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Rent-Seeking in Elite Networks

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Abstract

We employ a unique dataset on members of an elite service club in Germany to investigate how social connections in elite networks affect the allocation of resources. Specifically, we investigate credit allocation decisions of banks to firms inside the network. Using a quasi-experimental research design, we document misallocation of bank credit inside the network, with bankers with weakly aligned incentives engaging most actively in crony lending. Our findings, thus, resonate with existing theories of elite networks as rent extractive coalitions that stifle economic prosperity.

JEL Codes: F34, F37, G21, G28, G33, K39.

"*People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.*"

Adam Smith, Wealth of Nations, 1776.

1 Introduction

There is now growing recognition amongst scholars of the important role of social capital in improving economic outcomes. In influential work in economics and sociology it is argued that social interactions generate social capital, which in turn may facilitate contracting (Putnam 2000; Burt 2004). This view is supported by several empirical studies (Knack and Keefer 1997; Guiso, Sapienza and Zingales 2004; Karlan 2005; Karlan, Mobius, Rosenblat and Szeidl 2009). Additionally, social proximity can mitigate informational frictions, thereby enabling transactions to take place that are otherwise inhibited by adverse selection and moral hazard problems.[1]

However, there is also a dark-side view of social proximity in distorting markets (Banerjee and Munshi 2004; Bandiera, Barankay and Rasul 2009), as exemplified in the above quote from Adam Smith and echoed by Olson (1982) in his seminal work, where he identifies the emergence of self-serving interest groups that are created to further their own interests largely at the expense of broader economic prosperity. Olson (1982) argues that, after a period of stable growth, countries have a tendency to accumulate rent-extracting institutions that ultimately lead to the decline of nations. In a similar vein, Acemoglu and Robinson (2012) warn us about the role of colluding elites in establishing extractive institutions as a major impediment to economic prosperity.

Empirically identifying the effects of social proximity has proven challenging, since both the bright-side and the dark-side views generate observationally equivalent out-

[1]Braggion (2011) and Engelberg, Gao and Parsons (2012) provide evidence in support of this view.

comes. The challenge that researchers face in identifying rent-seeking behavior is similar in spirit to the challenge outlined by Becker (1957) in distinguishing between taste-based discrimination and statistical discrimination (Phelps 1972; Arrow 1973). To add to this, researchers have to grapple with serious selection concerns - the formation of social connections is not random and people often self-select into social groups that share common characteristics (Lazarsfeld and Merton 1954).

In this paper, we examine the role of elite social networks in the allocation of resources in the economy. We focus on a network of elite members of society, as they control a large fraction of the resources in the economy and therefore their actions have a major impact on economic prosperity (Olson 1982; Acemoglu and Robinson 2012). We obtain membership information of an important service club organization in Germany. This service club organization 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. An outstanding professional qualification as well as an excellent standing in society are the main criteria for members of this service club organization.

The objective of this network is to maintain its reputation as an elite network. Membership of the service club organization is by invitation only and is considered very prestigious. Consequently, when individuals are offered membership, they accept the invitation. 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. A more detailed description of the service club organization is provided in Section .

Our focus is on the allocation of credit between banks and firms whose officials are members of this club organization.[2] We hand-collect data on members, both firms' CEOs

[2]About five percent of all bank loans are extended within one such service club organization. Taking into account the total number of service club members in Germany, the share of bank loans contracted between club members is about 12.5 percent.

and bank directors, for 429 service club branches, from 1993 to 2015, to capture both cross-sectional and time series variation in social proximity, and obtain detailed financial data on these members from Deutsche Bundesbank. We are thus able to create a unique dataset that provides very granular information on social networks, combined with detailed accounting information.

Using our unique laboratory and detailed micro-level data, we are able to tackle some unresolved identification concerns. From the outset, it should be noted that our analysis focuses on firms whose CEOs are members of the same service club organization, which alleviates selection concerns to some extent. To quantify the effect of social connections on lending, our empirical strategy compares for the same firm, quarter-by-quarter, the financing provided by banks whose banker is a member of the same club branch as the firm's CEO (in-group banks) to that provided by other banks (out-group banks). Thus, this empirical strategy controls for time-series changes in firm characteristics, including demand effects, such as changes in investment opportunities that may confound the empirical analysis.

We exploit two events that generate perturbation in social connectedness between firms and banks: i) entry of members to a club branch, and ii) the formation of a new club branch within a city. Entry of firms is driven by rules, such as the "one member per industry" rule. Thus, the entry of new members only takes place once their industry sector slot becomes vacant (i.e., existing members retire). Similarly, the formation of a new club branch follows a highly regulated process that involves the agreements of a district extension committee and the district governor. Since these events are driven by pre-defined rules, they lend credibility to our research design.

We find that firms experience an increase in lending from the in-group banks that is 37.20 percentage points higher than from out-group banks after they enter a club branch, and a 56.67 percentage point higher increase from their in-group bank after participating in a new club branch formation. Additionally, the probability of establishing a new

relationship with the in-group bank relative to an out-group bank increases by 14.95 percentage points after joining an existing club branch, and by 10.47 percentage points after participating in a new club branch formation.

Next, we examine changes in the share of in-group bank borrowing to total borrowing for a given firm around these events. This measure combines the evidence from the intensive and the extensive margins and accounts for potential double-counting effects if firms substitute borrowing from in-group banks for borrowing from out-group banks. We find that the share of borrowing from in-group banks increases by 11.50 to 12.87 percentage points after firms join an existing or a newly established club branch. The increase in lending from in-group banks does not just constitute a substitution from out-group banks; we find that total borrowing increases by 13.89 percentage points after firms join an existing club branch, and by 22.41 percentage points after firms participate in new club formation. Similarly, firm leverage significantly increases after these events by about 6-9 percentage points.

The absence of any pre-treatment trends and the highly regulated procedures for club membership make it unlikely that club membership is precisely timed to coincide with time-series changes in firm quality such that club branches identify and invite the "stars" in the local economy. To further sharpen our analysis, we exploit the election of existing club members as mayors. In Germany, the mayor of a district often becomes the local state bank's supervisory board chairman. In his capacity as a chairman of the supervisory board, the mayor commands great influence over the loan-granting activity of the bank, especially for corporate loans. So, while the elected candidate is always a member of the club branch, the degree of influence changes with the election. Importantly, the mayoral election is independent of time-series changes in the characteristics of firms that have been associated with the club for many years.

After an existing member of a club branch is elected mayor and becomes head of the local state bank, we observe a significantly higher increase in lending to in-group

firms from the local state bank compared to other banks by 48.60 percentage points, and a significantly higher probability of establishing a new relationship with the local state bank by 16.62 percentage points. Additionally, total debt and leverage significantly increase after the election of a club branch member as mayor. The evidence on mayoral elections is reinforced by examining changes in credit allocation around mayoral elections for which the mayor is not appointed as the chairman of the supervisory board of the local savings bank.[3] Using this event as a placebo test, we can isolate the effect of state bank proximity from proximity to the mayor. If a club member is elected as a mayor, but is not appointed as the head of the local state bank, there is no effect on in-group financing, suggesting that the previous results are driven by proximity to the state bank rather than the mayor.

While the previous results strongly suggest that connections in the network lead to more lending to connected firms, they are consistent with both the bright side view (reducing market frictions), and the dark side view (collusion, rent-seeking) of social connections. To differentiate between a rent-seeking mechanism and positive effects of connections on credit allocation, we evaluate the relative profitability of connected lending by comparing the return on loans (ROL) that banks generate from in-group vis-à-vis out-group transactions. Since we are able to measure ex-post loan performance after interest payments, defaults, and recovery rates, all contract features that affect the banks' returns, e.g. differences in collateral, are accounted for.

We find that a given bank generates a 4.37 percentage points lower ROL on in-group loans compared to loans extended to out-group firms in the same city. Comparing lending from in-group and out-group banks to the same firm, we observe a 2.73 percentage points lower ROL for in-group banks.[4] Investigating the drivers of the difference in ROL, we

[3]Whether the mayor is the chairman depends on the size of the city relative to the county. See Section for details.

[4]Note that returns on in-club loans are below the risk-free rate for old bankers with weak career concerns even in private banks and for banks operating in uncompetitive areas. Thus, in-group lending constitutes negative NPV investment for banks even in the absence of funding constraints, which is also consistent with the lower engagement in in-group lending for bankers with better aligned incentives.

observe that while interest rates and recovery rates are not significantly different for loans made by in-group and out-group banks,[5] in-group banks continue to lend to ailing firms after out-group banks start to withdraw lending.[6] It is this excess continuation of firms as a going concern which stems from the soft budget constraint problem of in-group banks (Kornai 1986), that generates a lower ROL.[7] This excess continuation constitutes a more disguised, harder to detect, form of preferential treatment, compared with changes in the price of credit.

To sharpen our analysis on the underlying mechanism, we exploit cross-sectional differences in bankers' incentives. An implication of Becker (1957)'s work on discrimination is that competition provides a mean to mitigate taste-based discrimination if such practices are costly to firms. In competitive markets, firms (or in our context banks) that engage in costly discrimination face the risk of being driven out of business. Consistent with this view, we observe that banks engage significantly less in in-group lending in areas where credit market competition is higher, and we find that the wedge between in-group and out-group ROL is smaller in areas with competitive banking markets.

Furthermore, we examine how career concerns affect rent-seeking behavior of bankers. A large literature argues that career concerns are an important mechanism in aligning agents' incentives and preventing moral hazard (Fama 1980; Holmstrom 1982; Gibbons and Murphy 1992). While younger bankers are subject to strong career concerns (bad performance may have a significant impact on future promotion and compensation decisions), older bankers, close to retirement, are less concerned about the impact of bad performance on future income. When we compare differences between in-group and out-group lending

[5]The results on interest rates are robust to controlling for contract characteristics, such as collateral or the probability of default assigned to a given loan by the lender.

[6]It is important to note that our results are not driven by the financial crisis period. When we exclude the crisis period, we find that the results are qualitatively and quantitatively unaffected.

[7]When we calculate returns on value-weighted performance, in-group lending yields a 3.49 percentage points lower return. To ensure that low returns are not inherent to specific lending relationships, we examine changes in ROL for the same lending relationship around the different events and find that ROL is significantly lower only after firms and banks become socially connected in the network. Additionally, connected loans also exhibit higher return volatility. Such a pattern cannot be rationalized by the action taken by a risk-averse lender who trades off average ROL for lower risk.

for young and older bankers in private banks, we find that young bankers engage relatively less in preferential in-group lending and the wedge between in-group and out-group loans is significantly smaller for young bankers. Overall, the cross-sectional results provide compelling evidence that bankers who bear higher costs of engaging in unprofitable activities participate less actively in connected lending. Looking at the wedge between returns on in-group and out-group loans, controls for differences in the ability of bankers with different degrees of incentives to generate different returns on lending in general.[8]

A significant fraction of banks in our sample are state-owned banks. We find that these banks engage more actively in in-group lending, and the wedge between in-group and out-group ROL is also significantly wider for these banks. It is often argued that profitability is not the sole objective of state-owned banks, but that they also engage in social lending. Thus, ROL may not be the right metric for these banks. While we cannot directly observe the objective function of the banks, we provide an alternative metric to evaluate credit allocation by state banks. We examine the second moment of lending decisions similar in spirit to Rajan, Seru and Vig (2015).

The intuition for this test can be understood using the following example. Consider two borrowers with identical hard information, but differing in soft information content. If social proximity provides lenders with better information, then we should expect that banks would be able discriminate between borrowers by giving more loans to the 'good' types and less loans the 'bad' types. In the absence of such soft information, all borrowers with the same hard information would get similar loans. Thus, an increase in information would be captured by an increase in dispersion of lending decisions. This is true no matter whether the objective function is generating higher profits or higher employment (or something else). Thus, by looking at the second moment we can infer whether some

[8]The cross-sectional results also help to rule out other alternative explanations. It could be that our ROL computation does not capture relevant aspects of banks' costs and profits from lending relationships, such as screening and monitoring costs, or fees and cross-selling opportunities. However, if such measurement errors would drive the results, we should not see that bankers with better aligned incentives engage less in connected lending. If in-group lending were profitable after taking into account measurement errors in ROL, we should see bankers with stronger incentives engaging at least equally actively in connected lending.

information was being used to discriminate between borrowers.

We find the opposite pattern. Following entry, in-group bankers tend to lend more to virtually all in-group firms indiscriminately rather than differentiating between 'good' and 'bad' borrowers. This is inconsistent with bankers exploiting the information generated in the network to improve lending decisions, suggesting that bankers, from both state and private banks, do not exploit the information generated in the network to improve credit allocation based on their own objectives. We find that this effect is significantly weaker for young private bankers with better aligned incentives and for banks operating in competitive local banking markets, further strengthening the evidence that better alignment of incentives mitigates malign effects of connections.

We next examine how firms deploy the extra financing they receive through their membership to the network. This provides an additional opportunity to sharpen the evidence on the mechanisms at work. We observe that firms do not use the extra financing to make new investments, as one would expect if social proximity to the lender relaxed financing constraints. Instead, firms use these funds to increase payments to the shareholders, which in most cases means paying out to the CEO, as most of these are relatively small, family-owned firms. While we are cautious not to make statements about the welfare implications of connected lending in elite networks, this finding suggests that in-group banks allocate credit to firms that do not use the additional financing for investment.

In related papers, La Porta, Lopez-de Silanes and Zamarripa (2003) and Khwaja and Mian (2005) provide interesting insights on related lending. Although both papers are about related lending, the nature of connections is very different. While we study social connections between the CEOs of firms and bankers (elite networks), Khwaja and Mian (2005) document negative effects of political connections on credit allocation, and La Porta et al. (2003) examine how common ownership of banks and firms affects lending decisions [9]. Thus, both papers are not directly related to the effect of elite social interactions on

[9]Common ownership is defined as banks and firms controled by the same majority shareholders.

credit allocation, which we examine in our paper. Additionally, both these papers look at emerging markets (Pakistan and Mexico), and acknowledge that the effects they document might not be present in developed countries with more sophisticated institutions. We show that this is not the case. The results in our paper suggest that while the channel through which rent-seeking occurs is different in emerging markets (outright fraud) compared to a subtler and harder to detect channel of excessive continuation in the German setting, developed countries are not immune to rent-seeking.

Finally, Khwaja and Mian (2005) study how political connections affect the allocation of state bank credit. The metric that they use to evaluate the quality of credit allocation to politically connected firms is the profitability of the loans from state banks perspective. There is a view that state banks objectives may differ from profit maximization. It is thus not clear whether the results in Khwaja and Mian (2005) conclusively show that political connections lead to a misallocation of credit driven by rent-seeking motives. In contrast, we document that even private banks that are commonly considered to maximize profits, generate lower profits on connected lending, and exploit cross-sectional differences in bankers incentives to strengthen the evidence on the rent-seeking channel.

The closest to our paper is a paper by Guiso and Zingales (2014) analyzing connected lending in Italy in a setting very similar to ours. They uncover some similar patterns. Specifically, they find that banks allocate more credit to socially connected firms. The authors interpret this as evidence of social connections reducing borrowing constraints. However, since they do not have data on contract terms, the evidence on the underlying mechanism cannot be conclusive.

The evidence in our paper contributes to the broader literature on social connections and economic outcomes,[10] as well as the literature on social proximity and bank lending. It

[10]Granovetter (2005) describes the relationship between social connections and economic outcomes in the sociology literature; Shue (2013) shows that executive peer networks affect managerial decision-making and firm policies; Lerner and Malmendier (2011) examines social networks and entrepreneurship; Jackson and Schneider (2010) document how social connections reduce moral hazard, Gompers, Mukharlyamov and Xuan (2012) find that venture capitalists make worse investment decisions when they share social traits; Burchardi and Hassan (2013) show that social connections influence economic growth.

is often argued that proximity between banks and firms mitigates informational problems (Petersen and Rajan 2002).[11] Our results suggest that proximity can be a double-edged sword, and that too much proximity may not always be desirable.

Finally, our paper contributes to the understanding of differences between state and private bank financing (La Porta, Lopez-de Silanes and Shleifer 2002; Sapienza 2004). Governments around the world are taking ownership of large parts of the banking system, and this public-sector involvement in the banking sector might potentially have considerable long-term effects on many countries.[12]

2 Institutional Background

2.1 Service Clubs in Germany

To identify social connections, we focus on membership information concerning an important service club organization in Germany. These clubs bring together members, all of whom are local business, professional, and political leaders. The service club organization is coordinated through a global headquarters in the U.S., but individual service club branches operate locally in almost every city or county in Germany. A local club branch has about 50 members on average. 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.

Members of the same club branch meet for lunch or dinner once a week to socialize. It is mandatory for each club member to attend the weekly meetings on a regular basis to retain membership.[13] While the stated objective of the service club is to raise funds for charitable work, having personal connections to other business leaders is often cited

[11] See also Mian (2006) and Fisman, Paravisini and Vig (2012).

[12] For theoretical evidence on this topic, see Krueger (1974) and Shleifer and Vishny (1993, 1994).

[13] Specifically, membership is withdrawn if a member misses four consecutive meetings or attends less than 50% of the meetings over a period of six months.

as an important membership perquisite. A particularity of the German branch network is the focus on the social position of new members to be selected. As stated on the official club website, an outstanding professional qualification as well as an excellent standing in society are the main criteria for new members to ensure that the network sustains its reputation as an elite network.

Our subsequent empirical analysis exploits entry of CEOs to branches as well as the formation of new club branches. The process for a new member to join a specific club branch is as follows: an existing member suggests a new candidate to the other members of a specific branch, who then decide by unanimous vote whether the candidate may join the branch. Since membership of the service club organization is considered very prestigious, most CEOs and bank directors accept membership invitations to a particular branch. Only one representative of a given profession or industry may be a member of a club branch, according to the 'one member per industry' rule. A candidate whose industry sector is already represented by an existing member may join once the existing member has been in the club for 15 years.[14] Therefore, in many cases the timing of the entry of new members depends on when the industry slot becomes available.[15]

There are also distinct rules that govern the formation of new club branches. The relevant district governor appoints a district extension committee, tasked with identifying communities that are currently without club branches or communities that have existing branches but would benefit from an additional branch. The communities must meet the population criteria requirement for chartering a new branch. For instance, each branch must have at least 25 businessmen or professionals from the local community. For communities that have existing branches, it is the extension committee's job to ensure that the establishment of an additional branch does not negatively affect existing branches.

[14]If a member reaches the age of 60 and has been a member of the club for at least 10 years, or reaches the age of 65 and has been a member for at least five years, a new member of his industry may join.

[15]The statutes of the service club organization describes the conditions under which a member may be expelled from a club branch. Non-payment of the annual membership fee, insufficient attendance in weekly meetings, inappropriate behavior are listed as grounds for dismissal. Membership may be canceled as a result of disciplinary action, but that requires a two-third majority vote by the other members.

2.2 The German Banking Sector

The German banking sector has a universal banking system that consists of 2,277 banks and nearly 40,000 bank branches.[16] One of the distinct features of the German banking sector is the so-called three-pillar structure, which refers to the three different types of legal ownership of German banks; state-owned banks (*Landesbanken* and *Sparkassen*), private banks, and credit cooperatives. The market shares of these different types of banks according to banking assets are 39% for private banks, 45.5% for state banks (which break down into 25% for local savings banks (*Sparkassen*), and 20.5% for Landesbanken), and 15.5% for cooperative banks.

While savings banks and cooperatives share a regional structure, private banks tend to have their headquarters in Frankfurt and operate subsidiaries throughout Germany. As a consequence, private banks tend to be large centralized institutions with a centralized risk management department located at the headquarters. At the local level, private banks have subsidiaries (in larger cities there is generally one main subsidiary that supervises further smaller subsidiaries) that are chaired by a bank director.

The structure of the state banking sector is the result of laws implemented at the beginning of the twentieth century and after the Second World War, which gave rise to a country-wide community savings banking sector (*Sparkassengesetz*). Savings banks are owned by local municipalities and controlled by local politicians who head the respective municipalities (the mayors of cities or the county administrators). Due to merger waves during the last decades, not every municipality has a savings bank. In his capacity as a chairman of the supervisory board, the mayor commands great influence over the loan-granting activity of the bank, especially for corporate loans. As a rule, decisions on large loans require approval by the credit committee (*Kreditausschuss*), which is often chaired by the mayor.

[16]Within Europe, Germany is among the countries with the highest number of credit institutions, branches, and bank employees; see ECB (2007) for details.

The regional principle requires savings banks to foster credit supply in the city/county in which they are located. The objectives of state banks, as laid down in the respective laws (e.g., *SpGNRW* and *SpGBW*), are manifold. Besides generating income for the local municipality that owns them, they include, e.g., ensuring the availability of credit to enterprises and communities, as well as facilitating individual savings. We account for potentially non-profit maximizing motives of state-owned banks in our empirical strategy.

German cooperative banks are organized in a similar way to state-owned banks. They have the same regional organization, but operate independent of the local government. Thus, the main difference between these two types of banks is their ownership structure. Cooperative banks are owned by private shareholders (referred to as members). Furthermore, if a bank encounters losses that are higher than its equity, shareholders are required to inject further capital (no limited liability).

Given the differences in organizational structure, private bankers in our sample are directors of a local bank subsidiary, while directors of public and cooperative banks are heads (CEOs) of local banks. The differences in organizational structure also suggest differences in the corporate governance. The governance of cooperative and private banks is very similar, since both types of banks are controlled by shareholders who benefit from higher profits. Savings banks, however, are controlled by the local politicians, and once a state-owned bank appoints a CEO, the position is generally kept until retirement. Within private banks, job rotation is frequent and successful directors tend to either take over larger branches or move to the bank's headquarters. Consequently, private banks are commonly considered to be better able to align their bankers' incentives with the bank's objective function as compared to state banks.

3 Empirical Strategy

In this section, we describe the empirical strategy employed in this paper to examine the effects of social connections between bankers and private firm CEOs in elite networks on the allocation of bank credit. Social connections through common club membership may mitigate market frictions, for example by reducing information asymmetries or providing social collateral. Alternatively, elite networks may provide an environment for favor exchanges among club members, leading to cronyism and rent-seeking. Both, benign and malign effects of social connections in elite networks, may induce more lending from banks to connected firms. We first introduce our empirical strategy to disentangle the impact of social connections on credit allocation from spurious selection concerns. Second, we present our empirical framework to identify the dominant mechanism underlying lending to socially connected firms.

3.1 Lending Volume

The challenge in identifying a direct effect of connections on credit allocation is that club membership is not random. Elite service clubs may choose CEOs and directors of the best-performing local firms and banks in the city that are likely to do business with each other irrespective of social connections in the network. In this case, it is hard to tell apart the effects of social connections on lending in the network from endogenous selection effects. In our main identification strategy, we exploit time-series variation in club membership from firm entry and club formations to separate the effect of connections from spurious effects of selection. This implies the following regression specification, similar in spirit to Khwaja and Mian (2008) and Jimenez, Ongena, Peydro and Saurina (2012):

$$log\left(loans\right)_{ijt} = \alpha_{jt} + \alpha_{ij} + \delta \cdot INGROUP_{ij} \cdot AFTER_{jt} + \epsilon_{ijt}. \quad (1)$$

where $loans_{ijt}$ is the total financing that firm j receives from bank i at time t. The parameter α_{jt} controls for time-series variation in firm j's demand for credit, for example if club membership generates new investment opportunities. The parameter α_{ij} controls for the average level of lending between bank i and firm j, and therefore ensures that we capture changes in lending for the same lending relationship. The variable $INGROUP_{ij}$ takes the value of one if the director of bank i and the CEO of firm j belong to the same club branch and zero otherwise, the indicator variable $AFTER_{jt}$ takes on the value of one from the year when firm j enters a club branch (or participates in a club branch formation), and zero otherwise. Our identification thus compares quarter-by-quarter the volume of loans granted by in-group banks and out-group banks to the *same* firm around the events. Since the estimation of equation (1) is by construction a test of changes in lending on the intensive margin, we additionally test whether connections also affect the extensive margin of lending by replacing the dependent variable with $new\ relationship_{ijt}$, the probability of a new lending relationship being established between bank i and firm j at time t.

To measure the combined effect of connections on lending decisions on the intensive and the extensive margins, we examine changes in the share of lending from in-group banks in total lending to firm j ($\left(\frac{INGROUP\ loans}{total\ loans}\right)_{jt}$). Estimating changes in in-group bank lending shares in total lending to a given firm further eliminates a potential upward bias when estimating δ in equation (1), if firms substitute borrowing from out-group to in-group banks (see Appendix B for a detailed illustration of this issue). We estimate the following specification:

$$\left(\frac{INGROUP\ loans}{total\ loans}\right)_{jt} = \alpha_t + \alpha_j + \delta \cdot AFTER_{jt} + \epsilon_{ijt}. \tag{2}$$

This specification on the firm-quarter level controls for firm-time fixed effects as any demand or general supply shocks to a given firm j should not affect the relative amount

of lending from in-group and out-group banks.[17]

The highly regulated procedures for club membership make it unlikely that club membership is precisely timed to coincide with time-series changes in firm quality such that club branches identify and invite the "stars" in the local economy. To further sharpen our analysis, we exploit the election of existing club members as mayors. In Germany, the mayor of a district often becomes the local state bank's supervisory board chairman. In his capacity as a chairman of the supervisory board, the mayor commands great influence over the loan-granting activity of the bank, especially for corporate loans.[18] So, while the elected candidate is always a member of the club branch, the degree of influence changes with the election. Importantly, the mayoral election is independent of time-series changes in the characteristics of firms that have been associated with the club for many years.

A potential concern with this test might be that a change in the proximity with the mayor also affects firms' demand for loans from the state bank. We therefore provide a placebo test by exploiting elections of an existing club member as a mayor where the newly elected mayor does not become head of the local state bank. Whether an elected mayor becomes the head of the local state bank's supervisory board depends on the relative size of the city to its surrounding county. If the county is relatively large, the county administrator generally becomes chairman of the supervisory board of the regional state bank. This allows us to separate the effect of connections to the local state bank from connections to the mayor.

[17]Firm-time fixed effects do not control for bank-specific changes in the demand for credit if common club membership were to affect demand for loans from the in-group bank differentially from demand for loans from other banks. Evidence on the profitability of connected lending discussed below allows us to further differentiate between demand and supply effects.

[18]Since savings banks are, on average, small institutions, large loans bear a particular risk for these banks. They therefore have a credit committee in place to approve loans. The chairman of the bank's supervisory board also chairs these credit committees.

3.2 Loan Performance

Changes in the supply of credit within the network are consistent with a benign view of social connections as reducing market frictions, such as information asymmetry, but also with a malign view of connections as facilitating rent-seeking. To disentangle these opposing views, we evaluate the profitability of credit allocated to in-group and out-group firms. We start from the assumption that banks seek to fund projects that yield them the highest (risk-adjusted) returns (we relax this assumption in Section). Risk-adjustment of returns with objective risk measures is problematic as contract terms may differ between in-group and out-group loans. In particular, while it is possible to control for explicit contract terms, connections may have an impact on implicit contract terms, for example by facilitating enforcement. Thus, to compare returns on in-group and out-group loans, we require an ex-post measure of returns that incorporates effects from differences in explicit as well as implicit contract terms. The realized return on loans (ROL) after interest payments, defaults, and recovery rates provides such an ex-post measure that takes into account all payments to the bank and offers an ideal metric to identify the mechanism at work. If the main motive for connected lending is to mitigate credit market frictions, one would expect banks to generate higher returns on in-group loans. In contrast, if bankers provide loans to in-group firms on the basis of favoritism, we expect returns on in-group loans to be lower.

To examine differences in loan performance, we calculate the return per euro invested on a loan made by bank i to firm j as follows:

$$ROL_{ij} \quad = \quad \sum_{t=1}^{T} \frac{\theta_t \cdot loan_{ijt}}{\sum_{t=1}^{T} \theta_t \cdot loan_{ijt}} \cdot \left[(1 - \mathbb{1}_{\{def=1\}}) \cdot r_{ijt} + \mathbb{1}_{\{def=1\}} \cdot (\kappa_{ijt} - 1) \right],$$

where $\theta_t \cdot loan_{ijt}$ is the outstanding loan from bank i to firm j at the beginning of period t discounted at the risk-free rate.[19] Accordingly, $\frac{\theta_t \cdot loan_{ijt}}{\sum_{t=1}^{T} \theta_t \cdot loan_{ijt}}$ is the fraction of the

[19]Since most of our analysis is cross-sectional, discounting has virtually no effect on our results.

discounted loan outstanding in the current period and the total volume of outstanding loans over the lending relationship from $t = 1$ to $t = T$. The indicator function $\mathbb{1}_{\{def=1\}}$ is one, if the firm defaults in the period between t and t+1, and zero otherwise. The interest rate charged by bank i for firm j is denoted by r_{ijt}; the recovery rate is denoted by κ_{ijt}.[20] Consequently, $(\kappa_{ijt} - 1)$ is the fraction of the loan forgone in the default period. The weighting is important, since loans tend to have higher outstanding amounts in the beginning, and often, if a loan defaults, a considerable fraction is already repaid.[21] Since a low ROL on small loans could be compensated for by high ROL on large loans, we also calculate the value-weighted returns on the portfolio of loans granted to in-group firms and out-group firms separately. The calculation is similar to the computation of relationship level ROL. The only difference is that, before weighting a bank's earnings over time, the value-weighted quarterly earnings are calculated from the bank's entire portfolio of loans.

We statistically examine the effect of social connections on banks' ROL by estimating:

$$ROL_{ij} = \alpha_i + \alpha_j + \beta \cdot INGROUP_{ij} + \epsilon_{ij}, \tag{3}$$

where subscript i indexes banks and j indexes firms. The variable ROL_{ij} measures the return on a loan given to firm j by bank i based on equation (3). The indicator variable $INGROUP_{ij}$ takes the value of one if the loan was originated by an in-group bank and zero if the loan was originated by an out-group bank. Firm fixed effects α_j allow us to compare the return earned by in-group and out-group banks from lending to the same firm.

[20] Interest rates can be obtained by matching the credit register with the financial statements (see online appendix for more details). The credit register reports the amount of quarterly write-downs in the event of default at the firm-bank relationship level. These write-downs allow us to compute the recovery rate of the loan.

[21] The calculation can be understood using a simple example. Suppose a bank lends 3 million euros to a firm in period t=0. The outstanding balance at t=1 is 2 million euros, and 1 million euros at t=2. Assume that the bank charges an interest rate of 5 percent in all periods. Further assume that the firm defaults in period t=2 and the recovery rate is 50 percent of the outstanding balance. Thus, the bank earns 5 percent on the 3 million euros in period t=0 and the 2 million euros at t=1, and -50 percent on the 1 million euros in period t=2. The resulting ROL is calculated as $\frac{5}{6} * 0.05 + \frac{1}{6} * (-0.50) = -0.0417$. While omitted here for simplicity, we discount outstanding loans with the risk-free rate.

Including bank fixed effects ensures that we compare returns on in-group and out-group loans for the same bank in the same city, thereby controlling for heterogeneity in bank quality and objective functions of state banks related to regional economic development. We also analyze differences in the individual components that enter the computation of ROL to examine the channel that drives differences in ROL between in-group and out-group loans. To ensure that differences in ROL are not inherent to specific firm-bank relationships, we further examine time-series changes in ROL around changes in connectedness between firms and banks from firm entry, club formations, and mayoral elections, similar to equation (1).

3.3 Banker Incentives and Bank Objectives

To sharpen the identification of the underlying mechanism, we exploit cross-sectional variation in bankers' incentives. Heterogeneity in bankers' age provides us with variation in career concerns that align bankers' incentives with the bank's objective function. If lending to in-group firms is mainly associated with benign effects of social connections, we expect that bankers with better aligned incentives would engage actively in connected lending. In contrast, if in-group lending is associated with rent-seeking, we expect that this behavior would be costlier for bankers subject to stronger career concerns, and therefore we expect them to engage to a lesser extent in related activities. Thus, comparing how social connections in the network affect credit allocation for bankers with different levels of incentives provides an indirect way to gauge the mechanism underlying credit allocation in elite networks.

Additionally, we exploit differences in local banking market competition. Competition forces firms to operate more efficiently, and to reduce unprofitable activities (Carlson and Mitchener 2009). Consistent with this evidence, Becker (1957) shows that competition reduces costly discrimination by forcing firms to abandon unprofitable practices. Thus, if in-group lending is unprofitable from banks' perspective, banks in competitive credit

markets for whom engaging in unprofitable projects is more costly should be less active in lending to connected firms. In contrast, if connected lending in the club is profitable for banks, we would expect banks in competitive markets to engage at least equally actively in connected lending.

This cross-sectional analysis addresses identification concerns related to the measurement of ROL and deviations in banks' objective function from profit maximization. To the extent that our ROL computation is subject to measurement error that is equal across bankers with different levels of incentives, the cross-sectional analysis cancels out such measurement error. Additionally, observing differences in bankers' behavior depending on their alignment with their bank's objective function allows us to relax the assumption underlying the ROL analysis that banks focus entirely on profit maximization.

Finally, since state banks may follow objectives that might be unrelated to profit maximization, and since weak governance does not provide its bankers with incentives from career concerns, we provide an alternative metric to evaluate credit allocation by state banks. Consider two borrowers with identical hard information, but differing in soft information content. A non-connected banker who has no soft information about the borrowers would give similar loan amounts to each of these borrowers (a pooled contract). On the other hand, a connected banker who has better information would be able to discriminate between the borrowers by giving a higher loan amount to the good borrower and a lower amount to the bad borrower, all else equal. Thus an increase in information would be captured in an increase in dispersion of lending decisions. Thus, comparing differences in the second moment of lending decisions to in-group and out-group firms allows us to assess whether bankers exploit their superior information on club members to improve lending decisions based on their objective function, or treat connected firms equally favorably, regardless of their assessed quality.

4 Data

4.1 Network Data

Our sample comprises the branches of a service club organization in Germany during the 1993 to 2015 period. Further details on the data collection are given in Appendix A. We gather membership information on all corporate CEOs and directors of bank branches for 429 clubs (Table 1, Panel A).[22] This provides data for 1733 CEOs whose firms are listed in the German credit register. We exclude firms (seven in total) which are listed on the German stock market index (DAX), since these are very large firms with many lending relationships. 841 of the 1733 firms enter an existing club during the sample period or participate in one of 91 new club formations.

The 1733 firms whose CEOs are club members take out loans from 1005 distinct banks. We define a bank as a club bank if the director of the bank or local bank branch is a member of a club branch. Private bankers in our sample are directors of a local bank branch, while directors of public and cooperative banks are heads (CEOs) of local banks. We identify 573 club bankers, 241 of whom are from private banks, 268 from a state bank, and 64 from cooperative banks.[23] During the sample period, 62 club members are elected as mayors, 36 of them become chairman of the local state bank upon election, whereas 26 mayors do not become head of the local state bank.

4.2 Loan and Financial Statement Data

We collect information on all individual lending relationships for our sample firms from 1993 to 2015 from the credit register at Deutsche Bundesbank that records loans of one

[22] A club branch is included in our sample if there is at least one CEO whose firm has taken out a bank loan that is recorded in the Bundesbank credit register.

[23] Some clubs have two bankers among their members, because some bankers have been connected to a club branch for more than 15 years and, thus, do not block the industry sector slot anymore.

million euro or more.[24] The credit register provides information on all German firms. We define a loan as an in-group loan if both the CEO of the firm and the bank director of the specific bank or bank branch are part of the same club branch. As shown in Table 1, Panel B, our sample contains 111,626 quarterly loan observations. The average loan amount is 9.01 million euros and the average aggregate quarterly loan amount per firm is 19.62 million euros. Firms have, on average, 4.13 distinct lending relationships over the entire sample period. The median firm has two lending relationships (64.04% of firms have at least two lending relationships).

We match loan-level data from the credit register with accounting information from the Deutsche Bundesbank's USTAN database from 1993 to 2013 (Stoess 2001).[25] This match yields a sample of 741 firms (12,474 firm-year observations). Panel B compares summary statistics on total assets, debt to assets, return on assets (ROA), and cash to assets for the sample to the entire population in the area where the clubs are located. While the average sample firm is somewhat larger than firms in the population, the median sample firm is about the same size as the median firm in the population. The average sample firm has slightly higher leverage and higher cash holdings compared to the average firm in the population, whereas profitability is about equal across both groups of firms.

Table 1, Panel C reports descriptive statistics on different aspects of loans for the full sample, and separately for in-group and out-group loans. On average, interest rates are 65 basis points lower for loans extended to in-group firms (6.55%) compared to loans extended to out-group firms (7.20%). Annualized default rates are substantially higher for in-group loans with 2.83%, compared to 0.56% for out-group loans. The average recovery rate once a loan defaults is 23.29% for in-group loans and 36.31% for out-group loans. When we compare the lending share of a bank's lending in total lending to a firm when the firm defaults relative to the same bank's lending share over the life cycle of the loan,

[24]For a description of the MiMiK credit register at Deutsche Bundesbank, please refer to Schmieder (2006).

[25]Since the USTAN data base is currently only available until 2013, we complement the information with accounting data from Amadeus for the years 2014 and 2015.

we find that in-group banks' exposure in default states is 9.34% higher than in non-default states, whereas for out-group banks exposure in default states is on average 7.93% lower. Finally, in-group loans yield a lower return with 3.73% compared to out-group loans with 8.53%. These descriptive statistics suggest that in-group banks are more exposed to firms in default states and generate lower returns, which is consistent with poor lending decisions made by in-group banks. In Section , we examine differences in returns on loans for in-group and out-group loans in more detail, to assess differences in loan outcomes in a systematic manner.

5 Empirical Results

5.1 The Impact of Social Connections on Lending Patterns

In this section, we investigate the impact of social connections between bankers and corporate CEOs on lending patterns. The estimates from specification (1) are reported in Columns I to VI of Table 2. To start with, we exploit firms' entry to a service club branch to generate variation in social connectedness. As outlined in Section , a new candidate may only join a club branch if the industry sector is not occupied by an existing member. This pre-specified rule provides us with arguably exogenous variation in the timing of firms' entry to the network. While we observe no increase in the quantity of lending to firms from out-group banks after they enter a club, lending from in-group banks increases significantly more by 32.70% (Column I). In Column II, we saturate the specification by adding firm-event fixed effects. Thus, we compare changes in lending from in-group and out-group banks for the same firm. The same firm borrowing from in-group and out-group banks experiences a 51.04% higher increase in lending from an in-group bank relative to lending from out-group banks. In Columns III to IV, we replicate the same analysis for firms that join a club branch through branch formation. The magnitudes for this event are slightly higher. The basic specification shows a relative increase in lending of 56.57%

for in-group banks compared to out-group banks (Column III), which gets stronger when we saturate the specification with firm-event fixed effects (Column IV).

We next turn to mayoral elections. Mayoral elections provide us with exogenous time-series variation in a member's ability to access and approve state bank funds. They thus allow us to identify changes in firms' borrowing structures in a setting free from concerns about time-series changes in firm characteristics. We find that lending by state banks increases by 48.60% relative to out-group banks after the election (Column V). Adding firm-event fixed effects makes the results even stronger (Column VI).

Columns VII to XII present the results on the extensive margin of lending. Specifically, we study whether social connections in the network increase the probability of forming of a new lending relationship. We replace the dependent variable by a dummy variable that takes the value of one if a relationship is formed between a firm and a bank, and zero otherwise. For this test, we treat every connection between a firm and each bank lending to at least one firm in the county as a potential relationship. For each firm-bank relationship, we collapse the information to one pre-event and one post-event observation.[26] We find that the probability of forming a relationship with an in-group bank is 14.85 percentage points higher after a firm joins a branch compared to an out-group bank, relative to the period before entry (Column VII). Saturating the specification with firm-event fixed effects leaves the results almost unaffected with 13.77 percentage points (Column VIII). The effect is similar for firms joining a club branch through branch formation with 10.47 and 8.05 percentage points (Columns IX and X). The increase in the likelihood of forming a new relationship with a state bank after the mayoral election is 16.62 percentage points higher than for out-group banks (Column XI), which changes to 14.00 percentage points when adding firm-event fixed effects (Column XII).

Table 3 depicts the results from the firm level analysis in specification (2). After firms

[26]While the pre-event and post-event periods may differ in length for a given relationship, this does not affect the parameter of interest since we compare differences in the probability of establishing a new relationship between in-group and out-group banks in the cross-section. The results are robust to using symmetric windows of 3, 5, or 10 years around the respective event.

enter a club, the share of in-group lending in total lending increases by 12.87 percentage points (Column I, Panel A). Similarly, firms that join a club through club formation experience an 11.50 percentage points increase in the share of lending from their in-group bank in total lending (Column II, A). While we find that firms experience an 11.62 percentage points increase in their lending share from the local state bank after a club member is elected as a mayor and becomes the head of the local state bank's supervisory board (Column I, B), we find no such change in state bank lending when a club member is elected as a mayor but does not become head of the local state bank (Column II, B). This suggests that connectedness to the mayor does not in itself affect state bank lending to in-group firms.

Next, we examine whether lending from in-group banks constitutes a substitution for credit from out-group banks or increases firms' total amount of credit, by exploring changes in total debt and leverage around the different events. We replace the dependent variable in specification (2) by the log of total firm borrowing per quarter. Total borrowing is, on average, 13.89 percent higher after firms enter a club branch, relative to the pre-entry period (Column III, A). The magnitude of the effect is similar for firms participating in a branch formation with 22.41% (Column IV, A). After the election of a club member as a mayor, firms experience a 28.55% increase in total debt when the mayor also becomes head of the local state bank (Column III, B), but experience no increase in total debt when the mayor does not become head of the local state bank (Column IV, B). Entry to a club branch results in leverage inceasing by 6.12 percentage points (Column V, A).[27] For firms that participate in the formation of a new branch, leverage increases by 9.14 percentage points (Column VI, A). After the election of a club member as mayor, firms experience an increase of 8.88 percentage points in leverage in cases where the mayor also becomes head of the local state bank (Column V, B). In cases where the mayor does not become head of the local state bank, firms experience no increase in leverage (Column

[27]We include the log of sales and the log of earnings before interest and taxes (EBIT) in the loans to assets regression. While the estimates for the coefficients of both control variables are significant, the coefficient of the loans to assets ratio is almost identical to the estimation without control variables.

VI, B).

To sharpen the evidence that club entry is not driven by pre-event trends in firm characteristics such that clubs invite CEOs of well-performing firms to a club branch, we depict the average share of credit that firms receive from their prospective in-group bank around branch entry in Figure A.1. We observe a sharp rise in the share of connected lending subsequent to entry from 13 to 22%. In addition, we find no evidence of pre-event trends. Similarly, when we plot the dynamics of the average share of credit from the local state bank in total lending to in-group firms around mayoral elections in Figure A.2, we observe a sharp rise in the share of state bank lending after the election from 15 to 24% and no evidence of pre-event trends.[28]

5.2 Differences in Returns on Loans

Next, we explore the mechanism underlying the increase in lending from banks to in-groups firms by examining differences in the returns on loans (ROL) made to in-group and out-group firms.[29] In Table 4, Panel A, we study differences in returns on in-group and out-group loans by estimating specification (3). We compare the findings to lending patterns of the main lenders of non-member firms who tend to be best informed about their borrowers as compared to other banks in Panel B.[30] This helps us to differentiate between effects from information advantages of in-group lenders (as we should also observe similar patterns for main lenders), and effects due to social connections between banks and firms in the network.

In Column I, we compare differences in ROL generated by the same bank to in-group

[28]We test for pre-treatment trends before any of the events more formally by including dummy variables that capture the dynamics of network borrowing before and after the respective event in specification (2) (see online appendix).

[29]The sample for this analysis is limited to firms for which all loan and accounting data required to compute the return on loans is available. In Appendix C, we document that the lending results apply to all subsamples used in the paper.

[30]The main lender is defined as the lender with the largest share in a firm's total borrowing four years before default.

firms and to firms that are members of a different club branch in the same city. The ROL on in-group loans is 4.37 percentage points higher than the return on out-group loans for the same bank. When comparing returns of in-group and out-group banks from lending to the same firm, we find that in-group banks generate a 2.73 percentage points lower ROL (Column II). Previous estimates compare average returns for in-group and out-group banks weighting each lending relationship equally. If in-group banks generate higher returns on large or long-term loans, this may compensate for lower returns on small and short-term loans. To examine whether this is the case, we calculate returns at the portfolio level. Specifically, for each bank we compute the return on a value weighted portfolio of all in-group loans as well as out-group loans separately. The same bank's in-group portfolio generates a return 3.49 percentage points lower than its out-group portfolio (Column III). This suggests that the results are not driven by low returns on small loans that are compensated for by high returns on larger loans. For main lenders in the population, we find no significant difference in ROL compared to non-main lenders (Columns I to III, Panel B).

To understand what drives the difference between in-group and out-group ROL, we decompose ROL into its components. The documented difference in ROL between in and out-group loans does not originate from differences in the pricing of loans. As shown in Column IV, interest rates charged by the same bank in the same year on in-group and out-group loans are not statistically different. Even when we compare differences in interest rates charged by in-group and out-group banks to the same firm at the same point in time, we do not find any differences between in-group and out-group loans (Column V). Similarly, interest rates for main lenders and non-main lenders in the population are no different (Panel B, Columns IV and V).

While we observe no significant differences in observable loan characteristics such as collateralization, social connections in elite networks may affect enforcement and monitoring. To examine whether this might generate differences in ROL, we look at differences

in recovery rates conditional on default and exposure to distressed firms for in-group and out-group loans in Columns VI and VII.[31] The number of cases in which an in-group and an out-group firm default on the same bank in the same city in the same year is limited. Thus, we report the results with firm-year fixed effects only. Upon examining recovery rates for in-group and out-group banks for the same firm, we observe no significant differences (Column VI). However, interestingly, the share of in-group bank lending in total bank lending to a given firm is 28.82% higher when the firm defaults compared to non-default states (Column VII). Strikingly, we find that main lenders in the population exploit their informational advantage to reduce their share in total lending to a firm in default states by 16.61% (Column VII, B). This suggests that banks are reluctant to liquidate in-group firms. This excess continuation (Kornai 1986) by bankers lending to in-group firms close to default is the underlying channel for the observed difference in in-group versus out-group ROL.

To corroborate the evidence on the channel underlying differences in ROL for in-group and out-group loans, we plot the share of in-group bank lending in total lending to firms in the four years before firms default in Figure A.3. The time-series evolution of in-group bank shares in the years before default confirms that in-group banks continue lending to ailing firms when out-group banks relatively contract lending. In-group bank shares increase particularly during the last two years before default. The increase is especially strong when the in-group bank is also the firm's main lender with an increase of about 10 percentage points in the two years before default (Panel A). When we examine the same effect for main lenders in the population of firms, we observe that main lenders reduce their exposure to ailing firms before default. This suggests that while main lenders in the population exploit their informational advantage to withdraw from lending to distressed firms, in-group banks do not exploit their informational advantage in the same way, but continue to lend to connected firms. This excess continuation constitutes a more disguised,

[31] Note that we do not observe any differences in the default rate for the same firm, since it is a standard clause in German loan contracts that a given loan is considered defaulted once a borrower defaults on any outstanding loan contract (so that strategic default is not possible).

harder to detect, form of preferential treatment, compared to changes in the price of credit.

Next, we examine whether differences in ROL are inherent to specific lending relationships, or whether ROL deteriorates after banks and firms become connected through common club membership. The results are gathered in Table 5. After firm CEOs enter a branch, in-group banks earn a 2.89 percentage points lower return when lending to the same firm, as compared to out-group banks, relative to the pre-event period (Column I). The estimate is similar with 2.80 percentage points once we control for bank fixed effects (Column II). When comparing the performance of value weighted loan portfolios, the relative decline of ROL on in-group loans is 2.01 percentage points (Column III). The effects are qualitatively identical for new branch formations (Columns IV to VI), and mayoral elections (Columns VII to IX).

All in all, across all the specifications, we robustly find that ROL on in-group loans is significantly lower than on out-group loans. While such a pattern is suggestive of rent-seeking behavior, the results in this section are not fully conclusive and may be driven by alternative mechanisms. In order to sharpen the interpretation of the results, we provide evidence on how cross-sectional variation in banker's incentives affects the relationship between social connections in an elite network and credit allocation in Section and we discuss alternative explanations in Section .

5.3 Heterogeneity in In-Group Lending

We exploit cross-sectional variation in bankers' incentives to obtain further insights about the underlying motives of credit allocation in the network. Better aligned incentives may keep favoritism and rent-seeking in check, thereby mitigating the malign effects of social connections in elite networks on credit allocation, while fostering benign effects of connections. Additionally, any identification concern that affects credit allocation in the elite network equally for bankers with different incentives is addressed by this cross-sectional analysis.

5.3.1 State vs. Private Banks

We split our sample based on bank ownership (state vs. private). Governance in state banks differs significantly from governance in private banks. While turnover rates for CEOs are extremely low in state banks and their position is generally kept until retirement, job rotation is frequent in private banks and successful directors tend to either take over larger branches or move to the bank's headquarters. Thus, private banks are better able to align bankers' incentives with the bank's objective function. We find that the relative increase in in-group lending compared to out-group lending after firms enter a club branch is 32.00 percentage points higher for state banks compared to private banks (Table 6, Columns I and II). Similarly, the difference in the probability of starting a new lending relationship with a firm entering a club branch for an in-group compared to an out-group bank is 7.44 percentage points higher for state banks (Columns III and IV). This suggests that state banks engage more actively in connected lending than private banks, both on the intensive and extensive margin. Additionally, we find that the wedge in ROL between in-group and out-group loans is significantly smaller for private than for state banks by 4.40 percentage points (Table 7, Columns I and II). The ROL on in-group loans by state owned banks are even lower when a mayor is among the club members (Columns III and IV). Since the mayor is the head of the supervisory board of the state bank, this finding is consistent with state bankers engaging more in rent-seeking behavior when the main supervisor of the bank is involved in the network.

5.3.2 Career Concerns

A large literature argues that career concerns are an important mechanism to align agents' incentives and to prevent moral hazard (e.g., Fama 1980; Holmstrom 1982; Gibbons and Murphy 1992). While younger bankers are subject to strong career concerns - bad performance has a significant impact on future promotion and compensation decisions, older bankers close to retirement are less concerned about the impact of bad performance

on future income. Thus, younger bankers' incentives are more aligned with the institution that they represent, in particular for private banks where compensation and promotion decisions are closely linked to performance.

In Table 6, Columns V to VIII, we modify specification (1) by interacting the right-hand side variables with the age of the banker at the time when the respective firm joins a club branch. We find that for older state bankers, the relative increase in in-group lending and the probability of establishing a new relationship after a firm joins a club branch are only slightly higher than for young bankers (Columns V and VII). This is consistent with the view that state banks' governance structure provides weak incentives to bankers due to a lack of career concerns. In contrast, for private banks, we find that young bankers are significantly less engaged in in-group lending, both on the intensive and extensive margin, compared to older bankers (Columns VI and VIII). This suggests that in-group lending is not optimal from a private bank's perspective, since young bankers for whom deviating from their institution's objective function is more costly engage less actively in connected lending. Note that the contraction of in-group lending for bankers whose incentives are better aligned with the institution that they represent provides strong evidence that in-group lending is not in the best interests of the bank, regardless of the objective function that the bank follows.

With respect to differences in ROL on in-group and out-group loans, we find no difference in the return wedge for young and old bankers in state banks (Table 7, Column V), but we find that the wedge becomes wider for old bankers with weaker incentives in private banks, by 0.13 percentage points per year of age (Column VI). This provides direct evidence that career concerns align private bankers' incentives with their bank's objective to maximize profits leading to a relative improvement in ROL on in-group loans, and shows that the reduction in in-group lending by young private bankers is driven by an effort to improve relative performance.

5.3.3 Competition

It is often argued that competition forces firms to operate more efficiently, and to reduce unprofitable activities (Syverson 2004). For example, Carlson and Mitchener (2009) document that banks in California responded to increased competition from the expansion of branch banking by reducing administrative costs and shifting their portfolios towards loans that earned higher returns. Consistent with this evidence, Becker (1957) argues that competition reduces costly discrimination by forcing firms to abandon unprofitable practices. The results in Table 6, Columns IX and X show that the relative increase in in-group lending after a firm enters a club branch is significantly higher in low competition areas than in high competition areas.[32] On the extensive margin, we do not find significant differences between high and low competition areas (Columns XI and XII). Thus, while competition does not significantly reduce the probability of bankers engaging in in-group lending, competitive pressures reduce the extent to which they do so. Consistent with the results on career concerns, these results suggest that in-group lending is costly for banks. With regards to loan performance, we observe that local banking competition reduces the return wedge between in-group and out-group loans by 4.15 percentage points (Table 7, Columns VII and VIII).[33] Thus, the reduction in in-group lending in competitive markets is driven by the abandonment of unprofitable activities that harm banks' returns.

All in all, the cross-sectional findings in this section suggest that aligning bankers' incentives may improve the balance between malign and benign effects of social connections in elite networks. This provides us with important policy implications. It suggests

[32]We construct measures of local banking market competition following Koetter, Podlich and Wedow (2016). For our main tests, we obtain accounting based price-cost margins as the ratio of interest revenues of interest bearing assets less interest expenses over interest bearing liabilities. In robustness tests, we calculate Lerner indices - the scaled difference between the average revenues realized by a bank and their marginal cost, where marginal cost of banks are estimated as the derivative of total operating cost with respect to outputs from a latent class stochastic cost frontier analysis and average revenues are defined as the ratio of total operating income over gross total assets (see Koetter et al. (2016) for more details). The results are qualitatively identical for both measures of banking market competition.

[33]One concern with the interpretation of these results might be that competition is correlated with whether club branches are located in larger cities or more rural areas. However, when we control for whether clubs are located in above median or below median size cities the results are virtually unaffected (see online appendix).

that while social connections in elite networks can be harmful to credit allocation, better alignment of incentives can mitigate ill effects of connections on lending, which could turn the net effect on lending positive if institutions are able to align the incentives of their agents sufficiently.

6 Alternative Explanations and Additional Results

The broad array of results provides support for the view that banks engage in preferential lending to in-group firms. In this section, we discuss alternative explanations and provide additional results.

6.1 State Banks' Objective Function

A substantial fraction of in-group bankers are state bankers who may follow a different objective function (e.g., to promote regional economic development and employment) that might be unrelated to ROL. To address this concern, we provide an alternative metric to evaluate credit allocation of banks. Consider two borrowers with identical hard information, but differing in soft information content. A non-connected banker who has no soft information about the borrowers would give similar loan amounts to each of these borrowers (a pooled contract). On the other hand, a connected banker who has better information would be able to discriminate between the borrowers by giving a higher loan amount to the good borrower and a lower amount to the bad borrower, all else equal. Thus an increase in information would be captured in an increase in dispersion of lending decisions. Thus, comparing differences in the second moment of lending decisions to in-group and out-group firms allows us to assess whether bankers exploit their superior information on club members to improve lending decisions based on their objective function, or treat connected firms equally favorably, regardless of their assessed quality.

Figure A.4 plots the distribution of changes in the volume of loans allocated to firms after they join a club for in-group banks (black line) and out-group banks (gray line). We define the change in lending as the log of total credit volume allocated by a given bank to a given firms after the firm joins a club branch divided by the number of years after entry, minus the log of total credit volume allocated from a given bank to a given firms before the firm joins a club branch divided by the number of years before entry.[34] The distribution of out-group bank lending decisions is centered around zero with some firms receiving more loans and some firms receiving less loans after joining a club branch. In contrast, in-group banks provide more lending to firms that join a club branch more indiscriminately (the variance in changes in lending to firms joining a club is significantly lower for in-group banks, Levene test: 0.0166).[35] The difference in variance is statistically significant for private banks (Levene test: 0.0329), and state banks (Levene test: 0.0095). This suggests that in-group banks do not exploit their superior information inside the club to extend lending to firms they consider as "good" borrowers according to their objective function and contract lending to "bad" borrowers. Thus, while we cannot observe state banks' objective function, the differences in the second moment show that in-group lending is not based on the discrimination of in-group borrowers based on these banks' objective function.

Figures A.5 and A.6 show that the difference in dispersion of lending decisions is particularly strong for old bankers with weak career concerns (Figures A.5, right Panel) and in low competition areas where preferential treatment is less costly for banks (Figures A.6, right Panel) (Levene test: 0.0512 and 0.0077). For young bankers and in high competition areas the difference in dispersion between in-group and out-group lending decisions is not statistically significant (Levene test: 0.1704 and 0.1017). This strengthens the evidence that in-group lending is not driven by better information on borrowers inside

[34]Note that this difference is only defined for firm-bank relationships that exist before and after entry. We verify that the results are not driven by differences in loan determination rates which are not higher for in-group banks.

[35]We also find that in-group banks are less likely to end a relationship with a firm that enters their club branch.

the network.

6.2 Return on Loans Measure

It could be that our measure of ROL does not capture important aspects of banks' costs and profits. For example, screening and monitoring costs might be lower for in-group lending, or banks may generate other profits from lending relationships with in-group firms like fees from cross-selling of other products. However, if after taking into account unobserved costs and profits, true ROL was higher for in-group loans, we should see that bankers with high-powered incentives actively engage in connected lending. Instead, we find that bankers with stronger incentives and banks whose objective function is more closely aligned with profit maximization engage less in in-group lending. This suggests that in-group lending is not profitable from the banks' perspective even after taking into account unobservable costs and profits.

Additionally, the lower engagement of young private bankers whose incentives are better aligned with the institution that they represent in in-group lending provides strong evidence that in-group lending is not optimal from the perspective of banks, regardless of the objective function that the banks follow. If in-group lending was optimal from private banks' perspective based on the objective function they follow, we should not see that young bankers whose incentives are better aligned with the banks' objective function participate less in connected lending in the network.

6.3 Funding Constraints

If banks are not liquidity constrained or have no profitable outside investment opportunities, in-group lending might constitute positive NPV investment from the banks' perspective even if the returns on in-group loans are significantly lower than returns on out-group loans as documented in Table 4. However, several pieces of evidence suggest that in-group

lending does not constitute positive NPV investment from banks' perspective.

First, while we do not observe outside opportunities, the risk-free rate is a lower bound for banks' investment opportunities. In Table 8, we show average returns on in-group and out-group loans in Panel A, and returns over the risk-free rate in Panel B. We find that several groups of banks generate returns on in-group loans that are lower than the risk-free rate. Returns on in-group loans are 2.18 percentage points lower than the risk-free rate for state banks (Column III, Panel B). While we find that old bankers (50 years of age and over) do not generate lower returns on out-group loans than younger bankers (Columns IV to VII), old bankers generate returns 3.07 percentage points below the risk-free rate on in-group loans (Column VI, B). Even for the subset of private bankers, returns on in-group loans are 1.28 percentage points below the risk-free rate for old bankers with weak career concerns (Column VII, B). Additionally, returns on in-group loans are 1.88 percentage points below the risk-free rate in areas with low local banking competition (Column IX, B). Even in the absence of funding constraint, returns below the risk-free rate constitute negative NPV investment from the perspective of a bank. Second, if connected lending in elite networks was optimal from a bank's perspective, bankers whose incentives are well aligned should more actively engage in in-group lending. Instead, we find that bankers with better aligned incentives (private banks, banks in competitive markets) engage less actively in in-group lending in Table 6. This suggests that connected lending in elite networks is costly for bankers with strong incentives, which is consistent with in-group lending not being optimal from the banks' perspective.

6.4 Financial Crisis

Our sample period includes the financial crisis period. While the financial crisis affected the corporate sector relatively less than in other European economies and our sample spans 22 years of data, it is possible that low returns during the crisis period could affect our results. However, our results are virtually unaffected by excluding the financial crisis

period from the third quarter of 2007 to the second quarter of 2009, both in terms of the relative magnitude of in-group and out-group lending (see online appendix).

6.5 Deployment of Funds

In this section, we examine whether connected firms use the additional financing they receive from in-group banks to make profitable investments.[36] To investigate the deployment of funds, we substitute the dependent variable in specification (2) with investment to assets, where investment is measured by capital expenditure.[37] The results are gathered in Table 9. We find that, while entry to a club branch leads to an increase in credit, it does not result in an increase in firms' investment (Column II). In contrast, we observe that firms' investment to asset ratio falls after firms enter a club (Column I). When we further investigate the usage of the additional funds, we find that firms use the extra money from in-group banks to increase their liquidity position and pay out more funds to the owners. Firms increase their cash holdings to assets by 1.69 percentage points (Column III) and increase the fraction of profits that they pay out to shareholders by 2.29 percentage points (Column IV). Since most of the sample firms are SMEs, the CEO is often the owner of the firm. Thus, paying out dividends to shareholders typically means that CEOs pay out funds into their own pockets.

The increase in the payout ratio, rather than using the funds for additional investment, leads to an increase in firms' leverage. After entry to a club branch, firms' loans to assets ratio increases by 6.12 percentage points (Column V). Moreover, we find that firms' profitability is virtually unaffected by entry to a club branch, further reducing concerns about club membership being related to changes in firm quality (Column VI). We further find no significant changes in employment (Column VII) and a decrease in working capital scaled by total assets (Column VIII). The results in this section suggest that bankers

[36]The sample for this analysis is limited to firms for which accounting data is available.

[37]Since we can only obtain balance sheet information for a subset of firms from the USTAN database, the sample is limited to 741 firms, compared with the 1733 firms in the full sample.

transfer funds to fellow club members who pocket the money rather than using it for profitable investment. This diversion of capital from the banking sector may reduce the available capital for profitable investment projects in the economy.

7 Conclusion

In this paper, we uncover a dark side of elite networks. Using a unique micro-level dataset on an elite network, we observe a misallocation of credit within this network. Our results paint a picture of preferential treatment by connected bankers, in particular for bankers whose incentives are not well aligned with the institution that they represent. While the theory of second-best (Lipsey and Lancaster 1956) cautions us not to make claims on total welfare, our analysis provides evidence that is consistent with the inefficient allocation of resources in elite networks.[38] From the perspective of the bank, at least, the allocation of funds does not seem economically efficient, with banks generating significantly lower returns on in-group lending. Moreover, we find that firms do not use the extra financing that they receive to make new investments, but instead to pay out funds to the owners.

Overall, our results suggest that rent-seeking and corruption are not just a developing world phenomenon, but are also present in a developed economy with strong institutions and a well-developed banking sector such as Germany. The channel through which rent-seeking occurs is subtle and sophisticated (rather than outright bribes), making it difficult to detect. In our setting, banks do not charge different prices on loans to connected firms, but transfer funds to connected firms through excessive continuation (Kornai 1986).

Our results contribute to the debate on the positive and negative effects of social capital. In an insightful and thought-provoking book, entitled "Bowling Alone: The Collapse and the Revival of American Community", Putnam (2000) offers important

[38]To be precise, we want to highlight that we identify rent-seeking in one prominent elite network. While we have no reason to believe that such an effect would not be pervasive across other elite networks, we exercise caution in generalizing the results to all elite networks.

revelations about the declining trend of social engagement in American society. The advent of IT, the proliferation of mass media, changes in family structures, increased mobility, and increased pressures on time and money have all contributed to the changes in patterns of social engagement across the globe. Interestingly, during the same time period that is studied by Putnam, our elite service club organization has bucked this trend and continued to flourish.

According to Putnam, the persistence and growth of these service clubs appears to be a positive development in light of the secular decline in other forms of social engagement. Our findings, however, caution against an overly optimistic view of elite clubs. In fact, the elite clubs that we examine bear a strong resemblance to extractive institutions (Olson 1982 and Acemoglu and Robinson 2012) institutions created by elites to further their interests, at the expense of wider society. Given the importance of this topic, further investigation is of course required.

Appendix A. Data collection of service club members

This appendix describes the construction of the dataset on service club members. Many of these service club branches provide their entire membership section on their website. Other service club branches only provide the names of current members and the official function within the branch (e.g. president, vice-president, treasury), as well as the names of members who had an official function in the past. Since the branches tend to be small (on average 50 members) and we are only interested in members who are either a firm's CEO or a bank director, we obtain most member names using this search strategy. We complete our sample by interviewing club members from our sample region.

Membership information includes an entrance date, as well as information on the member's profession. If the information regarding a member's profession is incomplete, we update our sample using internet research. Names of CEOs of limited liability and public firms can be obtained through the federal German corporate register (*elektronischer Bundesanzeiger*).[39] We also use the latter source to identify whether the firms in the service clubs filed for bankruptcy during our sample period. All sample banks list their regional directors on each bank's website.

Appendix B. Estimation Bias and Club Shares

The estimation of δ in equation 1 might be biased upwards if firms substitute borrowing from in-group banks for borrowing from out-group banks. Consider two banks, i and i', where i is the in-group bank and i' is the out-group bank, both providing external financing to firm j. Assume that the perturbation in the degree of social connectedness, say by the entry event, generates a positive supply-side effect (Δ_1) from the in-group bank. This supply-side effect could come, for example, from a lower cost of financing as

[39] https://www.ebundesanzeiger.de

result of lower asymmetric information. A lower cost of financing would lead to more club financing, but also to less outside financing (outside financing is now relatively more expensive). Such a substitution effect, if present, is denoted by (Δ_2). This gives us the following system of equations:

$$\begin{aligned} q_{ijt} = &\quad \gamma_{it} + \gamma_{jt} + \gamma_{ij} + \Delta_1 \cdot AFTER_{jt} + \epsilon_{ijt} \\ q_{i'jt} = &\quad \gamma_{i't} + \gamma_{jt} + \gamma_{i'j} - \Delta_2 \cdot AFTER_{jt} + \epsilon_{i'jt}. \end{aligned} \tag{B.1}$$

Differencing the equations in (B.1) leads to: $q_{ijt} - q_{i'jt} = \gamma_{it} - \gamma_{i't} + \gamma_{ij} - \gamma_{i'j} + [\Delta_1 + \Delta_2] \cdot AFTER_{jt} + \epsilon_{ijt} - \epsilon_{i'jt}$, which can be empirically estimated in the regression framework:

$$\Delta q_{jt} \quad = \quad \gamma_{it} - \gamma_{i't} + \gamma_{ij} - \gamma_{i'j} + [\Delta_1 + \Delta_2] \cdot AFTER_{jt} + \epsilon_{ijt} - \epsilon_{i'jt} \tag{B.2}$$

It can be seen from equation (B.2) that estimation in differences may generate an upward bias in the coefficient of interest. Substitution of loans by firms from out-group to in-group banks would bias the estimated coefficient Δ upwards, the network effect is $\Delta_1 + \Delta_2$ instead of Δ_1. To deal with this bias, we transform the left-hand side variable to a firm's share of loans from its in-group bank to its total loans (henceforth, in-group bank share).

Shares of inside (i) and outside (i') banks are given by:

$$\begin{aligned} \frac{q_{ijt}}{\sum_i q_{ijt}} = &\quad \alpha_{jt} + \alpha_{it} + \alpha_{ij} + \delta \cdot AFTER_{jt} + \epsilon_{ijt} \\ \frac{q_{i'jt}}{\sum_i q_{ijt}} = &\quad \alpha_{jt} + \alpha_{i't} + \alpha_{i'j} - \delta \cdot AFTER_{jt} + \epsilon_{i'jt} \end{aligned} \tag{B.3}$$

Differencing equations in (B.3) we get:

$$\frac{q_{ijt}}{\sum_i q_{ijt}} = \frac{1}{2} + \frac{\alpha_{it} - \alpha_{i't}}{2} + \underbrace{\frac{\alpha_{ij} - \alpha_{i'j}}{2}}_{\beta_j} + \delta \cdot AFTER_{jt} + \underbrace{\frac{\epsilon_{ijt} - \epsilon_{i'jt}}{2}}_{\epsilon_{jt}} \tag{B.4}$$

Since computing in-group banks' shares collapses the relationship-specific information from the two equations in (B.3) into one firm-level observation, this simplifies to:

$$\frac{q_{ijt}}{\sum_i q_{ijt}} = \beta + \beta_j + \delta \cdot AFTER_{jt} + \epsilon_{jt} \tag{B.5}$$

where the dependent variable is the share of the financing provided by the in-group bank.

Appendix C. Subsamples

In this appendix, we replicate the lending results for different subsamples. This is done to ensure that sample selection is not generating spurious results. As can be seen, the lending results are quite robust. They hold for the sample of firms that can be matched to the USTAN database and the sub-sample of firms for which we can compute the return on loan measure. Additionally, we provide descriptives statistics to compare the different subsamples to allow for the comparability of these different samples that are employed in our paper.

We estimate equation (1) for the sample of firms for which accounting data is not available (unmatched firms), the sample of firms for which accounting data is available (matched firms), and the sample of firms for which we can compute the return on loans (ROL). We find that the relative increase in in-group lending for existing relationships is strongest in magnitude for the sample of unmatched firms (Table A.1, Column I), but also highly significant across the other samples (Columns II to III). Similarly, we find

a significant relative increase in the probability of establishing a new relationship with an in-group bank for all subsamples (Columns IV to VI). The evidence from Table A.1 suggests that the results in the paper hold robustly across all subsamples used for the empirical analysis. If anything, the results on the usage of funds and the return on loans for the matched sample seem to be conservative estimates considering that our main lending results are strongest for the unmatched sample.

Table A.2 provides descriptive statistics on financial data which is the only data that is available for all subsamples. The sample of unmatched firms and the sample of firms for which the return on loan measure can be computed are very similar in terms of the average loan size and the number of lending relationships over the full sample period. Firms for which accounting data is available are on average larger firms with more lending relationships. This is consistent with the fact that accounting data in the USTAN database is more likely to be available for larger firms.

Table A1: Bank Lending and Firm Borrowing Channel - Different Samples

	I	II	III	IV	V	VI
	Intensive Margin			Extensive Margin		
Dep. var.:	$log(Loans)_{ijt}$			$New\ relationship_{ijt}$		
	Unmatched	Matched	ROL Sample	Unmatched	Matched	ROL Sample
$AFTER_{jt}$	-0.1940***	-0.0626	-0.1370	0.0011	0.0118*	0.0060**
	[0.0733]	[0.0652]	[0.0886]	[0.0027]	[0.0064]	[0.0025]
$INGROUP_{ij}$				0.0619***	0.1197***	0.1070***
				[0.0134]	[0.0220]	[0.0284]
$AFTER_{jt} * INGROUP_{ij}$	0.5188***	0.3355***	0.2801**	0.1914***	0.0966***	0.1490***
	[0.1481]	[0.1302]	[0.1275]	[0.0263]	[0.0353]	[0.0485]
Quarter FE	yes	yes	yes	no	no	no
Firm FE	no	no	no	yes	yes	yes
Firm-Bank FE	yes	yes	yes	no	no	no
Clustered SE	club	club	club	club	club	club
Observations	42962	68664	31228	46710	45360	25555
R-squared	0.714	0.736	0.703	0.129	0.189	0.124

In this table the dependent variable in columns I to III is the log of bank i's loans to firm j. In columns IV to VI the dependent variable is a dummy variable that is one if bank i and firm j start a new lending relationship and zero otherwise. In columns IV to VI, there are two observations per firm-bank relationship, one for the period before club entry and for the period after entry. Accordingly, the samples for this test are restricted to firms that are subject to club entry. In this test for each firm j, each bank that provides a loan to at least one firm in the city in which firm j's club is located is considered as a potential lending relationship for firm j. The dummy variable $AFTER_{jt}$ takes the value of one from the year when firm j joins a club branch and zero otherwise. The dummy variable $INGROUP_{ij}$ takes the value of one if bank i is in-group bank to firm j, and zero otherwise. In columns labeled "Unmatched" the the sample is limited to the firms for which accounting data is unavailable, in columns labeled "Matched" the sample is limited to the firms for which accounting data is available, and in columns labeled "ROL Sample", the sample is limited to firms for which the ROL measure can be computed. The bottom of the table depicts information on the fixed effects included. Standard errors are corrected for clustering at the club branch level. We report standard errors in parentheses. ***, **, and * indicate statistical difference from zero at the 1%, 5%, and the 10% level respectively.

Table A2: Descriptive Statistics Subsamples

Loan Level Data	Mean	Median	Std.	Obs.
Unmatched				
Loan amount - loan level (thousand euro)	6,708	3,549	11,745	42,962
Loan amount - firm level (thousand euro)	11,467	4,411	38,569	25,130
Lending relationships per firm (sample period)	2.95	2.00	4.53	992
Matched				
Loan amount - loan level (thousand euro)	10,453	4,750	34,869	68,664
Loan amount - firm level (thousand euro)	27,453	7,591	96,950	27,453
Lending relationships per firm (sample period)	5.70	3.00	8.89	741
ROL Sample				
Loan amount - loan level (thousand euro)	5,672	3,324	7,257	31,228
Loan amount - firm level (thousand euro)	9,252	4,880	14,227	19,145
Lending relationships per firm (sample period)	3.43	3.00	2.89	439

This table provides information on loan data from the Bundesbank credit register for different subsamples. The "Unmatched" sample is limited to the firms for which accounting data is unavailable, the "Matched" sample includes all firms for which accounting data is available, and the "ROL Sample" is the sample of firms for which the ROL measure can be computed.
Source: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

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Table 1: Descriptive Statistics

Panel A: Network Data				
No. of club branches	429			
No. of CEOs within club branches	1,733			
No. of club branch entries by CEOs	841			
No. of club branch formations	91			
No. of banks	1005			
No. of in-group banks	573			
No. of private in-group banks	241			
No. of public in-group banks	268			
No. of cooperative in-group banks	64			
No. of club members being elected mayor and becoming chairman of local state bank	36			
No. of club members being elected mayor not becoming chairman of local state bank	26			
Panel B: Loan & Firm Level Data	**Mean**	**Median**	**Std.**	**Obs.**
Loan Data (based on 1,733 firms):				
Loan amount - loan level (thousand euro)	9,011	4,147	28,360	111,626
Loan amount - firm level (thousand euro)	19,618	5,690	74,736	51,273
Lending relationships per firm (sample period)	4.13	2.00	6.88	1,733
Firm Data (based on 741 firms):				
Total assets (thousand euro)				
Sample	161,697	7,227	341,353	12,474
Population	90,120	8,434	135,362	305,559
Debt/assets				
Sample	0.2682	0.2026	0.2331	12,474
Population	0.2459	0.2039	0.2087	305,559
ROA				
Sample	0.0733	0.0614	0.0974	12,474
Population	0.0745	0.0587	0.1003	305,559
Cash/assets				
Sample	0.0854	0.0476	0.0919	12,474
Population	0.0525	0.0176	0.0869	305,559
Panel C: Return on Loans	**Mean**	**Median**	**Std.**	**Obs.**
Interest rates :				
All loans	0.0699	0.0678	0.0197	8805
in-group loans	0.0655	0.0590	0.0188	2811
out-group loans	0.0720	0.0739	0.0197	5994
Default rates :				
All loans	0.0113	0.0000	0.0788	1005
in-group loans	0.0283	0.0000	0.1341	253
out-group loans	0.0056	0.0000	0.0461	752
Recovery rates :				
All loans	0.3180	0.2741	0.3045	153
in-group loans	0.2329	0.1717	0.2201	53
out-group loans	0.3631	0.3546	0.3308	100
Relative Exposure in Default :				
All loans	-0.0172	0.0000	0.5105	320
in-group loans	0.0934	0.0000	0.5242	115
out-group loans	-0.0793	-0.0981	0.4932	205
Return on Loans :				
All loans	0.0732	0.0694	0.0867	1005
in-group loans	0.0373	0.0550	0.1399	253
out-group loans	0.0853	0.0745	0.0540	752

Panel A depicts the data on social club branches. The top part of Panel B provides information on loan data from the Bundesbank credit register, the bottom part shows accounting data for sample firms and the population of non-sample firms from the Bundesbank USTAN database. Panel C depicts data on the components required for the computation of returns on loans, which comprises interest rates, default rates, recovery rates conditional on default, the difference in the share that a bank has in a firms total lending in default states compared to non-default states, and the return on loans, separately for in-group and out-group loans.

Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 2: Bank Lending and Firm Borrowing Channel

Dep. var.:	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	$log(Loans)_{ijt}$						$New\ relationship_{ijt}$					
	Entry		Formation		Mayoral Election		Entry		Formation		Mayoral Election	
$AFTER_{jt}$	-0.0858*		0.0342		0.0933		0.0064*		0.0138*		-0.0041	
	[0.0519]		[0.1212]		[0.1013]		[0.0034]		[0.0071]		[0.0049]	
$INGROUP_{ij}$							0.0880***	0.0936***	0.2539***	0.2583***	-0.0082	-0.0068
							[0.0122]	[0.0122]	[0.0158]	[0.0156]	[0.0051]	[0.0048]
$AFTER_{jt} * INGROUP_{ij}$	0.3720***	0.5104***	0.5657**	0.8737***	0.4860***	0.7352***	0.1485***	0.1377***	0.1047**	0.0805*	0.1662**	0.1400**
	[0.0999]	[0.1485]	[0.2715]	[0.3351]	[0.1144]	[0.1159]	[0.0208]	[0.0211]	[0.0418]	[0.0427]	[0.0791]	[0.0714]
Quarter FE	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no
Firm FE	no	no	no	no	no	no	yes	yes	yes	yes	yes	yes
Firm-Bank FE	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no
Firm-After FE	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Clustered SE	club	club	club	club	club	club	club	club	club	club	club	club
Observations	111626	111626	111626	111626	111626	111626	92070	92070	56586	56586	18688	18688
R-squared	0.732	0.745	0.732	0.734	0.733	0.735	0.170	0.251	0.306	0.324	0.078	0.138

This table displays the results from estimating equation (1). The dependent variable in columns I to VI is the log of bank i's loans to firm j. In columns VII to XII the dependent variable is a dummy variable that is one if bank i and firm j start a new lending relationship and zero otherwise. In columns VII to XII, there are two observations per firm-bank relationship; one for the period before the event and one for the period after the event. Accordingly, the samples for this test are restricted to firms that are subject to the respective event during the sample period. In this test for each firm j, each bank that provides a loan to at least one firm in the city in which firm j's club is located is considered as a potential lending relationship for firm j. The dummy variable $AFTER_{jt}$ takes the value of one from the year when firm j joins a club branch and zero otherwise in columns labeled "Entry", the value of one from the year when firm j joins a branch through formation in columns labeled "Formation", and the value of one after an existing club branch member is elected as mayor, and zero otherwise in columns labeled "Mayoral Election". The dummy variable $INGROUP_{ij}$ takes the value of one if bank i is an in-group bank to firm j, and zero otherwise. In columns labeled "Mayoral Election" the in-group bank is the local state bank in which the elected mayor becomes the head of the supervisory board. The bottom of the table depicts information on the fixed effects included. Standard errors are corrected for clustering at the club branch level. We report standard errors in parentheses. ***, **, and * indicate statistical difference from zero at the 1%, 5%, and the 10% levels respectively.
Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Table 3: Events - Firm Level Analysis

Panel A: Entry and Formations	I	II	III	IV	V	VI
Dep. Var.:	$\left(\frac{In-group\ bank\ loans}{Total\ firm\ loans}\right)_{jt}$		$log\,(Debt)_{jt}$		$\left(\frac{Debt}{Assets}\right)_{jt}$	
	Entry	Formation	Entry	Formation	Entry	Formation
$AFTER_{jt}$	0.1287***	0.1150***	0.1389**	0.2241***	0.0612***	0.0914**
	[0.0219]	[0.0535]	[0.0623]	[0.0771]	[0.0164]	[0.0356]
Quarter FE	yes	yes	yes	yes	no	no
Year FE	no	no	no	no	yes	yes
Firm FE	yes	yes	yes	yes	yes	yes
Clustered SE	club	club	club	club	club	club
Observations	51273	51273	51273	51273	7496	7496
R-squared	0.754	0.751	0.742	0.742	0.731	0.730
Panel B: Mayoral Elections	I	II	III	IV	V	VI
Dep. Var.:	$\left(\frac{State\ bank\ loans}{Total\ firm\ loans}\right)_{jt}$		$log(Debt)_{jt}$		$\left(\frac{Debt}{Assets}\right)_{jt}$	
$AFTER_{jt}$	0.1162**	-0.0288	0.2855***	-0.0448	0.0888**	0.0008
	[0.0516]	[0.0344]	[0.0775]	[0.0927]	[0.0381]	[0.0217]
Mayor on Supervisory Board	yes	no	yes	no	yes	no
Quarter FE	yes	yes	yes	yes	no	no
Year FE	no	no	no	no	yes	yes
Firm FE	yes	yes	yes	yes	yes	yes
Clustered SE	club	club	club	club	club	club
Difference	0.1450		0.3303		0.0880	
(p-value)	0.0279		0.0053		0.0282	
Observations	51273	51273	51273	51273	7496	7496
R-squared	0.852	0.851	0.742	0.742	0.730	0.729

The dependent variable in this table is firm j's loans from its in-group bank divided by firm j's total loans in columns I and II. In columns III and IV the dependent variable is the log of firm j's total loans, in columns V and VI it is firm j's loans to assets ratio. In columns V and VI the sample is limited to firms for which accounting data is available and the data is annual. In Panel A, the variable $AFTER_{jt}$ is a dummy variable taking the value of one from the year when firm j enters a club branch, and zero otherwise in columns labeled 'Entry', and one from the year when firm j joins a club branch through formation and zero otherwise in columns labeled 'Formation'. In Panel B, the variable $AFTER_{jt}$ is a dummy variable taking the value of one from the year when an existing member is elected as mayor and becomes head of the local state bank's supervisory board, and zero otherwise in odd columns, and one from the year when an existing member is elected mayor and does not head of the local state bank's supervisory board, and zero otherwise in even columns. Panel B additionally depicts p-values for the difference in the estimates between odd and even columns. Information on fixed effect is provided at the bottom of each Panel. Standard errors correct for clustering at the club branch level. Standard errors are reported in parentheses. ***, and ** indicate statistical difference from zero at the 1%, and the 5% levels respectively.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 4: Returns on Loans - Components

Dep. Var.:	I	II	III	IV	V	VI	VII
	ROL_{ij}		ROL_{ip}	IR_{ijt}		$recovery\ rate_{ijt}$	$\left(\frac{Bank\ Share_{def}}{Bank\ Share_{nodef}}-1\right)_{ij}$
$INGROUP_{ij}$	-0.0437***	-0.0273***	-0.0349***	-0.0037	-0.0043	-0.0547	0.2882**
	[0.0096]	[0.0062]	[0.0065]	[0.0030]	[0.0032]	[0.1579]	[0.1311]
Firm FE	no	yes	no	no	-	-	-
Firm-Year FE	-	-	-	no	yes	yes	yes
Bank FE	yes	no	yes	-	no	no	no
Bank-Year FE	no	no	no	yes	no	no	no
Clustered SE	club	club	club	club	club	club	club
Observations	1005	1005	514	8805	8805	153	320
R-squared	0.328	0.862	0.831	0.669	0.772	0.909	0.570

Dep. Var.:	I	II	III	IV	V	VI	VII
	ROL_{ij}		ROL_{ip}	IR_{ijt}		$recovery\ rate_{ijt}$	$\left(\frac{Bank\ Share_{def}}{Bank\ Share_{nodef}}-1\right)_{ij}$
$MAIN\ LENDER_{ij}$	0.0044	-0.0062	-0.0016	0.0025	-0.0038	-0.0273	-0.1661***
	[0.0053]	[0.0067]	[0.0014]	[0.0043]	[0.0075]	[0.3089]	[0.0187]
Firm FE	no	yes	no	no	-	-	-
Firm-Year FE	-	-	-	no	yes	yes	yes
Bank FE	yes	no	yes	-	no	no	no
Bank-Year FE	no	no	no	yes	no	no	no
Clustered SE	bank	bank	bank	bank	bank	bank	bank
Observations	16156	16156	2063	86742	86742	640	14481
R-squared	0.101	0.727	0.588	0.147	0.780	0.925	0.508

This table summarizes the results for banks' returns on loans. The sample in Panel A comprises all firms for which we can extract interest rate data, the sample in Panel B comprises all non-member firms in the population. In columns I to III, the dependent variable ROL_{ij} is bank i's payoff per one dollar investment over the life time of the lending relationship with firm j (or loan portfolio ROL_{ip} in column III). Details on the calculation of returns on loans are described in Section . In columns IV and V the dependent variable is the interest rate on a given loan, in column VI the dependent variable is the recovery rate on a loan conditional on default, in column VII the dependent variable is the share in a bank's lending to firm j in default states, relative to the same share in non-default states. The dummy variable $INGROUP_{ij}$ is one if bank i and firm j are connected through membership of the same club branch, and zero otherwise. The dummy variable $MAIN\ LENDER_{ij}$ is one if bank i is firm j's main lender, and zero otherwise. The bottom of the table provides information about fixed effects and level of clustering. We report standard errors in parentheses. ***, and ** indicate statistical difference from zero at the 1%, and the 5% levels respectively.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 5: Returns on Loans around Events

	I	II	III	IV	V	VI	VII	VIII	IX
		Entry			Formation			Mayoral Election	
Dep. var.: ROL_{ij}	Relationship		Portfolio	Relationship		Portfolio	Relationship		Portfolio
$AFTER_{jt}$	-0.0170***	-0.0177***	-0.0233***	-0.0182	0.0069	-0.0078	-0.0158**	0.0059	-0.0063
	[0.0040]	[0.0050]	[0.0044]	[0.0126]	[0.0172]	[0.0116]	[0.0061]	[0.0118]	[0.0087]
$INGROUP_{ij}$	0.0163	0.0132	0.0079	0.0353	0.0564*	0.0362	-0.0088	0.0063	0.0196
	[0.0093]	[0.0109]	[0.0073]	[0.0216]	[0.0291]	[0.0419]	[0.0115]	[0.0266]	[0.0190]
$AFTER_{jt} * INGROUP_{ij}$	-0.0289***	-0.0280***	-0.0201**	-0.0569**	-0.0868***	-0.0679*	-0.0205**	-0.0803**	-0.0327*
	[0.0081]	[0.0094]	[0.0080]	[0.0227]	[0.0242]	[0.0366]	[0.0087]	[0.0336]	[0.0170]
Fixed Effects	firm	bank	bank	firm	bank	bank	firm	bank	bank
Clustered SE	club	club	club	club	club	club	club	club	club
Observations	619	619	454	417	417	323	356	356	192
R-squared	0.680	0.607	0.800	0.713	0.649	0.830	0.899	0.362	0.984

This table summarizes the results for banks' returns on lending relationships for which we can compute interest rates for firms that are affected by the respective event specified at the top of the table (entry, formations, mayoral elections). The dependent variable ROL_{ij} is bank i's payoff per one dollar investment over the life time of the lending relationship with firm j (or loan portfolio ROL_{ip} in columns III, VI, and IX). Details on the calculation of returns on loans are described in Section . The dummy variable $AFTER_{jt}$ is one from the year of the respective event and zero otherwise. The dummy variable $INGROUP_{ij}$ is one if bank i and firm j are connected through membership in the same club, and zero otherwise. In columns VII to IX the 'in-group' bank is the local state bank in which the newly elected mayor becomes head of the supervisory board through their election. The bottom of the table provides information about fixed effects and level of clustering. We report standard errors in parentheses. ***, **, and * indicate statistical difference from zero at the 1%, 5%, and the 10% levels respectively.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 6: Banker Incentives - Bank Lending and Firm Borrowing Channel

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Ownership				Career Concerns				Competition			
Dep. Var.:	$Log(Loans)_{ijt}$		$New\ relationship_{ijt}$		$Log(Loans)_{ijt}$		$New\ relationship_{ijt}$		$Log(Loans)_{ijt}$		$New\ relationship_{ijt}$	
	State	Private	State	Private	State	Private	State	Private	High	Low	High	Low
$AFTER_{jt}$	-0.0543	-0.0482	0.0116**	0.0088	0.5918	0.5038	0.1193	1.6128***	-0.0717	-0.1259	0.0072	0.0054
	[0.0708]	[0.0634]	[0.0054]	[0.0058]	[0.4987]	[0.5082]	[0.4047]	[0.4233]	[0.0650]	[0.0791]	[0.0050]	[0.0045]
$INGROUP_{ij}$			0.0874***	0.0836***			0.2789	1.3333***			0.0776***	0.1060***
			[0.0161]	[0.0147]			[0.3294]	[0.2883]			[0.0151]	[0.0204]
$AFTER_{jt} * INGROUP_{ij}$	0.5754***	0.2554**	0.1929***	0.1185***	0.1550	-0.9143	-0.2875	-1.8077***	0.2460*	0.6123***	0.1415***	0.1603***
	[0.1150]	[0.1230]	[0.0282]	[0.0236]	[0.6062]	[0.6470]	[0.4544]	[0.4986]	[0.1287]	[0.1422]	[0.0250]	[0.0369]
$AFTER_{jt} * AGE_{ij}$					-0.0093	-0.0080	-0.0015	-0.0229***				
					[0.0072]	[0.0073]	[0.0058]	[0.0061]				
$INGROUP_{ij} * AGE_{ij}$							-0.0032	-0.0182***				
							[0.0048]	[0.0041]				
$AFTER_{jt} * INGROUP_{ij} * AGE_{ij}$					0.0046	0.0208**	0.0062	0.0271***				
					[0.0104]	[0.0102]	[0.0065]	[0.0071]				
Quarter FE	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no
Firm FE	no	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Firm-Bank FE	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no
Clustered SE	club	club	club	club	club	club	club	club	club	club	club	club
Difference	0.3200		0.0744		0.0162		0.0209		0.3663		0.0188	
(p-value)	0.0033		0.0072		0.0348		0.0038		0.0562		0.6715	
Observations	111626	111626	92070	92070	111626	111626	92070	92070	70083	41543	51111	40959
R-squared	0.734	0.731	0.165	0.159	0.734	0.732	0.181	0.168	0.736	0.724	0.175	0.162

This table displays the results from estimating equation (1) separately for bankers with different degrees of incentives. The dependent variable in columns I, II, V, VI, IX, and X is the log of bank i's loans to firm j. In columns III, IV, VII, VIII, XI, and XII the dependent variable is a dummy variable that is one if bank i and firm j start a new lending relationship and zero otherwise. In these columns, there are two observations per firm-bank relationship; one for the period before the event and one for the period after the event. The dummy variable $AFTER_{jt}$ takes the value of one from the year when firm j joins a club branch and zero otherwise. The dummy variable $INGROUP_{ij}$ takes the value of one if bank i is in-group bank to firm j, and zero otherwise. The variable AGE_{ij} is the age of bank i's banker when firm j's CEO joins the club branch. In columns labeled 'State' the $AFTER_{jt}$ is only defined for entry to a club with a state banker among their members, in columns labeled 'Private' $AFTER_{jt}$ dummy is only defined for clubs that only have a private banker among its members. High competition areas are cities with above median levels of local banking market competition, low competition areas are cities with below median levels of local banking market competition. The bottom of the table depicts information on the fixed effects included and p-values for the difference in the estimates between odd and even columns. Standard errors are corrected for clustering at the club branch level. We report standard errors in parentheses. ***, **, and * indicate statistical difference from zero at the 1%, 5%, and the 10% levels respectively.

Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Table 7: Banker Incentives - Return on Loans

	I	II	III	IV	V	VI	VII	VIII
	Ownership				Career Concerns		Competition	
Dep. Var.: ROL_{ij}	State	Private	Mayor	No Mayor	State	Private	High	Low
$INGROUP_{ij}$	-0.0663***	-0.0223***	-0.0922***	-0.0516***	-0.0599***	0.0202	-0.0268***	-0.0683***
	[0.0168]	[0.0067]	[0.0304]	[0.0156]	[0.0211]	[0.0148]	[0.0077]	[0.0201]
$INGROUP_{ij} * AGE_i$					0.0004	-0.0013***		
					[0.0008]	[0.0004]		
Bank FE	yes	yes	yes	yes	yes	yes	yes	yes
Clustered SE	club	club	club	club	club	club	club	club
Difference	0.0440		0.0406		0.0017		0.0415	
(p-value)	0.0196		0.0988		0.0237		0.0300	
Observations	393	612	136	257	393	612	511	494
R-squared	0.263	0.508	0.266	0.391	0.268	0.524	0.488	0.322

This table summarizes the results for banks' returns on loans separately for bankers with different degrees of incentives. The dependent variable ROL_{ij} is bank i's payoff per one dollar investment over the life time of the lending relationship with firm j. Details on the calculation of returns on loans are described in Section . The dummy variable $INGROUP_{ij}$ takes the value of one if bank i is in-group bank to firm j, and zero otherwise. The variable AGE_{ij} is the age of bank i's banker when firm j's CEO joins the club branch. In columns labeled 'State' the sample is limited to state bank loans, in columns labeled 'Private' the sample is limited to private bank loans. In columns labeled 'Mayor' the sample is limited to state bank loans in clubs with a mayor among their members who is also the head of the local state bank, in columns labeled 'No Mayor' these loans are excluded from the sample of state bank loans. High competition areas are cities with above median levels of local banking market competition, low competition areas are cities with below median levels of local banking market competition. The bottom of the table depicts information on the fixed effects included and p-values for the difference in the estimates between odd and even columns. Standard errors are corrected for clustering at the club branch level. We report standard errors in parentheses. *** indicates statistical difference from zero at the 1% level.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 8: Banker Incentives - Descriptives ROL

Panel A: ROL_{ij}	I	II	III	IV	V	VI	VII	VIII	IX
	All Bankers			Young Bankers		Old Bankers		Competition	
	All Banks	Private	State	All Banks	Private	All Banks	Private	High	Low
Out-group	0.0853	0.0868	0.0828	0.0849	0.0868	0.0964	0.0839	0.0857	0.0849
In-group	0.0373	0.0629	0.0051	0.0468	0.0721	-0.0041	0.0157	0.0612	0.0108
Panel B: $ROL\ spread_{ij}$	I	II	III	IV	V	VI	VII	VIII	IX
	All Bankers			Young Bankers		Old Bankers		Competition	
	All Banks	Private	State	All Banks	Private	All Banks	Private	High	Low
Out-group	0.0502	0.0513	0.0483	0.0501	0.0515	0.0520	0.0430	0.0511	0.0492
In-group	0.0075	0.0308	-0.0218	0.0162	0.0393	-0.0307	-0.0128	0.0312	-0.0188

This table shows averages of the variable ROL_{ij}, bank i's payoff per one dollar investment over the life time of the lending relationship with firm j in absolute terms in Panel A and over the risk-free rate in Panel B. Details on the calculation of returns on loans are described in Section . In columns labeled 'State' the sample is limited to state bank loans, in columns labeled 'Private' the sample is limited to private bank loans. Young bankers are defined as bankers aged below 50, old bankers are defined as bankers aged 50 or over. High competition areas are cities with above median levels of local banking market competition, low competition areas are cities with below median levels of local banking market competition.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Table 9: Firms' Usage of Capital

	I	II	III	IV	V	VI	VII	VIII
Dep. Var.:	$\left(\frac{Investments}{Assets}\right)_{jt}$	$log(investment)_{jt}$	$\left(\frac{Cash}{Assets}\right)_{jt}$	$\left(\frac{Payouts}{Assets}\right)_{jt}$	$\left(\frac{Debt}{Assets}\right)_{jt}$	$\left(\frac{EBIT}{Assets}\right)_{jt}$	$log\,(employment)_{jt}$	$\left(\frac{WC}{Assets}\right)_{jt}$
$AFTER_{jt}$	-0.0037***	0.0055	0.0169***	0.0229***	0.0612***	0.0001	0.0297	-0.0579***
	[0.0012]	[0.0412]	[0.0030]	[0.0054]	[0.0164]	[0.0035]	[0.0330]	[0.0194]
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Firm FE	yes	yes	yes	yes	yes	yes	yes	yes
Clustered SE	club	club	club	club	club	club	club	club
Observations	15872	14089	15783	13428	7496	14392	11141	12502
R-squared	0.094	0.940	0.829	0.626	0.731	0.771	0.968	0.752

This table depicts changes in firm-level variables for the subsample of firms for which accounting data from the USTAN database is available. Information on the dependent variable of each regression is provided at the top of the table. The dummy variable $AFTER_{jt}$ takes the value of one from the year when firm j joins a club branch and zero otherwise. All regressions include year and firm fixed effects. Standard errors are corrected for clustering at the club branch level. We report standard errors in parentheses. *** indicates statistical difference from zero at the 1% level.
Sources: Deutsche Bundesbank, Credit register (1993-2015); USTAN corporate balance sheet database (1993-2013). All results are based on our own calculations.

Figure 1: In-group Bank Share in Total Firm Lending Around Branch Entry

This figure depicts the share of loans from a firm's in-group bank divided by the firm's total loans for firms that enter a branch during the sample period. To compute the in-group bank shares on the y-axis we align firms around the year they enter a branch and calculate the average in-group bank share for all firms with the same distance to entry. The x-axis displays the distance to firms' entry to a branch in years. The value zero indicates the year in which the firm officially obtains member status in the branch. Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Figure 2: State Bank Share in Total Firm Lending Around Mayoral Elections

This figure depicts the share of loans that a firm borrows from the state bank divided by its total loans for the firms that are members of a club branch in which an existing member is elected as a mayor for the first time during the sample period and becomes head of the local state bank's supervisory board. To compute the state bank shares on the y-axis we align firms around the year of the mayoral election and calculate the average state bank share for all firms with the same distance to the mayoral election. The value zero indicates the year of the mayoral election.
Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Figure 3: Bank Lending Shares before Bankruptcy

Panel A of this figure plots the share of in-group bank in total firm loans on the y-axis (solid lines) relative to the share sixteen quarters before bankruptcy which we set to zero. The x-axis lists the distance to the official bankruptcy date in quarters. The gray solid line comprises all firms with a default event in the sample, whereas the black solid line only includes those firms for which the in-group bank is their main lender. The gray dashed line depicts the share of loans from firms' main lender in total firm loans for the population of all non-member firms. Panel B plots the share of in-group bank in total firm loans for the firms with a default event whose in-group bank is the main lender separately for firms for which the in-group bank is a state bank (black line) and for firms for which the in-group bank is a private bank (gray line). Panel B includes 90%-confidence intervals for both lines.
Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Figure 4: Distribution of Lending Decisions Around Club Entry

This figure shows kernel density plots of changes in the volume of lending to firms after they join a club branch from in-group banks (black lines), and out-group banks (gray lines). The left Panel shows the plots for all banks, the middle Panel for private banks, and the right Panel for state banks.
Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Figure 5: Distribution of Lending Decisions - Career Concerns

This figure shows kernel density plots of changes in the volume of lending to firms after they join a club branch from private in-group (black line) and private out-group banks (gray line). The left Panel shows the plots for young bankers below the age of 50, and the right Panel for old bankers aged 50 or over. Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.

Figure 6: Distribution of Lending Decisions - Competition

This figure shows kernel density plots of changes in the volume of lending to firms after they join a club branch from in-group banks (black lines), and out-group banks (gray lines). The left Panel shows the plots for firms joining clubs in cities with above median levels of local banking competition, and the right Panel for firms joining clubs in cities with below median levels of local banking competition.
Sources: Deutsche Bundesbank, Credit register (1993-2015). All results are based on our own calculations.