The Political Economy of Decentralization: Evidence from Bank Bailouts*

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Abstract

In this paper, we examine how the organizational design of bailout institutions affects the outcome of bank bailout decisions. In the German savings bank sector, distress events can be resolved either by a decentralized county-level politician or by a centralized state-level association. We document that decisions taken by the politicians at the decentralized level are distorted by personal considerations. While the occurrence of distress is not related to the electoral cycle, the probability of local politicians injecting taxpayers' money into a bank in distress is 30 percent lower in the year directly preceding an election. Using the timing of the distress event in the electoral cycle as an instrument for who bails out the distressed bank, we show that decentralized bailouts result in inferior economic outcomes. These bailed-out banks perform more poorly and provision credit less efficiently when compared with more centralized bailouts. We also observe a significantly worse real sector performance of localities that have undergone decentralized bailouts. Overall, our results highlight the political economy of decentralization – local politicians derive private benefits from controlling the bank at the expense of citizens at large.

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1 Introduction

In recent years many countries have implemented reforms decentralizing decision-making to local governments.[1] This move is partly driven by the view that decentralization of decision making lowers corruption and improves the allocation of resources. Decision-making in the European Union on the other hand has been shifting towards more centralized structures. For instance, in the banking sector, the emergence of supranational institutions such as the Single Supervisor Mechanism (SSM), the Single Resolution Mechanism (SRM), and the European Deposit Insurance Scheme (EDIS) among others.[2] Embedded in this undertaking is the justification that robust integrated approach to decision-making can tackle the growing interdependencies between countries.

There is now a large theoretical literature that discusses the trade-offs of decentralization vis-á-vis centralization. Centralization of decision-making allows entities to internalize externalities, improve coordination, and capitalize on the economies of scale. Advocates of centralization also cite 'local' capture as a reason for centralization of decision-making. There are, however, sceptics who extol the virtues of decentralization. It is often argued (Hayek (1945)) that decentralization of decision-making allows politicians to target policies that suit local tastes and needs. Furthermore, decentralization creates competition that improves the provision of goods and services in the economy (Tiebout (1956)). After all, the famous decentralization theorem (Oates (1972)) makes a persuasive case for decentralized decision-making.[3]

The empirical evidence has been mixed(Treisman (2007)). On the positive side, Fisman and Gatti (2002) documents that fiscal decentralization is associated with lower corruption. Similarly, Habibi, Huang, Miranda, Murillo, Ranis, Sarkar, and Stewart (2003) and Faguet and Sanchez Torres (2008) report improvements in educational outcomes after decentralization reforms in Bolivia and Argentina. On the negative side, Akin, Hutchinson, and Strumpf (2005), Galiani, Gertler, and Schargrodsky (2008), Fan, Lin, and Treisman (2009) and Durante, Labartino, and Perotti (2011) document the undesirable effects of decentralization. These papers mainly focus on decision-making in public service, such as education and healthcare (Channa and Faguet (2016)). In this article, we revisit the debate on the merits of decentralization in the context of government interventions in the banking sector, and in particular, bank bailouts.

[1] Such reforms were initiated in a diverse set of countries since late 1990s, such as Argentina, Bolivia, Cambodia, France, Japan and Turkey among others.

[2] The Brexit vote, though, can be viewed as a move to more decentralization of decision-making.

[3] There is also an organizational economics literature that debates the merits on decentralization. Here the literature can be largely divided into incentives based theories (Aghion and Tirole (1997)) or communication based theories (see Sah and Stiglitz (1986), Radner (1993), Bolton and Dewatripont (1994) and Garicano (2000) among others). According to the incentive based theories, decentralization is a double-edged sword. On the one hand, decentralization provides better incentives by offering more discretion at the local level. On the other hand, however, potential misalignment of interest between the decentralized party and the centralized principal implies agency costs. The communication based theories trade-off the degree of specialization vs. coordination costs to explain different organizational structures.

Bank bailouts have generated enormous debate since the recent financial crisis and the design of these institutions is very important because it can have large economic consequences. It not only affects fiscal costs associated with the bailouts and post-bailout outcomes, but may also change the ex-ante behavior of banks.[4] To investigate different bailout institutions, the German savings bank sector provides a unique laboratory. These saving banks generally operate in geographical defined areas that usually cover one municipality. Local politicians of this municipality tend to be members of the banks' supervisory boards; most prominently, the city major or county administrator serves as chairman of the board. There is a clear mandate that banks are not allowed to fail and the government has created associations at the state level to bailout distressed banks. The critical feature of our setting is that the decentralized decision-maker, i.e. the local politician, can bail out a distressed bank by injecting local taxpayers' money. In this case, the distress event is resolved without involvement of the centralized association, and no restructuring plan is implemented.[5]

Employing a unique dataset of 429 individual saving banks in Germany, we identify 148 distress events of these banks between 1995 and 2010. More specifically, a distress event is considered as a situation in which a saving bank requires an external capital injection to fulfill regulatory capital requirements. We first find that occurrence of distress events of German savings banks is not correlated with the electoral cycle of politicians. This is in contrast to the delay in distress before the election as documented in Brown and Dinç (2005) and Liu and Ngo (2014). Several reasons can account for this. First, the German regulator requires the disclosure of *monthly* capital adequacy ratios, making it extremely difficult to hide a distress event. Second, all distress events of saving banks are subject to an audit by the association. Managers of state banks face large personal risks if deliberate delay of bank distress is uncovered, which greatly reduces their incentive of delaying even if there would be pressure from the local politician to do so. In practice, there is no systematic evidence of ever-greening. Neither do we find any significant differences in a wide range of observables between banks or counties that experience pre- and post-election distress events.

While local politicians in Germany are unlikely to manage the timing of bank distress events around the electoral cycle, their decisions to inject tax payers' money in a distressed bank does, however, depend on the electoral cycle. Conditional on distress, politicians are about 30% less likely to inject capital into a distressed bank in the twelve months preceding an election as compared with the twelve months following an election. The findings are robust to the inclusion of a wide set of macroeconomic as well as bank-specific control variables.

[4] In Japan the unwillingness of the government to shut-down banks has often been cited as a major reason for slow growth, see the discussion in Caballero, Hoshi, and Kashyap (2008).

[5] It should be noted that the centralized savings bank association that operates at the state level is also governed by county level politicians. The county level politicians that are picked to head the state-level association is on a rotational basis.

The presence of an electoral cycle in bailouts is quite telling. It suggests some sort of an incongruence in the objective functions of the electorate and the politician. If both were perfectly aligned, one would not see a cycle. On the other hand if the bailout was very popular with the electorate, one would perhaps observe more bailouts by politicians in the pre-election year. The fact that the local politician is reluctant to carry on bailouts prior to the election perhaps is driven by the concern that it may not go well with the electorate, who may prefer deploying tax payers' money on other important projects that generate a higher benefit to the county (schools, hospitals, etc).

Two questions naturally arise. First, does the association carry out the bailout differently from the local politician? And second, which bailout technology is superior? To answer these questions one must hold the object being analyzed (a bank) constant across the two scenarios – banks that are bailed out by the politicians are different from banks that are being bailed out by the association. To address this selection issue, we use the timing of banks' distress events over the electoral cycle as an instrument for the degree of decentralization in bank bailouts. The intuition for the identification strategy can be best understood as follows. There are certain banks that will always be treated by the association ("always-takers"). For example, these could be the very large complex banks that the local politician could not handle. Then there are certain banks that would always be treated by the politician ("never-takers"). These could be banks for which there is clear congruence between voters and the electorate. And then a third group of banks include the ones that would have been treated by the politician after the election, but are treated by the association instead ("switchers"). The instrument is in the same spirit as Imbens and Angrist (1994), which also identifies out of such *switchers*.

We find that association takes a more drastic approach when it comes to restructuring banks. It either downsizes the bank and in some cases merges it with a bank in the neighboring county. Thus, the local politician, in the event of an association bailout either controls a smaller bank, or loses the control of the bank if it is merged with a neighboring county.[6] Interestingly, our results suggest that banks under centralized association bailouts perform better and are also better capitalized in the years following the distress event.

The second question is a normative one, and is, therefore, trickier to answer definitively using a framework meant for positive analysis. Nonetheless, we examine some standard economic metrics that have been quite extensively used in the literature to evaluate economic efficiency. We first evaluate how allocation of credit differs under the two scenarios and examine some economic variables that have been considered to be useful in evaluating efficiency. Specifically, we find that decentralized bailouts lead to distortions in the affected banks' lending practices. These banks are more likely to allocate credit to less efficient firms and engage more in connected lending compared with banks under centralized association bailouts. When we turn to the local real

[6] In such cases the politician of the neighboring county controls the bank.

sector, the most crucial finding is that the long-run growth in the corporate sector is negatively affected if bailouts are organized at the decentralized level. Entry and exit are also impeded in areas with decentralized decision-making. This may lead to a less dynamic macroeconomic environment, which weakens growth prospects of the respective region. Overall, we observe a significantly worse real sector performance of localities under decentralized bailouts as compared with those under centralized ones.

In summary, our results suggest that decentralization imposes both fiscal and real costs on the county. We also find that local politicians derive private benefits from controlling the savings bank following decentralized bailouts. Thus, this paper uncovers the political economy of decentralization.

Our key identifying assumption is that banks that experience a distress event before local elections do not systematically differ from those banks that go into distress after these elections. We argue that this is likely to be true in our setting. First, local politicians are not able to endogenously affect the timing of distress events given the tight supervision by the association (see Section 2 for details). Therefore, the distress events are unlikely to be triggered by election-related factors. Second, we show that for a wide set of bank characteristics as well as macroeconomic variables, there is no significant relationship between these measures and the electoral cycle. This suggests that banks and counties with pre- and post-election distress events are otherwise similar. Moreover, our empirical specification examines the average long-run effects after bailouts, so by construction any politician-induced cyclicality tends to be absorbed.

Our paper connects several strands of literature. The literature of fiscal federalism is a natural starting point (see Oates (1972), Besley and Coate (1997), Lockwood (2002), Alesina and Spolaore (2003), Harstad (2007) and Boffa, Piolatto, and Ponzetto (2016)). In line with the ambiguous prediction from the theoretical work, many surveys of the literature also agree that empirical evidence is inconclusive. Moreover, designing a credible identification strategy still poses as one major challenge. While studies relying on cross-country variation in decentralization can be extremely informative (Fisman and Gatti (2002)), omitted variables are a valid concern. Using reforms in developing countries, more recent papers aim to identify causal effects from the decentralization of public service.[7] To this end, we differentiate in two ways. First, the unique setting allows us to exploit the electoral cycle to generate exogenous variation in the degree of decentralization. Second, we carefully evaluate decision-making regimes in the context of government interventions in the financial sector, adding to the existing work on policy studies, public economics or development studies.

The paper also adds to the growing literature on banking supervision. Theoretically, Colliard (2017) put forward a model incorporating the trade-off between better knowledge and biased

[7] Channa and Faguet (2016) discuss a list of papers exploiting reforms in Africa, Asia and Latin America for identification.

incentives for local supervisors as compared with a central supervisor. Empirically, Agarwal, Lucca, Seru, and Trebbi (2014) compare federal and state regulator supervisory ratings for a sample of US banks and find that federal regulators are systematically tougher than local supervisors. We focus on another important aspect of banking supervision – bailout regimes. Leveraging detailed micro data on bank loans, we drill down and investigate whether and why a decentralized regime is harmful.

More specifically, this paper relates to papers that examine the various economic trade-offs regarding bank bailout decisions.[8] Central to this debate is whether or not bank bailouts should be organized. We argue that conditional on banks being bailed out, the design of bailout institutions also matters. Thus, our findings are relevant for the debate about the optimal level of banking supervision in the United States (Agarwal, Lucca, Seru, and Trebbi (2014)), or the discussion about a unified banking supervision within the Euro zone.

The paper also relates to the more general organizational economics literature. We show that the choice between decentralization vs. centralization depends on the local decision-makers' political incentive, adding to the empirical research on the determinants of decentralization. Prior literature documents that among other things, human capital (Caroli and Van Reenen (2001)), communication technologies (Colombo and Delmastro (2004)), ownership status (Colombo and Delmastro (2004)), distance to technological frontier (Acemoglu, Aghion, Lelarge, Van Reenen, and Zilibotti (2007)) and social trust (Bloom, Sadun, and Van Reenen (2012)), all matter for the optimal organization structure. We start from the political economy perspective and take a step further to show that decentralization may entail substantial cost in the context of financial sector interventions. In our setting, the large private benefits of controlling a state-owned bank at the decentralized level shift the tradeoff in favour of centralization.

The remainder of the paper is organized as follows. The next section provides an overview of our institutional setup. In Section 3 we describe the construction of our dataset. Results on the influence of political variables on bailout decisions among German savings banks are presented in Section 4. In Section 6, we examine how the consequences of bailouts depend on the type of the bailout. Finally, we conclude in Section 7.

[8] See Merton (1977), Keeley (1990), Demirgu¸c-Kunt and Detragiache (2002), Dam and Koetter (2012), Gropp, Hakenes, and Schnabel (2011). A detailed discussion of state-supported schemes for financial institutions is provided by Beck, Coyle, Dewatripont, Freixas, and Seabright (2010).

2 Institutional background

2.1 Distress events in the savings bank sector

The focus of our paper is on savings banks, which grant about a quarter of all corporate and consumer loans in Germany (see Sparkassen-Finanzgruppe (2010)). In 2010, the savings bank sector consisted of 429 individual banks with a combined balance sheet total of € 1,084 billion, 15,600 branches, and about 250,000 employees. By statutes, savings banks do not compete one with the other as their operations are constrained to the city or county that formally own them. The head of the respective local government, who is either a city mayor or a county administrator (referred to as local politician throughout the paper) acts as the chairman of the local savings bank's supervisory board.[9] Their position as a chairman of the board gives local politicians a strong influence on the operations of the bank (e.g., the appointment of bank management and the allocation of earnings).

Individual banks are connected by so-called savings bank associations that operate safety nets at the state level (referred to as the association throughout our paper).[10] Figure 1 illustrates the set-up of a savings bank association. The decision making board of the association consists of representatives from the individual banks (local politicians and bank executives) who are elected at general meetings of the association and serve for four- or five-year terms.[11] Savings bank associations collect data on the solvency and liquidity of their member institutions and transmit this information to the supervisor. Furthermore, they operate guarantee funds that function like an insurance scheme: If one of the member institutions gets into distress, the other banks in the association have to step in and provide support, where the main support measures are capital injections and debt guarantees.[12] Support is provided under the condition that the bank follows a restructuring plan which is proposed by the association. As often emphasized by the savings bank organization, the extensive safety net has ensured that no savings bank in Germany has ever failed. The claim is that distressed savings banks will always be bailed out by the association.

[9] The supervisory board of a savings bank has about 15 members. The members besides the chairman are representatives from local authorities (in most cases politicians from the local parliament who account for about two thirds of the board members).

[10] The associations do not exactly match the 16 German states (i.e., there are only 12 associations). For example, four of the former GDR states form a single association. The twelve state-level association are themselves connected in the "Deutscher Sparkassen- und Giroverband" at the federal level.

[11] General meetings of the association are attended by the chairmen of the individual banks, the directors, and one additional board member per bank. Among themselves, the attendees of the general meeting elect the members of the board of the association (see, e.g., Rheinischer Sparkassen- und Giroverband (2009)).

[12] The savings bank sector operates a three-layer liability scheme, where the regional guarantee funds constitute the first layer. In the second layer, state-level association would have to step in one for the other, and in the third layer there is a joint liability scheme with central savings banks ("Landesbanken") and central building societies ("Landesbausparkassen").

An interesting feature of this institutional setup is that local politicians can avoid formal distress cases by making use of taxpayers' money to support a savings bank that gets into distress. In this paper, we investigate how local politicians' decisions on support measures depend on political variables such as the time to the next election. To clearly illustrate the role of local politicians in our set-up, we outline the sequencing of decisions in case of bank distress below:

- The most common reason for distress events of saving banks is the default of one or more big borrowers of the savings bank. In case of material losses that could induce a capital shortfall below the regulatory minimum the savings bank has to inform the board of the association.

- The board of the association meets with the bank's management and its supervisory board to obtain background information on the distress event. Afterwards, the board of the association decides on the kind and the volume of support measures for the bank. Moreover, it decides on a restructuring plan to be imposed on the bank. This takes place immediately after the distress event, usually within a month.

- As the association wants to avoid that it has to step in again at a later point, all support measures are conditional on the restructuring plan which has to be accepted by the bank's management and supervisory board. The plan may include an organizational restructuring, a dismissal of the management and—in the worst case—a merger of the bank with another bank in the association (so-called distressed merger). As it imposes severe restriction on the bank's operations, the plan is likely to limit the local politician's influence on the bank.[13]

- At this point, local politicians (serving as chairmen of the supervisory board) can step in and prevent the implementation of a tight restructuring plan. If the local parliament agrees, they can use taxpayers' money to save the bank in distress. In this case, the distress event is resolved without involvement of the association, and the implementation of a restructuring plan is not required.[14]

- In a few cases (i.e., 4 of the 148 distress events in our sample), support measures are jointly provided by the association and local authorities. These distress cases tend to be organized by the association.

In summary, while savings banks in distress will always be bailed out, there are two different ways in which the bailout can be organized. On the state level, the association operates a

[13] E.g., in the case of a distressed merger, the politician is very likely to lose his position as a chairman.

[14] We will show in the subsequent section that bailouts organized by local politicians are indeed characterized by considerably less restructuring compared with bailouts organized by the association.

safety net for these banks. The decision on support measures and restructuring plan is made by the board of the association, which consists of politicians and bank executives from other municipalities covered by the respective association. The board members have to rely on a broad perspective when deciding on support measures. Due to the distance between their own jurisdiction and the savings bank's municipality, they do not derive any benefits of controlling the bank.

On the local level, the politicians who chair the supervisory board may step in by injecting taxpayers' money. Such interventions allow them to prevent the implementation of restructuring activities by the association. This could be efficient, since local politicians, compared with the board of the association, are much closer to the bank and thus have better information on the underlying causes of the distress event. Moreover, they might know better what a restructuring of the bank would mean for the local economy (which they govern in their function as city major or county administrator). However, decisions by local politicians could be distorted by personal considerations. Restructuring activities imposed by the association are likely to reduce the pecuniary and the non-pecuniary benefits that local politicians can derive from their position as a chairman. For example, their ability to influence the allocation of earnings—which gives them access to funds that are not controlled by the local parliament—is likely to be constrained. Such considerations might lead the politicians to intervene also in cases where tight restructuring (or even a distressed merger) would actually be the more efficient option.

2.2 The German electoral system

Since supervisory boards of our sample banks are chaired by local politicians, we briefly summarize the German political system. Germany is organized as a parliamentary democracy with three layers of government: The federal republic, 16 states ("Bundesländer"), and 402 county districts consisting of 295 rural counties that are headed by local administrators, and 107 urban cities that are headed by mayors. Separate elections on each layer take place in regular intervals.

The focus of our paper is on the elections in rural counties and urban cities, for which the laws are enacted at the state level. While the electoral cycle for county / city parliaments is five years in almost all German states (with the exception of Bavaria and Bremen, that have a six year and a four year cycle, respectively), there are some differences in the elections of local heads of government. In many German states, mayors or district administrators are directly elected in separate elections that take place on the same day as the election of the local parliament. Our focus is on parliamentary elections at the county or city level. In most cases these election take place on the same day as the election of the mayor / county administrator.

3 Data and Descriptives

Our analysis covers the German banking sector over the period from 1995 to 2010. We combine several confidential datasets from the Bundesbank's supervisory and statistics departments to compile a unique dataset that allows us to cleanly identify distress events of savings banks. In the first part of this section we explain the construction of this distress event variable. In the second part we describe bank-level and macroeconomic variables. The third part introduces the political variables and explains the motivation behind them. The final part describes the construction of outcome variables using contract-level lending information.

3.1 Distress events

We define distress events as cases where savings banks receive external support from the local politician under decentralized decision-making and / or the association under centralized decision-making, in response to a capital shortfall below the regulatory minimum (in the form of capital injections and / or guarantees), or when it is taken over by another savings bank in a distressed merger. Identifying distress events in the savings bank sector is cumbersome, since some types of support measures cannot be identified from banks' balance sheets (e.g., guarantees provided by third parties do not show up in the balance sheet). Furthermore many savings banks have been involved in mergers without being in distress. We therefore combine four sources from Deutsche Bundesbank's supervisory data to cleanly identify distress events; that is, the Bundesbank's prudential data base for banking supervision (BAKIS), the monthly balance sheet statistics (BISTA), the borrowers' statistics, and the Bundesbank's data base on distress events (see Appendix for a detailed description of the four underlying datasets). Additionally, we consult local media coverage on distress events obtained from the GENIOS database in order to verify our event dates.

First, we identify capital support measures by the local politicians by exploiting a peculiarity in savings banks' balance sheets. For historical reasons, the equity of these banks usually consists solely of contingency funds (so called "Sicherheitsrücklage"). These funds were originally provided by the owner of the bank in the year of foundation and then accumulated over the years out of the bank's retained earnings. However, if the savings bank—besides its equity in the contingency funds—also has subscribed capital unequal to zero, then this usually indicates an undisclosed participation of the bank owner (so-called "stille Einlage"). We therefore define an increase in subscribed capital subsequent to the bank's losses as capital injections from the local politician, who acts as chairman of the bank's supervisory board.[15] By using historical

[15]We rule out increases in subscribed capital that can be explained by takeovers or restructuring of equity positions. In some German states the savings bank law allows undisclosed participation not only from the owner

data of subscribed capital from the monthly balance sheet data (BISTA) we are able to identify the size of the capital injection as well as the particular month in which the event occurred.

Second, we code capital support measures by the savings bank association. Whenever one of the associations provides support to a savings bank—most often in the form of guarantees—this event is recorded in the so called "Sonderdatenkatalog 1" of the BAKIS database.[16] The data source is, however, only available at annual frequency. To determine the month of these events within a given year, we consult two further databases: First, we obtain data on capital adequacy ratios from the monthly balance sheet database BISTA;[17] and second, we identify large write-offs from the borrowers' loan statistics that is available on a quarterly basis.[18] We are therefore able to verify our identified events from two distinct Bundesbank data sources. In those cases in which we can only identify the respective quarter, we always assign the mid-month of the respective quarter as the event month. We cross-check our event dates with media coverage on local distress events obtained from the GENIOS data base and find that the dates are broadly consistent with the coverage in the local press. There are some cases where savings banks received support from the association and the local politician within the same year (four cases); we assign these events to the source that provided the larger amount of funds.[19]

Third, we obtain information on distressed mergers from the Bundesbank database on distress events.[20] A takeover of a distressed savings bank is organized by the savings bank association which identifies another savings bank in close geographic proximity to acquire the bank in distress. While capital injections as well as provisions of guarantees occur right after the bank falls short of regulatory capital (the distress event), there is generally a time gap between the actual distress event and the merger. In order to identify the actual date of the distress event we once more rely on large write-offs from the borrowers' loan statistics (as described above). For the savings bank that had a distressed merger before 2002 (the year when the borrowers' statistics database was initiated) we consult local media coverage from the GENIOS data base where

of the bank, but also from the savings bank association. However, this is the rare exception and we rule out these cases using the BAKIS database as described in the subsequent paragraph.

[16]Banks are legally bound to report this information to Bundesbank and BaFin. In contrast to pure balance sheet information this dataset contains confidential supervisory information.

[17]Large increases in the capital adequacy ratio in a certain month indicate that the savings bank received capital support at this time. Capital adequacy ratios in the BISTA are available on a monthly basis until the end of 2007, and on a quarterly basis from 2008 on.

[18]Large write-offs on loans in a given month indicate that the savings bank experienced a distress event at this time. Loan portfolio write-off data is available from 2002 on in the borrowers' statistics; therefore, it can be used to double-check the information on the timing of bailout events, in particular by the banking association, for roughly half of the time-period of our dataset. For the period before 2002 we have to rely on the evolution of the capital adequacy ratio in order to identify the timing of the distress event within a year.

[19]All results also hold if we exclude these cases.

[20]As the distress database is only available until 2006, we define distressed mergers in the years 2007-2010 as passive mergers where the bank that was taken over experienced a severe distress event in the three years before the merger (i.e., a moratorium, a capital support measure, or a capital ratio below the regulatory minimum).

it is available. For the remaining cases we consult the responsible local supervisors responsible for the respective saving bank to learn about the date of the distress event.

Overall, we identify 148 distress events of German savings banks during our sample period from 1995 to 2010. Among these 148 distress event, more than one third (55 cases) was resolved by capital injections from the local politician (BLP cases). The remaining 93 events were dealt with by the association (BLA cases).[21] Out of these 93 cases, 44 banks experienced a distressed merger in the year following the distress event (see Table 1, Panel A). On average, the capital support amounted to around 15% of the distressed bank's total equity. The size of the support is roughly the same for the banks bailed out by the politician and those by the association. A definition of all variables is provided in Table A1 in the Appendix. The distress events are relatively evenly distributed over the sample period, with multiple events in each year, as illustrated in Figure 2.

3.2 Political variables

For the empirical analysis, we hand-collect information on the identity and the position of distressed savings banks' chairmen from the banks' annual reports as published in the Bundesanzeiger.[22] We use various Internet sources in order to determine the party membership of these chairmen. Results and dates of elections on the county / city level are obtained from the 16 German State Statistical Offices. We carefully match counties and cities with owners of our sample banks.[23] In this way, we are able to obtain information on the elections in all cities or counties that own one of our sample banks.

To analyse whether political considerations matter we identify situations in which they should be more important. Several papers have documented that voters tend to forgive events that occurred early on in the electoral cycle (e.g., Rogoff and Sibert (1988)). Thus, if an election is imminent, interventions by politicians are much more likely to affect their probability of re-election. In this way the timing of the occurrence of a bank distress event in the electoral cycle could affect the decision of a politician in case she / he cares about re-election.[24] Accordingly,

[21] For easier presentation, bailouts organized by local politicians are abbreviated to BLP and bailouts organized by the local savings bank association are abbreviated to BLA.

[22] This information is available online from 2006 onwards (www.bundesanzeiger.de). For earlier observations, we consulted microfiche versions of the Bundesanzeiger provided by the university and regional library in Bonn.

[23] In cases where several city or counties jointly own a savings bank there is generally one dominant county or city that owns the largest share of the bank. We account for this by matching the respective bank to the county or city in which its headquarters are located.

[24] Forgetful voters, though, is not a necessary condition to affect the decision of a politician. Imminent election means that an unpopular decision by the politician can be penalized immediately and for a longer period by negatively affecting all future elections. For example, assume that an unpopular decision reduces the chance of being re-elected by 10% for the imminent election. Unconditionally, this 10% lower probability results in lower chances of being elected for all future elections. On the contrary, when the next election is remote, the voters need to wait for a few years before penalizing the politician. The number of years during which an unpopular

we define *Electoral Cycle Dummies* as follows: The dummy variable *D(0-12 months after)* takes a value of one during the 12 months after the local election and zero otherwise. The dummy variables *D(12-24 months after)* takes a value of one for the time from the 12^{th} to the 24^{th} month following the local election and zero otherwise. The dummy variables *D(24-36 months after)* and *D(36-48 months after)* are defined accordingly and *D(36-48 months after) is equivalent to D(12-24 months before)* as the length of the electoral cycle is usually five years. The 12 months preceding an election is denoted by *D(0-12 months before)* , which serves as the benchmark category against which the other time periods are evaluated in Section 4.[25]

A second proxy for political constraints is the degree of political competition in the respective city / county. If competition between different parties within the county/city is tight, a decrease in the probability of re-election is more material since a small swing can in fact reverse the election outcome. We thus define the variable *Competitive County* as follows: First, we calculate the vote share margin between the first and the second party within the county / city from the respective state election.[26] Second, we then define a dummy that is equal to one if the vote share margin is smaller than the median and zero otherwise. The intuition behind this dummy is the following: The smaller the vote share margin between the first and the second party, the more intense the political competition and the more effective the disciplining role voters can exert on politicians.

A politician's bailout decisions might be influenced by his / her ideology. To proxy for a politician's ideology we define the dummy variable *Cons. Bank Chairman:* The variable is equal to one if the chairman of the bank is a member of the German conservative party ("CDU/CSU"). A fundamental conservative principle is limited government intervention in markets. If politicians act according to this principle, we would expect less capital injections from the politician if the chairman of the bank is a CDU/CSU member.

3.3 Bank, loans and macroeconomic variables

To evaluates different bailout institutions, we study bank-level and locality-level outcome variables. Annual bank balance sheet data for all German savings banks is based on the unconsolidated balance sheet and income statement reports provided by the BAKIS database.[27] Table 1,

decision imposes a negative effect on the probability of staying in office is thus lower. Under this circumstance, even without forgetful voters, electoral cycle can also affect the decision of a politician.

[25]The length of the electoral cycle is different for the states of Bremen (4 years) and Bavaria (6 years, see Section 2). For distress cases that occur in Bremen, *D(36-48 months)* is always set equal to 0. For distress cases that occur in Bavaria, *D(36-48 months)* is set equal to 1 in the first and in the second year following an election.

[26] We use county/city level state election results as a proxy for political competitiveness as these elections are relatively similar across states so that results from different states can easily be compared with one another.

[27]We apply a very thorough merger treatment to the dataset: After the merger of two banks we artificially create a third bank (for the time after the merger) in the dataset. Note that the merger treatment causes the total number of banks in the dataset to exceed the maximum number of banks in a given time period.

Panel B, provides sample statistics for balance sheet items used in the empirical analysis. We compare the values of banks that had a distress event during our sample period with those of the average savings bank. A definition of all variables is provided in Table A1 in the Appendix.

A few interesting observations emerge from Table 1. The bank's regional market share (proxied by the share of branches within the county) is slightly higher than the sample mean for banks that received support from the politician while it is significantly lower for banks that received support from the association. This suggests that banks that are relatively important in the local area tend to be bailed out by the politician. The ratio of total equity to total assets is lower for banks that experienced either type of support measure. Moreover, these banks also have a lower ROA and a higher ratio of non-performing loans to customer loans on average. The association tends to deal with less healthier banks characterized by lower capital ratio, lower ROA and higher non-performing loans ratio. The deposit ratio (savings deposits, term deposits, and time deposits to total assets) is significantly lower for banks that received support from the politician. The table further reports statistics on the amount of loans granted by the bank to its owner divided by county-level GDP, which is slightly higher for banks that obtain support measures from the politician as compared with banks that are supported by the association.

As described in Section 2.1 we expect banks that receive support from the association to undergo considerably more restructuring following the distress event. We examine changes in the growth rates of total assets, total loans, number of employees and number of branches of the bank following the bailout. Results are shown in Table 2. Panel A examines five years after the bailout. Compared with banks that received support from the local politicians, they experience significantly more decline in both total assets and total loans. In line with the implementation of a tight restructuring plan, the development of the number of employees, and—to a lesser extent—the number of branches indicates more restructuring activities for bailouts that are organized by the association. Panel B extends the examination window to eight years after the bailout and we observe similar patterns.[28]

Our regional variables are gathered from various data sources. We obtain information on county level GDP per capita, its growth rate as well as the ratio of government debt to GDP on the county / city level from the 16 German State Statistical Offices. Descriptive statistics for these variables are provided in Panel C of Table 1. On average, banks experiencing a bailout by the politician are located in a county with lower GDP growth in comparison to the counties of banks that are bailed out by the association. Furthermore, counties where politicians conduct bailouts have a higher GDP per capita and are less indebted than the average county.

In addition, we rely on the German credit register to study credit allocation at the micro level. the German credit register at Deutsche Bundesbank provides detailed contract-level information

[28]Note that the comparison here excludes distress merger cases because the acquired banks do not separately report information on loans and employees.

between all German firms and the banks extending credit to them.[29] We collect the location information for all the firms and map it to the municipalities they belong to. The municipality is the finest possible administration level in Germany, which can be identified by an eight digit official municipality numerical key, i.e. Amtlicher Gemeindeschlüssel, or AGS. The first five-digit of this numerical key denotes the county or the county-level city while the last three-digit denotes the municipalities within a county. There are more than 8,000 municipalities in Germany, identified by different eight-digit AGS keys. Essentially our analysis is carried out at a geographical level as granular as zip code. For each loan contract we identify the originating municipality, which allows us to generate municipality-level measures for the local banking sector activities. Importantly, the government-owned banks are organized at the county or county-level city level, but their exact coverage can be further pinned down to the municipality level. We hand-collect detailed information on the coverage of distressed banks to identify the municipalities that are exposed to the distressed and following bailouts. We further merged it with the municipality-level measures and in this way we put together a dataset to analyse the consequences of bailouts on local banking activities and corporate sector growth. The outcome variables are described in detail in Section 6.

4 Political incentives behind bank bailouts

In this section our primary goal is to understand politicians' decision-making when dealing with distressed banks. If their decision is driven by the better information set local politicians have, we would not expect a correlation between political factors and politicians' action. The electoral cycle is a likely candidate for such a political factor. Politicians could either manipulate the timing of distress events around election dates or, in case this is not possible, only bailout banks whose distress event is far away from an election date.

To test this, we first gauge whether the timing of bank distress events is correlated with the electoral cycle in the German setting. We present strong evidence against manipulation. However, do these local politicians, who have difficulty delaying distress events, instead exert a certain direction over the resolution strategy? To provide an answer, we model politicians' decision to bail out a bank conditional on a distress event. More specifically, we aim to understand the degree to which the local electoral cycle affect the probability of a decentralized political bailout.

[29] A lending relationship is reported as long as the total outstanding loans between the borrower and lender in a given quarter exceed €1.5 million.

4.1 Timing of distress events over the electoral cycle

Figure 3 displays the distribution of all 148 distress events over the electoral cycle. From this figure, we do not observe a clear relationship between bank distress events and the electoral cycle in Germany. We also formally test whether the electoral cycle influences the timing of bank distress events by using a hazard model. Potentially, if banks know about differences in politicians' willingness to bail them out, they might have an incentive to delay distress events. We define the period from the beginning of our sample in 1995 up to a distress event as the time until distress for each bank. Thus, the hazard rate, $h(t)$, is the probability that a bank distress occurs at time t, given that no distress occurred until then. Following Brown and Dinç (2005) and Liu and Ngo (2014), we test whether distress events depend on the electoral cycle, using an exponential hazard model:[30]

$$h_k(t) = exp(\alpha_t + \beta_0' \cdot X_{kt-1} + \beta_1' \cdot Electoral\ Cycle_{kt}) \tag{1}$$

where X_{kt-1} denotes a vector of covariates for bank k at time or duration t. The vector $Electoral\ Cycle_{kt}$ includes our dummies for the electoral cycle that are equal to 1 if the bank's accounting year t falls into the respective period in the electoral cycle. The regression also includes time fixed effects.

The regressions include all bank-year observations for savings banks that had a distress event throughout our sample period. Table 3 presents our findings for the relationship between distress events and the electoral cycle. In column (1) we include only the $Electoral\ Cycle_{it}$ dummies. None of the dummies are significant. Thus, there is no relationship between the timing of distress events of state-owned banks and the electoral cycle in Germany. Note that this result is robust to including time fixed effects. Furthermore, this observation is unchanged if we add control variables in columns (3) and (4). The control variables indicate that distress is less likely when banks are large (measured by market share), profitable, and well-capitalized. Results remain unchanged when we further include two political variables in columns (5) and (6): There is no statistical relationship between the electoral cycle and distress events, suggesting that politicians are *not* able to endogenously affect the timing of distress events. Otherwise we would expect them to delay the occurrence of the distress event until after the election (see Brown and Dinç (2005), Liu and Ngo (2014)). Table B1 reconfirms this finding by simply using one dummy indicating whether the distress happens right before the election or not. In all specifications, the coefficient on this dummy turns out to be insignificant. Therefore the evidence is robust that politicians in Germany do not seem to have the capacity to delay bank distress events and the necessary bailouts.

[30] Results are similar when we use a Cox proportional hazard model instead of the exponential hazard model.

Our finding is in contrast to findings for emerging economies (Brown and Dinç (2005)) and the US (Liu and Ngo (2014)). Several reasons can account for this. First, the German regulator requires the disclosure of monthly capital adequacy ratios. Bankers report this information on a monthly basis to the association as well as the regulator (see Section 2 for details). Second, all distress events of saving banks (irrespective whether the bailout is organized by the association or local politicians) are subject to an audit by the association.[31] In case the manager of a distressed saving bank is convicted to have not timely written off non-performing loans or to have extended loans to non-performing corporations (e.g. ever-greening), the manager is personally liable for losses resulting from these actions.[32] In such an environment, managers of state banks have no incentives to delay the distress events of a saving bank even if there would be pressure from the local politician to do so.

We provide further empirical evidence analyzing the underlying causes of banks' distress events as well as differences of the types of distress events we observe over the cycle in Section 5. The evidence further supports our argument that the German local politicians are unlikely to manipulate the timing of bank distress.

4.2 The impact of the electoral cycle on the bailout decision by politicians

While local politicians in Germany cannot manage *the timing* of bank distress events out of their political interests, they might have certain discretion over the *resolution strategy*. We thus analyse whether political considerations affect the way in which distress events are resolved. On the one hand, it is possible that voters perceive an intervention by local politicians as a suboptimal usage of taxpayers' money. The savings bank organization has an extensive safety net in place, so that convincing voters of the economic necessity of using local funds to save the bank appears rather difficult. Following this argumentation, interventions at the decentralized level by local politicians would decrease their chances to be re-elected. On the other hand, voters could be in favour of having an independent savings bank within the municipality. This would imply that interventions by local politicians are popular among voters and hence increase the politician's chances of re-election.

Irrespective of voters' preferences, such political considerations should not affect the decision making process. Decisions on bank bailouts should be based on economic considerations such as the bank's future viability or implications for the overall economy, and not on personal considerations of the involved politicians. Hence, any influence of political considerations on the

[31] These audits are specified in the respective law codes governing the saving banks (e.g. Sparkassengesetz Nordrhein Westfalen §33, §34 and §40).

[32] Furthermore, managers of state banks would lose her/his pension in case she/he commits misconduct to delay the distress event. Given that the compensation of these managers is characterized by generous pension scheme, this would constitute a substantial personal risk for them.

likelihood of interventions by decentralized-level politicians can be seen as a sign of distorted decision making.

Figure 4 displays the distribution of decentralized political bailouts over the electoral cycle (see also Table 1). The relative frequencies of capital injections by politicians display a clear pattern over the electoral cycle: In the 12 months before the election, the share of political bailouts in all distress events is considerably lower (15.4%) than in the 12 months following the election (50.0 %). Only one out of 55 cases of capital support by the politician occurs in the six months directly preceding an election. This suggests that politicians are reluctant to use taxpayers' money to support a distressed savings bank right before an election.

To test this pattern more formally, we use a linear probability model in order to assess the relative likelihood of the two possible outcomes: decentralized political vs. more centralized association bailouts. We use all 148 bank distress cases in our sample to estimate the following equation:[33]

$$BLP_{kt} = \alpha_t + ElectoralCycle'_{kt}\beta + POL'_{kt}\nu + C'_{kt-1}\delta + B'_{kt-1}\gamma + \epsilon_{it} \tag{2}$$

where k denotes the individual bank and the county or city of the bank, and t the year in which the distress event occurred. The dependent variable is a dummy denoted as BLP and it takes the value of one if the bank distress is resolved by the politician and the value of zero if the distress is resolved by the association.[34] The primary variables of interest are the dummies for years within a electoral cycle, denoted by $ElectoralCycle'_{kt}$. In the benchmark case, we include four dummies indicating all the non pre-election period. The other political variables include the political competition within the county and the ideology of the politician. They are summarized in the vector POL_{kt}. Bank level control variables are denoted by the vector B_{kt-1} and include the bank's size, the capital ratio, the return on assets, the non-performing loans ratio, the market share, and the deposit ratio. They are lagged by one year in order to obtain pre-event values. Macro control variables are also lagged by one year and include the level and the growth rate of county-level GDP per capita. They are summarized in the vector C_{kt-1}. The specification further includes time fixed effects and a random error term ϵ_{kt}. Since the cycles of the local elections are to a large extent synchronized, year fixed effects would absorb the $Electoral\ Cycle_{kt}$. Therefore, we define time fixed effects which take the value of 1 during one of the entire cycles (5 year intervals) and 0 otherwise.

Table 4 presents estimation results for Equation (2). We start with a benchmark specification without any political variables and bank/macro controls in columns (1) and (2). The coefficients

[33] Using a nonlinear logit model gives results that are similar to the results from our linear specification (see Table B4).

[34] Cases in which both the association and the owner/politician inject money into the bank are classified as the category that contributed the larger amount of capital. See Section 3.1 for details.

on the four dummies indicating all the non pre-election years turn out to be positive and highly significant. This is robust to adding in time fixed effects in column (2). When we include bank and macro control variables, as shown in columns (3) and (4), the pattern is hardly affected. These findings confirm our descriptive analysis: the electoral cycle seems to have a strong influence on the bailout type for a savings bank in distress. In the twelve months before an election, the probability that a politician resolves the distress is 23.0% to 39.0% lower as compared with the other years in the electoral cycle (column (4)). This finding is remarkable as it suggests that decisions on bank bailouts at the decentralized county-level are distorted by politicians' personal considerations over re-election prospect.

The regression results in columns (3) and (4) also indicate that larger banks or banks with a higher deposit ratio are less likely to receive capital injections from the politician. Banks that suffer from more severe distress (with high non-performing loans ratio) tend to receive bailouts at the centralized level. The opposite is true for banks with a higher local market share. One could argue that these banks are more important for regional development within the county and therefore the local politician has a greater interest in keeping control of the bank and wants to avoid a painful restructuring plan or even a distressed merger. Finally, the regression shows that counties or cities with higher GDP per capita growth are less likely to use taxpayers' money in order to bail out a savings bank in distress.

Furthermore, there is evidence that other political variables also matter when we run a horse-race of all political variables in columns (5) and (6). Capital injections from the politician are less likely if the bank chairman is a member of the conservative party, which is in line with the conservative ideology of limited state interventions. Further, columns (5) and (6) show that politicians are weakly less likely to support a distressed bank if political competition within the county or city of the bank is relatively high. This is in line with the personal interest explanation: Voters exert more discipline if the political competition is more intense. Although a politician might want to prevent restructuring of a distressed bank in order to keep it under her control, she cannot do so if this will be perceived as a waste of taxpayers' money and hence be punished in the next election. The more intense the political competition, the more severe the threat of punishment.

Instead of including separate dummies for all the years around an election, we also run regressions using one dummy variable indicating whether the distress event is 0-12 months before the election or not[35]. The results are displayed in Table B3. The negative coefficient on $D(0-12\ months\ before)$ reconfirms that the electoral cycle has a strong effect on the type of bailout. The probability of capital injection from the politician is around 30% less likely if the distress event takes place 0 to 12 months before the election.

[35]This is our preferred setting in Section 6. First, the coefficients on the four dummies do not exhibit significant differences. Secondly, using a single instrument means our specification is just identified, avoiding any potential concerns over 2SLS bias of over-identification in the case of weak-identification.

Our results show that the political incentives behind regulatory intervention in banking could manifest themselves in different behaviours. While the previous literature demonstrates the delaying of bank failures right before elections, we show that when delaying is difficult, politicians choose between different types of bailout institutions to serve political interests.

4.3 Political factors affecting the bailout decision of the association board

We have shown that political factors tend to play an important role in determining the bailout decision of local politicians. We next examine whether we can also find a similar pattern for political factors that are likely to affect the decision making of the association board. We define three additional variables at the association level for the empirical analysis in this section.

In Table 5, columns (1) and (2), we include a proxy for personal connections between the association board and the board of the respective bank in distress: *Bank Chairman in Ass. Board*. This variable is equal to one if the chairman of the bank is also a member in the board of the association. This board decides on support measures provided by the association and it is possible that the politician tries to use her/his influence to obtain support without further restructuring. If this would be the case, we would expect that politicians are less likely to use taxpayers' money to resolve distressed banks. This variable tests whether the decision process at the association is rather transparent and follows pre-determined rules, or whether it is prone to favouritism. The dummy is insignificant, which illustrates once again the rather transparent decision process of the savings bank associations. If the association was prone to favouritism we would have expected a significantly negative coefficient for this dummy.

Next, we test whether the ideology of the association board members has any effect on who is resolving the distress event of a bank. To do so, we include the variable *Cons. Ass. Board* that takes the value of one if the majority of the association board members is associated with the conservative party and zero otherwise (columns (3) and (4)). There is no statistical relationship between the ideology of the association members and the type of the bailout decision. Finally, we test whether the same party affiliation of the local politician and the association board members impacts the type of bailout. In columns (5) and (6), we add a dummy *Same Party* that takes the value of one if the local politician and the majority of the association board members are from the same party and zero otherwise. Again, this variable is statistically insignificant. Overall, these results suggest that decision-making at the centralized association level tend to be independent of political factors.

5 Empirical strategy to evaluate different bailout institutions

Having shown that decisions on bailouts by politicians is distorted by political considerations, we move to evaluate the consequences of such bailouts. Comparing the future development following different bailout regimes could be prone to selection concerns. Such concerns could arise if the decision by local politicians to intervene is correlated with factors that also affect the future performance of the bank or municipality. We, thus, need an instrument that impacts the decision of a local politician to bailout a given bank across similar distress cases. The electoral cycle of local politicians constitutes such a potential instrument.

Specifically, we exploit our findings in Section 4.2 and use the timing of the distress event in the electoral cycle as an instrument for the intervention by local politicians (see e.g. Levitt (1997) for a similar identification strategy). We start by estimating the following first stage regression:

$$BLP_{it} = \alpha_t + \beta D(0-12\ month\ before)_{kt} + POL'_{kt}\nu_1 + C'_{kt-1}\gamma_1 + X'_{it-1}\delta_1 + \epsilon_{1it} \quad (3)$$

In Equation 3, the dependent variable BLP_{it} takes the value of one if the bank distress is resolved by the politician and zero otherwise. Subscript i stands for the unit of observation, which is at the municipality level in our main specification.[36] The corresponding county or city where i belongs to is denoted by k. The instrumental variable from utilizing the electoral cycle is $D(0-12\ month\ before)_{kt}$, which equals to one if the bank distress event takes place 0-12 months before the local election and zero otherwise. The vector of other political variables is denoted by POL_{kt}, including the political competition within the county and the ideology of the politician. Vector C_{kt-1} summarizes the regional macro control variables, which are measured in the year before the distress. The control at the observation unit level is denoted by X_{it-1}. Time fixed effects are indicated by α_t.

To estimate the effect of bailouts at decentralized county-level on subsequent performance of banks and municipalities, we estimate the following second stage regression:

$$\Delta Y_{it}^{post} = \alpha_t + \theta\widehat{BLP_{it}} + POL'_{kt}\nu_2 + C'_{kt-1}\gamma_2 + X'_{it-1}\delta_2 + \epsilon_{2it} \quad (4)$$

where $\widehat{BLP_{it}}$ is the predicted probability of a bailout by the local politician obtained from Equation 3. The dependent variable is the change of the outcome variable in the post-bailout years (in the baseline specification, we take the average value from year $T = 1$ to $T = 5$) from pre-bailout value. In robustness checks, we also use an eight year post-event window instead

[36] In some specifications, we examine firm-level outcome of bank bailout events and the observation unit there is at firm level.

of a five year one to construct our outcome variables. If indeed our instrument is a valid one, the coefficient of interest, θ, captures the causal effect of the politician's bailout decisions on the outcome variables. Two stage least squares are used to estimate the equations. Since the bailout decisions are reached at the county or city level (denoted by k), we cluster the standard error at the same level. In the Appendix, we also use an alternative estimation approach which instruments the BLP dummy with the predicted probability of BLP obtained from a *probit* model, as suggested by Wooldridge (2010).

Our IV strategy identifies out of "switchers", or "compliers", in which the politicians would change their decisions on bank bailouts if the timing of distress in the electoral cycle were to change. The empirical evidence in Section 6 suggests that decentralized decision-making regarding bank bailouts has negative implications for the "switchers" group. However, to fairly compare the two bailout institutions and inform policy, we need to infer the average effect of decentralized bailouts as compared with centralized ones for the entire group, including the "non-compliers". There are two groups of "non-compliers": "never-takers" and "always-takers", which we discuss in more detail below.

The "never-takers" choose to implement bailouts at the centralized association level regardless of the timing of distress. By revealed preference, decentralization could be more harmful in these cases since BLP is not chosen even when the distress event takes place after the election.

The "always-takers" always opt for political bailouts at the decentralized level. One could argue that BLP is actually optimal in these cases and a centralized BLA may instead be inferior. If this is true, a centralized bank bailout regime might not be as desirable as our estimation suggests. To address this concern, we zoom in on the BLP cases in the pre-election period. First, the "always-takers" constitute a small group: only 4 out of 148 distress cases belong to this group. Second, in all 4 cases we find that the upcoming local elections are irrelevant. The politicians have announced well in advance that they would not run in the next election. In absence of the concerns over re-election prospect, a politician may choose to bailout the bank so that he keeps the private benefits of controlling it during the remaining days in office.[37] Three out of these four banks re-defaulted in less than three years. Therefore, the evidence is more consistent with private benefits driving these pre-election BLP cases rather than BLP being optimal. Moreover, had the politician planned to run again, the "always-takers" are likely to turn into "switchers".[38]

[37] There might be other benefits of keeping the bank under his control. For example, if there is a revolving door between the government and private sector, the politician may have additional incentive to bailout the bank and extend favour to connected parties.

[38] Another possible but unlikely circumstance is that the pre-election BLP cases are in fact "reverse switchers", or "defiers". This would require that bailouts using tax payers' money is popular with the voters but costly to the politicians. It is unlikely for three reasons. First, this would suggest entirely different preference of voters in these four cases. Second, the fact that these bank are likely to undergo re-default very soon and the existence of private benefits (preferential lending, for example) are more consistent with the unpopularity of BLP among voters. Third, the two requirements are somewhat contradictory. If indeed the politician incurs high personal

Taken all three groups together, we are reasonably confident that our IV estimation gives a lower bound of the true negative effect of a decentralized decision-making procedure in bank bailouts.

5.1 Relevance

We illustrate the relevance of our instrument in Table 4 and Table B3, in which we observe that the decisions on bank bailouts by local politicians are strongly affected by the electoral cycle. We also show F-stat for the excluded instruments in the following tables of regression results, further justifying the relevance of the instrument.

5.2 Exclusion Restriction

However, for this instrument to be valid, it must also be exogenous and satisfy the exclusion restriction condition, which means that the instrument should not affect the outcome variables through any channel other than the bailout decision. In the following contents, we present more empirical evidence to verify the validity of our instrument. To argue that the exclusion restriction is likely to hold, we take the following steps.

A. Distribution of distress events. One important assumption for our identification strategy is that the occurrence of distress events per se does not depend on the electoral cycle. Or equivalently, bank distress is triggered by events that are irrelevant to the electoral cycle. We find robust evidence that politicians in Germany cannot delay bank distress events and the necessary bailouts (see Section 4.1).

We carry out two additional sets of tests to argue against the possibility of delaying distress events by local politicians. If local politicians use their influence on bank management to push certain distress events until after the election date, we should observe different types of distress events before as compared with after the local elections.

Firstly, we exploit the underlying causes of all distress events that occurred in the year before as well as in the year after local elections. In almost all cases we were able to identify bankruptcy events of one to two large borrowers of the saving banks. We check using Bundesbank's credit register whether these borrowers that are responsible for the bank's distress event in the year following the election have obtained a new loan or credit line from the saving bank in the year before the election. In none of these cases we find this to be true. With regards to the remaining

cost of bailing out a bank (cost of effort, for example), it is likely that the focal bank is heavily in distress, highly complex and may be a burden for the community. Recognizing this, the voters would not want to reward the politician for keeping the bank within the community.

cases, we identify losses from US subprime investments as well as a write-off due to fraud by an entrepreneur that had obtained a loan from the bank as the causes for the distress events. Importantly, we do not detect any evidence of bankers' delaying the distress event of the affected saving banks.

Secondly, we empirically test whether there is a significant difference in the type of banks that experience pre-election and post-election distress events. The idea is that the value and cost of manipulation can vary across banks. Politicians may choose to avoid the failure of a certain type of banks right before elections. If such selection exists, the pre-election distressed banks may differ from post-election distressed ones in several dimensions.

We regress different bank characteristics in the year before the distress event on the electoral cycle indicator. We use all 148 distress banks in our sample. Results are shown in Panel A of Table 6. Banks that experience distress events before the election seem to not differ systematically in terms of absolute and relative size as compared with banks that experience distress events after the election. The same is also true with respect to customer loans to total assets ratio, deposit ratio, capital ratio, and profitability (measured by ROA). Turning to non-performing loans ratio and the ratio of loan loss provisions to customer loans, we also do not detect any significant differences. The banking sector concentration level in areas exposed to pre- and post-election distress events are also similar, as indicated by comparable Herfindahl-Hirschman index.

We then investigate whether the size of the bailout, or the severity of the bank distress, is correlated with the timing of the distress event in the electoral cycle. For example, politicians may find it easier to hide the failure of a relatively healthier bank. As a result, the size of bailout needed for post-election distress may be smaller than the pre-election ones. Using capital support over equity as the dependent variable, there seems to be no such correlation. The coefficient $D(0-12\ months\ before)$ is positively insignificant, suggesting that the severity of the distress, therefore the size of the bailout, is comparable for distress cases occurred before the election and those after.

Moreover, local macroeconomic conditions may also affect the cost-benefit trade-offs of delaying bank distress. For example, politicians in more indebted counties may find it less attractive to delay bank distress as they probably have to let the association step in anyway. However, in Panel B of Table 6, we find no significant differences between counties exposed to pre- and post-election distress across a list of macro observables such as GDP per capita, GDP per capita growth, employment rate, employment growth, local government indebtedness, credit market growth and share of loans extended by state banks in the year before the distress and bailout event.

In general, we find no significant differences in a wide range of observables between banks or counties that experience pre-election distress events and others that undergo post-election ones. This further supports our argument that the German local politicians are unlikely to manipulate the timing of bank distress.

B. Covariates balance: bank characteristics, size of the bailout and macro variables. If our instrument is indeed exogenous, one should expect balance on pre-shock covariates. We examine whether there is a significant difference in the type of banks or the type of counties that experience distress events around the electoral cycle. In addition to support the argument of no manipulation of distress events, the results in Table 6 also confirm the balance of covariates for bank-level and local macro variables.

C. Long-run effect. One may still be concerned about political business cycles that are not captured by the macro variables in Table 6. After all, the empirical evidence on this topic is inconclusive. While Julio and Yook (2012) and Jens (2017) document lower corporate investment in the election year, Drazen (2000) summarizes that there is little evidence of changes in economic activity before elections in the US or in any other OECD country.

We take one more step to alleviate this concern. Studies supporting political business cycles usually examine how firm's behaviour changes *within* an electoral cycle. In contrast, we study the *long-run* implications on local economic performance due to decentralized decision-making on bank bailouts. Importantly, our dependent variable at the locality level is the change of the outcome variables we are interested in. We take a multi-year window to calculate the average value of the outcome variable so that any politician-induced cyclicality is likely to be absorbed already in this measure. For example, in our baseline specification we take a five-year post-bailout window to calculate the mean change in the outcome variable. As the regular length of an electoral cycle is also five years, any within-cycle pattern is unlikely to drive our results.

6 Consequences of bailouts at decentralized county-level

Using the instrumental approach described above, we evaluate the consequences of political bailout decisions. By doing so, we aim to differentiate whether the action taken by local politicians is associated with preventing inefficient liquidation of a bank or rather inefficient continuation of a bank. Importantly, local politicians may follow a broad set of objectives that might go beyond the performance of the affected banks. We therefore estimate the consequences of bailouts in several dimensions. In Step 1 we compare the long-run health of the distressed banks under a decentralized vs. a centralized bailout. In Step 2, we investigate lending practices of affected banks under the two types of bailouts. We try to uncover the potential distortion in

capital allocation caused by decentralized decision-making. Finally, to rule out that local politicians aim at fostering regional macroeconomic developments within the affected areas, we shift our analysis in Step 3 at the wider level and compare aggregate indicators regional growth of affected versus unaffected areas.

6.1 Step 1: Future financial performance of affected banks

Before presenting results of our main empirical analysis, we show descriptives about the future development of the affected banks. We rely on bank-specific balance sheet data.[39] For each bank, we calculate the average five-year (or eight-year) change as compared with the initial value for several key variables. We then average these changes across banks that received support from either the centralized or the decentralized level. We compare the average values for these two groups of banks. We also restrict the sample to the savings banks that do not have a potential merger partner.[40] The purpose is to partially fix the selection bias resulting from the fact that banks experience distressed mergers are "worst" cases and no longer have accounting information after the distress.

The following fact emerges from Table 7: irrespective of the chosen horizon, banks that obtained support from the association improved their performance considerably more in the long run when compared with banks that received support from the politician. Specifically, only banks subject to centralized decision-making are able to considerably reduce their non-performing loans ratio and ratio of loan loss provisions to customer loans (columns (1) and (2)). The difference between BLA and BLP banks is highly significant with economically large magnitude: on average banks under centralized association bailouts reduce their non-performing loans by around 2.9 percentage points more compared with banks under decentralized political bailout. Further the return on assets (return on equity) of BLA banks increases by about 0.3 percentage points (7.0 percentage points) more on average when compared with BLP banks (columns (3) and (4)). Finally, the capital ratio rises significantly more for banks whose distress case was resolved through centralized decision-making, as shown in column (5) and (6). For Tier I plus Tier II capital ratio, BLA corresponds to more than 1 percentage point higher increase. Overall the general picture painted by Table 7 is that decentralized decision-making on bank bailouts tends to hurt the long-term health of affected banks.

[39] Merged banks no longer have accounting information, which not only introduces a potential selection bias (merged banks tend to be "worst" distress cases), but also severely reduces the sample size. Therefore, we show descriptive estimates in this section, without implementation of the IV strategy in Section 5. Fortunately, with detailed contract level information for loans initiated by the affected banks, the German credit register provides us a practical solution for later IV estimates on lending practices and regional development.

[40] In particular, these are all savings banks that do not have another savings bank in close geographic proximity (the neighbouring counties) that has at least 1.5 times the size of the bank in distress (in terms of total assets) as well as a capital ratio and an ROA higher than the median in our sample.

6.2 Step 2: Lending practices of affected banks

Previous results show that a decentralized bailout leads to relatively poorer future performance of the affected bank. Importantly, local politicians may not be primarily concerned with the accounting performance of financial institutions, but care in a first instance about the credit allocation of the bailed-out banks. Therefore, in order to evaluate the impact of a decentralized bailout, we examine differences in the lending practices by banks subsequent to the two types of bailouts.

To do so, we start by comparing the loan supply and changes in lending relationships by the affected banks. Second, we study the efficiency of credit allocation in either institute and examine patterns in connected lending for the bailed-out banks. In the end, we explore the macroeconomic development in the affected areas.

A. General patterns in credit allocation. We first study the share of aggregate lending by the affected banks. Figure 5 displays the changes in share of loans extended by distressed banks, in the years around the bailouts. Bailout decisions by *local politicians* (*association*) seems to be associated with a higher share of loans initiated by $state-owned$ (*private*) banks, but only in the post-bailout years. One rationale behind such finding is that capital injections by the politicians keep the distressed banks in operation while resolutions from the associations may result in branch mergers and closures. Figure 6 shows the trends in loans by state banks to GDP ratio for areas with decentralized vs. centralized bailouts. There is no difference in this ratio before the bailout event, but after the bailout we observe more (fewer) loans granted by state banks under BLP (BLA).

We present statistical evidence on the structure of the local banking sector by using two stage least squares regressions in Table 8. Note that the regression analysis is carried out at the finest possible administration level, municipalities. We have one observation per municipality and more than 1,000 observations. Results from OLS and two stage least squares are displayed in columns (1) and (2) in Panel A. Following a bailout at the decentralized level, the market share of state banks goes up significantly. The magnitude is considerable: BLP results in the state loan share being 4.85 percentage points higher than that in the case of BLA. Note that Figure 5 suggests that the gap in state loan share between BLP and BLA areas widens by around 5 percentage points, which is comparable to the coefficient in column (1). In column (2) we instrument BLP with the timing of the distress event in the electoral cycle and that yields a coefficient of 6.88 on BLP, significant at 1% level. Note that the coefficient obtained using IV (6.88 percentage points) is greater than that from OLS (4.85 percentage points), indicating that the selection bias is most likely against finding any significant results. The F-stat for the

excluded instrument is above the rule-of-thumb (see Stock, Wright, and Yogo (2002)) critical value of 10, which corroborates the relevance of our instrument in explaining the type of bailouts.

Accordingly, the share of loans provided by private banks falls significantly in BLP as compared with BLA, as shown in columns (3) and (4). The IV specification again gives a larger and more significant coefficient on BLP than the OLS specification. The small difference between the coefficients in columns (1) and (3) (or columns (2) and (4)) is due to the third group of banks, the cooperatives. The change in the share of those cooperative banks does not seem to depend on the particular type of bailout, as proved by the insignificant coefficient on BLP in columns (5) and (6). Interestingly, despite the divergence in ownership structure of loan supply following the two types of bailouts, the growth of total loans in affected areas does not seem to differ, as presented in columns (7) and (8). This finding suggests that in BLA areas, the private banks are likely to pick up the market that were previously serviced by the state-owned banks. In Panel B, the results are largely similar when we extend our investigation window to eight years after the bailout.

Given that BLA banks tend to go through restructuring, we examine whether these banks change their lending patterns following the bailout event. To do so, we focus on the initiation of new lending relationships by those banks and termination of existing relationships in Table 9. Without much restructuring efforts of their business, the banks bailed out by local politicians may just stick to the status-quo, i.e., keep lending to the same set of borrowers. By exploiting the extensive contract level data from the German credit register, we identify all the newly initiated and terminated lending relationships. Consistent with our conjecture, banks under decentralized political bailout tend to initiate fewer new lending relationships (columns (1) and (2)), and rather continue with previous relationships (columns (3) and (4)). This finding suggests that in cases where the local politicians intervene, there is fewer disruptions to the banks' troublesome lending practices that may have led the respective banks to distress in the first place.

To summarize, we find significant differences in market share and borrower composition in the regions that have experienced a decentralized as compared with a centralized bailout. In the following context, we investigate the allocative efficiency of bank credit under these two scenarios.

B. Credit allocation and productivity. Results from Table 8 illustrates different lending patterns by affected banks under the two bailout regimes. BLA banks tend to lend more to new borrowers and terminate more existing relationships. Is this change in lending practices characterized by a move towards more efficient capital allocation? To test this, we follow the methodology by Cong, Gao, Ponticelli, and Yang (2018) who presents a theoretical model in the spirit of Hsieh and Klenow (2009) and Song, Storesletten, and Zilibotti (2011) to motivate similar tests.

To be more specific, we conduct firm-level analysis since the productivity measure is calculated at firm-level. We denote productivity as $logAPK$ or log of average product of capital, and it is the natural log of sales divided by book value of fixed assets.[41] We further interact lagged $logAPK$, denoted as $L1.logAPK$, with the bailout type dummy to tease out the differential effects of productivity on credit allocation in BLP and BLA areas. If indeed the allocative efficiency is comparatively deteriorated following a BLP, we shall observe less credit being reallocated away from firms of low capital productivity towards firms with high capital productivity, implying a negative coefficient on the interaction term between BLP and $L1.logAPK$. To mitigate concerns on selection, we exploit the previous instrumental approach. The instrument for the interaction term $BLPXL1.logAPK$ is the interaction between D $(0-12\ months\ before)$ and $L1.logAPK$. The results are presented in Table 10.

In column (1) of Table 10, we show OLS results with the outcome variable being newly granted loans from affected state-owned banks, scaled by total loans from them in the previous period, i.e, growth in loans from affected banks. We find that irrespective of politician or association bailout, a lower initial productivity corresponds to fewer new loans, as the coefficient on $L1.logAPK$ is positive. This finding is consistent with the theoretical prediction that firms with higher average product of capital should be provided with more credit. The same pattern remains when we use the IV specification and add in control variables, see columns (2) to (4). More importantly, the coefficient of the interaction term $BLP \times L1.logAPK$ is negatively significant at 5% level in the IV estimations, see column (4). The negative coefficient suggests that credit allocation is significantly more responsive to productivity in BLA areas as compared with BLP areas.[42] The immediate message is that in areas subject to decentralized bailouts, the state banks reallocate less resources (credit) from low productivity firms towards high productivity firms. The magnitude is economically large: firms with one standard deviation *larger* average product of capital would experience a 6.8% lower growth rate in loans from affected banks under BLP than under BLA.

Columns (5) to (8) of Table 10 examine the same question from a different perspective, using share of loans from affected banks as the outcome variable. If affected banks indeed assign more credit to less productive firms in BLP areas, we should expect those firms to accumulate more loans from affected banks than other banks in BLA areas. The negatively significant coefficient on the interaction term in columns (5) to (8) is consistent with our prediction.

In columns (9) to (12) we turn to the growth of total loans received by firms. This analysis gives us an idea about how the overall credit allocative efficiency is affected in BLP versus BLA

[41] The calculation follows Cong, Gao, Ponticelli, and Yang (2018). Note that this is only a rough estimation of productivity. The underlying assumption is that labour share and mark-ups are the same within a given industry-year.

[42] If we add up the coefficients on the interaction term and $L1.logAPK$, we obtain how the allocation of new loans reacts to average product of capital in areas with political bailouts, while the coefficient on $L1.logAPK$ by itself indicates how the new loans reacts in areas with an association bailout event.

areas. IV estimates in columns (10) and (12) imply that the overall bank credit allocated to more productive firms is lower in BLP areas as compared with BLA areas. In addition to the improved allocative efficiency within affected banks, as documented in column (4), the shift in local financing structure towards more private banking may also contribute to the higher overall allocative efficiency in BLA areas.

One may argue that the lagged version of $logAPK$ may not properly account for the future investment opportunities of the firm as it is not forward-looking while credit allocation decisions tend to be based on the future productivity. To address this concern, we also use forward measures of $logAPK$ and find similar results, as summarized in Table B5. The results remain largely unchanged.

As a rich literature in development economics has summarized, reallocation of critical resources (capital and labour) from low to high productivity firms is an important source of economic growth. With intervention by local politicians in bank bailout decisions, we observe subsequently less efficient credit allocation, which may ultimately lead to the worse long-run performance of affected banks and local economic growth prospect.[43]

C. Credit allocation and elites network. In this section we provide further evidence on credit misallocation under decentralized decision-making regarding bank bailouts. More specifically, following Haselmann, Schoenherr, and Vig (2018), we focus on credit allocation of distressed banks within elite social networks, of which the affected bank directors are members. One may argue that local politicians do not primarily care about an efficient capital allocation scheme as discussed in the previous section. The goals of local state-owned banks may be broader and, therefore, politicians may focus on lending that is rather optimal from a social perspective. We argue that by focusing on preferential lending by these banks, we are able to identify distortions due to personal incentives and thus directly address this concern.

Haselmann, Schoenherr, and Vig (2018) document the rent-seeking motive of network lending especially for state-owned banks. We follow their methodology and study how connected/in-group lending follows different patterns under the two bailout regimes. A pair of lending relationship is defined as in-group (versus out-of-group) if the director of the local bank and the CEO of the borrower belong to the same local service club branch.[44] We use the share of lending

[43]The link between reallocation of resources and aggregate productivity is discussed in Restuccia and Rogerson (2008), Hsieh and Klenow (2009), Buera and Shin (2013) and Restuccia and Rogerson (2013).

[44]This service club organization in Germany has global headquarters in the US, but individual service club branches operate locally in several countries. Typically, there is one branch in each city of about 20,000 inhabitants. In larger cities, additional club branches are often formed. There are about 1,000 club branches with a total of about 50,000 members in Germany. While the official stated objective of the service club is to raise funds for charitable work, having personal connections to other business leaders is often cited as an important membership perquisite. Members of the same club branch meet for lunch or dinner once a week to socialize, and in such a way build social capital. Haselmann, Schoenherr, and Vig (2018) covers further details about the service clubs.

from in-group affected banks in total lending as the dependent variable. An advantage of using the lending shares rather than the amount is that it automatically controls for firm-specific demand shocks. We also exclude the distress merger cases to make sure that the results are not driven by the removal of former bankers, thereby the loss of connections in those cases.

Results from both OLS and 2SLS estimations are displayed in Table 11. We find that the proportion of in-group loans issued by affected banks is significantly higher in BLP as compared with BLA cases. The dependent variable from columns (1) to (4) is the share of in-group lending from affected banks in total lending to a firm. The purpose is to evaluate how the reliance on in-group credit from affected banks changes differently under the two types of bailout decisions. In OLS specifications, the coefficient is positive and insignificant. However, in IV specifications the coefficient on BLP is positively significant and the magnitude is remarkable: the share of loans from connected banks is more than 10 percentage points higher under BLP than BLA. One may argue that this effect is potentially driven by the relatively stronger presence of the affected state banks in BLP areas. But as we have pointed out in Table 8, the higher share of affected banks in BLP areas (6.88 percentage points) is considerably smaller than the magnitude here. The affected banks seem to direct even more credit to connected firms after political bailout. The positive coefficient on BLP in columns (5) to (8) suggests that out of all connected loans to a firm, a higher fraction is originated from affected BLP banks after the resolution of distress.

Haselmann, Schoenherr, and Vig (2018) have documented the rent-seeking motive for connected lending of the identical network we have been analysing here. They find that not only the return on connected lending is lower, but that the misallocation of credit in the economy induces inefficiencies in the deployment of capital. When bank bailout decisions are reached at decentralized level, state-owned banks are preserved and they seem to keep or even expand their lending to connected firms, which may impose detrimental impact on the aggregate economy. Importantly, more rent-seeking behaviour by those banks is against the conjecture that local politicians engage in bailouts to impose more social objectives on their local banks.

6.3 Step 3: Macroeconomic developments

Previous analysis has illustrated a shift in lending share from affected state-owned banks to private banks. While we have documented relative improvements in capital allocation of the affected state-owned banks following a centralized bailout, there might be further improvements due to the shift in financial structure towards more private funding. To gauge the combined effect of centralized bailout decisions, we study real sector performance in areas subject to BLA and BLP. More specifically, we aggregate firm level measures, including sales, asset, debt and employment at the local municipality level, and compare the growth rate of these measures in areas exposed to decentralized versus centralized bailouts.

Table 12 summarizes both OLS and 2SLS estimations. For aggregate corporate sector asset growth, debt growth, sales growth and also employment growth, we observe consistent patterns. In column (2) of Panel A, the coefficient on BLP is negatively significant at 5% level, indicating lower asset growth in areas with decentralized political bailouts. The magnitude of the gap in asset growth rate is economically large, estimated at 6.61%,[45] which is also higher than that in column (1) under OLS. In columns (3) and (4), the effect on growth of aggregate debt holdings is in the same direction and at similar magnitude. Turning to sales growth reassures our finding, as suggested by columns (5) and (6). The corporate sector employment exhibits similar patterns and areas receiving political bailout experience significantly lower growth (columns (7) and (8)). As in the previous tests, the F-stats confirm the relevance of our instruments. The IV specification constantly shows greater magnitude as compared with OLS. This is consistent with a bias in the OLS regression that understates the negative effect of BLP on corporate sector growth.

The differential performance of the corporate sector might be driven by both slower growth of existing firms or fewer disruptive entry and exit activities. Columns (9) to (12) continue to present the estimations on industry entry and exit dynamics. In column (10) of Panel A, we find that the fraction of newly entered firms is 4.16 percentage points lower in areas exposed to bank bailouts organized by decentralized local politician. We turn to firm exit in columns (11) and (12). BLP areas have an exit rate 3.65 percentage points lower than BLA areas under IV estimation. These findings point to a more dynamic macroeconomic environment, as a consequence of centralized decision-making on bank bailouts. In line with Schumpeter's concept of creative destruction, such dynamic macroeconomic environment is the key in fostering economic growth. In Panel B of Table 12, we show that extending the sample to a longer post-bailout period does not affect any of the above findings.

One may further argue that an investigation of corporate sector alone does not give us the full picture since the politician may aim to improve the general welfare within his region. To address this concern, we additionally examine macro variables such as income and employment. Those variables are only available at county/city level, leaving us with a considerably smaller sample compared with the tests carried out at the municipality level. We report descriptive statistics on macroeconomic development at county/city level in Table 13. This can be considered as a simple illustration of reduced form results.

More specifically, we compare the change or growth in macroeconomic variables around the bailout for counties that experience pre-election distress events relative to those with post-election events. In Panel A, we find strong correlation between the timing of distress in the electoral cycle and five-year macro performance dynamics, potentially through the impact of

[45] One can be concerned that BLA leads to a higher growth rate compared with BLP, but also leads to a higher volatility of growth. To alleviate this concern, we further verify that there is no significant difference in the volatility of growth between BLP and BLA areas.

the electoral cycle on bailout institution choice. Areas exposed to post-election distress events, which are more likely to be resolved by BLP, experience significantly lower growth in income per capita and employment. They also underperform in employment rate and new firm creation compared with the pre-election group. Panel B examines a eight-year window and the results are quantitatively similar but statistically slightly weaker. Moreover, the fiscal cost of the political bailouts is far from negligible. Figure 7 shows that while the fiscal debt (measured by Government Debt to GDP ratio) in BLA areas remains constant, in BLP areas it increases dramatically by more than 30% in the five years after the bailout. The last column of Panel A, Table 13 provides consistent evidence: for areas with post-election distress, government debt increases by 17.6% in the five years after bailout events. With the persistent increase in government debt over the post-bailout years, the local government's hands are tied and thereby is less able to invest in projects targeting long-run welfare.

In this section, by documenting the negative impact of decentralized bailouts on new firms' access to finance and corporate sector growth, we further alleviate the concern that the politician is improving the economic condition of his area at the cost of the distressed banks. Our findings, on the contrary, suggest that decentralized decision-making regarding bank bailouts may raise concerns about the long-term growth prospect in the local area.

7 Conclusion

In this paper we analyse two distinct bailout regimes within the German savings bank sector: a state-level safety net that resolves distress events conditional on certain restructuring activities, and local politicians who serve as chairmen of the banks and have the possibility to resolve distress events by using taxpayers' money. The former regime involves centralized decision-making at the association level and the later entails decentralized decision-making at the hands of local politicians. We find that interventions by local politicians are about 30% less likely in the year before an election. Furthermore, the long-run performance of banks that were bailed out by politicians is considerably worse as compared with banks that were supported by the association. Using the timing of distress event in the electoral cycle as an instrument, we show that a decentralized local bailout results in less efficient credit allocation of the affected banks. We also observe a significantly worse real sector performance of areas under decentralized bailouts as compared with those under centralized bailouts.

Local politicians have local knowledge about the banks in distress. Such knowledge could potentially improve the decision making process, leading to better decisions on bank bailouts. However, we show that the decision-making process of local politicians who are close to the bank tend to be distorted by personal considerations. Consequently, the outcomes of such bank bailouts are actually worse than for cases that are resolved by the savings bank association under

a centralized regime. Our paper contributes to the debate about centralized vs. decentralized decision-making on bank recapitalizations in the case of distress. Overall, our results highlight the political economy of decentralization – local politicians derive private benefits from controlling the bank at the expense of citizens at large. Our findings thus illustrate the advantages of centralization and taking a broader perspective in bank regulation and supervision. This is particularly important in the light of the current implementation of a European banking union. Our findings suggest that such a regulatory design could have considerable advantages.

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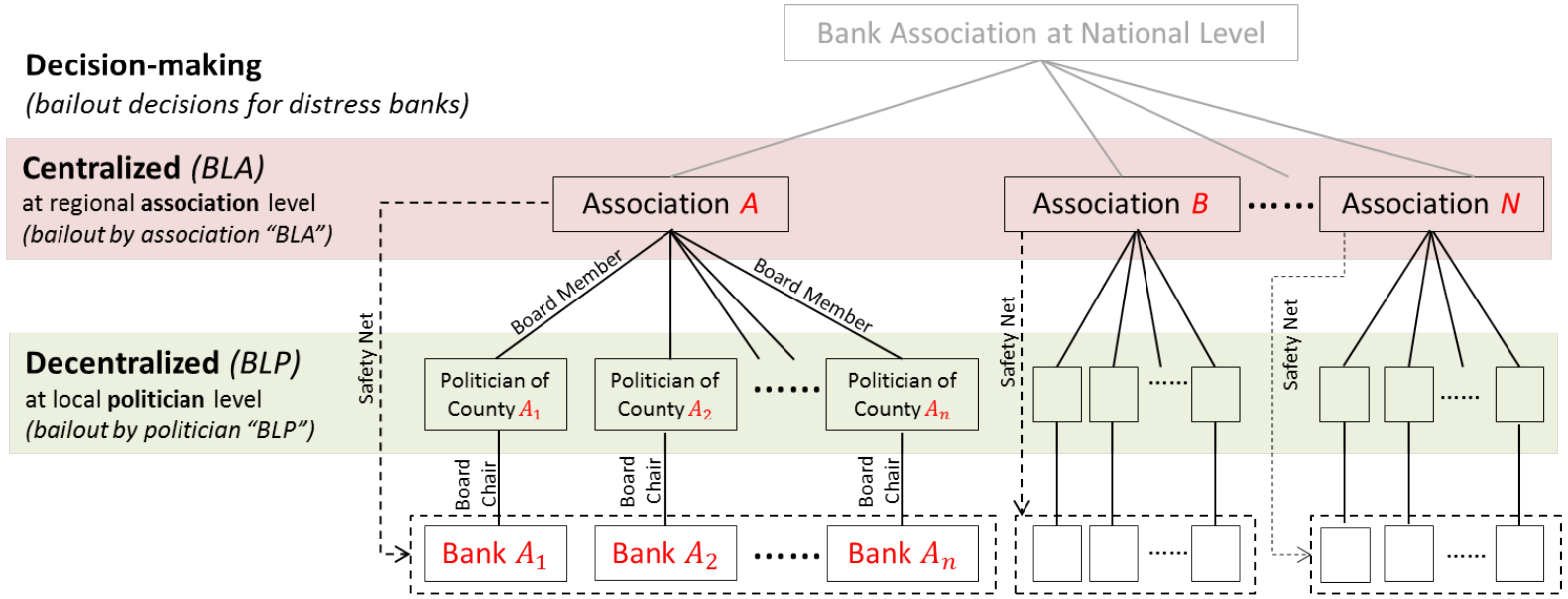
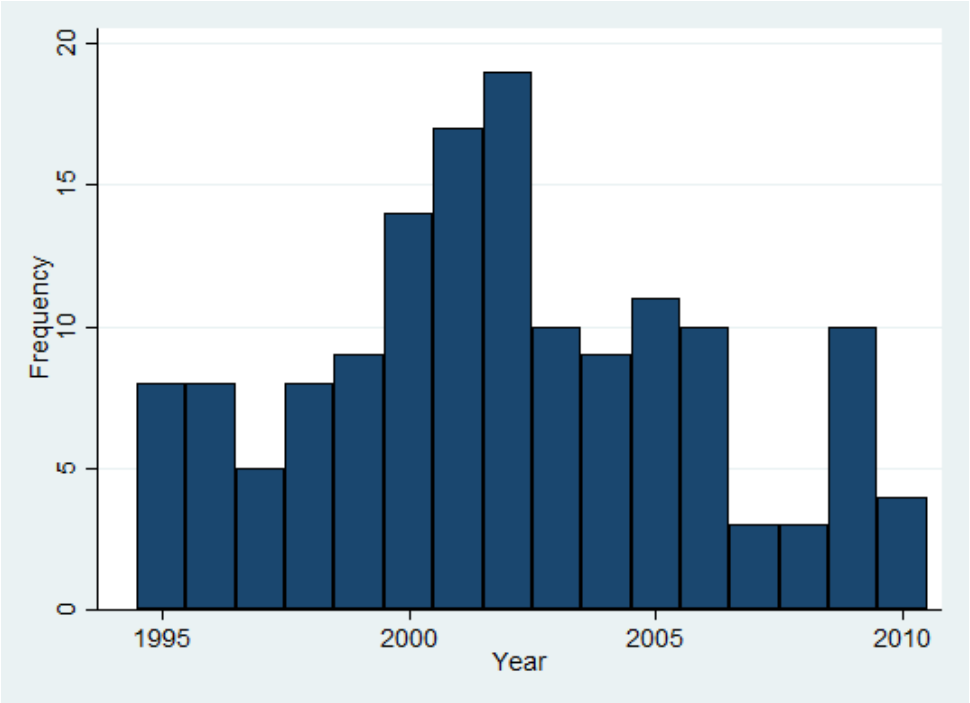


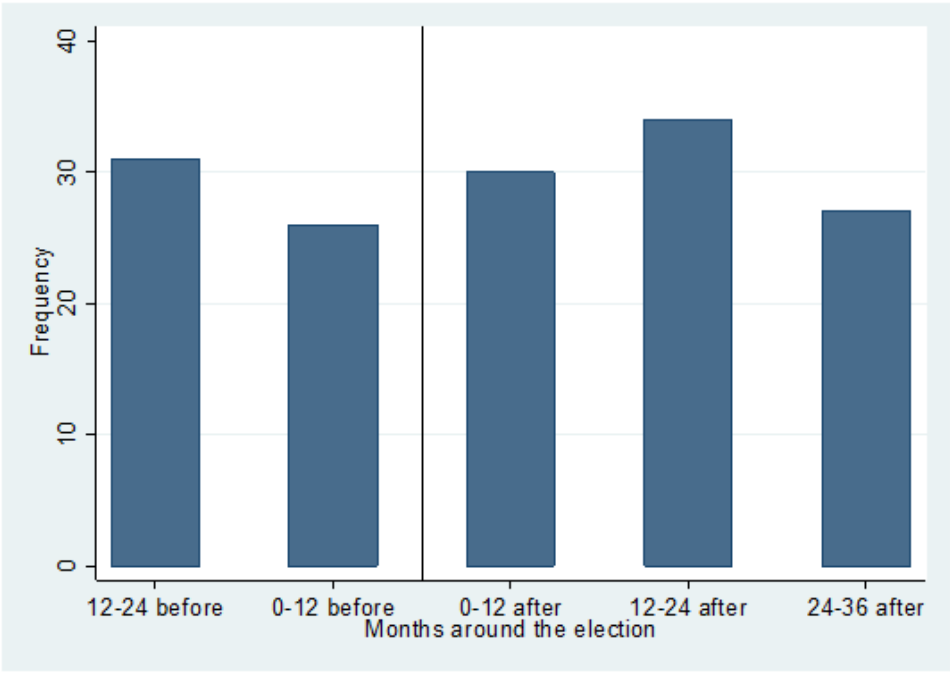
Figure 1: Institutional Setup

Figure 1 illustrates the institutional setup for our analysis. The main institutions are the savings bank associations that operate the savings bank guarantee funds, the local counties or cities that own and back the individual banks, and the savings banks themselves. The figure shows the personal and institutional connections within this system. Centralized decision-making at the association level and decentralized decision-making at the local politician level are illustrated graphically in this figure. Upon bank distress events, a bailout organized by the associated is abbreviated by BLA while a bailout organized by the local politician is abbreviated by BLP.



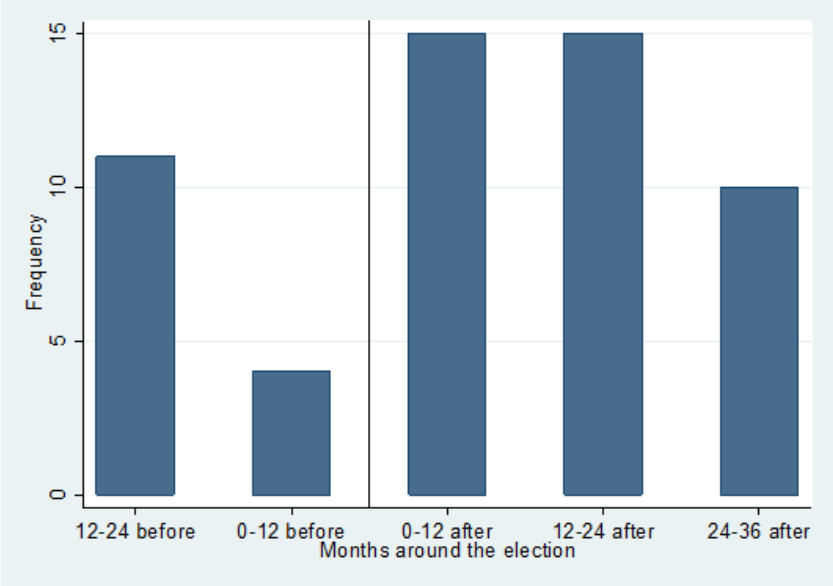
Total distress events

Figure 2: Distress events from 1995 to 2010.
Figure 2 illustrates the number of distress events in each year from 1995 to 2010. There are in total 148 savings banks distress events.

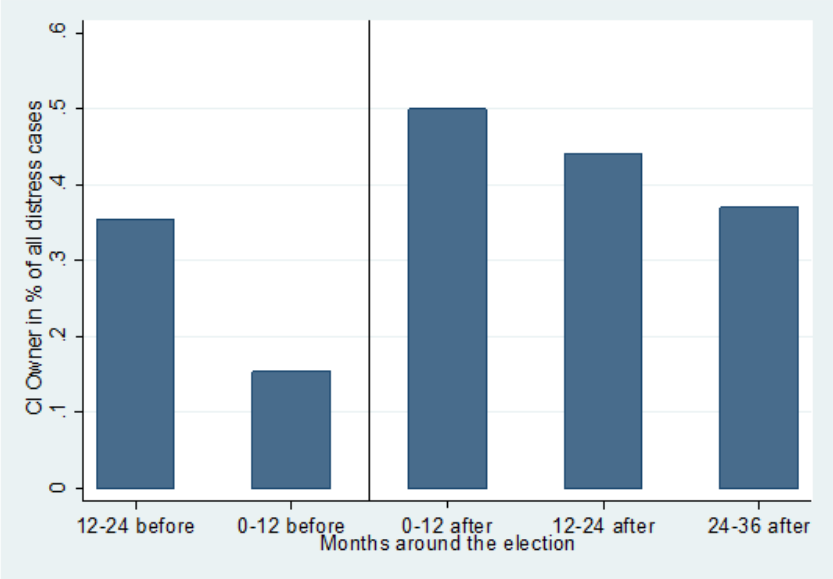


Total distress events

Figure 3: Distress events and Electoral Cycle.
Figure 3 illustrates how the number of distress events varies over the electoral cycle, where the vertical black line indicates the election date.



(a) Capital Injections from Politicians at the Decentralized Level and Electoral Cycle (frequencies).



(b) Capital Injections from Politicians at the Decentralized Level and Electoral Cycle (% of all distress events).

Figure 4: Capital Injections from Politicians at the Decentralized Level.

Figure 4a (Figure 4b) illustrates how the number (percentage) of banks that receive capital injections from local politicians varies over the electoral cycle, where the vertical black line indicates the election date.

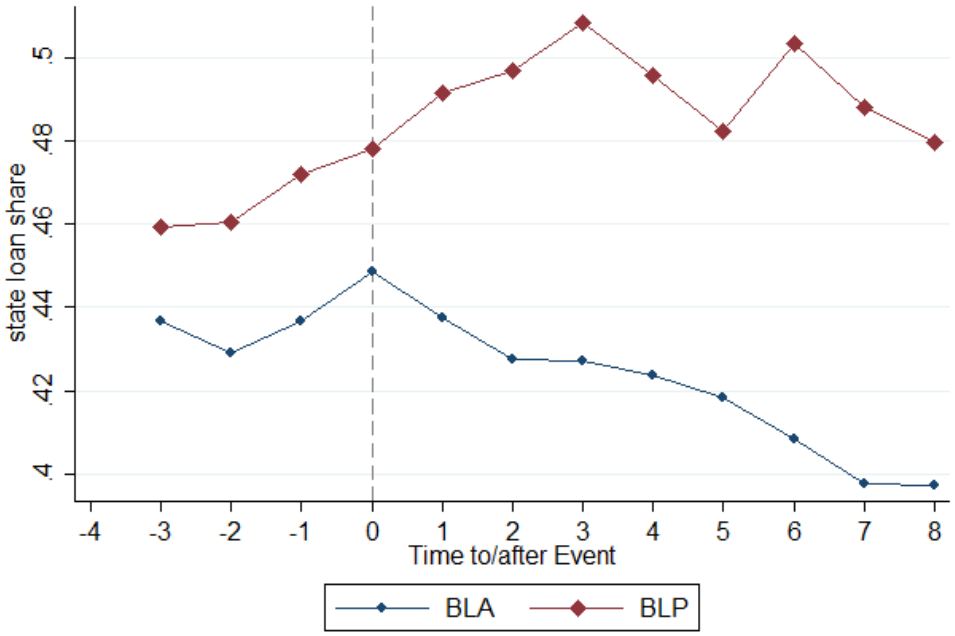


Figure 5: Dynamics of Share of State Loans around Bailout Events.

Figure 5 illustrates changes in share of loans extended by state-owned banks in the years around the bailout event. The x-axis shows the year to/after the bailout event. *BLA* stands for cases where the centralized association organizes the bailouts and *BLP* stands for cases where the local politicians inject capital into the distressed bank.

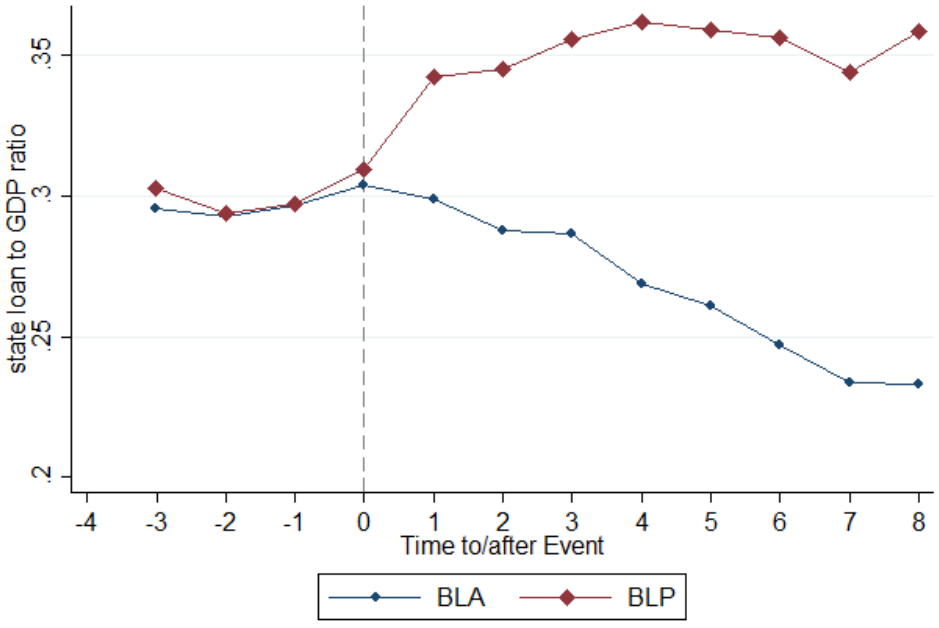


Figure 6: Dynamics of State Loans to GDP around Bailout Events.

Figure 6 illustrates changes in loans extended by state banks to GDP ratio in the years around the bailout event. The x-axis shows the year to/after the bailout event. *BLA* stands for cases where the centralized association organizes the bailouts and *BLP* stands for cases where the local politicians inject capital into the distressed bank.

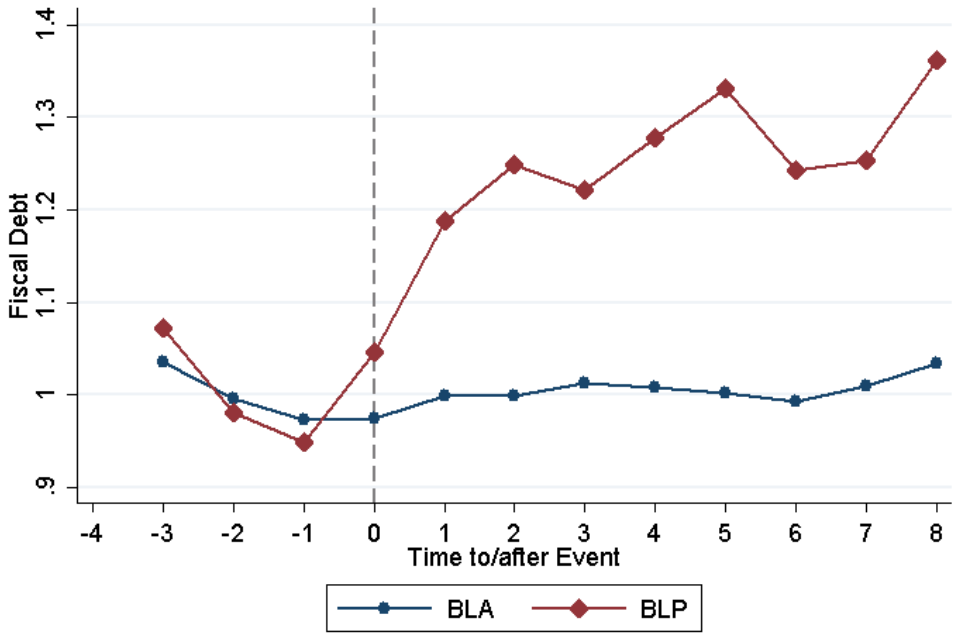


Figure 7: Dynamics of Scaled Fiscal Debt around Bailout Events.

Figure 7 illustrates local government debt, normalized to have value 1 before the bank distress, in the years around the bailout event, for counties receiving BLP versus BLA. The x-axis shows the year to/after the bailout event. BLA stands for cases where the centralized association organizes the bailouts and BLP stands for cases where the local politicians inject capital into the distressed bank.

Table 1: Descriptive Statistics

Panel A: Events	Obs.
Support from politician	55
Support from association	93
... capital support	49
... distressed merger	44
Total	148

Panel B: Bank variables	All banks			Support from politician			Support from association		
	Obs.	Mean	S.D.	Obs.	Mean	S.D.	Obs.	Mean	S.D.
Total assets (€ mn)	8,246	1,780	2,530	636	2,770	4,150	706	1,660	1,810
Log(Total assets)	8,246	20.81	0.95	636	21.15	1.02	706	20.74	1.01
Total assets / GDP (in %)	8,228	37.24	31.90	636	53.50	51.88	706	39.47	41.57
Market share (in %)	8,219	22.50	16.39	636	23.83	15.55	706	16.88	16.33
Capital ratio (in %)	8,246	4.55	1.04	636	4.30	0.88	706	3.99	0.94
ROA (in %)	8,239	0.75	0.50	635	0.57	0.52	706	0.54	0.69
NPL ratio (in %)	8,195	3.79	2.61	634	4.06	2.79	703	5.26	3.42
Deposit ratio (in %)	8,245	67.47	9.49	635	61.14	10.60	706	65.47	11.19
Loans to owner / GDP (in %)	8,229	1.03	1.41	636	1.08	1.85	706	0.90	1.16
Size of bailout conditional on distress									
Capital Injection/Total Equity (in %)	148	15.74	2.55	55	16.73	3.13	93	15.16	3.62
Capital Injection/Total Assets (%)	148	0.59	0.10	55	0.67	0.13	93	0.55	0.13

Table 1: continued...

Panel C: Macro & Other variables	All banks			Support from politician			Support from association		
	Obs.	Mean	S.D.	Obs.	Mean	S.D.	Obs.	Mean	S.D.
GDPPC growth (in %)	8,246	1.288	3.816	636	1.040	3.925	706	1.874	4.034
GDPPC (in €)	8,228	23,771	8,528	636	27,280	7,931	706	22,648	6,542
Log(GDPPC)	8,228	10.024	0.313	636	10.173	0.285	706	9.988	0.281
Government debt / GDP (in %)	8,246	4.623	1.983	636	3.931	2.028	706	4.862	2.241

Panel D: Political variables	Obs.	Support from politician	Support from association
All	148	0.372	0.628
12-24 months before election	31	0.355	0.645
0-12 months before election	26	0.154	0.846
0-12 months after election	30	0.500	0.500
12-24 months after election	34	0.441	0.559
24-36 months after election	27	0.370	0.630
No competitive county	73	0.438	0.562
Competitive county	75	0.307	0.693
No conservative chairman	88	0.455	0.545
Conservative chairman	60	0.250	0.750

The table shows descriptive statistics for the banks in our sample. In Panel A we report the number of distress events, where we distinguish between support measures from the politician and support measures from the association. Panel B shows descriptive statistics for key bank variables. The unit of observation is a bank-year. The first three columns show statistics for all banks in our sample, whereas the other columns include only bank-year observation of banks that experienced support measures from the politician or the association during our sample period. Panel C provides descriptive statistics for macro control variables. Finally, Panel D shows the distribution of capital injections from the politician and support measures by the association, and how this distribution depends on political variables. For example, of the 148 distress events in our sample, 37.2 % were capital injections from the politician, while 62.8 % were support measures from the association. Depending on the values of the political variables this distribution differs.

Table 2: Restructuring of Affected Banks

Panel A: Five Years after Bailout Events				
	(1)	(2)	(3)	(4)
Change in year-on-year growth of...	Total assets	Total loans growth	Number of employees	Number of branches
BLA	-0.748	-0.117	-1.672	-4.128
	(2.571)	(3.507)	(2.469)	(6.342)
BLP	0.748	2.311	0.056	-2.966
	(2.407)	(3.775)	(3.493)	(5.766)
Diff (BLP - BLA)	1.496***	2.429***	1.728***	1.162
	(0.493)	(0.727)	(0.608)	(1.199)

Panel B: Eight Years after Bailout Events				
	(1)	(2)	(3)	(4)
Change in year-on-year growth of...	Total assets	Total loans	Number of employees	Number of branches
BLA	-0.690	0.199	-1.641	-4.147
	(2.290)	(3.120)	(2.509)	(6.297)
BLP	0.419	1.961	0.327	-2.968
	(1.969)	(2.747)	(3.199)	(5.847)
Diff (BLP - BLA)	1.109***	1.762***	1.969***	1.179
	(0.422)	(0.584)	(0.576)	(1.202)

The table shows changes in variables related to restructuring for banks that experienced a distress event. We calculate the average values of those variables in five years (or eight years) after the bailout event, and subtract the initial values to yield the changes in those variables. Row BLA includes banks supported by the association while row BLP includes banks bailed out by the politician. Row *Diff (BLP-BLA)* shows the difference in the mean between the two groups of banks, where *, **, and *** indicate statistical differences in the mean at the 10% level, 5% level, and 1% level, respectively. The variables of interest from columns (1) to (4) are changes in year-on-year growth in total assets, total loans, number of employees and number of branches. All variables are in percentage terms.

Table 3: Occurrence of Bank Distress Events—Hazard Model

Sample	state banks with distress events between 1995 and 2010					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months after)	0.228	0.098	0.294	0.189	0.078	0.046
	(0.238)	(0.245)	(0.245)	(0.258)	(0.217)	(0.223)
D (12-24 months after)	0.178	0.130	0.315	0.265	0.072	0.062
	(0.240)	(0.251)	(0.242)	(0.256)	(0.208)	(0.210)
D (24-36 months after)	0.008	-0.017	0.078	0.036	-0.056	-0.120
	(0.232)	(0.228)	(0.246)	(0.240)	(0.210)	(0.215)
D (12-24 months before)	0.180	0.155	0.264	0.218	0.079	-0.002
	(0.218)	(0.214)	(0.227)	(0.222)	(0.198)	(0.212)
Cons. Bank Chairman					2.442***	2.403***
					(0.138)	(0.149)
Competitive County					0.254	0.281
					(0.176)	(0.182)
Log (Total assets)			0.122	0.128	0.114	0.123
			(0.093)	(0.101)	(0.105)	(0.113)
Capital Ratio (t-1)			-0.116	-0.127	-0.060	-0.061
			(0.092)	(0.094)	(0.104)	(0.108)
ROA (t-1)			-0.465***	-0.471***	-0.311***	-0.313***
			(0.086)	(0.082)	(0.078)	(0.078)
NPL Ratio (t-1)			-0.000*	-0.000**	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)
Market Share (t-1)			-0.017***	-0.018***	-0.011	-0.011
			(0.006)	(0.006)	(0.007)	(0.007)
Deposit Ratio (t-1)			-0.006	-0.001	-0.004	-0.003
			(0.007)	(0.008)	(0.009)	(0.009)
GDPPC Growth (t-1)			0.014	0.014	0.008	0.009
			(0.021)	(0.022)	(0.022)	(0.023)
Log(GDPPC) (t-1)			0.266	0.232	0.763**	0.738**
			(0.311)	(0.308)	(0.334)	(0.330)
Time FE	NO	YES	NO	YES	NO	YES
Observations	1,174	1,174	1,169	1,169	1,169	1,169
Number of distress events	148	148	148	148	148	148

The table shows results from estimating an exponential hazard model in equation (1) to test whether the occurrence of distress events depends on the electoral cycle. Four dummy variables indicating four periods in the electoral cycle are included, and the omitted group is (0-12 months before). Two political variables, the ideology of the politician and the political competition within the county, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those variables are self-explanatory. All control variables are lagged by one period. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Standard errors are denoted in parentheses and clustered at bank level. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 4: Event Type—Political Factors Influencing Local Politicians

Sample	all state bank distress events (1995-2010)					
Dep. Var.	Event Type (=1 if political bailout or BLP)					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months after)	0.346***	0.327***	0.249**	0.253**	0.266**	0.269**
	(0.118)	(0.121)	(0.118)	(0.122)	(0.118)	(0.121)
D (12-24 months after)	0.287**	0.310***	0.338***	0.341***	0.333***	0.335***
	(0.113)	(0.106)	(0.099)	(0.099)	(0.102)	(0.103)
D (24-36 months after)	0.217*	0.248**	0.192*	0.209**	0.185	0.199*
	(0.119)	(0.111)	(0.105)	(0.105)	(0.112)	(0.111)
D (12-24 months before)	0.201*	0.271**	0.213**	0.255**	0.224**	0.270**
	(0.113)	(0.110)	(0.101)	(0.108)	(0.104)	(0.106)
Cons. Bank Chairman					-0.193**	-0.198**
					(0.082)	(0.082)
Competitive County					-0.114	-0.130*
					(0.075)	(0.073)
Log (Total assets) (t-1)			-0.115**	-0.121**	-0.108**	-0.116**
			(0.055)	(0.053)	(0.054)	(0.053)
Capital Ratio (t-1)			-0.060	-0.068	-0.049	-0.057
			(0.039)	(0.041)	(0.038)	(0.040)
ROA (t-1)			0.085	0.096	0.057	0.068
			(0.065)	(0.067)	(0.070)	(0.071)
NPL Ratio (t-1)			-0.018**	-0.018**	-0.020**	-0.019**
			(0.009)	(0.009)	(0.008)	(0.009)
Market Share (t-1)			0.011***	0.010***	0.010***	0.010***
			(0.003)	(0.003)	(0.003)	(0.003)
Deposit Ratio (t-1)			-0.008**	-0.007*	-0.006*	-0.005
			(0.004)	(0.004)	(0.004)	(0.004)
GDPPC Growth (t-1)			-0.026***	-0.025***	-0.025***	-0.024***
			(0.009)	(0.009)	(0.009)	(0.009)
Log(GDPPC) (t-1)			0.183	0.211	0.086	0.115
			(0.154)	(0.155)	(0.156)	(0.158)
Time FE	NO	YES	NO	YES	NO	YES
R-squared	0.055	0.104	0.299	0.312	0.333	0.349
Observations	148	148	148	148	148	148

The table shows how the electoral cycle affects the likelihood of a bailout reached by decentralized vs. centralized decision-making. The dependent variable is a dummy that equals one if the bank receives capital injections from the politician and zero if the bank receives support measures from the association. Four dummy variables indicating four periods in the electoral cycle are included, and the omitted group is (0-12 months before). Two political variables, the political competition within the county and the ideology of the politician, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those independent variables are self-explanatory. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). All control variables are lagged by one period. Robust standard errors are denoted in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 5: Event Type—Political Factors Influencing The Association Board

Sample	all state bank distress events (1995-2010)					
Dep. Var.	Event Type (=1 if political bailout or BLP)					
	(1)	(2)	(3)	(4)	(5)	(6)
Bank Chairman in Ass. Board	-0.043	-0.022				
	(0.116)	(0.121)				
Cons. Ass. Board			0.071	0.068		
			(0.090)	(0.089)		
Same Party					-0.048	-0.059
					(0.087)	(0.086)
Log (Total assets)	-0.124**	-0.135**	-0.130**	-0.140**	-0.130**	-0.140**
	(0.055)	(0.053)	(0.057)	(0.055)	(0.055)	(0.054)
Capital Ratio (t-1)	-0.063	-0.066	-0.071*	-0.075*	-0.064	-0.068
	(0.039)	(0.041)	(0.040)	(0.042)	(0.039)	(0.041)
ROA (t-1)	0.084	0.090	0.092	0.100	0.082	0.088
	(0.067)	(0.069)	(0.068)	(0.069)	(0.067)	(0.069)
NPL Ratio (t-1)	-0.020**	-0.020**	-0.020**	-0.020**	-0.020**	-0.019**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Market Share (t-1)	0.011***	0.011***	0.011***	0.010***	0.011***	0.011***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Deposit Ratio (t-1)	-0.008**	-0.007*	-0.007*	-0.006	-0.008**	-0.007*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
GDPPC Growth (t-1)	-0.021**	-0.021**	-0.022**	-0.021**	-0.022**	-0.021**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Log(GDPPC) (t-1)	0.220	0.240	0.159	0.189	0.198	0.223
	(0.163)	(0.164)	(0.166)	(0.166)	(0.155)	(0.154)
Time FE	NO	YES	NO	YES	NO	YES
R-squared	0.252	0.262	0.239	0.253	0.252	0.264
Observations	148	148	148	148	148	148

The table shows how other political variables related to the association affect the likelihood of a bailout reached by decentralized vs. centralized decision-making. The dependent variable is a dummy that equals one if the bank receives capital injections from the politician and zero if the bank receives support measures from the association. Bank and macro control variables are the same as in Table 4. As before, all variables are lagged by one period. Additionally, we include a dummy variable *Bank Chairman in Ass. Board* that takes the value of one if the chairman of the bank in distress is a member of the board of the local savings bank association, and the variable *Conservative Ass. Board* takes the value of one if the majority of the association board members is associated with the conservative party and zero otherwise, and, the variable *Same Party*) that takes the value of one if the local politician and the majority of the association board members are from the same party and zero otherwise. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Robust standard errors are denoted in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 6: Are Pre-election and Post-election Cases Different? (covariates balance)

	D (0-12 months before)	Observations	R-squared
Panel A: Bank Characteristics and Size of Bailout			
Log (Total assets)	0.136	148	0.003
	(0.229)		
Log (Number of employees)	0.091	148	0.002
	(0.193)		
Number of branches	-1.424	148	0.000
	(8.749)		
Market share (in %)	-0.843	148	0.000
	(3.529)		
Customer loans to Total assets (in %)	-1.996	148	0.003
	(3.321)		
Deposit ratio (in %)	-0.043	148	0.000
	(2.544)		
Capital ratio (in %)	-0.194	148	0.007
	(0.197)		
ROA (in %)	-0.045	148	0.000
	(0.131)		
NPL ratio (in %)	0.312	148	0.000
	(0.920)		
LLP ratio CL (in %)	0.060	148	0.000
	(0.164)		
Local banking sector HHI (0-10000)	13.848	148	0.000
	(164.310)		
ln (Capital injection)	-0.909	148	0.003
	(1.488)		
Capital injection to total equity (in %)	2.326	148	0.001
	(7.847)		
Panel B: Local Macro and Other Variables			
Log (GDPPC)	-0.020	148	0.000
	(0.689)		
GDPPC growth (in %)	-0.573	148	0.002
	(0.785)		
Employment rate (in %)	-3.082	145	0.009
	(2.642)		
Employment growth (in %)	0.000	145	0.000
	(0.289)		
Government debt to GDP (in %)	0.310	131	0.003
	(0.487)		
Government debt to revenue (in %)	3.801	132	0.004
	(5.689)		
Total loan growth (in %)	0.032	140	0.000
	(2.321)		
State loan share (in %)	0.846	140	0.000
	(2.885)		

Each row of this table represents a univariate regression of the variable in the first column on the dummy indicating the timing of distress in the electoral cycle. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Panel A examines bank characteristics and bailout size. Panel B examines local macroeconomic and loan-related variables. The variables are measured in the year before the distress event. Robust standard errors are denoted in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 7: Long-Run Financial Performance of Affected Banks

Panel A: Five Years after Bailout Events						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in...	NPL Ratio	LLP Ratio CL	ROA	ROE	Capital Ratio	Tier I + II
BLA	-2.079	-0.458	0.209	2.964	0.403	1.812
	(3.239)	(0.757)	(1.097)	(17.290)	(0.520)	(2.121)
BLP	0.785	0.004	-0.131	-3.693	0.215	0.659
	(2.387)	(0.512)	(0.587)	(13.401)	(0.393)	(1.471)
Diff (BLP - BLA)	-2.864***	-0.462***	0.340*	6.657*	0.188*	1.153***
	(0.642)	(0.146)	(0.198)	(3.492)	(0.103)	(0.413)

Panel B: Eight Years after Bailout Events						
	(1)	(2)	(3)	(4)	(5)	(6)
Change in...	NPL Ratio	LLP Ratio CL	ROA	ROE	Capital Ratio	Tier I + II
BLA	-2.662	-0.533	0.233	3.261	0.470	2.200
	(3.627)	(0.759)	(1.091)	(17.189)	(0.577)	(2.510)
BLP	0.686	-0.053	-0.121	-3.781	0.311	1.187
	(2.454)	(0.546)	(0.602)	(13.603)	(0.493)	(1.883)
Diff (BLP - BLA)	-3.348***	-0.481***	0.354*	7.042**	0.159	1.013**
	(0.698)	(0.149)	(0.198)	(3.501)	(0.121)	(0.503)

The table shows changes in key accounting ratios for banks that experienced a distress event. We calculate the average values of those variables in five years (or eight years) after the bailout event, and subtract the initial values to yield the changes in those variables. Row BLA includes banks supported by the association while row BLP includes banks bailed out by the politician. Row *Diff (BLP-BLA)* shows the difference in the mean between the two groups of banks, where *, **, and *** indicate statistical differences in the mean at the 10% level, 5% level, and 1% level, respectively. The variables of interest from columns (1) to (6) are non-performing loans ratio, the ratio of loan loss provisions to customer loans, ROA, ROE, Capital Ratio (equity/total assets), and Tier I plus Tier II capital ratio. All variables are in percentage terms.

Table 8: Changes in Local Financing Structure

Panel A: Five Years After Bailout Events								
Dep. Var.	$\frac{loans\ by\ state\ banks}{total\ loans}$		$\frac{loans\ by\ private\ banks}{total\ loans}$		$\frac{loans\ by\ cooperatives}{total\ loans}$		*growth of total loans*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP	4.848***	6.881***	-4.788**	-9.626***	-0.004	2.738	2.135*	2.278
	(1.554)	-2.467	(2.096)	(3.154)	(1.188)	(1.915)	(1.242)	(2.024)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		28.63		28.63		28.63		28.63
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

Panel B: Eight Years After Bailout Events								
Dep. Var.	$\frac{loans\ by\ state\ banks}{total\ loans}$		$\frac{loans\ by\ private\ banks}{total\ loans}$		$\frac{loans\ by\ cooperatives}{total\ loans}$		*growth of total loans*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP	4.059**	8.761***	-4.002*	-10.518***	0.002	1.768	2.691*	3.314
	(1.617)	(2.767)	(2.163)	(3.220)	(1.312)	(2.269)	(1.582)	(2.707)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		28.63		28.63		28.63		28.63
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

The table shows how the presence of state-owned banks depends on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a municipality (the most granular administration level). The dependent variable in columns (1) and (2) is the share of loans extended by state-owned banks in total loans. In columns (3) and (4) ((5) and (6)), the dependent variable is share of loans extended by private banks (cooperatives). In columns (7) to (8), the dependent variable is growth of total loans. All the dependent variables measure the change in average post-bailout value ($T = 1$ to $T = 5$ in Panel A or $T = 1$ to $T = 8$ in Panel B) from the pre-bailout value. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. Standard errors are reported in parentheses and clustered at county/city level. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

Table 9: Aggregate Changes in Lending Relationships of Affected Banks

Panel A: Five Years After Bailout Events				
Dep. Var.	$\frac{\#\ new\ rel\ by\ affected\ banks}{\#\ all\ rel\ by\ affected\ banks}$		$\frac{\#\ ended\ rel\ by\ affected\ banks}{\#\ all\ rel\ by\ affected\ banks}$	
	(1)	(2)	(3)	(4)
Model	OLS	IV 2SLS	OLS	IV 2SLS
BLP	-4.301**	-8.542**	-4.304**	-10.308***
	-1.783	(3.709)	(1.673)	(3.401)
Macro Controls	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
F-stat		28.63		28.63
Observations	1,078	1,078	1,078	1,078

Panel A: Five Years After Bailout Events				
Dep. Var.	$\frac{\#\ new\ rel\ by\ affected\ banks}{\#\ all\ rel\ by\ affected\ banks}$		$\frac{\#\ ended\ rel\ by\ affected\ banks}{\#\ all\ rel\ by\ affected\ banks}$	
	(1)	(2)	(3)	(4)
Model	OLS	IV 2SLS	OLS	IV 2SLS
BLP	-5.694***	-9.281**	-2.464	-8.435***
	(2.121)	(3.957)	(1.836)	(3.153)
Macro Controls	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
F-stat		28.63		28.63
Observations	1,078	1,078	1,078	1,078

The table shows how the lending relationships (formation and termination) of affected banks depend on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a municipality (the most granular administration level). In columns (1) to (2), the dependent variable is the share of newly initiated lending relationships by affected banks out of all lending relationships by them, or $\frac{number\ of\ new\ lending\ relationships\ by\ affected\ banks}{number\ of\ all\ lending\ relationships\ by\ affected\ banks}$. In columns (3) and (4), the dependent variable is the share of newly terminated lending relationships by affected banks out of all lending relationships by them, or $\frac{number\ of\ ended\ lending\ relationships\ by\ affected\ banks}{number\ of\ all\ lending\ relationships\ by\ affected\ banks}$. All the dependent variables are the change in average post-bailout value ($T = 1$ to $T = 5$ in Panel A or $T = 1$ to $T = 8$ in Panel B) from the pre-bailout value. The F-Stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. Standard errors are reported in parentheses and clustered at county/city level. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

Table 10: Credit Allocation of Affected Banks

Dep. Var.	growth of loans from affected banks				share of loans from affected banks				growth of loans from all banks			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP X L1.logAPK	0.036	-3.104*	-0.174	-3.427**	-1.943**	-6.622***	-1.856*	-6.315**	0.244	-4.701*	0.098	-5.101**
	(0.778)	(1.698)	(0.780)	(1.700)	(0.980)	(2.497)	(0.982)	(2.492)	(1.056)	(2.492)	(1.062)	(2.484)
BLP	2.548	7.653**	3.457*	10.296***	10.050***	11.102**	9.773***	9.089*	2.349	5.846	2.749	7.866*
	(1.935)	(3.334)	(1.951)	(3.345)	(2.576)	(5.417)	(2.579)	(5.431)	(2.240)	(4.298)	(2.243)	(4.279)
L1.logAPK	1.975***	4.130***	2.714***	4.962***	0.907	4.102**	0.360	3.464*	3.671***	6.978***	4.258***	7.713***
	(0.750)	(1.341)	(0.765)	(1.353)	(0.860)	(1.812)	(0.881)	(1.823)	(1.053)	(1.849)	(1.086)	(1.859)
Firm Controls	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES
Industry X Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		96.11		98.75		88.38		87.38		88.38		87.38
Observations	6,352	6,352	6,352	6,352	10,514	10,514	10,514	10,514	10,514	10,514	10,514	10,514

The table shows how the credit allocation of affected banks depends on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a firm and only post-event years are included in the regression. The dependent variable from columns (1) to (4) is the share of new loans from affected banks out of total loans from affected banks for each firm-year. In columns (5) and (8), the dependent variable is the share of loans from affected banks out of all loans received by the firm. Columns (9) to (12) shows the share of new loans out of total loans for each firm-year. All dependent variables are in percentage terms. logAPK is the natural log of sales divided by value of total fixed assets. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. All regressions include industry-time fixed effects. Firm controls include lagged size and profitability. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

Table 11: Preferential Lending of Affected Banks

Dep. Var.	$\frac{in-group\ loans\ from\ affected\ banks}{total\ loans}$				$\frac{in-group\ loans\ from\ affected\ banks}{total\ in-group\ loans}$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP	2.839	9.775***	3.033	9.092**	7.918	19.691**	8.683	17.290**
	(3.256)	(3.657)	(3.263)	(3.499)	(6.895)	(8.122)	(6.954)	(7.210)
Firm Controls	NO	NO	YES	YES	NO	NO	YES	YES
Industry X Time FE	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		33.550		33.170		33.550		33.170
Observations	1,926	1,926	1,926	1,926	1,926	1,926	1,926	1,926

The table shows how preferential lending of affected banks depends on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a firm and only post-event years are included in the regression. The dependent variable from columns (1) to (4) is the share of in-group loans from affected banks out of total loans received by the firm. In columns (5) and (8), the dependent variable is share of in-group loans from affected banks out of total loans from connected banks. A loan is defined as from in-group or connected banks if the firm and the bank are connected through membership of the same service club branch. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. All regressions include industry-time fixed effects. Firm controls include lagged size and profitability. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

Table 12: Macroeconomic Developments at Municipality Level

Panel A: Five Years After Bailout Events

Dep. Var.	asset growth		debt growth		sales growth		employment growth		$\frac{\#\ entry\ firms}{\#\ all\ firms}$		$\frac{\#\ exit\ firms}{\#\ all\ firms}$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP	-4.114***	-6.606**	-4.053**	-7.448**	-1.838*	-4.133*	-2.084*	-4.691*	-1.143	-4.161***	-1.924***	-3.654***
	(1.506)	(3.030)	(1.557)	(3.156)	(0.978)	(2.129)	(1.124)	(2.461)	(1.074)	(1.210)	(0.699)	(1.066)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		28.63		28.63		28.63		28.63		28.63		28.63
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

Panel B: Eight Years After Bailout Events

Dep. Var.	asset growth		debt growth		sales growth		employment growth		$\frac{\#\ entry\ firms}{\#\ all\ firms}$		$\frac{\#\ exit\ firms}{\#\ all\ firms}$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP	-3.921***	-5.151**	-3.435***	-5.162**	-1.835**	-3.227**	-1.910**	-3.435*	-1.489	-4.309***	-0.990	-2.910***
	(1.419)	(2.409)	(1.276)	(2.272)	(0.794)	(1.559)	(0.853)	(1.739)	(0.985)	(1.208)	(0.726)	(0.909)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		28.63		28.63		28.63		28.63		28.63		28.63
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

The table examines how the macroeconomic developments in the local municipality depend on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a municipality (the most granular administration level). The dependent variables are asset growth, debt growth, sales growth and employment growth in columns (1) and (2), (3) and (4), (5) and (6), (7) and (8) respectively. The dependent variable in columns (9) and (10) ((11)) and (12)) is the percentage of firms entering (exiting) external debt financing. The dependent variables are the average post-bailout growth rate ($T = 1$ to $T = 5$ in Panel A or $T = 1$ to $T = 8$ in Panel B) in columns (1) to (6). The dependent variables in columns (7) to (10) are the change in average post-bailout value ($T = 1$ to $T = 5$ in Panel A or $T = 1$ to $T = 8$ in Panel B) from the pre-bailout value. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. Standard errors are reported in parentheses and clustered at county/city level. All regressions include time fixed effects. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

Table 13: Macroeconomic Developments at County Level

Panel A: Five Years after Bailout Events

	D (0-12 months before)=1 *(Pre-eleciton: more BLA)*			D (0-12 months before)=0 *(Post-election: more BLP)*			Post - Pre
Change/Growth in...	Mean	Median	S.D.	Mean	Median	S.D.	Difference
Income per capita	4.871	5.326	(6.529)	2.918	3.144	(4.752)	-1.954*
Employment	3.548	4.434	(4.127)	1.938	2.441	(3.332)	-1.611**
Employment rate	1.416	1.489	(1.724)	0.789	0.906	(1.511)	-0.627*
New estab growth	1.616	0.963	(4.667)	-0.380	-0.431	(3.282)	-1.996**
New estab employment growth	12.587	4.874	(24.506)	2.949	2.823	(21.317)	-9.638*
Government debt	-1.490	-0.628	(17.469)	17.593	0.418	(80.168)	19.083**

Panel B: Eight Years after Bailout Events

	D (0-12 months before)=1 *(Pre-eleciton: more BLA)*			D (0-12 months before)=0 *(Post-election: more BLP)*			Post - Pre
Change/Growth in...	Mean	Median	S.D.	Mean	Median	S.D.	Difference
Income per capita	5.948	7.717	(6.445)	4.095	4.610	(5.247)	-1.854
Employment	4.186	4.890	(4.271)	2.618	3.278	(3.845)	-1.568*
Employment rate	1.657	2.040	(1.624)	1.138	1.251	(1.638)	-0.519
New estab growth	1.219	1.017	(3.596)	-0.144	-0.517	(2.944)	-1.364*
New estab employment growth	10.166	6.337	(20.427)	1.733	1.540	(19.587)	-8.433*
Government debt	2.127	1.892	(19.763)	19.421	0.413	(82.291)	17.294*

This table reports differences in the five-year or eight-year average macroeconomic performance following the bank bailout between pre-election distress events and post-election distress events. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a county. The variables of interest include income per capita, employment, employment rate, new establishment growth, new establishments' employment growth and local fiscal debt. *, **, and *** indicate that the difference in means is statistically significant at the 10%, 5%, and 1% level, respectively.

A Appendix: Data Sources and Construction of Variables

The Bundesbank's prudential data base (BAKIS): This database (for which the German Banking Act forms the legal basis) contains micro data on German banks which is available from the 1990s on and used for both supervisory monitoring of financial institutions and research purposes. These data contain sensitive and confidential supervisory information and, therefore, can only be used at the Bundesbank premises and the results may be published only after a thorough anonymization of the data.[46] From the BAKIS data base we obtain bank balance sheet data to construct control variables for our regression analyses. More importantly, we also get access to the "Sonderdatenkatalog 1" which is a special dataset containing confidential information which banks are legally bound to report to Bundesbank and BaFin and, amongst others, allow us to identify capital support measures savings banks received from the association.

The monthly balance sheet statistics (BISTA): This data base gives a comprehensive overview on German financial institutions' business activities. Hereby, banks are legally bound to report their balance sheet data on a monthly and highly disaggregated basis. For our project a major challenge was to access historical BISTA data which allows us to identify the size of the capital injection as well as the particular month this event occurred. Moreover, the BISTA database also provides us with information on each bank's lending to municipalities (which is used to identify further motives behind bank bailouts).

The quarterly borrowers' statistics: This database contains domestic loan portfolio exposures and write-off data on the bank-portfolio level (i.e., lending to the German real sector can be identified for 24 corporate and 3 retail portfolios per bank). Loan exposure data is available from the early 1990s on while data on write-offs can be accessed from 2002-2010. In our empirical study data from the borrowers' statistics is used to double-check the information on the timing of bailout events, in particular by the banking association, for roughly half of the time-period of our dataset. For the period before 2002 we have to rely on the evolution of the capital adequacy ratio in order to identify the timing of the distress event within a year.

The Bundesbank's distress data base: This database contains information on distress events which occurred at German financial institutions from the early 1990s on. For our analyses we rely on information on so-called "distressed mergers"; that is, we need to distinguish distressed (or restructuring) mergers from pure "economy of scale mergers". As the distress database is only available until 2006, we define a distressed merger in the years 2007-2010 as a passive merger where the bank that was taken over experienced a severe distress event (i.e., a moratorium, a capital support measure, or a very low capital ratio) in the three year before the merger.

[46] For a detailed description of the BAKIS data base see, for example, Memmel, C. and I. Stein (2008), "The Deutsche Bundesbank's Prudential Database (BAKIS)", in: Schmollers Jahrbuch 128, Duncker & Humblot, Berlin, pages 321-328.

Table A1: Variable Definitions

Panel A: Events	
Support from politician	Capital injections from the politician are identified by an increase in a bank's subscribed capital that cannot be explained by takeovers or restructuring of equity positions (so called "stille Einlage"). Note that for historical reasons, the equity capital of savings banks usually consists solely of contingency funds (so called "Sicherheitsrücklage"). These funds were originally provided by the politician of the bank in the year of foundation and then cumulated over the years out of the bank's retained earnings. However, if the savings bank—besides its equity in the contingency funds—also has subscribed capital unequal to zero, then this usually indicates an undisclosed participation of the bank owner.
Support from association	
... capital support	Capital injections or guarantees from the association, obtained from "Sonderdatenkatalog 1" of the Bundesbank BAKIS database
... distressed merger	Information on distressed mergers is taken from the Bundesbank distress data base. As this database is only available until 2006, we define a distressed merger in the years 2007-2010 as a passive merger where the bank that was taken over experienced a severe distress event in the three years before the merger (i.e., a moratorium, a capital support measure, or a very low capital ratio).
Panel B: Bank Variables	
Bank Balance Sheet Variables	
Total Bank Assets	Total assets (in Million EUR)
Log Bank Assets	Logarithm (ln) of total assets
Total Assets / GDP	Total assets to GDP ratio (county level, in %)
Market Share (in %)	Share of bank branches in the respective county where very small branches (e.g., branches from the Deutsche Postbank) are excluded. Note that until 2004 banks are legally bound to report the exact location of each of their branches to the Deutsche Bundesbank; from 2005 on the share of branches can be proxied from banks' voluntary reporting and from cross-sectional information.
Capital Ratio	Equity capital to total assets ratio (in %)
Tier I + II	Equity capital plus tier 2 capital to total assets ratio (in %)
ROA	Return (operative result) on total assets (in %)
NPL Ratio	Non-performing loans to customer loans ratio (in %)
Deposit Ratio	Savings deposits, term deposits, and time deposits to total assets ratio (in %)
Loans to Owner / GDP	Claims against municipal governments to GDP ratio (county level, in %)
Loan Loss Provisions / Customer Loans	Loan loss provisions to customer loans (in %)
Restructuring Variables	
Growth Rate (Total assets)	Year-on-year change of total assets (growth rate) (in %)
Growth Rate (Total loans)	Year-on-year change of total loans (growth rate) (in %)
Growth Rate (Employees)	Year-on-year change of number of bank employees (growth rate) (in %)
Growth Rate (Number of Branches)	Year-on-year change of number of bank branches (growth rate) (in %)

Table A1: continued...

Panel C: Macro & Other Variables	
GDPPC Growth	Year-on-year change of real GDP per capita (county level, in %)
Log(GDPPC)	Logarithm (ln) of real GDP per capita (county level)
Government Debt / GDP	Government debt to GDP (county level, in %)
Government Debt / Revenue	Government debt to revenue (county level, in %)
Employment Growth	Year-on-year change of total employment (county level, in %)
Employment rate	Share of Employees in Population (county level, in %)
New estab growth	Year-on-year change of new establishments (county level, in %)
New estab employment growth	Year-on-year change of new establishments' employment (county level, in %)
Loans to GDP	Loans in credit register aggregated at the county level and divided by GDP (county level, in %)
Total loan growth	Year-on-year change of total loans in credit register (county/municipality level, in %)
State Loan Share	Share of loans in credit register that is granted by state banks (county/municipality level, in %)
Panel D: Political Variables	
D(12-24 months before)	Dummy = 1 if the last county/city elections took place 12-24 months before the distress event.
D(0-12 months before)	Dummy = 1 if the last county/city elections will take place 0 to 12 months before the distress event.
D(0-12 months after)	Dummy = 1 if the last county/city elections took place 0 to 12 months after the distress event.
D(12-24 months after)	Dummy = 1 if the last county/city elections took place 12-24 months after the distress event.
D(24-36 months after)	Dummy = 1 if the last county/city elections took place 24-36 months after the distress event.
No Competitive County	Dummy = 0 for a non-competitive county.
Competitive County	Dummy = 1 for competitive counties. Hereby, the vote share margin between the first and the second party within the county from the respective state election is calculated. Then the dummy is defined as equal to one if the vote share margin is smaller than the median and zero otherwise. This taken as a proxy for political competition within the county/city: The smaller the vote share margin between the first and the second party, the more intense the political competition and the more effective the disciplining role voters can exert on politicians.
No Conservative Bank Chairman	Dummy = 0 for a non-conservative chairman.
Conservative Bank Chairman	Dummy = 1 if the chairman of the savings bank's supervisory board is a member of a conservative party (i.e., "CDU" or "CSU").

The table shows a description of the variables we use in the empirical analysis.

B Appendix: Additional Results

Table B1: Occurrence of Bank Distress Events—Hazard Model

One dummy indicating pre-election year

Sample	state banks with distress events between 1995 and 2010					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months before)	-0.150	-0.093	-0.241	-0.177	-0.044	0.002
	(0.187)	(0.188)	(0.196)	(0.199)	(0.175)	(0.181)
Cons. Bank Chairman					2.448***	2.409***
					(0.137)	(0.149)
Competitive County					0.252	0.277
					(0.176)	(0.183)
Log (Total assets)			0.126	0.130	0.114	0.124
			(0.093)	(0.101)	(0.104)	(0.113)
Capital Ratio (t-1)			-0.113	-0.126	-0.056	-0.062
			(0.093)	(0.094)	(0.104)	(0.108)
ROA (t-1)			-0.462***	-0.466***	-0.309***	-0.306***
			(0.084)	(0.081)	(0.077)	(0.076)
NPL Ratio (t-1)			-0.001	-0.000*	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)
Market Share (t-1)			-0.017***	-0.018***	-0.011	-0.011
			(0.006)	(0.006)	(0.007)	(0.007)
Deposit Ratio (t-1)			-0.005	-0.001	-0.004	-0.003
			(0.007)	(0.008)	(0.008)	(0.009)
GDPPC Growth (t-1)			0.013	0.014	0.008	0.010
			(0.021)	(0.022)	(0.023)	(0.023)
Log(GDPPC) (t-1)			0.268	0.236	0.772**	0.748**
			(0.312)	(0.308)	(0.333)	(0.330)
Time FE	NO	YES	NO	YES	NO	YES
Observations	1,174	1,174	1,169	1,169	1,169	1,169
Number of distress events	148	148	148	148	148	148

The table shows results from estimating an exponential hazard model in equation (1). Four dummy variables indicating four periods in the electoral cycle are included, and the omitted group is (0-12 months before). Two political variables, the ideology of the politician and the political competition within the county, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those independent variables are self-explanatory. All control variables are lagged by one period. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Standard errors are denoted in parentheses and clustered at bank level. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B2: Occurrence of Bank Distress Events—Hazard Model

All banks (including banks with no distress events)

Sample	all state banks					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months after)	0.222	0.157	0.292	0.239	0.052	0.040
	(0.258)	(0.257)	(0.260)	(0.278)	(0.244)	(0.254)
D (12-24 months after)	0.073	0.078	0.309	0.307	-0.021	-0.011
	(0.253)	(0.265)	(0.257)	(0.269)	(0.248)	(0.245)
D (24-36 months after)	0.101	0.067	0.154	0.114	-0.050	-0.118
	(0.240)	(0.238)	(0.266)	(0.259)	(0.239)	(0.244)
D (12-24 months before)	0.246	0.206	0.371	0.330	0.203	0.125
	(0.233)	(0.232)	(0.247)	(0.247)	(0.210)	(0.223)
Cons. Bank Chairman					3.896***	3.870***
					(0.220)	(0.230)
Competitive County					0.537***	0.550***
					(0.200)	(0.209)
Log (Total assets)			0.224*	0.217*	0.155	0.164
			(0.118)	(0.118)	(0.112)	(0.114)
Capital Ratio (t-1)			-0.559***	-0.573***	-0.351***	-0.350**
			(0.124)	(0.131)	(0.124)	(0.138)
ROA (t-1)			-0.843***	-0.859***	-0.552***	-0.561***
			(0.083)	(0.080)	(0.102)	(0.104)
NPL Ratio (t-1)			-0.000***	-0.000***	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)
Market Share (t-1)			-0.025***	-0.025***	-0.011	-0.012
			(0.008)	(0.008)	(0.009)	(0.009)
Deposit Ratio (t-1)			-0.036***	-0.033***	-0.026**	-0.025**
			(0.010)	(0.010)	(0.011)	(0.011)
GDPPC Growth (t-1)			0.022	0.021	0.013	0.014
			(0.025)	(0.025)	(0.025)	(0.026)
Log(GDPPC) (t-1)			0.347	0.351	0.783**	0.766**
			(0.389)	(0.390)	(0.378)	(0.373)
Time FE	NO	YES	NO	YES	NO	YES
Observations	8,232	8,232	8,135	8,135	8,135	8,135
Number of distress events	148	148	148	148	148	148

The table shows results from estimating an exponential hazard model in equation (1). $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Two political variables, the ideology of the politician and the political competition within the county, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those independent variables are self-explanatory. All control variables are lagged by one period. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Standard errors are denoted in parentheses and clustered at bank level. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B3: Event Type—Political Factors Influencing Local Politicians

One dummy indicating the pre-election year

Sample	all state bank distress events (1995-2010)					
Dep. Var.	Event Type (=1 if political bailout or BLP)					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months before)	0.264***	0.292***	0.251***	0.268***	0.256***	0.272***
	(0.084)	(0.079)	(0.080)	(0.081)	(0.086)	(0.086)
Cons. Bank Chairman					-0.193**	-0.197**
					(0.081)	(0.081)
Competitive County					-0.114	-0.128*
					(0.073)	(0.072)
Log (Total assets)			-0.114**	-0.125**	-0.106*	-0.118**
			(0.055)	(0.053)	(0.054)	(0.052)
Capital Ratio (t-1)			-0.069*	-0.074*	-0.057	-0.061
			(0.038)	(0.040)	(0.037)	(0.038)
ROA (t-1)			0.087	0.095	0.058	0.065
			(0.064)	(0.065)	(0.068)	(0.069)
NPL Ratio (t-1)			-0.019**	-0.019**	-0.021**	-0.020**
			(0.009)	(0.009)	(0.008)	(0.009)
Market Share (t-1)			0.011***	0.010***	0.010***	0.010***
			(0.003)	(0.003)	(0.003)	(0.003)
Deposit Ratio (t-1)			-0.008**	-0.007*	-0.006*	-0.005
			(0.004)	(0.004)	(0.003)	(0.004)
GDPPC Growth (t-1)			-0.023***	-0.023***	-0.023**	-0.022***
			(0.009)	(0.008)	(0.009)	(0.008)
Log(GDPPC) (t-1)			0.183	0.213	0.085	0.115
			(0.151)	(0.151)	(0.152)	(0.152)
Time FE	NO	YES	NO	YES	NO	YES
R-squared	0.043	0.101	0.289	0.305	0.323	0.342
Observations	148	148	148	148	148	148

The table shows how the electoral cycle affects the likelihood of a bailout reached by decentralized vs. centralized decision-making. The dependent variable is a dummy that equals one if the bank receives capital injections from the politician and zero if the bank receives support measures from the association. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Two political variables, the political competition within the county and the ideology of the politician, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those independent variables are self-explanatory. All control variables are lagged by one period. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Robust standard errors are denoted in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B4: Event Type—Political Factors Influencing Local Politicians

Logit models

Sample	all state bank distress events (1995-2010)					
Dep. Var.	Event Type (=1 if political bailout or BLP)					
	(1)	(2)	(3)	(4)	(5)	(6)
D (0-12 months after)	1.705***	1.763**	1.564**	1.687**	1.764**	1.987**
	(0.657)	(0.706)	(0.734)	(0.781)	(0.817)	(0.885)
D (12-24 months after)	1.468**	1.707***	1.997***	2.145***	2.061***	2.257***
	(0.646)	(0.648)	(0.679)	(0.729)	(0.755)	(0.840)
D (24-36 months after)	1.174*	1.435**	1.340*	1.544**	1.375	1.633*
	(0.676)	(0.677)	(0.737)	(0.780)	(0.844)	(0.931)
D (12-24 months before)	1.107*	1.562**	1.472*	1.860**	1.638*	2.171**
	(0.663)	(0.687)	(0.769)	(0.866)	(0.872)	(0.999)
Cons. Bank Chairman					-1.109**	-1.215***
					(0.477)	(0.466)
Competitive County					-0.641	-0.858*
					(0.433)	(0.445)
Log (Total assets)			-0.708**	-0.782**	-0.684**	-0.811**
			(0.339)	(0.332)	(0.336)	(0.334)
Capital Ratio (t-1)			-0.444**	-0.526**	-0.407*	-0.520*
			(0.226)	(0.250)	(0.246)	(0.275)
ROA (t-1)			0.514	0.612	0.426	0.551
			(0.364)	(0.393)	(0.388)	(0.435)
NPL Ratio (t-1)			-0.145**	-0.144**	-0.154**	-0.155**
			(0.070)	(0.070)	(0.071)	(0.071)
Market Share (t-1)			0.066***	0.063***	0.065***	0.063***
			(0.019)	(0.020)	(0.018)	(0.019)
Deposit Ratio (t-1)			-0.053**	-0.043*	-0.043*	-0.029
			(0.023)	(0.026)	(0.023)	(0.027)
GDPPC Growth (t-1)			-0.155**	-0.144**	-0.158**	-0.146**
			(0.066)	(0.061)	(0.069)	(0.065)
Log(GDPPC) (t-1)			1.056	1.289	0.559	0.790
			(0.924)	(0.988)	(0.917)	(0.976)
Time FE	NO	YES	NO	YES	NO	YES
Pesudo R-squared	0.045	0.085	0.273	0.286	0.307	0.328
Observations	148	148	148	148	148	148

The table re-estimates the results from Table 4, using a nonlinear logit specification instead of an OLS specification. As before, the dependent variable is a dummy that equals one if the bank receives capital injections from the politician and zero if the bank receives support measures from the association. Four dummy variables indicating four periods in the electoral cycle are included, and the omitted group is (0-12 months before). Two political variables, the political competition within the county and the ideology of the politician, are added in columns (5) and (6). The regression further includes bank-level control variables and macro control variables, and those independent variables are self-explanatory. All control variables are lagged by one period. Columns (2), (4) and (6) include time dummies for the four election cycles in our sample (begin of sample-1998, 1999-2003, 2004-2008, 2009-end of sample). Robust standard errors are denoted in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table B5: Bank Bailout and Credit Allocation of Affected Banks

Forward measures of logAPK

Dep. Var.	growth of loans from affected banks				share of loans from affected banks				growth of loans from all banks			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Model	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS	OLS	IV 2SLS
BLP X F1.logAPK	-0.268	-3.983**	-0.577	-4.255**	-2.044**	-7.325***	-1.950*	-7.103***	-0.087	-4.282*	-0.249	-4.740**
	(0.900)	(1.943)	(0.895)	(1.940)	(1.025)	(2.490)	(1.031)	(2.498)	(0.997)	(2.369)	(0.996)	(2.351)
BLP	2.700	5.595	3.638*	8.064**	10.216***	9.365*	9.972***	7.848	1.539	4.924	1.967	6.927
	(2.047)	(3.705)	(2.051)	(3.652)	(2.705)	(5.589)	(2.711)	(5.592)	(2.398)	(4.672)	(2.406)	(4.657)
F1.logAPK	1.718**	4.309***	2.452***	5.022***	0.870	4.589**	0.415	4.094**	2.727***	5.568***	3.313***	6.337***
	(0.852)	(1.498)	(0.849)	(1.510)	(0.909)	(1.833)	(0.935)	(1.853)	(0.948)	(1.791)	(0.959)	(1.793)
Firm Controls	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES
Industry X Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		96.11		98.75		88.38		87.38		88.38		87.38
Observations	6,352	6,352	6,352	6,352	10,514	10,514	10,514	10,514	10,514	10,514	10,514	10,514

The table shows how the credit allocation of affected banks depends on the type of bailout following a distress event. Both results from OLS and two-stage least squares regressions using local electoral cycle as an instrument are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. This dummy variable is instrumented by the electoral cycle, or $D(0-12\ months\ before)$, to address endogeneity concerns. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a firm and only post-event years are included in the regression. The dependent variable from columns (1) to (4) is the share of new loans from affected banks out of total loans from affected banks for each firm-year. In columns (5) and (8), the dependent variable is the share of loans from affected banks out of all loans received by the firm. Columns (9) to (12) shows the share of new loans out of total loans for each firm-year. All dependent variables are in percentage terms. logAPK is the natural log of sales divided by value of total fixed assets. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. All regressions include industry-time fixed effects. Firm controls include lagged size and profitability. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.

C Appendix: Alternative Estimation Approach

An alternative estimation approach instruments the BLP dummy with the predicted probability of BLP obtained from the following probit model:

$$\widehat{P_{BLP_{it}}} = \phi(\tau D(0-12\ month\ before)_{kt} + POL'_{kt}\nu_0 + C'_{kt-1}\gamma_0 + X'_{it-1}\delta_0) \tag{5}$$

When the endogenous regressor is a *binary* variable, this estimator is asymptotically efficient. Wooldridge (2010) shows that in the group of estimators where instruments are a function of $D(0-12\ month\ before)$ and other covariates, this estimation specification is more efficient. In addition the regular two stages in Equations 3 and 4, this approach at the beginning has a step of estimating the probit model described in Equations 5. We further instrument BLP with the predicted probability of politician intervention obtained from the probit regression (rather than the timing of the distress event in the electoral cycle itself). In Table C1, which mimics Table 8, we denote this method by $IV(probit)$. Both OLS and $IV(probit)$ results are shown in Table C1. In columns (1) and (2), we have the share of loans extended by state banks as the dependent variable. As expected, with a more efficient specification, the F-statistic from the first stage regression increases from 28.63 to 44.09 when we replace the original instrument with the predicted probability of BLP from the probit model, see column (2) in Table 8 and Table C1. The magnitude is comparable to the IV specification in Table 8 and significantly greater than that in column (1).

Table C1: Bank Bailout and Local Financing Structure

Panel A: Five Years After Bailout Events

Dep. Var.	$\frac{loans\ by\ state\ banks}{total\ loans}$		$\frac{loans\ by\ private\ banks}{total\ loans}$		$\frac{loans\ by\ cooperatives}{total\ loans}$		growth of total loans	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model	OLS	IV(Probit)	OLS	IV(Probit)	OLS	IV(Probit)	OLS	IV(Probit)
BLP	4.848***	6.973***	-4.788**	-9.838***	-0.004	2.882	2.135*	1.945
	(1.554)	(2.426)	(2.096)	(3.022)	(1.188)	(1.735)	(1.242)	(1.842)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		44.09		44.09		44.09		44.09
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

Panel B: Eight Years After Bailout Events

Dep. Var.	$\frac{loans\ by\ state\ banks}{total\ loans}$		$\frac{loans\ by\ private\ banks}{total\ loans}$		$\frac{loans\ by\ cooperatives}{total\ loans}$		growth of total loans	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Model	OLS	IV(Probit)	OLS	IV(Probit)	OLS	IV(Probit)	OLS	IV(Probit)
BLP	4.059**	8.687***	-4.002*	-10.642***	0.002	1.979	2.691*	2.768
	(1.617)	(2.754)	(2.163)	(3.014)	(1.312)	(2.160)	(1.582)	(2.440)
Macro Controls	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES
F-stat		44.09		44.09		44.09		44.09
Observations	1,078	1,078	1,078	1,078	1,078	1,078	1,078	1,078

The table shows how the presence of state-owned banks depends on the type of bailout following a distress event.Both results from OLS and IV (probit) are displayed. BLP is a dummy that equals to 1 if the distress is resolved by the politician and zero otherwise. IV (probit) instruments BLP with the predicted probability of BLP obtained from a probit model in which $D(0-12\ months\ before)$ is the key determinant. $D(0-12\ months\ before)$ equals to one if the distress event occurs 0 to 12 months before the election and zero otherwise. Unit of observation is a municipality (the most granular administration level). The dependent variable in columns (1) and (2) is the share of loans extended by state-owned banks in total loans. In columns (3) and (4) ((5) and (6)), the dependent variable is share of loans extended by private banks (cooperatives). In columns (7) to (8), the dependent variable is growth of total loans. All the dependent variables measure the change in average post-bailout value ($T = 1$ to $T = 5$ in Panel A or $T = 1$ to $T = 8$ in Panel B) from the pre-bailout value. The F-stat is for the excluded instrument in the first stage. All dependent variables are in percentage terms. Standard errors are reported in parentheses and clustered at county/city level. *,**,*** indicates significance at the 10%, 5%, and 1%, respectively.