 6 $_{t-1}$	Average change (first difference) in share of inhab- itants below 6 years in previous legislative period.	Hessian municipal statistics yearbook	
Δ Population 6-14 $_{t-1}$	Average change (first difference) in share of inhabi- tants between 6 and 14 years in previous legislative period.	Hessian municipal statistics yearbook	
Δ Population > 65 $_{t-1}$	Average change (first difference) in share of inhab- itants above (or exactly) 65 years in previous leg- islative period.	Own construction based on Hessian municipal statistics yearbook	
Δ Tax capacity $_{t-1}$	Average change (first difference) in real tax ca- pacity measure (normalized real tax revenues by capita) in previous legislative period.	Hessian municipal statistics yearbook	
Δ Debt per capita $_{t-1}$	Average change (first difference) in municipal debt per capita (deflated to 2005 Euros) in previous leg- islative period.	Hessian municipal statistics yearbook	
Δ Unemployment rate $_{t-1}$	Number of unemployed divided by population size.	Federal Employment Agency (Bundesagen- tur für Arbeit)	
Right-wing rel. majority $_{t-1}$	Dummy variable=1 if seat share of right-wing par- ties is larger than the seat share of left-wing parties in the previous legislative period, 0 else.	Own construction based on data from the Hessian State Statistical Office	

Variable		Mean.	Std.	Min.	Max.	Obs.
Regressions with state-level elections						
$\Delta CDU + FDP$ second vote share	overall	-0.835	10.453	-91 994	17 735	849
2 OD0 7 FD1 second vote snare	between within	-0.035	1.524 10.342	-6.131 -17.581	4.805 15.912	421 2
Bailout t_{t-1} , Early	overall	0.043	0.202	0.000	1.000	842
/	between within		$0.174 \\ 0.103$	0.000 -0.457	$1.000 \\ 0.543$	421 2
Bailout $t-1$, Late	overall	0.040	0.197	0.000	1.000	842
	between within		$0.175 \\ 0.091$	0.000 -0.460	$1.000 \\ 0.540$	421 2
Value of bailouts p. c. $t-1$, Early	overall	0.064	0.379	0.000	4.324	842
	between within		0.320 0.203	0.000 -1.845	$3.177 \\ 1.974$	421 2
Value of bailouts p. c. $_{t-1},$ Late	overall	0.057	0.379	0.000	5.600	842
	between within		0.298 0.234	0.000 -2.743	2.800 2.857	421 2
Δ Population $_{t-1}$	overall	5.627	71.781	-245.000	445.250	842
	between within		$57.626 \\ 42.845$	-184.625 -267.798	330.825 279.052	421 2
Δ Population < 6 $_{t-1}$	overall	-0.155	0.112	-0.659	0.307	842
	between within		0.081 0.076	-0.493 -0.592	0.086 0.283	421 2
Δ Population 6-14 $_{t-1}$	overall	-0.085	0.156	-0.807	0.659	842
	within		0.104 0.116	-0.807	0.638	421 2
Δ Population > 65 $_{t-1}$	overall	0.480	0.180	-0.037	1.234	842
	within		0.119	0.029	0.930	2
Δ Tax capacity _{t-1}	overall	11.737	54.107 37.178	-337.056 -124.836	709.565 566.072	842 421
	within		39.333	-200.484	223.957	2
Δ Debt per capita $_{t-1}$	overall	2.518	73.135 55.608	-583.738	496.342	838
	within		47.541	-271.904	429.178 276.940	2
Δ Unemployment rate _{t-1}	overall	-0.071	0.150	-1.147	0.736	842
	within		0.118	-0.653	0.512	2
Regressions with local-level electi	ons					
Δ CDU + FDP seat share	overall	0.522	7.106	-47.826	24.324 8.696	1263 421
	within		6.496	-34.261	23.945	3
Bailout 4 1 Early	overall	0.040	0 195	0.000	1.000	1263
Ballout L=1, Early	between	0.010	0.140	0.000	0.667	421
	within		0.136	-0.627	0.706	3
Bailout t_{t-1} , Late	overall	0.033	0.179	0.000	1.000	1263
	between		0.140	0.000	1.000	421
	within		0.110	-0.000	0.100	0
Value of bailouts p. c. $_{t-1}$, Early	overall	0.072	0.519	0.000	11.682 5.137	1263 421
	within		0.375	-5.065	6.617	3
Value of bailouts p. c. $+1$. Late	overall	0.050	0.369	0.000	6.615	1263
Value of buildard p. of $t-1$, have	between	0.000	0.279	0.000	3.666	421
	within		0.243	-1.966	3.377	3
Δ Population $_{t-1}$	overall	0.923	75.656	-280.750	761.500	1263
	between within		56.201 50.698	-187.900 -331.110	394.233 479.340	421 3
A Denselation of C		0 199	0.115	0.805	0.405	1969
Δ Population < 6 $_{t-1}$	overall between	-0.128	0.115 0.064	-0.805	0.495	421
	within		0.095	-0.584	0.461	3
Δ Population 6-14 $_{t-1}$	overall	-0.082	0.160	-0.975	0.637	1263
	between		0.078	-0.531	0.189	421
	within		0.140	-0.869	0.744	3
Δ Population > 65 $_{t-1}$	overall	0.367	0.215	-0.242	1.534	1263
	within		0.115 0.182	-0.028 -0.393	0.809 1.237	421 3
A Tax canacity	overall	7 559	54 715	-638 702	674 196	1969
$rac capacity_{t-1}$	between	1.002	26.221	-246.163	273.869	421
	within		48.034	-384.988	414.492	3
Δ Debt per capita $_{t-1}$	overall	13.883	82.670	-531.033	709.013	1259
	between		50.554 65.501	-204.896	321.174 496 714	421
	wittill		00.001	-003.001	400.114	2.3300
Δ Unemployment rate_{t-1}	overall between	-0.190	0.351	-2.155 -0.812	1.513 0.470	1263 421
	within		0.337	-1.532	0.854	3
Right-wing rel. majority	overall	0.333	0.471	0.000	1.000	1263
5 · · · 6 · · · · · · · · · · · · · · ·	between		0.419	0.000	1.000	421

 Table A.2:
 SUMMARY STATISTICS