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Does it pay to have friends? Social ties and executive appointments in banking

Allen N. Berger
(University of South Carolina, Wharton Financial Institutions Center and Tilburg University)

Thomas Kick
(Deutsche Bundesbank)

Michael Koetter
(University of Groningen)

Klaus Schaeck
(Bangor University)

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Deutsche Bundesbank, Wilhelm-Epstein-Straße 14, 60431 Frankfurt am Main,
Postfach 10 06 02, 60006 Frankfurt am Main

Tel +49 69 9566-0
Telex within Germany 41227, telex from abroad 414431

Please address all orders in writing to: Deutsche Bundesbank,
Press and Public Relations Division, at the above address or via fax +49 69 9566-3077

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Abstract

Social capital theory predicts individuals establish social ties based on homophily, i.e., affinities for similar others. We exploit a unique sample to analyze how similarities and social ties affect career outcomes in banking based on age, education, gender, and employment history to examine if homophily and connectedness increase the probability that the appointee to an executive board is an outsider (an individual without previous employment at the bank) compared to being an insider. Our results show that homophily based on age and gender raises the chance of the successful candidate being an outsider, whereas similar educational backgrounds reduce the chance that the appointee comes from outside. When we examine performance effects, we find weak evidence that social ties are associated with reduced profitability.

Keywords: social networks, executive careers, banking, corporate governance
JEL Classification: G21, G32, G34, J16

Non-technical summary

We test in this paper whether social network ties of bank executives influence their career outcomes. Such so-called 'social capital' can affect career outcomes because relations between agents facilitate the quality and the flow of information, e.g., about the skills of candidates for executive management positions that would otherwise be costly to acquire.

Based on social capital theory, we formulate a hypothesis pertaining to different aspects of the relation between bank executives' careers and their social ties in the German banking industry. Specifically, we test if intensive social connectedness increases outsider appointment probabilities. Outsiders are managers not employed by the bank prior to the appointment. In a further analysis, we also home in on performance effects to examine whether social connections affect bank profitability.

The paper features a unique and comprehensive database of 10,900 manager-year observations containing all senior staff active in German universal banks between 1993 and 2008. We measure social capital in terms of generational ties (age difference between appointees and executive board members), gender ties (a dummy if the appointee is female and if there is at least another female on the board), educational ties (a dummy if the appointee has an academic degree and at least one other executive board member has such a degree), and general social connectedness (the number of executive board members with common employment history at other banks and all contacts of an executive scaled by age).

We find that outside managers with better gender and generational ties are more likely to be appointed relative to the likelihood of appointing an insider. In contrast, a shared educational background reduces outsider appointment likelihood. This might indicate that well-educated serving executive board members obstruct also well-educated contestants that might rival their position in the board.

Finally, we relate our examination to performance effects arising from social ties for profitability. Here we find some weak evidence that social ties are associated with a lower return on equity.

Nichttechnische Zusammenfassung

In diesem Aufsatz wird untersucht, inwieweit die soziale Vernetzung von Bankmanagern deren Karrieremöglichkeiten beeinflusst. Das sogenannte ‚soziale Kapital' kann Einfluss auf die jeweiligen Karrieren dadurch ausüben, dass bestehende Beziehungen zwischen den Managern sowohl den Informationsfluss fördern als auch die Qualität der ausgetauschten Informationen positiv beeinflussen. Informationen wie bspw. über die Fähigkeiten und die Eignung von Bewerbern auf Managementpositionen, wären ansonsten nur mit hohen Kosten zu beschaffen.

Basierend auf der Theorie des ‚sozialen Kapitals' formulieren wir Hypothesen, die sich auf verschiedene Aspekte betreffend die Karriere von Bankmanagern und ihre sozialen Bindungen innerhalb des deutschen Bankenmarktes beziehen. Insbesondere testen wir, ob eine starke soziale Vernetzung die Wahrscheinlichkeit für einen „Outsider-Manager" erhöht, in die Geschäftsleitung des Instituts berufen zu werden. Outsider-Manager sind dabei neu in die Geschäftsleitung eines Instituts berufene Manager, die vor ihrer Berufung noch nicht beim entsprechenden Institut beschäftigt waren. In einer weitergehenden Analyse untersuchen wir schließlich, inwieweit die Vernetzung der Bankvorstände die Profitabilität ihrer jeweiligen Institute beeinflusst.

Der Aufsatz basiert auf einem umfassenden Datensatz mit mehr als 10.900 Manager-Jahr-Beobachtungen, der sämtliche meldepflichtigen Manager (Mitglieder der Geschäftsleitung und andere gehobene Manager) sämtlicher deutscher Banken in den Jahren 1993 bis 2008 enthält. Wir messen soziales Kapital als ‚*generational ties*' (Altersdifferenz zwischen den neu berufenen Managern und den bisherigen Mitgliedern der Geschäftsleitung), ‚*gender ties*' (eine Dummy-Variable die anzeigt, ob eine Frau neu berufen wurde und ob gleichzeitig mindestens eine Frau bereits Mitglied der Geschäftsleitung ist), ‚*educational ties*' (eine Dummy-Variable die anzeigt, ob der neu berufene Manager einen akademischen Grad hat und ob es gleichzeitig mindestens ein weiteres Mitglied der Geschäftsleitung mit einem akademischen Grad gibt) und ‚*general social connectedness*' (die Anzahl der Mitglieder der Geschäftsleitung mit einer gemeinsamen Beschäftigungshistorie mit dem neu berufenen Manager bei einer anderen Bank bzw. sämtliche Kontakte des neu berufenen Managers skaliert durch dessen Alter).

Unsere Ergebnisse zeigen, dass Outsider-Manager mit entsprechenden ‚*gender ties*' und ‚*educational ties*' mit einer höheren Wahrscheinlichkeit als ein Insider-Manager in die Geschäftsleitung berufen werden. Im Gegensatz dazu reduziert ein gemeinsamer akademischer Hintergrund die Wahrscheinlichkeit, dass ein Outsider-Manager berufen wird. Dies könnte ein Hinweis darauf sein, dass akademisch gut ausgebildete Mitglieder der Geschäftsleitung andere Akademiker als Rivalen im Hinblick auf ihre eigene Position ansehen und diese damit ablehnen.

Schließlich untersuchen wir die Auswirkung der sozialen Vernetzung von Bankvorständen auf die Performance ihrer jeweiligen Institute. Unsere Ergebnisse hierzu zeigen einen schwach signifikanten, negativen Zusammenhang mit der Eigenkapitalrendite auf.

Contents

I. Introduction

Social ties affect individual behavior and economic outcomes because they affect the flow and quality of information from one agent to another (e.g., Granovetter, 2005; Hong *et al.*, 2005; Westphal *et al*., 2006; Hwang and Kim, 2009; Cohen and Malloy, 2010). Because much information is subtle and difficult to verify, agents may avoid public information and prefer relying on other individuals they know because social ties allow swift transmission of information, e.g., about an individual's abilities and reputation (Fafchamps *et al.*, 2010).[1] Therefore, social ties also play a critical role in labor markets because prospective employers and employees mitigate problems arising from information asymmetries by learning about each other from personal sources whose information is considered trustworthy (e.g., Montgomery, 1991). For instance, receiving an offer for an executive position at a firm may be conditional on a social 'certification' of the applicant's abilities by board members of the appointing firm.[2,3] Alternatively, close social ties may entrench agents such that less qualified candidates are appointed due to personal preferences. Such cronyism behavior would then entail inefficient

[1] Research on social networks in finance is still at an early stage, and primarily focuses on investment decisions. Cohen *et al.* (2008) examine social ties and information transfer between fund managers and corporate board members and the effect of such ties on fund managers' performance. Horton and Serafeim (2009) construct measures of the connectedness between analysts and corporate directors to investigate if social ties offer better connected analysts a competitive advantage to produce more accurate, more timely, and bolder recommendations. Cohen *et al.* (2010) offer a similar analysis of the impact of sell-side analysts' social ties with senior corporate officers. Subrahmanyam (2008) examines how corporate governance mechanisms are affected by social networks. He shows that better governance and lower executive compensation are more prevalent in firms where social networks are less likely to form. Bouwman (2011) finds that an individual is more likely to be appointed as a director if the individual knew one of the firm's directors through a directorship at another firm. A more comprehensive overview about applications of network theory in finance is offered by Allen and Babus (2009). The management literature shows that social ties are an extremely important resource. Westphal *et al.* (2006) stress that social ties are reconstituted after CEO turnover to retain access to inter-organizational relationships as a source of information.

[2] Related research by Tian *et al*. (2010) shows that stock markets also consider the effect of social capital. They report positive valuation effects arising from the appointment of CEOs with more social capital.

[3] The term 'social capital' refers to the advantages and opportunities accruing to people through membership in communities. In other words, social capital is a resource of individuals that emerges from social ties (Guiso *et al.*, 2004). Research in the management literature shows that social capital has important performance effects on firm managers (Moran, 2005).

outcomes *ex post*, for instance manifested in terms of higher operational slack and inferior profitability of the firm.[4]

We test if an appointed candidate is an outsider rather than an insider and what the role is that is played by homophily in terms of age and gender on the one hand and social ties arising from connections from previous employment history with members of the board of the appointing bank on the other hand. In addition, we also shed light on the performance implications of homophily and social ties. Thereby, we provide evidence on the nexus between homophily, social ties, and corporate governance in banking. Our work is motivated by ideas found in social capital theory which suggests that individuals form ties with agents that share similarities, e.g., with people that share a common employment history, and people that share educational backgrounds, gender, and social status. Similarities reduce information asymmetries and thus search cost (e.g., Marsden, 1987; McPherson *et al.*, 2001) but can also imply cronyism and inferior *ex post* firm performance.

Against the background of numerous scandals among allegedly 'independent' directors and board members, such empirical evidence is critical to improve the governance of firms (Agrawal and Chadha, 2005).[5] If governance arrangements work well, appointments are made based on the candidate's merit, successful executives will be retained and have their contracts renewed, or realize outside options that arise as a result of good performance, and poor performers will be replaced without outside options in the industry (Davern and Hachen, 2006).

[4] See, for example, Yermack's (2006) canonical evidence on inefficient managers and poor shareholder returns.

[5] Conventionally, directors are considered 'independent' when they have neither financial nor familial ties to the firm. We argue in this study that social ties matter because some individuals form interpersonal relations and such social ties can affect career development.

For our empirical analysis, we exploit a unique dataset that provides information about all executive appointments in the banking industry in Germany between 1993 and 2008 to answer the question of how similarities and social ties affect whether the appointee is either an outsider or an insider. To the best of our knowledge, this study is the first to investigate the influence of social structure on the governance of both listed and non-listed banks.

We focus on the banking industry because evidence from the recent financial crisis suggests that banks underperform when connected board members are involved in the appointment of executives (Hau and Thum, 2009). Given the huge social cost due to poor bank performance, we consider the banking industry a particularly relevant sector to study the link between social structure and governance. Moreover, improving bank governance matters because their performance has important ramifications for the economy as a whole, consequently a study on the population of bank executives' social networks seems warranted. Despite the recommendation of the Basel Committee on Banking Supervision to improve corporate governance of financial intermediaries (Basel Committee, 2006), evidence on governance arrangements in banking remains rare.[6] Potentially, this is because banks differ from nonfinancial firms (Adams and Mehran, 2003). The number of stakeholders complicates bank governance because not only investors, but also regulators have vested interests in banks' governance. Last, we note that focusing on one industry specifically avoids concerns about confounding correlations caused by interindustry differences.

Unlike the study of executive dismissals, the appointment decisions of executives have not received much attention in the academic literature. It comes as no surprise therefore that

[6] In contrast, the corporate governance literature for nonfinancial firms is abundant and reviewed in Denis and McConnell (2003), Hermalin (2005), and Adams *et al.*, (2010).

Borokhovic *et al.* (1996) argue that little is known about the factors that determine who to appoint for an executive position, despite the fact that executives play a key role in defining and implementing a firm's strategy and policies. Only a few studies in the corporate finance literature deal with this question. What is common to those studies is their focus on the choice between outside and inside candidates. Borokhovic *et al.* (1996) show that the probability of outside executive appointments increases if more outside non-executive directors are present. In addition, they also observe significantly positive abnormal stock returns upon announcement of outside successions. Huson *et al.* (2004) examine firm performance following executive turnovers. They report that operating performance increases if the successor joined the firm from outside. Dahya and McConnell (2005) examine the period following publication of the Cadbury Report in the UK that mandated more outside directors to strengthen directors' monitoring incentives. Similar to Borokhovic *et al.* (1996), they show that compliance with the requirement of more outside directors is correlated with a greater likelihood of CEO appointments from outside the firm. Agrawal *et al.* (2006) investigate whether outsiders are handicapped in CEO successions, and find that insiders are advantaged in the appointment process. Following the intuition in these studies of distinguishing between outside and inside appointments, we focus on the probability that the appointee to the executive board is an outsider relative to being an inside candidate. However, our approach is different from these studies in that we emphasize the role of homophily and social ties.

We define outsiders as individuals without an employment history with the appointing bank and expect that homophily and social ties increase the probability that the successful

candidate is an outsider rather than an insider.[7] The intuition is that social ties facilitate the transmission of information about the prospective executive, and foster an environment of mutual qualities and experiences through homophily, which facilitates interaction and fosters trust (Hwang and Kim, 2009). To assess potential adverse performance effects due to the 'dark side' of social ties, cronyism, we also investigate the relation between bank performance and the average social traits of banks' executive boards.

By way of preview, we find that similarities in terms of smaller age differences between appointees and the members of the executive board, more contacts within the social system of bank executives in the industry, and common employment histories between successful candidates and serving board members of the executive board all significantly increase the probability that the appointee is an outsider. Likewise, the probability that a successful female candidate is an outsider is larger compared to a male successful candidate when another woman already serves on the executive board. However, sharing a common educational background reduces the chances that the appointee is an outsider. This result suggests rivalries between executives that have similar educational backgrounds, which may indicate a variant of the big-fish-little-pond effect (e.g., Marsh, 1987). Well-educated serving executives could also attempt to block entry of equally well or even better educated outsiders if the latter are considered as rivals. These findings are robust to accounting for merger activities in the industry where acquirer banks often install their staff as new executives in the target institution.

[7] The corporate finance literature adopts a similar definition. Borokhovich *et al.* (1996), and Agrawal *et al.* (2006) focus on chief executive officers (CEOs) and classify outside CEOs as those that join the firm as long as three years prior to assuming the top job, whereas individuals that are promoted to CEO with more than three years employment history are classified as insiders. Due to data constraints we cannot classify the CEO role specifically, and therefore adopt a slightly broader definition of executive that includes all executive management positions. However, we also impose the additional criterion for outsiders to have no previous employment history with the bank in question.

To examine whether appointments of executives who share similar characteristics and who are socially connected carry any performance effects, we extend our analysis and model bank performance as a function of the executive teams' characteristics in terms of age and educational backgrounds and also in terms of their social ties. In these tests, we find weak evidence that performance declines in executive's social connections.

The remainder of the paper is organized as follows. The next section discusses the data sources, contains variable definitions, and describes the data. We then move on to report on results, and we finally offer concluding remarks.

II. Data and Measurement of Similarities and Social Ties

We first offer a detailed exposition of our data sources, since the executive database is a novel source and unique in terms of its scope. Second, we present definitions and summary statistics. Third, we discuss measurement of the explanatory variables that capture homophily and social ties.

Data sources

We combine two main datasets, both of which are obtained from the German central bank, the Deutsche Bundesbank.

The first is a novel dataset that provides detailed information about all senior staff at financial institutions in Germany. Specifically, this database contains the identity and selected biographical information of all bank executives and other senior staff such as compliance officers, senior loan officers, senior internal auditors, and deputy managing directors employed by banks chartered in Germany that are active in a function required to be reported to the supervisory authority by the Bank Act. These data are available from 1970 and cover the

population of all senior bank staff in Germany including the association of each manager with a banking firm and the function fulfilled by this individual at any point in time. This dataset allows tracking career paths at the individual level, and we exploit the longitudinal information to construct two indicators: an indicator for executive appointments of insiders and outsiders; and two network indicators based on shared employment histories of individuals prior to 1993. The second database we use contains bank-specific financial information that is filed annually with the supervisor, available from 1993 to 2008.

Note that boards are two-tiered in the German system of corporate governance (Schmidt, 2004). The first tier is a managing board that consists of executives. The second tier is a supervisory board that monitors the former. The members of the executive board are appointed by and report to the supervisory board. In contrast to the Anglo-American system, members of the executive board must not be members of the supervisory board.[8] The role of the supervisory board is similar to that of non-executive directors in the U.S. system in the sense that it appoints managers and reviews performance (Kaplan, 1994). Since there is ample anecdotal as well as empirical evidence that the chief executive wields considerable influence in the appointment process (Shivdasani and Yermack, 1999), our empirical tests focus on homophily and social ties between appointees and members of the executive board of the bank.[9]

[8] Consequently, nothing comparable to the concept of CEO duality exists in the German system.
[9] In addition, the available data precludes sufficiently exact identification of supervisory board members.

Executive appointments

We define an executive as an individual who is a member of the executive board.[10] Based on the longitudinal information in the senior staff database, we focus in our empirical tests on those individuals who meet this criterion.

Outside appointments are those where an individual who did not serve in any reported function with the bank before is appointed to the executive board, and where we know that there exists no previous employment history with the appointing bank.[11] Insider appointments are those where an individual is promoted within the bank from any function to an executive rank.

Table I shows summary statistics of industry characteristics, executive board characteristics, and appointments. The sample contains a maximum of 3,364 banks in 1994. Since then, the number of banks declines to 1,821 in 2008, reflecting a consolidation process in German banking. Concentrating banking markets are associated with a concomitant increase in bank size as shown by the increase in total assets (log).

[TABLE I]

Note that increasing bank size is mimicked in terms of increasing board size only until 2004. Average board size declines from 2005 onwards. Growing bank size alone cannot explain larger executive boards, and thus more appointments. The initial increase in board size suggests that many executives stay on for a few years following mergers and acquisitions, but

[10] The Bank Act sets out the required qualifications to be eligible for consideration as a bank executive. Specifically, a candidate has the *"relevant managerial experience"* if she has the professional qualifications necessary for managing an institution and if the person can demonstrate three years' managerial experience at an institution of comparable size and type of business.

[11] Note that it is conceivable that an appointee still worked at the bank before, but in a non-reported function. We consider this highly unlikely given the comprehensive scope of functions required to be reported to the supervisory authority, ranging from branch directors to assistants of the executive board.

subsequently retire or step down. This pattern is in line with anecdotal evidence. We also witness a decrease in the number of executive officers from 8,022 in 1993 to 5,868 in 2008, a contraction of 28 percent. While substantial, this shrinkage of the executive labor market does not match the consolidation rate of 45 percent between 1993 and 2008. This observation suggests that the market for bank executives remained 'liquid' despite the consolidation wave.

On average, 686 executive appointments are made every year, corresponding to 11 percent of the executive positions in German banking. Appointment frequencies over time corroborate that the unconditional appointment likelihood even increased from 10 percent in 1993 to 14 percent in 2008, underpinning the ongoing recruiting activities in a consolidating industry. While the share of outside appointments was systematically lower before 1999 at around 30 percent, it remained fairly constant and at high levels from then on, hovering around 41 percent between 1999 and 2008.

We test the effects of similarities in terms of age and education and social ties on career outcomes for the full sample of banks as well as for three subsamples of private, public, and cooperative banks. These groups represent the three pillars of the German banking sector, which differ in terms of ownership and governance (Brunner *et al.*, 2004). The pillar of private banks consists of large banks, regional banks, and branches and subsidiaries of foreign banks. Many large private banks are incorporated as joint-stock companies, whereas their smaller counterparts are partnerships, private limited companies or sole proprietors. The public sector banks include regionally active savings banks and Landesbanks that are owned by governments on the city-, county- or state-level. The cooperative banking pillar comprises cooperative banks and central credit cooperatives. The former are organized in the form of mutuals and own the latter. We conjecture that executive labor markets differ significantly across those different

samples. This conjecture is substantiated in Table II, which shows outside appointment frequencies, broken down by subsample.

[TABLE II]

Our choice of subsamples is motivated by the fact that the (large) private banks actively recruit executives from international, potentially more complete labor markets, and that capital market participants are more likely to monitor the conduct of these executives. Ambitious executives that work at those institutions are likely to be more mobile than their counterparts at regionally active savings and cooperative banks. In addition, the skill set required by executives at large, international financial powerhouses in the subsample of private banks differs from that required at relatively small, regionally oriented retail banks like savings banks and cooperatives. As such, the value of social capital is likely to have significantly different effects on career outcomes, too.[12]

Measuring similarities and social ties

To gauge how the probability of a successful candidate being either an outsider or an insider varies with homophily and social ties, we develop four measures of similarities and social connections. The senior staff database contains information about the age of the individuals, educational background, gender, and employment history, which we use to construct measures of homophily and social connectedness, respectively. To this end, we

[12] To verify our statement that the three different banking pillars attract different types of executives, we examine the movements of bank executives across the three different pillars (e.g., appointment in a public bank of somebody who previously worked for a private bank or a cooperative bank) in untabulated tests. These tests show there is very little mobility of executives between the pillars. On average, approximately 3 percent of the outside appointees join from other pillars, supporting the view that the different types of banks attract executives with different characteristics.

exploit data on individuals' curricula vitae with detailed information pertaining to their positions at various banks recorded during the sample period.

First, we measure similarities in terms of age by including the absolute difference between the age of the individual in question and the average age of the members of the executive board of the appointing bank (Subrahmanyam, 2008).

Second, similar to the reasoning in Marmaros and Sacerdote (2002) and Cohen *et al.* (2010), we assume that a common educational background also represents social similarities and thus facilitates interaction. We construct a dummy variable that takes on the value one if both the appointee and any member of the executive board of the appointing bank have an academic degree.[13]

Third, we consider gender as a dimension to define homophily. Systematic differences in job market participation and remuneration of females have been studied in the socio-economic literature.[14] Hilmer and Hilmer (2007) provide evidence on entry chances and first-appointment productivity conditional on mentor and candidate gender in the academic labor market. They show that gender differences between (female) Ph.D. candidates and (male) supervisors facilitate first appointments that are more research-oriented. However, they do not find evidence that entry is easier if female supervisors mentored female candidates. Social psychology, however, provides evidence on the existence of a so-called 'glass-cliff' (Ryan and Haslam, 2007). The 'glass-cliff' conjecture states that women (or other minority groups) are more likely to be appointed to executive positions that are significantly more exposed to failure

[13] In our dataset, we also have information on Ph.D. degrees of executives. However, the Ph.D. degree is nested in the academic degree dummy. In unreported tests, we confirm that we do not obtain any additional insights from separate analyses based on ties via Ph.D. degrees only.

[14] Significant gender wage gaps are well documented, see, for example, Gneezy and Rustichini (2004).

and criticism. To test if and how gender affects the choice between outsiders and insiders in banking, we specify a female gender tie dummy equal to one if both the appointee as well as at least one executive board member are female.

Finally, we account for the concern raised by Hermalin and Weisbach (1998, 2003) that boards may be determined endogenously. Therefore, we also generate exogenous measures of social ties based on selected bibliographical data available from before the start of our analysis sample period, 1993. Specifically, the intensity of an individual's connectedness is measured by the number of common contacts the agent has with any other individual in the staff database *prior* to appointment. In other words, we are counting all contacts when executives have worked at the same bank at the same time, regardless of their position. Clearly, this is partly a mere reflection of an executive's overall tenure, and therefore we scale this variable by the age of the executive. In addition, we build a count variable that provides information on the number of contacts an appointee has with the members of the executive board prior to appointment.[15]

Subsequently, we match this information with bank-specific data to address the questions mentioned above. We report summary statistics for the indicators of homophily and social connectedness in Table III.

[TABLE III]

The absolute age difference between the appointee and the executives of the appointing bank is 8.7 years in the full sample with little variation across the subsamples. In about 3 percent of all executive appointments, the appointee and any one of the executives of the bank

[15] For inside candidates for executive positions, this variable considers by definition the maximum number of contacts to members of the executive board prior to the year of appointment. The maximum number of contacts for insiders is therefore equal to the number of members of the executive board in the respective year.

hold an academic degree, and in only about 1 percent of all appointments, a female individual is appointed to an executive board that has at least one female executive already. The breakdown by bank types shows that the connection is much stronger in private banks: in 8 percent of all appointments, the individuals involved can be considered as interlocked via an academic degree, whereas these figures are much lower for public and cooperative banks.

The average appointee maintains a network of 0.14 contacts per year of age, and has on average 3.08 contacts to the members of the appointing board. The former figure is slightly higher in private and public banks, and lower in cooperative banks.

The correlations for the measures of similarities and social connectedness at the time of the executives' appointment shown in Table IV underscore that the four dimensions of homophily and social ties measure significantly different aspects of networks among German bank executives.

[TABLE IV]

Further bank- and executive-specific characteristics

Table V presents summary statistics on other bank- and executive-specific variables used primarily as control variables.

[TABLE V]

We specify age, presence of an academic degree, and (female) gender at appointment as executive controls. Additionally, Table V reports the average size of the bank's executive board, total assets (log), and the industry-adjusted return on equity (ROE), defined as the

difference between the banks' ROE and average ROE of the banking industry, to illustrate the differences among basic bank characteristics across the different subsamples.

The full sample consists of 10,980 bank-executive year observations. Cooperative banks account for over 5,400 observations, followed by more than 3,880 observations for the public banking sector, and over 1,700 bank-executive year observations for private banks. The average executive is 46.51 years old at appointment. Only 3 percent of the executives are female.

Approximately 5 percent of the executives in the population have an academic degree. This proportion is much higher in private banks (16 percent vs. 5 and 2 percent in the public and cooperative banks, respectively). These differences reflect the emphasis of public and cooperative banks on retaining skilled staff within the respective pillar. Both of these banking sectors maintain training facilities and offer a variety of training schemes and recognized education programs. These programs lead to qualifications equivalent to BSc and MBA degrees in banking to develop their member banks' staff careers from specialist loan officer and IT training schemes to senior management training schemes to ultimately enable participants to meet the Bank Act's formal requirements to take on an executive position. Since the qualifications awarded by the training facilities in the public and cooperative banking are not awarded by universities, they do not show up in the database available to us, which explains the very low proportion of executives with academic degrees in these two sectors.

Tests for the differences in educational levels for academic degrees between different types of institutions, gender, and executive board size for the different types of institutions all soundly reject the hypothesis that the mean values are equal. The only exception is the

difference in terms of academic degrees of the public banking sector with respect to the two other pillars.

III. Empirical Results

We model the probability that the successful candidate is an outsider rather than an inside candidate as a function of measures of homophily, social ties, and control variables. The units of analysis are person-year observations, and the dependent variable takes on the value one if an outsider is appointed and zero if an insider is appointed. In our test whether social capital is conducive to outside appointment relative to inside appointments, we focus on the set of proxies that capture the intensity of the executives' similarities to serving board members and social connectedness. The vector of control variables includes bank-specific factors, namely industry-adjusted return on equity (ROE), executive board size, bank size measured by total assets (log), and two dummy variables taking the value unity for public and cooperative banks, respectively. We omit the dummy for private banks to avoid perfect collinearity. Additionally, we include year dummies to control for the changes over time in the economic environment. We adjust the standard errors for heteroskedasticity.

Main results

Table VI reports marginal effects from logit regressions based on a joint specification with all variables for the full sample and several subsamples.

[TABLE VI]

We find strong and consistent evidence for the idea that homophily and social capital affect the probability that the successful candidate is an outsider. Specifically, the results illustrate that a greater age difference between the appointee and the average age of the members of the executive board reduces the chance that the successful candidate is an outsider. The marginal effect for the full sample indicates that a greater age difference of one year of a successful applicant reduces the probability that this person is an outsider by about 1.7 percentage points.

Second, similarities in terms of (female) gender affect the probability that the appointee is an outsider. While being female as such does not significantly affect the probability that the appointee is an outsider or an insider, the marginal effects of the ties via female gender are significantly positive. This result underscores that homophily can indeed increase the probability that the chosen candidate is an outsider if some female executives already serve on the bank's executive board. Our analysis of subsamples highlights that gender ties matter only among cooperative banks.

Together with the result that being female reduces the odds that the appointee is an outsider in these banks, this result implies that gender ties among women can mitigate gender-induced entry barriers. Such bonding is neither found in private nor public banks, where more stringent adherence to anti-discrimination rules, access to a more complete labor market segment, and/or closer monitoring by capital market participants with keener interest in competent managers may explain the insignificance of gender ties. In short, these results imply that the importance of gender similarities tends to vary with the peculiarities in the labor market of different segments of the banking market.

Third, Table VI also shows that a greater level of connectedness increases the chances that the outsider is chosen over an insider. Both more contacts to executives at the appointing bank as well as more contacts in general exhibit significantly positive marginal effects. The latter effect is economically substantial.

We offer two explanations for this very strong effect: First, a high number of contacts seem to ensure that information about skills is disseminated more quickly, yet this is also a double-edged sword. A banker with poor skills may find it difficult to find employment opportunities as bad news travels just as fast as does good news. Our analysis is indicative that among those executives who are ultimately appointed, more connections represent social capital that facilitates outside appointment, presumably by reducing costly state verification of candidates' skills. Second, many social connections that an outside appointee maintains reflect this individuals' valuable and potentially central position within the network of bank executives, and this position offers informational advantages in the job. As a result, a well-connected outside candidate is more valuable and appealing for an executive position.

But support for the hypothesis that similarities and social capital arising from connections increases the probability that outsiders are chosen over insiders is not universal. For the full sample, we find no significant effect of holding an academic degree and any connection arising from such tie between the appointee and the members of the bank's executive board.[16] But the differences in terms of executive educational backgrounds discussed above show up again in Table VI. If the appointee in a cooperative bank holds an academic degree, the odds of it being an outside appointment are considerably reduced. For these banks, this finding reflects

[16] Unreported univariate specifications for Ph.D. degree ties corroborate this result.

the stronger focus of locally active cooperative banks on in-house development of their senior staff as discussed above. Consequently, it is not necessarily academic qualification and academic experience that matters for the candidates to get an executive job, but rather it is practical experience that is valued. Such practical experience is the focal point of the in-house training offered in the public and cooperative banking sectors.

In sum, while there is little evidence that similarities based on educational background have significant bearing on the probability that the appointee is an outsider rather than an insider, we do find that most measures of social connectedness are positively affecting the odds that the successful candidate is an outsider. Homophily in terms of age and gender, and an appointee's contacts to the executives of the appointing bank and the number of contacts in the banking industry increase the probability that an outsider is selected. To the extent to which these variables capture information about the applicant's skills and abilities, they compensate for the higher information cost for outsiders.

Among the control variables, we find the probability of that the successful candidate is an outsider increases with age, but more profitable banks are less likely to select outsiders.[17] Larger board size goes hand in hand with lower probabilities that the appointee is an outsider. One additional board member reduces the chances that the appointee is an outsider by 7 percentage points. This result hinges primarily on public and cooperative banks. Also note that all specifications exhibit high classification accuracy. Type I and Type II errors remain between

[17] Hermalin and Weisbach (1988) report that poorly performing firms tend to add outsiders to the board, those outsiders may eventually be appointed CEO.

12 and 24 percent, and the area under the receiver operating characteristic (ROC) curve is on average above 91 percent.[18]

Economic significance

How important are similarities and social ties apart from statistical significance? To illustrate the effects arising from weak and strong similarities and weak and strong ties, we calculate the predicted probabilities for a female appointee with a university degree. All other covariates are held constant at their means. Based on the coefficients for the baseline specification for the full sample with all banks, the unconditional probability of that she is an outsider is 29.76 percent.

We compare the change of this probability and consider weak and strong similarities and weak and strong ties based on age difference, the numbers of contacts to the executives of the appointing bank, and the number of all contacts this female individual maintains, scaled by age. Weak similarities are those with an age difference equal to the 90th percentile of the distribution of this variable (15 years), and weak ties exist when the number of contacts to the appointing bank and the number of all contacts/age are equal to the 10th percentile of the distribution of these variables (0 contacts and 0.02 contacts/age, respectively). We also assume weak similarities in terms of degree and gender in instances when the two respective dummy variables are set to zero. In contrast, strong similarities are assumed in instances when the age difference is equal to the 10th percentile of the distribution of this variable (1 year), and strong ties exist when the number of contacts to the appointing bank, and the number of all

[18] An area of 100 would imply completely deterministic appointment probabilities while a ROC curve area of 50 would indicate that the model fares no better than a flip of a coin.

contacts/age are equal to the 90th percentile of these two variables (6 contacts and 0.31 contacts/age). Strong similarities in terms of degree and gender exist when the two dummy variables are set to one. Table VII presents the results.

[TABLE VII]

An age difference between the female appointee and the existing board members of only one year raises the probability from 29 percent to over 43 percent that she is an outsider. However, if there is only a weak similarity in terms of the age difference, calculated for a difference in age of 15 years, the probability for her being an outsider declines to just over 20 percent.

Having a female executive on the board of the appointing bank nearly doubles the chance that the appointed female is an outsider from 32 to 61 percent.

Based on the number of contacts the successful candidate has to the members of the bank's executive board, we find that the chance of her being an outsider increases to over 34 percent in case of strong ties, whereas it remains low at 25 percent in case of weak ties. The effect of the connectedness of the female individual in the banking industry, measured by the number of all contacts scaled by age, is substantially larger. Strong ties raise the chance that she is an outsider to 95 percent.

We already discussed above that similarities via academic degrees reduce the chance that the appointee is an outsider. The results in Table VII reinforce the findings from the logit regressions. A female appointee with an academic degree has a less than 6 percent chance of being an outsider when another member of the bank's executive board already holds an

academic degree. In contrast, the probability for her to be an outsider lays at 32 percent when there is no such executive on the board of the appointing bank.

Robustness

A potential reason for concern regarding the robustness of these results relates to the consolidation wave (see Table I). The threat of losing one's job due to a replacement by executives from the acquiring bank during a merger or acquisition constitutes a disciplining device for executives. Although only few banks in Germany are publicly listed with free floating equity (Schmidt, 2004), some studies show that there exists still a market for corporate control even among mutually owned cooperative banks (e.g., Lang and Welzel, 1999). Hence, many appointments we consider outside appointments may reflect installation of acquirer executives at targets. In addition, Koetter *et al.* (2007) show that among German savings and cooperative banks, many mergers involve distressed banks to allow smooth exit of hazardous intermediaries. Executives from distressed merged banks are probably less likely to be successful candidates if they have been considered responsible for the bank's poor performance (Canella *et al.*, 1995).[19] This would bias our marginal effects of indicators of homophily and social ties. To consider the effect of mergers, we present in Table VIII results from a logit specification including an additional control variable equal to one if the bank was involved in a merger or acquisition in that year.

[TABLE VIII]

[19] Cannella *et al.* (1995) show that executives affiliated with failed banks are less likely to regain comparable employment in the banking industry.

The marginal effect of this merger dummy is significantly positive. This finding corroborates the notion of a higher probability for merging banks that a successful candidate is an outsider. More important for our study, however, is the result that the marginal effects of the variables that capture homophily and social ties, by and large, confirm earlier results. Generational similarities, homophily in terms of female gender ties, and greater connectedness all increase the likelihood of that the appointee is an outsider.

However, two differences are noteworthy. First, this analysis shows that controlling for mergers is especially relevant when considering cooperative and, to a lesser extent, public banks. These institutions exhibit dramatic consolidation rates over the sample period. Once we specify the merger dummy, all effects arising from similarities and social ties vanish for cooperative banks except the age differential, implying decisions to appoint outsiders in this sector depend primarily on an executive's role during a merger rather than social ties. Second, the importance of social connections due to previous employment also disappears for both the full sample and the subsample of cooperative banks which drives the aggregate finding. It seems that social capital derived from greater connectedness in the industry is the key determinant that affects whether the successful candidate is an outsider rather than the social ties with serving board members.

In sum, while accounting for mergers due to their role as corporate governance device is important when explaining whether the appointee is an outsider or an insider, three of our main results remain intact: generation ties, female gender ties, and intense connectedness with peers from the industry all affect the probability that the appointee is an outsider.

Performance implications of social ties

The flip side of reducing information cost when selecting similar and socially connected executives is to prefer less qualified candidates picked by socially entrenched peers. Such cronyism behavior may lead to poor *ex post* performance (e.g., Subrahmanyam, 2008). We show the corresponding test results in Table IX.

[TABLE IX]

Note that the unit of analysis changes from person-year to bank-year observations in the subsequent tests. Since banks nest multiple managers, we construct aggregate measures of homophily and social ties per bank. We regress the change in the bank's profitability, which we measure as return on equity, on these aggregated variables together with bank-specific control variables.[20] In these tests, we use a panel data estimator with random effects. We cannot use a fixed effects approach because banks whose executive board composition in terms of similarities and social ties do not vary over time would be wiped out by the within transformation of the variables. Another reason for why we cannot use fixed effects estimation is that it would require considerable variation within panels to produce consistent and efficient estimates.

For the full sample shown in Panel A, all of the specified banking traits mimic those used in the previous analyses and exhibit statistically significant effects. Larger boards have a positive effect on profitability growth. This result suggests that the board of the average German bank, which is small, did not grow to efficiently large sizes. Instead, banks apparently benefit from the additional expertise represented by a larger number of executives. The positive

[20] Alternative specifications using the change of return on assets are very similar and available on request.

effect of larger bank size on profitability growth corroborates studies arguing that the many very small German banks in the industry lack the critical size to properly diversify income structure and generate additional earnings from tapping into new lines of business. The negative profitability growth effect of older boards is in line with this argument to the extent that more senior executives may be less inclined to change and innovation of an existing business model. The consistently negative merger dummy coefficient, in turn, confirms earlier studies on German banking that report at best very limited scope for performance improvements due to mergers. Apparently, post-merger integration expenses entail, at least in the short run, a deterioration of bank profitability.

Columns (1) through (4) show four individually specified measures of homophily and social ties aggregated at the bank level. A count variable of board members with an academic degree is associated with statistically and economically significant profitability contraction. It is important to note that the regression analysis does not necessarily indicate causal relationships. Therefore, this negative correlation could reflect that academically qualified managers are more likely to be hired by banking firms that experience deteriorating financial conditions.

The presence of more female board members also reduces the profitability of the bank. A first explanation is in line with the 'glass cliff' conjecture by Ryan and Haslam (2007) that women are likely to be found in senior positions if the risk of failure is high and the firm is in dire financial conditions. Alternatively, banks that hire relatively many females for other than purely rational reasons, for instance in pursuit of regulation or to ventilate a female-friendly image for public relation reasons, may employ boards that are on average less skilled and thus less successful.

The average number of ties among all contacts (scaled by age) in Panel A is statistically significant at the 10% level, and enters the equation with a negative sign. We interpret this result as a weak indication of cronyism. Moreover, in the pillar for public banks, the number of board contacts is also negatively and significantly associated with profitability. This result paired with the absence of any significant effect among private banks in Panels B and D lends further support to the idea that social ties nurture cronyism, especially if a market for corporate control is completely absent. In sum, the evidence for performance shows that social ties themselves are not irrelevant for performance and play some role in adversely affecting profitability. However, a much greater effect arises from social traits of boards. Female and academic degree representation both reduce profitability. Our separate analyses of the performance of banks in the different pillars in Panels B – D are generally consistent with those of the full sample, but sometimes weaker.

IV. Concluding Remarks

Social capital is a key component of any economic activity. In this paper, we exploit a unique, large dataset that provides information about the entire population of executives in the German banking industry to establish how homophily and social ties affect the probability that the appointed bank executive is an outsider or an insider. Specifically, we use data on more than 10,900 executive appointments over the period 1993-2008, to test how similarities in terms of age, gender, and educational backgrounds and how the strength of social ties affects the probability that the successful candidate is an outsider.

Our hypothesis is well-founded in social capital theory. It is plausible to assume that greater similarities and stronger social ties based on age, educational backgrounds, gender, and the embeddedness of individuals in their industry has implications for their career development. In banking, where recent examples of poor governance are manifold, studying such questions is of utmost importance because appointing executives involves trade-offs between selecting the most qualified candidates solely based upon merit on the one hand, and the cost of insufficient screening of somebody who is appointed to the executive role primarily due to social ties.

While we do not interpret our findings in a causal sense due to the fact that many key explanatory variables are endogenous, we uncover several intriguing empirical regularities. First, homophily in terms of small age differences between the appointed individual and the members of the executive board plays a considerable role for whether the appointee is an outsider. Belonging to the same generation increase the likelihood that the successful candidate is an outsider. Second, we find that female appointees are more likely to come from outside the bank when the bank already has a female represented on the executive board. In contrast, academic degrees of any form reduce the chance that the successful candidate is an outsider when other executives already hold an academic degree. Third, a better embeddedness in the social system of executives in the industry also raises the chances that the appointee is an outsider, and so do social ties that exist prior to the appointment to the board.

Regarding the relation between board characteristics in terms of age, gender, education, and social ties and bank performance, we find some weak evidence for a profit-reducing effect arising from more intensive social ties, suggesting the possibility of cronyism. In contrast, we observe much stronger negative performance effects from the presence of more board members

with academic degrees as well as females. This might reflect the tendency to hire better-qualified managers as well as women for riskier jobs at those banks that are in dire financial conditions.

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Table I
Summary Statistics for Banks, Board Size, and Appointments

The table reports the number of banks, average bank size in terms of total assets (log, deflated), and average size of the executive board. We also show the number of executives for each year in the bank staff database held at the Deutsche Bundesbank. The table reports the number of appointments to the executive level in each year. Executives are all individuals that meet the criteria for executives as stipulated in the German Bank Act and also exercise this role. We also present the percentage of appointments per year relative to the number of executives. We show how many of those appointments reflect the appointment of outsiders, i.e. individuals who worked at different institutions prior to their appointment. We also show the ratio of outside appointments relative to the number of all appointments per year.

Year	Banks	Mean size in total assets (log)	Mean executive board size	Executives	All appointments	Share (of all executives)	Outside appointments	Share (of all appointments)
1993	3,297	19.39	3.57	8,220	857	0.10	310	0.36
1994	3,364	19.41	3.64	8,493	888	0.10	244	0.27
1995	3,281	19.49	3.67	8,512	715	0.12	217	0.30
1996	3,219	19.59	3.74	8,587	767	0.11	229	0.29
1997	3,152	19.65	3.73	8,601	778	0.11	247	0.31
1998	3,016	19.76	3.81	8,513	814	0.10	273	0.33
1999	2,809	19.90	3.97	8,321	806	0.10	354	0.43
2000	2,589	20.03	4.21	8,224	996	0.08	421	0.42
2001	2,396	20.16	4.33	7,881	824	0.10	370	0.44
2002	2,235	20.23	4.37	7,414	664	0.11	304	0.45
2003	2,097	20.26	4.35	6,885	596	0.12	267	0.44
2004	2,026	20.31	4.39	6,672	535	0.12	226	0.42
2005	1,955	20.37	4.32	6,382	469	0.14	188	0.40
2006	1,903	20.42	4.27	6,154	409	0.15	157	0.38
2007	1,865	20.45	4.26	6,063	440	0.14	142	0.32
2008	1,821	20.50	4.23	5,868	422	0.14	176	0.41
Mean	*2,517*	*19.98*	*4.03*	*7,440*	*686*	*0.11*	*240*	*0.35*

Table II
Summary Statistics Outside Appointments Across Banking Sectors

The table reports the number of outsider appointments to the executive level in each year. Outsiders are defined as individuals who worked at different institutions prior to their appointment. The appointments are broken down by year and bank type. We also show the ratio of outside appointments relative to the number of appointments per year per bank type.

Year	All banks		Private banks		Public banks		Cooperative banks	
	#	%	#	%	#	%	#	%
1993	310	0.36	40	0.30	80	0.22	190	0.40
1994	244	0.27	18	0.12	114	0.35	112	0.26
1995	217	0.30	20	0.18	91	0.38	106	0.28
1996	229	0.29	45	0.29	79	0.33	105	0.27
1997	247	0.31	32	0.26	59	0.25	156	0.36
1998	273	0.33	47	0.36	41	0.16	185	0.42
1999	354	0.43	42	0.33	76	0.28	236	0.56
2000	421	0.42	32	0.22	108	0.31	281	0.55
2001	370	0.44	36	0.26	118	0.38	216	0.56
2002	304	0.45	32	0.29	85	0.36	187	0.57
2003	267	0.44	17	0.19	95	0.43	155	0.53
2004	226	0.42	19	0.27	83	0.38	124	0.50
2005	188	0.40	17	0.21	68	0.35	103	0.52
2006	157	0.38	20	0.23	56	0.36	81	0.48
2007	142	0.32	17	0.20	54	0.34	71	0.35
2008	176	0.41	14	0.29	57	0.40	105	0.45
Mean	*240*	*0.35*	*25*	*0.23*	*74*	*0.31*	*140*	*0.41*

Table III
Summary Statistics for Bank Executives' Similarities and their Social Connectedness

The table reports mean values for different measures of executives' similarities and social connectedness to the executive board of the appointing bank at their time of appointment. Age difference is the absolute value of the age difference between the appointee and the average age of the executives of the appointing bank. Tie via academic degree is a dummy variable that takes on the value one if the appointee has any type of academic degrees and so has anyone of the executives of the appointing bank. Tie via female gender is a dummy variable that takes on the value one if the appointee is female and at least one of the executive board members is also female. Embeddedness in the banking system captures information on the number of contacts an executive holds in the industry, divided by age. The number of contacts to the appointing board is a count variable that counts if the appointee shares a common employment history with the executives of the appointing bank at another institutions. The table reports mean values for the variables at the appointment year for the full sample, and the subsamples of private banks, public banks, and cooperative banks.

Similarity in terms of:	Age	Education	Gender	Embeddedness	
Tie via	*Age difference*	*Academic degree*	*Female gender*	*# of contacts/age*	*# of contacts to the appointing board*
Panel A: Overview					
Full sample	8.67	0.03	0.01	0.14	3.08
Panel B: Bank types					
Private banks	7.52	0.08	0.00	0.17	2.79
Public banks	8.55	0.03	0.01	0.19	4.79
Cooperative banks	9.13	0.01	0.00	0.10	1.98

Table IV
Correlation Matrix for Measures of Bank Executives' Similarities and Social Connectedness

The table shows the correlations among the different measures of bank executives' similarities and social connectedness at the time of the executives' appointment. Age difference is the absolute value of the age difference between the appointee and the average age of the executives of the appointing bank. Tie via academic degree is a dummy variable that takes on the value one if the appointee holds an academic degree and any one of the executives of the appointing bank also holds an academic degree. Tie via gender is a dummy variable that takes on the value one if the appointee is female and so is at least one of the executives of the appointing bank. The number of contacts to the appointing board is a count variable that counts if the appointee shares a common employment history with the executives of the appointing bank. Number of contacts/age provides information about how many contacts an executive maintains to other bankers, divided by age. *** p<0.01, ** p<0.05, * p<0.1

	Age difference	Tie via academic degree	Tie via gender	Number of contacts to the appointing board	Number of all contacts/age
Age difference	1				
Tie via academic degree	-0.0327***	1			
Tie via gender	-0.0091	-0.0134	1		
Number of contacts to the appointing board	-0.0960***	0.1619***	0.0115	1	
Number of all contacts/age	-0.0953***	0.2549***	-0.0054	0.4754***	1

Table V

Summary Statistics for Bank Executives: Age, Job Experience, Education, and Board Size

The table reports details about executive age at appointment. We also offer information on the executive's educational background using a dummy variable for academic degrees. We also report the descriptive statistics for whether the executive is female. The table also shows information about the bank characteristics size in terms of total assets (log), return on equity (ROE), industry adjusted return on equity. The industry adjusted ROE is calculated by subtracting the mean ROE of the banking industry in the year from the bank's ROE. Size of the executive board is also reported. We present these details for the subgroups of private banks, public banks, and cooperative banks. We present absolute values of *t*-tests for differences in means for the variables tenure, academic degree, the female dummy, and board size. Mean values are reported unless stated otherwise. The *t*-tests for the breakdown by bank types reports the absolute value of the test statistic for the differences in means of the respective type of bank against the other types of banks. *** p<0.01, ** p<0.05, * p<0.1

Variable	**Full sample**			**Breakdown by bank types**		
	All banks			Private banks	Public banks	Cooperative banks
N (executive year observations)	10,980			1,733	3,882	5,415
Executive characteristics	Mean	Min.	Max.			
Age at appointment	46.51	28	65	46.70	44.69	47.73
Academic degree dummy	0.05	0	1	0.16	0.05	0.02
Female dummy	0.03	0	1	0.02	0.04	0.02
Bank characteristics	Mean	Min.	Max.			
Executive board size	4.76	1	22	4.68	6.52	3.53
Return on equity (ROE)	0.13	-0.06	115.29	0.10	0.16	0.12
Industry adjusted ROE	-0.02	-0.73	106.47	-0.04	0.01	-0.03
Total assets (log)	20.11	16.48	27.95	20.67	21.11	19.23
Differences in mean values						
t-test for differences in academic degree				90.36***	1.35	57.82***
t-test for differences in female dummy				5.52***	18.95***	14.77***
t-test for differences in board size				7.61***	270.00***	262.65***

Table VI
Determinants of Appointee being an Outsider in the Period 1993-2008

We present marginal effects of logit estimations that the appointee is an outsider relative to being an insider. The dependent variable takes on the value one if an outsider was appointed to the executive board of a bank or zero if an insider was appointed. Age measures executive age in years, and age difference to board is the absolute difference in years between the appointee and the average age of the members of the executive board of the bank. Dummy for any academic title takes on the value one if the appointee holds an academic degree. Tie via degree to board takes on the value one if the appointee and at least one executive board member hold an academic degree. Female dummy takes on the value one if the appointee is female or zero otherwise. Tie via gender to board takes on the value one if the appointee is female and at least one board member of the appointing bank is also female. Number of contacts to the appointing bank is the number of contacts the appointee had prior to the appointment to the executive board members of the appointing bank. Number of all contacts/age is the number of contacts the appointee maintains in the German banking industry scaled by age in years. Industry adjusted ROE is the ROE of the bank less the median ROE in the industry. Executive board size is the number of members of the executive board. Total assets is measured by the log of total assets. Public and cooperative bank dummy are dummies that take on the value one if the bank is a public or a cooperative bank, respectively. The dummy for private banks is omitted to avoid perfect collinearity. Year dummies are included but not shown. Robust z-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)	(3)	(4)
	All banks	Private banks	Public banks	Cooperative banks
Executive characteristics				
Age	0.0168***	0.0137***	0.0256***	0.0183***
	[16.6675]	[9.2199]	[7.9405]	[10.0701]
Age difference to board	-0.0170***	-0.0057***	-0.0093***	-0.0212***
	[-17.4563]	[-3.0038]	[-4.6166]	[-14.0865]
Dummy for any academic title	0.0001	0.0346	0.0545	-0.2034***
	[0.0019]	[0.9620]	[0.7929]	[-2.7912]
Social tie via degree to board	-0.2805***	-0.0258	-0.2735***	-0.3846**
	[-9.5348]	[-0.5139]	[-7.5099]	[-2.4343]
Female dummy	-0.0280	-0.0759*	0.1356**	-0.1520***
	[-0.8220]	[-1.8903]	[2.3957]	[-2.6702]
Social tie via gender to board	0.2961***	0.4430	0.1380	0.2975**
	[3.7840]	[1.6034]	[1.5908]	[2.1586]
Number of contacts to the appointing bank	0.0159**	-0.0134	-0.0036	0.0944***
	[2.1581]	[-1.2276]	[-0.3471]	[6.7827]
Number of all contacts/age	4.8860***	1.6881***	5.6965***	9.3746***
	[15.3329]	[8.1030]	[7.8210]	[9.6709]
Bank characteristics				
Industry adjusted ROE	-0.0013***	-0.0002	-0.0005	-0.0011
	[-2.9880]	[-0.6554]	[-0.5268]	[-1.2865]
Executive board size	-0.0709***	-0.0115	-0.0569***	-0.1527***
	[-7.7131]	[-0.9848]	[-3.8135]	[-7.4538]
Total assets (log)	-0.0803***	-0.0482***	-0.1555***	-0.0600***
	[-12.8515]	[-8.3046]	[-7.8746]	[-5.8752]
Public bank dummy	0.2771***			
	[9.6996]			
Cooperative bank dummy	0.4194***			
	[18.9105]			
Year dummies	Yes	Yes	Yes	Yes
Observations	10,980	1,733	3,832	5,415
Pseudo R-squared	0.3521	0.3165	0.4923	0.3971
Area under ROC-curve	0.8996	0.8844	0.9439	0.9128
Type I Error	17.557	24.335	11.515	14.609
Type II Error	16.625	14.490	11.119	16.767

Table VII
Changes in Predicted Probabilities for Outsider Choice

We compute predicted probabilities that the successful candidate is an outsider. We examine appointment of a female individual with an academic degree based on the simultaneous specification of our logit model. Age, industry adjusted ROE, executive board size, total assets (log), and the public and cooperative bank dummies are all held constant at their means. Age difference reports the effect of changing the age difference to the board from the 10th to the 90th percentile of that variable. Tie via degree presents the change from having no tie to the board via an academic degree to having a tie via an academic degree to the board of the appointing bank, and Tie via gender offers the same exercise for the tie via gender. Number of contacts to appointing bank compares the differences for the appointment probability based on no contact to the appointing bank's board with having 6 contacts to the appointing board. Number of all contacts/age shows the effect of the number of contacts scaled by age at the 10th and at the 90th percentile of that variable on the probability of appointment.

	Weak ties	**Strong Ties**
Unconditional probability for appointment	*0.2976*	
Age difference	0.2058	0.4347
	(90^{th} percentile; 15 years)	(10^{th} percentile; 1 year)
Tie via degree	0.3371	0.0566
	(tie dummy = 0)	(tie dummy = 1)
Tie via gender	0.3228	0.6190
	(tie dummy = 0)	(tie dummy = 1)
Number of contacts to appointing bank	0.2531	0.3435
	(10^{th} percentile; 0 contacts)	(90^{th} percentile; 6 contacts)
Number of all contacts/age	0.0309	0.9500
	(10^{th} percentile; 0.02 contacts/age)	(90^{th} percentile; 0.31 contacts/age)

Table VIII

Determinants of Appointee being an Outsider in the Period 1993-2008 (with Merger Dummy)

We present marginal effects of logit estimations of that the successful appointee is an outsider relative to being an insider. The dependent variable takes on the value one if an outsider was appointed to the executive board of a bank. Age measures executive age in years, and age difference to board is the absolute difference in years between the appointee and the average age of the members of the board Dummy for any academic title takes on the value one if the appointee holds an academic degree. Tie via degree to board takes on the value one if the appointee and at least one executive board member hold an academic degree. Female dummy takes on the value one if the appointee is female or zero otherwise. Tie via gender to board takes on the value one if the appointee is female and at least one board member of the appointing bank is also female. Number of contacts to the appointing bank is the number of contacts the appointee had prior to the appointment to the executive board members of the appointing bank. Number of all contacts/age is the number of contacts the appointee maintains in the German banking industry scaled by age in years. Industry adjusted ROE is the ROE of the bank less the median ROE in the industry. Executive board size is the number of members of the board. Total assets is measured by the log of total assets. Public and cooperative bank dummy are dummies that take on the value one if the bank is a public or a cooperative bank, respectively. We include a dummy variable that takes on the value one if a bank was actively involved in a merger. Year dummies are included but not shown. Robust z-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)	(3)	(4)
	All banks	Private banks	Public banks	Cooperative banks
Executive characteristics				
Age	0.0135***	0.0130***	0.0211***	0.0160***
	[13.5155]	[8.8838]	[7.8629]	[8.6390]
Age difference to board	-0.0131***	-0.0043**	-0.0073***	-0.0165***
	[-12.9301]	[-2.2751]	[-3.6074]	[-10.4874]
Dummy for any academic title	0.0404	0.0416	0.0790	-0.1641**
	[1.0877]	[1.1487]	[1.1433]	[-2.1341]
Social tie via degree to board	-0.2324***	-0.0134	-0.2472***	-0.3127
	[-5.5810]	[-0.2568]	[-9.5866]	[-1.2234]
Female dummy	-0.0531*	-0.0701*	0.0085	-0.1232**
	[-1.9121]	[-1.7177]	[0.1641]	[-2.3752]
Social tie via gender to board	0.2370***	0.5056**	0.1935*	0.2352
	[3.0852]	[1.9773]	[1.9025]	[1.5865]
Number of contacts to the appointing bank	-0.0118	-0.0057	-0.0095	0.0116
	[-1.5613]	[-0.5004]	[-0.8621]	[0.7607]
Number of all contacts/age	4.9566***	1.6365***	5.6440***	9.5515***
	[15.6671]	[7.9766]	[8.8414]	[9.6424]
Bank characteristics				
Industry adjusted ROE	-0.0012***	-0.0005	-0.0001	-0.0009
	[-2.7159]	[-1.2071]	[-0.1271]	[-0.9844]
Executive board size	-0.0724***	-0.0187	-0.0799***	-0.1581***
	[-7.8081]	[-1.5329]	[-4.9634]	[-7.4581]
Total assets (log)	-0.1014***	-0.0521***	-0.1706***	-0.0774***
	[-15.4239]	[-8.9828]	[-8.9258]	[-6.7787]
Public bank dummy	0.3001***			
	[10.2402]			
Cooperative bank dummy	0.2796***			
	[11.8009]			
Merger dummy	0.5215***	0.3233***	0.6971***	0.4695***
	[37.9551]	[5.3148]	[30.3868]	[25.0273]
Year dummies	Yes	Yes	Yes	Yes
Observations	10,980	1,733	3,832	5,415
Pseudo R-squared	0.4376	0.3352	0.6038	0.4650
Area under ROC-curve	0.9249	0.8891	0.9638	0.9294
Type I Error	17.188	22.222	10.332	16.928
Type II Error	12.206	13.807	7.1350	13.582

Table IX
ROE Regressions

We present random effects panel estimation of social tie variables and bank controls on bank performance for all 3,386 German banks in Panel A, and Panels B – D report the results for subsamples of private, public, and cooperative banks, respectively. The dependent variable is the change of ROE. Executive board size is the number of members of the executive board. Age measures the average executive age in years. We specify count variables for the number of board members that hold an academic degree and female board members per bank and year. We average the number of contacts to the appointing bank is the number of contacts the appointee had prior to the appointment to the executive board members of the appointing bank. Likewise, we average the number of all contacts/age, which is the number of contacts the appointee maintains in the German banking industry scaled by age in years. Total assets is measured by the log of total assets. Public and cooperative bank dummy are dummies that take on the value one if the bank is a public or a cooperative bank, respectively. The dummy for private banks is omitted to avoid perfect collinearity. We include a dummy variable that takes on the value one if a bank was actively involved in a merger. Year dummies are included but not shown. Robust z-statistics in brackets.*** p<0.01, ** p<0.05, * p<0.1.

Panel A: All banks	(1) Board members with academic degree	(2) Female board members	(3) All contacts	(4) Board contacts	(5) Social ties: Joint effect
Board characteristics					
Board size	0.1943**	0.1978**	0.1814**	0.2258**	0.3186***
	[2.2893]	[2.3182]	[2.1570]	[2.1449]	[2.9384]
Average board age	-0.0607**	-0.0620**	-0.0689***	-0.0714***	-0.0718***
	[-2.3635]	[-2.4137]	[-2.6877]	[-2.7068]	[-2.7291]
Board members with academic degree	-4.1884***				-3.8209**
	[-2.8603]				[-2.5418]
Female board members		-3.4916**			-2.9053*
		[-2.1870]			[-1.7572]
Average number of all contacts/age			-2.4832*		-2.2678
			[-1.6823]		[-1.5444]
Average number of board contacts				-0.1565	-0.2311
				[-0.9990]	[-1.4740]
Bank characteristics					
Total assets (log, deflated)	1.7891***	1.7924***	1.8533***	1.8951***	1.8868***
	[3.1476]	[3.1524]	[3.2624]	[3.2532]	[3.2571]
Public bank dummy	-1.1128***	-1.1191***	-1.1216***	-1.1115***	-1.1120***
	[-6.2695]	[-6.3035]	[-6.3384]	[-6.2494]	[-6.2690]
Cooperative bank dummy	-0.9838***	-0.9967***	-1.0096***	-0.9859***	-0.9998***
	[-5.7504]	[-5.8230]	[-5.9191]	[-5.7540]	[-5.8491]
Merger dummy	-2.9805***	-2.9796***	-2.9666***	-2.9744***	-2.9672***
	[-10.8353]	[-10.8218]	[-10.7882]	[-10.8131]	[-10.7828]
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	35,575	35,575	35,575	35,575	35,575
Number of banks	3,386	3,386	3,386	3,386	3,386
Panel B: Private banks					
Board characteristics					
Board size	-0.1421	-0.1473	-0.1105	-0.1629	-0.1213
	[-0.4474]	[-0.4606]	[-0.3463]	[-0.4557]	[-0.3403]
Average board age	-0.0296	-0.0340	-0.0372	-0.0325	-0.0301
	[-0.2352]	[-0.2687]	[-0.2971]	[-0.2582]	[-0.2427]
Board members with academic degree	-6.1194**				-6.0187**
	[-2.0405]				[-2.0334]
Female board members		1.1226			0.3598
		[0.1879]			[0.0602]
Average number of all contacts/age			-5.8819		-5.6808
			[-1.4560]		[-1.4415]
Average number of board contacts				0.0500	0.0564
				[0.0873]	[0.0990]
Bank characteristics					
Total assets (log, deflated)	0.9480	0.9238	0.9532	0.9184	0.9793
	[1.2175]	[1.1725]	[1.2183]	[1.1627]	[1.2639]
Merger dummy	-0.1918	-0.2351	-0.1830	-0.2271	-0.1579
	[-0.0919]	[-0.1122]	[-0.0875]	[-0.1087]	[-0.0757]
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	3,203	3,203	3,203	3,203	3,203
Number of banks	349	349	349	349	349

Panel C: Public banks					
Board characteristics					
Board size	0.3053**	0.3127**	0.2589*	0.6273***	0.5868***
	[2.1868]	[2.2490]	[1.8359]	[3.5414]	[3.2736]
Average board age	-0.1363**	-0.1368**	-0.1205*	-0.2062***	-0.1898**
	[-1.9631]	[-1.9758]	[-1.6672]	[-2.7217]	[-2.4305]
Board members with academic degree	-0.7921				-1.1880
	[-0.2664]				[-0.4039]
Female board members		-4.6490			-4.5823
		[-1.1879]			[-1.1753]
Average number of all contacts/age			4.6573		4.7038
			[1.0676]		[1.0758]
Average number of board contacts				-0.7555***	-0.7552***
				[-3.0979]	[-3.0899]
Bank characteristics					
Total assets (log, deflated)	4.5198**	4.6152***	4.3502**	5.3681***	5.2542***
	[2.5202]	[2.5890]	[2.3943]	[2.9360]	[2.8664]
Merger dummy	-1.4808	-1.4918	-1.5259	-1.3823	-1.4397
	[-1.3413]	[-1.3498]	[-1.3782]	[-1.2526]	[-1.2983]
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	7,934	7,934	7,934	7,934	7,934
Number of banks	640	640	640	640	640
Panel D: Cooperative banks					
Board characteristics					
Board size	0.0911	0.1166	0.0650	0.0679	0.1918
	[0.9246]	[1.1413]	[0.6655]	[0.5490]	[1.4624]
Average board age	-0.0397	-0.0391	-0.0453*	-0.0428	-0.0459*
	[-1.5016]	[-1.4822]	[-1.7134]	[-1.5833]	[-1.6985]
Board members with academic degree	-2.7117				-1.5459
	[-1.5848]				[-0.8438]
Female board members		-3.8517**			-3.5112*
		[-2.1662]			[-1.8371]
Average number of all contacts/age			-3.0382*		-2.8762*
			[-1.8603]		[-1.7382]
Average number of board contacts				-0.0341	-0.1620
				[-0.1642]	[-0.7641]
Bank characteristics					
Total assets (log, deflated)	2.5162***	2.4873***	2.6616***	2.6494***	2.6502***
	[3.4951]	[3.4563]	[3.6926]	[3.3927]	[3.3721]
Merger dummy	-3.3877***	-3.3873***	-3.3778***	-3.3856***	-3.3810***
	[-13.3160]	[-13.3049]	[-13.2848]	[-13.3153]	[-13.2782]
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	24,438	24,438	24,438	24,438	24,438
Number of banks	2,399	2,399	2,399	2,399	2,399

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