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A New Approach to Identifying Political Connections: Evidence from the Russian Banking Sector¹

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Abstract

This paper introduces a novel approach to identifying and operationalizing political connections of banks. We manually code 2,598 bankers who owned or worked in 115 Russian banks between 2015 and 2021 to classify political connections and uncover their institutional patterns through cluster analysis. We propose a set of variables that capture the origins, relevance, and maturity of political connections, which enable a more theoretically grounded assessment of their effects on business decisions and financial performance. Our findings confirm the prevalence and heterogeneity of political connections in the Russian banking sector and provide a nuanced understanding of how political interests infiltrate bank activities. We document the fact that formal ties to the government, regional authorities, and stateowned companies stand out, being associated with lower capital adequacy and higher lending to the economy. Distinct effects emerge for regulatory and parliamentary connections. Regarding the timing of connections, those established after a banker joins the bank appear to mitigate state pressure, resulting in lower lending and reduced credit risk. Clustering identifies five groups of banks with distinct configurations of political connections, size, and ownership – from small regional banks with localized connections to large stateowned federal banks with comprehensive political networks, which also exhibit statistically significant differences in financial outcomes.

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Introduction

Political connections of banks serve as a mechanism of political pressure, creating non-market incentives. Following the broader literature on corporate political connections (Hillman, 2005, p. 469; Faccio, 2006, p. 370–371) [1; 2], they can be understood as an informal channel of relations with political decision-makers, typically identified through the presence of current or former politicians or officials among a bank's owners or managers.

The special interest in political connections of banks is related to their role in economic development. They provide free financial resources, including to new innovative firms lacking alternative financing. However, those who wish to maintain the status quo in the distribution of market and political power – i.e., the elites occupying dominant positions in the economic and political system – can hinder the increase in universal availability of financing as this threatens their monopolist position (Rajan, Zingales, 2003) [3]. Consequently, it becomes harder for firms without connections to the elites to obtain bank financing (Khwaja, Mian, 2005; Houston et al., 2014; Arifin, Hasan, Kabir, 2020) [4–6]. Moreover, in systems with limitations of formal institutions (e.g., weak checks and balances on executive power), ruling groups seek to manipulate credit flows by establishing control over the market financial system through the growth of state capital and political connections in the management of banks and financial companies (Rithmire, 2023, p. 16–19; Khmelnitskaya, 2014, p. 164; Viktorov, Abramov, 2016) [7–9].

Previous studies on political connections in the financial sector have produced a paradox: connected banks are found to engage in smoothing lending to support businesses and individuals during crises, though this subsequently significantly increases the proportion of bad loans in their portfolios (Bian, Ji, Wang, 2021; Wang et al., 2019; Chavaz, Rose, 2019) [10–12]. The literature on non-financial firms reports similarly conflicting results, with connections boosting performance (e.g., Arifin, Hasan, Kabir, 2020; Goldman, Rocholl, So, 2009; Su, Fung, 2013; Szakonyi, 2018;) [6; 13–15] and destroying value even in the same contexts (e.g., Fisman, 2001; Boubakri, Cosset, Saffar, 2008; Han, Zhang, 2018; Trifonov, 2021) [16–19]. While scholars often label political connections a “double-edged sword” (Trifonov, 2021, p. 2; Frye, Iwasaki, 2011, p. 656; Gao et al., 2021, p. 14) [19–21], referring to firms' strategic choices to either buffer from or bind to the state as political connections allow both (Zhang, Marquis, Qiao, 2016) [22], we argue that this framing masks a more fundamental measurement problem.

A review of the empirical literature reveals that most studies across both developed and emerging markets rely on relatively coarse metrics of political connections, typically employing a single binary indicator or a simple count of connected directors (e.g., Bian, Ji, Wang, 2021; Trifonov, 2021; Hillman, 2005; Fan, Wong, Zhang, 2007; Chen et al., 2011; Carretta et al., 2012; Blau, Brough, Thomas, 2013; Hung et al., 2017; Bertrand et al., 2018) [1; 10; 19; 23–28]. While some works have introduced valuable refinements

such as distinguishing informal from formal ties (Abdel-salam, Mollah, Tortosa-Ausina, 2017) [29], accounting for the duration or recency of a connection (Houston et al., 2014; Arifin, Hasan, Kabir, 2020; Han, Zhang, 2018; Hasan et al., 2017; Ceglowski et al., 2025) [5; 6; 18; 30; 31], or meaningfully differentiating between the institutional origins of political connections (Goldman, Rocholl, So, 2009; Han, Zhang, 2018; Hasan et al., 2017; Okhmatovskiy, 2010; Disli, Schoors, Meir, 2013; Farag, Dickinson, 2020) [13; 18; 30; 32–34] – the dominant approach still treats political connections as largely homogeneous. Even when multiple variables are used, they often lack substantive justification; connections are coded broadly (e.g., “any past or present government position”) without considering the specific institutional roles through which they influence firm outcomes.

Recent advances in network analysis have confirmed the importance of moving beyond binary indicators: Bussolo, Commander, Poupakis (2023) [35] demonstrate that while omission of network attributes may not bias the coefficient of a simple connectedness dummy, it “certainly obscures the large heterogeneity that exists once the network variables are included”. However, even network position and connection weight cannot fully convey the qualitative nature of the underlying relationship. To capture this heterogeneity, we move beyond both “catch-all” binary indicators and network metrics. Drawing on a systematic analysis of previous measurement approaches, we develop a framework for multidimensional encoding of political connections – distinguishing types, strength, timing, and institutional context. This enables us to uncover not only the effects of such ties but also their antecedents: the behavioral strategies and individual incentives of connected executives and shareholders. We illustrate this with a proportion variable that captures whether connections to specific state institutions serve a bank's interests or impose an extra burden, addressing the principal-agent problem. Our approach thus helps disentangle not just whether political connections matter, but which specific types drive the contradictory effects documented in the literature, and through what mechanisms.

Given the complexity of collecting such data systematically across countries (Gao et al., 2021) [21], we focus on Russia – an emerging market that provides a perfect environment for exploring the role of political connections due to its systemic limitations of formal institutions, reliance on informal practices, and close intertwining of political and economic elites (Gel'man, 2016, p. 459; Sharafutdinova, 2010, p. 23–24, 37–42; Ledeneva, 2006) [36–38]. Numerous researchers confirm the significant role of political connections in the Russian corporate environment (Szakonyi, 2018; Okhmatovskiy, 2010; Trifonov, 2021; Frye, 2017; Berkowitz, Hoekstra, Schoors, 2014; García-Gómez et al., 2023) [15; 19; 32, 39–41]. In this institutional context, certain types of political connections characterize established relationships between banks and government officials, including bank support for government initiatives (Okhmatovskiy, 2010, p. 1040; Vernikov, 2014, p. 9; Fungáčová et al., 2023, p. 910–911) [32; 42; 43].

Using a new, manually collected dataset, we identify and categorize the types and features of Russian banks' political connections. Through cluster analysis of these multidimensional measures, we unveil distinct configurations of connectedness, patterns that traditional binary metrics would have lumped together, revealing how they map onto other institutional characteristics of banks and offering a more nuanced portrait of political involvement in the banking sector than previously possible. Using t-tests for mean comparisons, we show that a clear specification of different types of political connections – rather than a simple binary indicator – has the potential to explain the previously puzzling differences in the financial performance of firms, including banks. Our paper expands the understanding of the depth and nature of political interests in the Russian banking sector and provides a template for future research on the heterogeneous effects of political connections.

Theories of political connections

Research in management, finance, political science, and sociology develops several theories on corporate political connections – commonly defined as relationships between firms and political actors (Wei, Jia, Bonardi, 2023) [44]. More nuanced conceptualizations depend on identification strategies and research purposes (Trifonov, 2018, p. 129) [45]. Definitions vary across levels (interpersonal, individual-organizational, organizational), forms (relationship-based or equity-based), positions of connected actors, and connection features (status, duration, strength). These differentiating properties apply equally to banks.

Gao et al. (2021) [21] distinguish resource dependence theory (RDT), resource-based view (RBV), institution-based view, social embeddedness perspective, and behavioral perspective as complementary rather than mutually exclusive explanations. All, probably except for behavioral theory, emphasize the key role of political connections in accessing, exchanging, or applying resources.

Banks, as central actors in financial markets, allocate capital crucial for economic development. Political connections may obstruct market mechanisms, serving as both lock and key to credit flows. Politically connected banks can: 1) alter financing under pressure from non-market interests behind connections, providing legal or illegal gains for politicians (Tahoun, 2014; Palmer, Schneer, 2016; Mironov, Zhuravskaya, 2016) [46–48] or achieving public goals (Shi et al., 2021) [49]; 2) restrict access to finance for smaller firms, limiting competition and preserving market power for politically embedded largest businesses (Rajan, Zingales, 2003) [3]. Yet firms with political connections often gain preferential credit access (Khwaja, Mian, 2005; Arifin, Hasan, Kabir, 2020; Su, Fung, 2013; Hasan et al., 2017) [4; 6; 14; 30].

This logic aligns with RBV, where political connections constitute unique, inimitable resources (Frynas, Mellahi, Pigman, 2006) [50]. From an institutional perspective, in contexts with weak formal institutions, connections replace the missing market mechanisms and facilitate financial flows (Cegłowski et al., 2025) [31], particularly in state-controlled banks where managers obey ruling elites

(Arifin, Hasan, Kabir, 2020; Sapienza, 2004; Fungáčová, Herrala, Weill, 2013; Karas, 2022, p. 38–40; Arifin, Hasan, Kabir, 2020; Grosman, Wright, Okhmatovskiy, 2016, p. 211) [20; 51–54]. However, this institutional approach captures obligations but not the full range of bank capabilities. As for the resources beyond financial capital, such as information, preferential regulatory treatment, or subsidies, all theories suggest that banks establish connections to extract diverse benefits. According to the institutional view, heavily regulated industries show more political connections (Hillman, 2005) [1]; banking, being highly regulated, should exhibit this tendency. Weaker legal protections in developing economies (Faccio, 2006, p. 379; Chen et al., 2011, p. 237; Frye, 2017; Xin, Pearce, 1996; Earle et al., 2021;) [2; 24; 39; 55; 56] and greater government discretion with less economic liberalization (Chen et al., 2011, p. 231; Duvanova, 2023, p. 19, 186) [24; 57] further incentivize establishment of connections. Extensive regulation, bureaucratic discretion, and political risks create uncertainty; political connectedness helps buffer risks and reduce transaction costs with government agencies. Thus, connections are not zero-sum – banks can both serve as the elites' wallet and benefit themselves.

This corresponds to RDT: firms establish connections when dependent on government resources allocated discretionarily (Zhang, Sun, Qiao, 2020) [58]. The social embeddedness theory, which views markets as networks where influential actors hold political capital, explains why elite control over banking serves officials seeking rents in form of financial support, votes, information (Bussolo, Commander, Poupakis, 2023; Bonardi, Hillman, Keim, 2005, p. 399–400) [35; 59] while leaving room for mutually beneficial collusion with banks, providing them with resources and safeguards (Frye, Iwasaki, 2011; Cegłowski et al., 2025; Haveman et al., 2017) [20; 31; 60]. Business and political actors within networks become mutually interdependent, with connections enabling credible commitments (Marques, 2017) [61]: lower-level officials hesitate to breach contracts when banks can invoke higher-level connections to punish violators.

The sociological exchange theory (Homans, 1958) [62] suggests that such relations enable power exercises when the resource balance between agents are violated. This elucidates political credit cycles (Kern, Amri, 2021) [63], where connected banks lend more actively during elections (Bian, Ji, Wang, 2021; Wang et al., 2019; Chavaz, Rose, 2019) [10–12]: banks associated with candidates increase lending to voters (Chu, Zhang, 2022; Ghosh, 2023; Lepers, 2025) [64–66] or mobilize employees for votes (Schoors, Weill, 2020) [67]. Bankers doing political favors can later expect reciprocal benefits in the form of influence on politicians' regulatory decisions (Chu, Zhang, 2022) [64], until politicians reciprocate by providing bankers with preferential funding (Blau, Brough, Thomas, 2013; Chavaz, Rose, 2019; Duchin, Sosyura, 2012) [12; 26; 68], increasing government deposits (Fungáčová et al., 2023) [43], borrowing more from them (Delatte, Matray, Pinardon-Touati, 2020) [69], or approving bank branch expansion (Bian, Ji, Wang, 2021) [10]. Thus, connections affect not only access to resources but their exchange and use.

The behavioral approach focuses on micro-level calculations: managers weigh costs and benefits of lawyers, consultants, insurance, corruption, versus establishing connections. Since relationship-based political connections offer both the merit of reduced transaction costs with the regulatory institutions and the demerit of having to please specific officials, choosing a specific political bond may indicate that it is more profitable than alternatives (Keefe, 2019; Mitchell, Hansen, Jepsen, 1997, p. 1098) [70, 71] – assuming the connection was indeed the bank's choice (see the section on endogeneity). The behavioral approach recognizes that connections matter for individual business-people – shareholders, directors, managers – whose personal motives influence firm strategy (Albino-Pimentel, Anand, Dussauge, 2018) [72]. This enables principal-principal and principal-agent conflicts: politically connected blockholders extract firm wealth by shielding themselves from regulatory interventions (Chavaz, Rose, 2019; Boateng, Liu, Brahma, 2019; Sun, Hu, Hillman, 2016) [24; 73; 74]; ex-officials in private firms may create governance conflicts (Boubakri, Cosset, Saffar, 2008) [17] or distort firm employment decisions to bolster political support (Bertrand et al., 2018) [28]. Yet connections built for personal gain can also increase firm value alongside managers' remunerations (Guo, Huy, Xiao, 2017) [75].

However, when connections are initiated by government agencies rather than firms, can quantitative research using simple one-dimensional variables guarantee consistent effects and mechanisms across institutional contexts? Given the deficit in research on political connection antecedents (Wei, Jia, Bonardi, 2023) [44], we argue that explaining particular mechanisms from a certain theoretical perspective requires well-grounded identification and operationalization strategies. Doubting the feasibility of universal variables suitable for cross-country research, we next elaborate diverse identification approaches and present new measures enabling researchers to address the heterogeneity of political connections and the interactions behind them.

Political connection identification strategy and data

There are many approaches to identifying political connections. Preuss and Königsgruber (2021) [76] discuss eight proxy indicators: 1) campaign donations, 2) lobbying, 3) politicians' equity shares, 4) geographical proximity of firms to politicians' constituencies, 5) state ownership, 6) social ties with politicians, 7) CEOs with political experience, 8) indirect approaches like stock price reactions to political events. The choice of proxies across institutional

contexts leads to different conclusions about their impact (Trifonov, 2018, p. 129) [45]. We argue that any proxy captures a "tangle" of business-state relations, mixing prerequisites (e.g., equity shares, proximity) and consequences (e.g., donations, market reactions). Thus, theoretically unjustified use of political connection variables may be misleading.

This paper defines a political connection as the existence of an interaction channel between bankers and political decision-makers. By bankers, we mean owners with $\geq 1\%$ stakes (excluding minority holders), board members, CEOs, top managers, and chief accountants – all those responsible for strategic or tactical decisions. This approach reduces the risk of systematic error stemming from limited research on how these institutions affect banking governance in a specific national context. Thus, bankers with access to state officials, politicians, or top state-company managers are carriers of political connections.

Sticking to a relationship-based definition, we use bankers' job experience in political positions and their informal connections with politicians as proxies. First, this approach best matches our theoretical understanding; second, such data, when properly processed, is available across institutional contexts where data on donations, lobbying, etc., may be poor. Formal political connections are identified directly through past or present government or state-company experience. Informal connections are identified indirectly through acquaintances with politicians or officials. We denote both as *common* connections.

Data were collected on 115 Russian banks (both large and small), accounting for about 41.2% of the sector², sampled quasi-randomly for 2015–2021. The delimitation is due to availability of information on bankers' qualifications and employment, disclosed by banks up until early 2022 following Central Bank's instructions³. For direct encoding, we also used official quarterly bank reports and online biographies⁴.

Informal connections were encoded on indirect grounds: when acquaintance with officials does not stem from formal employment but is uncovered through other evidence – membership in government non-profits, public or expert councils, parliamentary offices (individual-organizational level), or publicly known family, friendly, or partnership relations with representatives of authorities, the regulator, or the President's inner circle (interpersonal level). For each banker, we queried their name with keywords related to state institutions or top officials, verifying the discovered facts through the Integrum media database. Appendix provides detailed encoding procedures with examples.

Limitations of an indirect approach include subjectivity

² We do not include the largest Russian bank, Sberbank, with its 31.8% of the sector in 2021, treating it as an outlier in terms of its gigantic role in the economy and related political consequences.

³ Bank of Russia Instruction 3639-U of 19 May 2015 "On the procedure for disclosure by a credit institution of information on the qualifications and work experience of members of the board of directors (supervisory board) of a credit institution, persons holding the positions of the sole executive body, their deputies, members of the collegial executive body, chief accountant, deputy chief accountant of a credit institution, as well as the head, chief accountant of a branch of a credit institution, on the official website of the credit institution in the information and telecommunications network "Internet"". URL: <http://pravo.gov.ru> (date of access: 18.01.23).

⁴ Verification of a specific person from the information disclosed by banks with biographical data on the web was carried out by date and/or place of birth.

in expert coding and data availability. However, informal connections (kinship, friendship, common origin, university, joint business) are widely used as connection indicators in corporate environments (Fisman 2001; Faccio 2006; Hwang, Kim 2009; García-Gómez et al. 2023) [16; 2; 77; 41]. Given the high concentration of informal relations between the business sector and the government in Russia (Sharafutdinova 2010:38, 40; Ledeneva 2006) [37, 38], omitting them would severely limit explanatory power by introducing systematic omitted-variable bias.

In total, 2,598 bankers across 115 banks were encoded. Among them, 575 (22.1%) had some political connection in at least one year between 2015 and 2021. Specifically, 335 (12.9%) had formal connections through work, 364 (14.0%) had informal connections, and 124 (4.8%) had both. Among 800 owners with $\geq 1\%$ stakes, 243 (30.4%) were politically connected. Of 1,224 board directors, 402 (32.8%) had at least one connection; of 190 board chairs, 109 (56.8%) were connected. Among 1,038 management board members, only 106 (10.2%) had connections; among 182 CEOs, 40 (22.0%); among 142 chief accountants, only 2 (1.4%). Connections are more widespread among owners and directors than managers, but managers cannot be ignored: e.g., of 39 bankers with experience in regulatory authorities (mostly regional Central Bank departments), 18 were management board members, the remainder – board directors.

Heterogeneity of political connections

Accounting for the heterogeneity of political connections is essential for obtaining internally valid results. For example, a banker's work experience in a government body directly implies participation in decision-making, while acquaintance with officials offers only the possibility of indirect influence. An official position also entails formal obligations and subordination, which does not make one type "better" but implies different underlying interactions. Direct access typically requires higher costs, yet indirect connections may still yield benefits while allowing firms to escape government intervention (Okhmatovskiy, 2010, p. 1027; Carney, Child, Li, 2020, p. 5) [32; 78]. According to the institutional approach, banks with formal connections may be more prone to alter resource allocation in the interests of the state bodies where their representatives work or worked.

Heterogeneity also stems from the different competencies and resources of authorities. The more diverse a bank's political connections and the greater the number of state bodies it can access, the larger the space for mutually beneficial exchanges. Accordingly, studies distinguish connections by source: parliamentary, regulatory, government (Hasan et al., 2017; Farag, Dickinson, 2020) [30; 34], ruling party or government (Disli, Schoors, Meir, 2013) [33]. Research on China confirms the importance of connections with lo-

cal officials: in a centralized system, local authorities are tasked with implementing government policy (Wang et al., 2019; Hung et al., 2017; Shi et al., 2021) [11; 27; 49]. Connections with state-owned companies may be especially beneficial (Okhmatovskiy, 2010) [32]. Based on the resource dependence theory, different state bodies provide different resources, explaining why connections are established for mutual exchange.

To capture this variety, we introduce and encode five types of connections via direct and indirect identification: *parliamentary* (State Duma or Federation Council), *regulatory* (Bank of Russia, its regional departments, Federal Financial Markets Service⁵, Deposit Insurance Agency, Accounts Chamber), *governmental* (federal ministries and their departments, regional law enforcement agencies, Presidential Administration), *corporate* (top management of state-owned companies and their first-level subsidiaries, government-established NGOs, e.g., Skolkovo Foundation or Agency for Strategic Initiatives), and *regional* (executive and legislative authorities of the region or the municipality where the bank is registered). This yields 10 variables of *common* political connections.

Following Houston et al. (2014) [5], Hasan et al. (2017) [30], and Han, Zhang (2018) [18], we also consider current status (*bynow*) and duration (*durat*) for each of the 10 types, adding 20 variables. The binary *bynow* variable indicates whether the relationship is ongoing (1) or ended (0), capturing whether parties currently exchange information and resources. Duration is encoded as the number of years the connection lasts or lasted, converted to an ordinal scale: 0 (no connection), 1 (non-lasting, transactional), 2 (up to 4 years), 3 (5–10 years), 4 (11–20 years), 5 (over 20 years), and 6 (kinship/marriage, informal only). This distinguishes transactional connections (short-term, tactical exchanges)⁶ from relational ones (long-term, strategic trust-based interactions) (Arifin, Hasan, Kabir, 2020; Hillman, Hitt, 1999) [6; 79]. From the behavioral perspective, both current status and duration control for the relevance and reliability of the bank-state relationship behind a connection (Wei, Jia, Bonardi, 2023, p. 1879) [44]. We do not use years since the end of the connection, as this largely duplicates the current status and does not capture relationship maturity.

Regardless of the identification method, an important dimension of heterogeneity is the connection's origin: whether banks establish connections bottom-up in their favor, or politicians establish them top-down in their own interests. To consider this, we encode a "revolving doors" variable (*revolv*) for each of the 10 types (adding 10 variables, totaling 40). *Revolv*, depicting the moment of connection establishment, equals 0 if the connection existed before the banker's affiliation with the bank (joining management or acquiring equity), and 1 if initiated after affiliation. This variable captures the actor whose interests the connected banker represents. A value of 1 suggests that the bank gained official attention (e.g., receiving a state award) or

⁵ Federal Financial Markets Service operated in 2004–2013.

⁶ For example, consider a presidential decree awarding a banker, a one-time business meeting with a government official, or a large contract that a businessman received from a government agency on preferential terms.

the banker established connections to improve bank performance (e.g., through parliamentary elections, as Szakonyi (2018) [15] shows). A value of 0 implies that the banker arrived with pre-existing connections, potentially carrying obligations from prior relationships that may provoke agency problems.

Zhang, Marquis, and Qiao (2016) [22] similarly distinguished “ascribed” connections (government positions held before entering business) from “achieved” ones (parliamentary mandates acquired after taking a business position) for Chinese private firms. They found that ascribed connections buffer firms from pressure to donate to government-affiliated NGOs, while achieved ones impose obligations resulting from the state’s interest in co-opting business leaders. Our argument differs, though it remains untested. First, connections established before joining a firm carry the imprint of previous relationships whose trust-based nature inevitably includes mutual obligations – not just benefits – as social exchange or social embeddedness theories argue. Second, formal political experience may create “role persistence” (Schein, 1971; Van Maanen, Schein, 1977) [80; 81], where ex-officials remain guided by their former colleagues’ interests. Third, past connections may have had nothing to do with the current business, introducing uncertainty through agency problems. This fallacy often stems from the assumption that firms hire ex-politicians – like revolving-door lobbyists (Blanes i Vidal, Draca, Fons-Rosen, 2012) [82] – to reduce policy uncertainty, especially in sectors most dependent on government resources (Hillman, 2005; Okhmatovskiy, 2010, p. 1027; Goldman, Rocholl, So, 2009; Palmer, Schreier, 2016) [1; 13; 47; 79]. However, this may not hold in contexts with limited institutions, such as Russia or China: officials may place ex-colleagues in firms to gain influence over businesses, complementing the standard bottom-up recruitment logic. Moreover, since Zhang, Marquis, and Qiao considered only ascribed governmental and achieved parliamentary connections [22], the effects they uncovered might be driven not by the timing of establishment but by the institutional origins of those connections.

Dealing with endogeneity of political connections

Although encoding the time a political connection is established gives some indication of how much a bank may intend to use the relationship to facilitate its own performance, we also use this variable to address endogeneity. When a connection is established after a banker’s affiliation with the bank, it is necessarily associated with the bank’s current activities. We cannot be sure whether the politi-

cal connection influenced the bank’s performance or vice versa, regardless of whether the connection is bottom-up or top-down. Researchers face the endogeneity problem when both the connection proxy and performance variables are driven by some unobservable factor. For example, a bank expecting a deterioration in performance may purposefully establish ties with an official developing a subsidy program; conversely, the government may seek a well-performing bank to implement a new lending stimulation program. In both cases, the expected effect of connections is preceded by accounting for financial indicators, so we cannot guarantee causality.

Researchers often use quasi-experimental methods, including matching and instrumental variables (e.g., Arifin, Hasan, Kabir, 2020; Wang et al., 2019; Boubakri, Cosset, Saffar, 2008; Han, Zhang, 2018; Trifonov, 2021; Farag, Dickinson, 2020; Halford, Li, 2020) [6; 11; 17–19; 34; 83]. However, finding theoretically sound instruments is difficult, and these methods do not elucidate the nature of banker-official interactions. We take a different approach. Under certain circumstances, the appearance of politically connected owners or managers may not aim to influence bank activities through their connections – particularly regarding the timing of joining the bank. As Preuss and Königsgruber (2021, p. 21) [76] argue, not all political connections are “active” in nature, e.g., established for specific tasks, as in the examples above. “Passive” connections, which emerge without this objective in mind, e.g., arising from geographical proximity, may affect business activities exogenously.

Since our identification approach does not use geographical proximity, we encode the circumstances of acquiring connections with three binary variables that help identify exogenous connections – those independent of the initial desire to influence the business. First, *founder* equals 1 if the banker’s start year coincides with the bank’s registration year. Second, *parentcomp* distinguishes the bankers affiliated with the bank’s parent organization before joining. We define a parent organization based on two criteria: a) the bank is not the primary asset of the parent organization⁷, and b) the parent organization either holds >1% of the bank’s equity or is owned by one of the bank’s direct beneficiaries. This includes larger parent banks and government property agencies. Third, *family* identifies bankers who joined when their relative was already among the managers or owners. These variables are constant at the banker level. A value of 1 for any of these three variables suggests that the person’s entry into the bank’s management or ownership was not related to the political connections they held at that time.

These criteria help isolate likely exogenous connections

We use these variables in combination with *notrevolv* (connection established before joining the bank, opposite of *revolv*) to encode exogenous connections (*exog*). For each i banker of j bank in t year: $exog_{ijt} = notrevolv_{ijt} \times (founder_{ij} = 1 \mid parentcomp_{ij} = 1 \mid family_{ij} = 1)$. A political connection is considered exogenous if

established before the banker founded the bank, or joined while already affiliated with the parent organization, or joined as a relative of an existing banker from this bank.

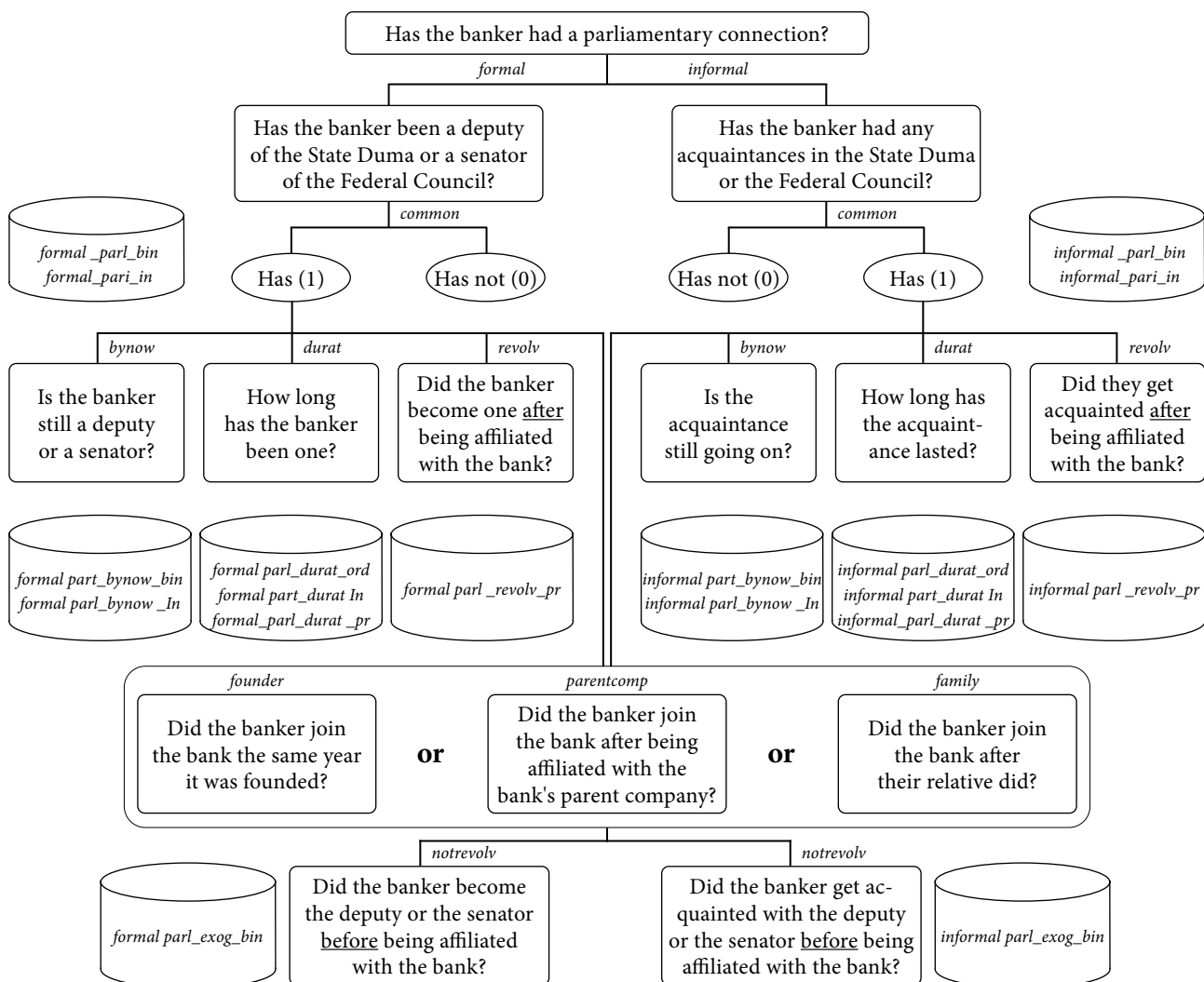
⁷ This excludes entities such as offshore companies used to hold the banker’s stake or holding firms whose main purpose is owning the bank.

that could serve as instruments in regression analysis. However, limitations remain. First, some of the connections acquired before joining but not meeting our criteria may also be exogenous (false negatives), while our method likely excludes cases where former officials are appointed in the state's interest (false positives). Thus, our algorithm is conservative: low Type I error (excluding endogenous connections), high Type II error (missing exogenous ones). Second, in systems with pervasive informal business-government relations and weak formal institutions, political connections may be deeply rooted in the economic system itself, e.g., childhood friends whose relationships shaped privatization outcomes. Here, endogeneity is related to the nature of property rights and firm origins rather than a company's current activities. Also, as certain studies argue, the role of political connections is linked to property rights problems (Chen et al., 2011, p. 237; Frye, 2017; Xin, Pearce, 1996; Earle et al., 2021)

[24; 39; 55; 56]. While social network analysis can identify connections with political figures vital for a group of businesses (Bussolo, Commander, Poupakis, 2023) [35], quantitative methods alone cannot fully capture how ties of this kind interact with governance and activities. Nevertheless, we can confidently identify connections possessed only by bankers who established them before joining the bank or before its foundation. The proposed variables capture this.

In total, for each banker we encode 43 variables: 5 types (*parliamentary*, *regulatory*, *governmental*, *corporate*, *regional*) $\times$ 2 approaches (formal, informal) $\times$ 4 variables (*common*, *bynow*, *durat*, *revolv*) + *founder* + *parentcomp* + *family*. Figure 1 illustrates the encoding algorithm. Based on this, we construct 10 additional banker-level variables of exogenous political connections: 5 types $\times$ 2 approaches $\times$ 1 variable (*exog*)⁸.

Figure 1. The general algorithm for identifying a banker's political connection (an example of the parliamentary type of political connection)



Note: The final bank-level variables of parliamentary connections after aggregation (see the next section) are presented in cylinders.

⁸ We do not account for 10 *notrevolv* variables since they are applied only as a step to obtain *exog* variables.

Operationalization of political connections and other institutional features

After identifying political connections for each banker, we aggregate the data to bank-year observations. Following Farag, Dickinson (2020) [34], Houston et al. (2014) [5], and Halford, Li (2020) [83], we operationalize connections in two ways: binary and quantitative.

Binary encoding. For *common* connections and their current status, a bank receives 1 for a year if at least one banker was assigned 1 for the corresponding variable of that connection type. We do not use revolving doors variables in binary form, as they are meaningful only in relation to *notrevolv* connections. For exogenous connections, we apply a conservative rule: a bank gets 1 for a given type only if all its connections of that type are exogenous. For example, if a bank has two directors with informal parliamentary connections identified as exogenous, it receives 1 for exogenous parliamentary informal connections only if no other bankers in the bank have parliamentary informal connections not identified as exogenous.

Quantitative encoding. Assuming that a larger number of connected bankers reflects greater ability to interact with officials, for each of the 10 connection types we use: 1) for *common* connections, the natural logarithm of the number of politically connected bankers; 2) for *bynow* connections, the natural logarithm of the number of bankers with ongoing connections; 3) for revolving doors, the proportion of bankers who acquired a connection after joining the bank, relative to all bankers with the *common* connection of that type. This captures the balance of interests behind connections. We do not construct a similar proportion for exogenous connections: if any connection of a given type is endogenous, we cannot guarantee that an effect is not driven by it.

Duration variables are transformed in three ways: 1) maximum ordinal value (0–6) among bankers with *common* connections of a given type; 2) mean of the natural logarithm of connection duration (in years) across bankers with that connection type, capturing average quality; 3) ratio of bankers with relational (lasting) connections to all bankers with that connection type, indicating the prevalence of trust-based versus transactional ties. Depending on research purposes, any of these measures may be appropriate. **Other institutional features.** For each bank year, we aggregate the parent organization variable (*Parentcomp*) as the proportion of bankers with *parentcomp* = 1. It captures concentrated corporate control structure, which may divert the bank from normal activities in the interests of its (usually non-banking) holding company. It also signals greater exposure to rent-seeking by controlling beneficiaries, as such costs are lower in more homogeneous governance structures (Arifin, Hasan, Kabir, 2020, p. 13; Chen et al., 2011) [6; 24].

We also include ownership form and size. Control of a bank through state ownership – directly or via state-owned com-

panies (Vernikov, 2014, p. 5–6) [42] – may indicate political influence on bank activities (Sapienza, 2004; Fungáčová, Herrala, Weill, 2013; Boateng, Liu, Brahma, 2019) [51; 52; 73]. Following Preuss and Königsgruber (2021) [76], some treat state ownership as a proxy for political connections. However, we argue that, since ownership captures formal subordination rather than relational ties and cannot provide the same depth of insight into business-state relationships as connections through directors can (Frye, Iwasaki, 2011; Grosman, Wright, Okhmatovskiy, 2016) [20; 54]. State ownership also implies other institutional features: higher market power, control over smaller banks, participation in infrastructure projects, presence in strategically important markets, employment of officials' relatives, and more (Vernikov, 2014) [42]. We use four binary ownership variables: majority state ownership (>50%, *SOB*), any state ownership (>0%, *SOSH*), majority foreign ownership (*ForB*), and any foreign ownership (*ForSh*)⁹.

Bank size reflects a bank's structural power, resulting from politicians' unwillingness to harm systemically important businesses through their decisions (Fairfield, 2015, p. 414) [84]. The source of a bank's structural power is traditionally considered to be its unique ability to saturate the economy with money supply, provide financial intermediation between individuals and businesses, and, in recent years, fulfill a geo-economic role for its state of residence (Dafe et al., 2022) [85]. We use the natural logarithm of net assets (*lnNA*) as a proxy for bank size.

Finally, we include a binary variable for banks usually founded in the second half of 1990 and early 1991 on the basis of one of the Soviet "spetsbanks" (*Spets*). This origin typically reflects that the founders of new commercial banks, or those close to them, had influence and connections in the regional structures of the USSR State Bank, e.g., were former employees of Soviet spetsbanks, local officials and deputies close to them, or "red directors" – the heads of Soviet enterprises, whose fragments often became the foundations of new commercial banks. Berkowitz, Hoekstra, and Schoors (2014) [40] showed these banks were the most politically connected in the mid-1990s and very active in lending to state-owned enterprises. However, later data suggest that they no longer exhibit distinct political lending patterns (Fungáčová et al., 2023, p. 907–911) [43]. All bank-level variables are summarized in Figure A.1 and Table A.2, available in the Appendix. For brevity, the table illustrates only formal parliamentary (*parl*) connections; the same formulas apply to all types – regulatory (*regul*), governmental (*gov*), corporate (*corp*), regional (*region*), and both identification approaches – direct (formal), and indirect (informal).

Descriptive analysis of political connections

Despite the fact that out of 2,598 coded bankers from 115 banks only 22% had at least one political connection, the distribution of politically connected bankers by bank

⁹ Foreign ownership (majority or partial) refers to shareholders who are foreign nationals or corporations, not offshore-registered domestic capital.

confirms that political connections are widespread in the Russian banking sector. Over the seven years from 2015 to 2021, 102 out of 115 banks (89%) had at least one banker with a political connection.

The distribution of banks by the five types of connections in direct and indirect encodings, by ownership, and by spetsbank origin is presented in Table 1. The rarest connections are those with regulatory authorities, work experience

in the federal parliament as a deputy or senator, or in federal ministries and departments. Informal acquaintances with regional authorities, federal executive bodies, or state-owned companies (SOEs) occur in nearly half of all banks. On average, only seven banks were fully state-owned, with eight more having minority state stakes. Foreign ownership is more common. Twenty-nine banks in our sample were founded or developed from spetsbanks.

Table 1. The number of banks with at least one common connection of each type by year

Year	Any connection	Formal parliamentary	Informal parliamentary	Formal regulatory	Informal regulatory	Formal governmental	Informal governmental	Formal corporate	Informal corporate	Formal regional	Informal regional	Majority state ownership	Partial state ownership	Maj. foreign ownership	Part. foreign ownership	Spetsbank
2015	99	13	41	16	20	11	56	35	55	43	61	7	14	10	29	29
2016	102	13	41	17	23	12	57	36	54	44	62	8	16	10	28	29
2017	102	13	43	14	24	11	56	35	55	41	62	7	15	10	28	29
2018	102	12	44	17	22	10	57	35	55	40	62	7	15	10	26	29
2019	101	12	44	18	21	10	58	35	54	39	61	7	15	11	24	29
2020	103	12	44	19	20	12	59	38	54	40	63	9	17	11	24	29
2021	102	13	43	19	19	13	58	39	53	38	59	9	17	11	24	29

Table 2 reports, for each connection type, the average proportion of bankers with ongoing connections (*by now*), revolving doors connections (*revolv*), and relational connections (*durat*), calculated relative to all bankers having that *common* connection type. For all five types except regional,

ongoing connections are more frequent among bankers with informal acquaintances than among those with job experience in state bodies or SOEs. Bankers rarely simultaneously hold bank positions and political office, though current employment in SOEs exceeds past employment.

Table 2. The average proportion of ongoing, revolving doors, and relational political connections by bank, median values by year

Type of political connection	Parliamentary	Regulatory	Governmental	Corporate	Regional
Formal ongoing	0.250	0.043	0.246	0.568	0.372
Informal ongoing	0.547	0.515	0.394	0.667	0.307
Formal revolving doors	0.385	0.000	0.095	0.310	0.253
Informal revolving doors	0.512	0.455	0.444	0.488	0.484
Formal relational	1.000	1.000	1.000	1.000	1.000
Informal relational	0.872	0.909	0.656	0.880	0.540

Note: The mean proportions in each cell of the table are calculated with respect to the maximum number of banks from the sample functioning without any regulation restrictions (111–113 banks) for each of the seven years, and then their median values by year are taken.

Revolving doors patterns are similar: for most connection types except acquaintances in the federal parliament, bankers typically established connections before joining the bank. Informal connections, however, are more often formed post-joining. As the proportions demonstrate, these variables capture meaningful variation beyond the *common* connection indicators. All formal connections are relational by definition (work experience implies relationship building). Among informal ties, transactional connections (e.g., meetings, awards, contracts) are most common with regional authorities – half of regionally connected banks lack long-term connections. Transactional connections also

appear in one-third of acquaintances with federal executive bodies. Informal connections with parliament, regulators, and SOEs are overwhelmingly relational (business partnerships, advisory council membership, friendships).

Table 3 shows maximum connection durations as of 2021. Long-term formal ties (>10 years) are more common with state-owned companies and regional authorities; few banks have people with work experience in federal bodies. Informal long-term connections are more frequent with the federal government and SOEs, slightly less so with parliament. Long-lasting regulatory ties are rare in both formal and informal forms.

Table 3. Distribution of the number of banks by the maximum duration of connections in 2021

Type of political connection	Duration, years	Parliamentary	Regulatory	Governmental	Corporate	Regional
Formal duration	No connection	100	94	100	74	75
	Up to 4	5	10	2	7	3
	5–10	6	6	6	15	13
	11–20	2	3	4	13	18
	20 or more	0	0	1	4	4
Informal duration	No connection	70	94	55	60	54
	Non-lasting	6	1	16	8	19
	Up to 4	5	2	5	3	1
	5–10	11	6	10	10	10
	11–20	12	5	13	20	6
	20 or more	2	5	8	9	8
	Kinship	7	0	6	3	15

Note: For each connection type in each cell, the number out of 113 banks from the sample in 2021 is computed.

In Table 4, we report median yearly values for exogenous connections (those unlikely to be performance-driven), since between-year variation is low. Our exogenous connection measures are conservative: they capture only con-

nections meeting *founder*, *parentcomp*, or *family* criteria, and may miss some truly exogenous ties but ensuring those identified are reliable. Consequently, few banks have exogenous connections of any type.

Table 4. The number of banks with the exogenous political connections, median by year

Type of political connection	Parliamentary	Regulatory	Governmental	Corporate	Regional
Formal exogenous	2	3	1	6	8
Informal exogenous	9	5	11	14	9

Note: For each connection type in each cell, the number out of the maximum number of banks from the sample functioning without any regulation restrictions (111–113 banks) for each of the seven years is computed, and then their median values by year are taken.

Table 5 provides descriptive statistics for the log number of connected bankers per bank-year. Banks have the most politically connected owners, directors, and CEOs in informal regional and governmental categories. Over 75% of banks have no bankers with federal political experience. For all other types except regulatory, at least one-quarter

of banks have at least one connected representative. Distributions of parent-organization affiliation and size (log net assets) are near-normal but right-skewed, indicating a subset of banks more dependent on parent businesses and noticeably larger.

Table 5. Descriptive statistics of quantitative political connection variables

	N	Mean	Std	Min	25%	50%	75%	Max
<i>Formal_parl_ln</i>	784	0.082	0.234	0.000	0.000	0.000	0.000	1.386
<i>Informal_parl_ln</i>	784	0.329	0.446	0.000	0.000	0.000	0.693	1.946
<i>Formal_regul_ln</i>	784	0.118	0.291	0.000	0.000	0.000	0.000	1.946
<i>Informal_regul_ln</i>	784	0.167	0.362	0.000	0.000	0.000	0.000	1.792
<i>Formal_gov_ln</i>	784	0.115	0.357	0.000	0.000	0.000	0.000	2.197
<i>Informal_gov_ln</i>	784	0.477	0.535	0.000	0.000	0.693	0.693	2.303
<i>Formal_corp_ln</i>	784	0.373	0.610	0.000	0.000	0.000	0.693	2.639
<i>Informal_corp_ln</i>	784	0.472	0.548	0.000	0.000	0.000	0.693	2.303
<i>Formal_region_ln</i>	784	0.366	0.537	0.000	0.000	0.000	0.693	2.197
<i>Informal_region_ln</i>	784	0.568	0.594	0.000	0.000	0.693	1.099	2.565
<i>Parentcomp</i>	784	0.296	0.225	0.000	0.116	0.250	0.467	0.846
<i>lnNA</i>	784	17.031	2.072	13.239	15.308	16.848	18.489	23.595

Bank behavior under different political connections

Next, we apply t-tests to illustrate the prospects of distinguishing different types of political connections in analyzing bank-state relationships. Table 6 presents the differences in banks' financial indicators, size (*lnNA*), and board linkage to the parent business (*Parentcomp*), depending on (1) the presence of *common* political connections (five types, formal and informal) and (2) above-median shares of revolving-doors connections (established after joining the bank) among connected banks. We focus on revolving-door variables given their underutilized research potential. Financial ratios include returns on assets (*ROA*), overdue loans (*SOL*), capital adequacy (*E_A*), corporate loans to assets (*LNA*), retail loans to assets (*RLA*), and individuals' deposits to assets (*RDA*).

Banks with formal connections to federal government, SOEs, and regional authorities share similar regularities: no significant differences in efficiency or credit risk, but capital adequacy is up to one-third standard deviation

(SD) lower. Among the three banks with governmental connections established during their banking career¹⁰ (systemically important VTB, Rosselkhozbank, Sovcombank), capital adequacy is another half-SD lower ($p < 0.001$). Only banks with these three formal connection types have higher corporate loan shares ($p < 0.001$). The 24 banks with revolving doors corporate connections lend even more to the economy ($p < 0.01$) but rely less on retail deposits ($p < 0.01$). Conversely, 19 banks with revolving doors formal regional connections have half-SD lower corporate lending ($p < 0.001$) than other regionally connected banks. Here, we observe not an amplification of the pattern seen with *common* connections, but the opposite one. This becomes clearer when three empirical facts are considered: first, these banks with revolving-doors bankers are more tied to parent businesses via governance structures ($p < 0.001$); second, they show slightly higher efficiency ($p < 0.05$); third, unlike these banks, those with directors appointed from regional or municipal authorities (i.e., non-revolving doors) tend to be owned by those very bodies and lend more actively to the economy.

¹⁰ For four types of formal connections (all except corporate), the median proportion of bankers who joined state agencies after becoming affiliated with the bank is zero. Thus, a value above the median effectively means the bank has at least one such revolving doors connection. For formal corporate connections, the median proportion is also near zero, so apart from multiple zeros, only two non-zero observations fell into the below-median group.

If banks with more post-joining connections implement profitable market strategies, lower capital adequacy among those with federal government ties may indicate more aggressive, and hence riskier, credit policy, according to moral hazard logic. Lower corporate lending by banks whose bankers became regional deputies (the most common strategy) or held local office – often with more parent-business ties – may reflect a strategy of using the bank as a “money storage tank” for related businesses, potentially boosting efficiency. Also, lower retail deposit dependence among banks whose managers or owners later joined SOEs may signal their greater access to SOE funds.

Meanwhile, banks with these three types of formal connections differ in their retail strategies. Banks with formal governmental connections attract fewer retail deposits ($p < 0.01$); those tied to regional authorities attract more ($p < 0.001$) but lend less to households ($p < 0.001$). By contrast, banks with formal connections to SOEs lend more to households ($p < 0.001$).

Informal acquaintances in these three groups of state entities show different patterns. Banks with informal governmental ties do not differ from others in corporate lending but have lower retail lending ($p < 0.001$). Among those with above-median revolving doors informal governmental connections, corporate ($p < 0.05$) and retail ($p < 0.01$) lending are lower. On average, banks with informal governmental connections are a half-SD larger ($p < 0.001$, while significantly smaller than banks with similar but formal connections) and more parent-connected ($p < 0.01$), with lower profitability ($p < 0.05$) and capital adequacy ($p < 0.05$), but with no difference in overdue debt. However, the 35 banks with more post-joining governmental acquaintances show higher capital adequacy ($p < 0.05$) and lower credit risk ($p < 0.05$), consistent with the view that connections formed by current bankers better serve the bank's interests. The predominance of “old” federal acquaintances may indicate bankers' deeper embeddedness related to the property rights origins and greater obligations to the state, while post-joining informal governmental connections resemble the pattern seen with revolving doors formal regional connections. Thus, we assume that buffering from the state may arise via informal governmental or formal regional connections, but only if established during banking tenure.

Informal regional connections show no differences except lower credit risk ($p < 0.01$), and even onethird-SD lower for banks with more revolving doors ties ($p < 0.001$). Perhaps these differences are more likely the cause of such connections, as when local bank heads receive awards and recognition from the regional administration for their reliable or socially oriented banking activities, including a fairly conservative strategy that ensures the sustainability of the local economy. At the same time, in addition to awards, these

often include partnerships, friendships, or kinship between bankers and representatives of regional or local authorities, and bankers' membership in public councils and chambers of the region. Formal regional connections lack this effect due to moral hazard stemming from direct policy access through bureaucratic positions.

Banks with acquaintances in SOE management – almost half-SD more parent-connected ($p < 0.001$) – and those with informal contacts with the government have lower capital adequacy ($p < 0.01$) and rely less on retail deposits ($p < 0.05$). However, banks with more postjoining corporate acquaintances in the public sector have higher capital adequacy ($p < 0.01$) and lower household lending ($p < 0.05$).

Parliamentary and regulatory connections merit special attention. Banks with formal or informal parliamentary ties differ little from others, except for attracting and lending fewer retail funds. Deputy- or senator-connected banks are riskier ($p < 0.01$) and less parent-dependent via owners and directors ($p < 0.001$). More variation emerges through the revolving doors status. The six banks whose bankers became federal MPs post-joining show one-third-SD higher profitability ($p < 0.05$) and almost half-SD lower overdue loans ($p < 0.01$) than their peers with non-revolving doors MPs as bankers¹¹. The 28 banks with more post-joining informal parliamentary acquaintances have lower corporate lending ($p < 0.01$). These patterns echo those observed for informal governmental and formal regional post-joining connections, except that revolving doors parliamentary ties (both formal and informal) correlate with lower governance dependence on parent organizations ($p < 0.001$). Thus, revolving doors parliamentary, informal governmental, and formal regional connections may insulate banks from state pressure – manifest in lower lending, lower risk, and higher capital adequacy.

Banks with formal regulatory connections – all pre-joining¹² – exhibit higher credit risk ($p < 0.05$), lower capital ($p < 0.05$), lower profitability ($p < 0.1$), and fewer retail deposits ($p < 0.01$), in the absence of differences in the volume of lending to the economy and private citizens, suggesting that these ties reflect strategic choices by riskier banks. Informal regulatory connections also show higher credit risk ($p < 0.05$) and lower capital ($p < 0.001$), but more active retail lending ($p < 0.01$). However, the 12 banks with more post-joining informal regulatory connections lend less to businesses ($p < 0.1$) and households ($p < 0.05$) and have almost one SD lower credit risk ($p < 0.001$). Again, the revolving doors status reveals divergent behavior.

Overall, banks with different political connections exhibit distinct business models and financial outcomes, suggesting that connections serve different purposes or reflect different bank strategies. These preliminary findings warrant testing with more advanced econometric methods.

¹¹ Among the sixteen banks with a formal parliamentary connection in at least one year, the proportion of revolving-doors connections takes only values of zero or one: either all such connections were established before the banker joined the bank, or all were established afterwards by current bankers.

¹² In our sample, there are no bankers who worked at the Central Bank and later returned to their bank.

Table 6. Comparisons of banks’ financial ratios on the presence of *common* political connections and the median of revolving doors connection proportions

Type of political connection	ΔROA (std = 0.012)		ΔSOL (std = 0.042)		ΔE_A (std = 0.088)		ΔLNA (std = 0.195)		ΔRLA (std = 0.098)		ΔRDA (std = 0.109)		ΔlnNA (std = 2.072)		ΔParentcomp (std = 0.225)	
	Common	Revolv	Common	Revolv	Common	Revolv	Common	Revolv	Common	Revolv	Common	Revolv	Common	Revolv	Common	Revolv
Formal parliamentary	−0.001	0.004 [*]	0.011 ^{**}	−0.018 ^{**}	0.018	−0.012	0.021	0.032	−0.033 ^{***}	−0.001	−0.059 ^{***}	0.037 [’]	0.014	−1.366 ^{**}	0.017	−0.158 ^{***}
Informal parliamentary	−0.000	0.001	0.002	−0.000	0.005	0.001	−0.023	−0.060 ^{**}	−0.025 ^{***}	−0.022 [*]	−0.024 ^{**}	−0.038 ^{**}	0.604 ^{***}	0.873 ^{**}	−0.075 ^{***}	−0.085 ^{***}
Formal regulatory	−0.002 [’]		0.010 [*]		−0.018 [*]		0.001		0.013		−0.032 ^{**}		1.203 ^{***}		0.035	
Informal regulatory	−0.001	0.003	0.010 [*]	−0.040 ^{***}	−0.027 ^{***}	0.009	0.023	−0.070 [’]	0.037 ^{**}	−0.053 [*]	−0.013	0.025	1.938 ^{***}	0.005	−0.020	−0.094 ^{**}
Formal governmental	−0.000	0.001	0.005	−0.010	−0.030 ^{***}	−0.047 ^{***}	0.079 ^{***}	−0.066	−0.003	−0.018	−0.041 ^{**}	−0.038 [’]	2.345 ^{***}	3.010 ^{***}	−0.066 [*]	−0.139 ^{**}
Informal governmental	−0.002 [*]	−0.000	−0.002	−0.009 [*]	−0.015 [*]	0.023 [*]	−0.021	−0.047 [*]	−0.023 ^{***}	−0.028 ^{**}	0.003	0.004	0.996 ^{***}	−0.329	0.051 ^{**}	0.036
Formal corporate	0.000	0.002	0.003	−0.003	−0.027 ^{***}	0.002	0.053 ^{***}	0.066 ^{**}	0.036 ^{***}	0.016	−0.015 [’]	−0.042 ^{**}	1.498 ^{***}	1.225 ^{***}	0.072 ^{***}	−0.030
Informal corporate	−0.001	0.000	−0.003	−0.004	−0.018 ^{**}	0.030 ^{**}	−0.014	−0.036	−0.007	−0.028 [*]	−0.017 [*]	−0.001	1.148 ^{***}	−0.399 [’]	0.107 ^{***}	−0.038
Formal regional	−0.001	0.002 [*]	−0.002	0.001	−0.014 [*]	0.007	0.055 ^{***}	−0.097 ^{***}	−0.021 ^{***}	−0.002	0.042 ^{***}	0.018	−0.787 ^{***}	−0.714 ^{***}	−0.043 ^{**}	0.083 ^{***}
Informal regional	−0.000	0.002	−0.007 ^{**}	−0.013 ^{***}	−0.003	0.004	−0.000	−0.007	−0.007	−0.013	0.070 ^{***}	0.006	−1.160 ^{***}	1.054 ^{***}	−0.074 ^{***}	−0.039 [’]

Note: The table reports t-test comparisons of mean financial ratios for banks with a given type of common political connection versus other banks (columns “common”), and between two subgroups of banks sharing that connection type: (1) those where the proportion of bankers who established the connection after joining the bank exceeds the median for all banks with that connection type, and (2) those where this proportion is below the median (“revolv” columns). Empty cells for formal regulatory revolving-doors connections reflect the absence of such cases in the sample. Levene’s test was used to assess homogeneity of variances; when the test indicated unequal variances ($p < 0.05$), we applied Welch’s t-test. A positive delta indicates that the mean for the group of interest exceeds that of the comparison group. Unbiased standard deviations for each ratio, calculated for the full sample ($N = 780$), are shown in parentheses. [’] $p < 0.1$; ^{*} $p < 0.05$; ^{**} $p < 0.01$; ^{***} $p < 0.001$.

Patterns in political connections: cluster analysis

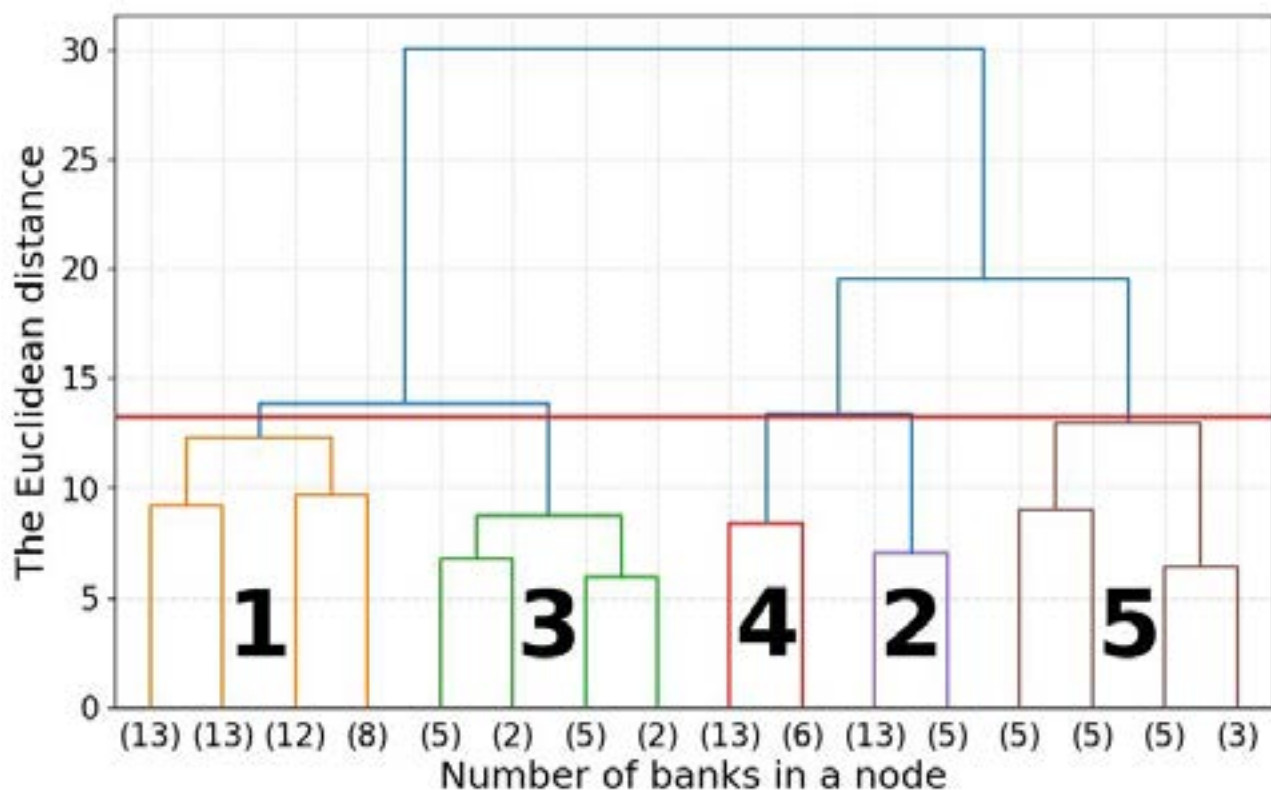
The wide variety of political connection types makes it challenging to incorporate them directly into the analysis of bank behavior and its financial outcomes, especially since individual banks often combine multiple connections with potentially conflicting effects. In this section, we move beyond isolated institutional features (connections, size, dependence on another business) and identify broader patterns across groups of banks using hierarchical clustering.

For clustering, we employed 40 quantitative connection variables (log number of bankers with *common* and ongoing connections, proportion of revolving doors connections, and average log duration for each of 10 connection types), along with four ownership-control variables, parent-organization dependence, and bank size. We excluded the spetsbank variable due to its limited explanatory power for banks' current positioning and, in our opinion, vague institutional features behind it. To reduce dimensionality, we applied principal component analysis (PCA) to the 40 connection variables, extracting two principal components per connection type (10 components total), each derived from eight correlated variables: *common*, *bynow*, *revolv*, *durat* for direct (experience) and indirect (acquaintances) identification. PCA details are provided in the Appendix.

These 10 components, together with ownership, parent-organization, and size variables, were used for hierarchical clustering. To obtain groups of banks with minimal variance within each group, we applied Ward's method for linking observations to clusters (Ward, 1963) [86]. Figure 2 presents the dendrogram. We selected a five-cluster solution (distance threshold = 13) as the most interpretable. A higher threshold (14–15) would yield only three clusters driven primarily by bank size. The subsequent division into five clusters – rather than three – is shaped by variation in political connections, ownership forms, and parent-group linkages. As shown below, clusters of comparable size (e.g., clusters 1 and 3, or 2 and 4) nonetheless differ in their connection profiles, and these differences correspond to significant variation in financial performance and business models. A lower threshold (≤ 12) would produce seven clusters, splitting clusters 1 and 5 into smaller, less coherent groups without adding interpretive value.

The dendrogram structure reveals distinct grouping patterns: clusters 1 and 3 are separated by the same distance (≈ 14) as clusters 2 and 4. Cluster 5 stands further apart, with a distance of about 20 from the combined clusters 2 and 4. The most pronounced separation (distance ≈ 30) is between the union of clusters 1 and 3 (predominantly small and medium-sized banks) and the aggregate of clusters 2, 4, and 5.

Figure 2. Hierarchical clustering of banks



Note: The red horizontal line marks the distance threshold (13) chosen for the final clustering solution. Cluster nodes are colored according to group membership, with numbers assigned accordingly. Cluster numbers reflect an ordering from least influential cluster 1 (fewer connections, smaller size) to most influential cluster 5 (more connections, greater size).

Table 7. The proportion of banks with at least one common political connection of the appropriate type by cluster

Cluster	Cluster name	Number of banks	Type of connection	Proportion of banks from cluster with at least one connection of the type					Median number of one bank's connections of the type					Maj. state ownership	Part. state ownership	Maj. foreign ownership	Part. foreign ownership	Parent organization	Size	Spetsbank
				Parliamentary	Regulatory	Governmental	Corporate	Regional	Parliamentary	Regulatory	Governmental	Corporate	Regional							
1	Small regionals	46	Form	0.04	0.09	0.07	0.17	0.57	0	0	0	0	1	0.04	0.11	0.01	0.11	0.28	15.5	0.37
			Infor	0.15	0.11	0.41	0.35	0.85	0	0	0	0	1							
2	Unconnected outsiders	18	Form	0	0.17	0.11	0.22	0	0	0	0	0	0	0.05	0.05	0.45	0.50	0.35	18.6	0.11
			Infor	0.17	0.11	0.22	0.06	0.11	0	0	0	0	0							
3	Elected from regions	14	Form	0.50	0.07	0.07	0.14	0.64	0.5	0	0	0	1	0.00	0.07	0.00	0.07	0.22	15.7	0.14
			Infor	1	0	0.43	0.21	0.57	1	0	0	0	1							
4	Influential corporators	19	Form	0.05	0.16	0	0.58	0	0	0	0	1	0	0.02	0.06	0.11	0.28	0.35	17.6	0.05
			Infor	0.37	0.37	0.68	1	0.11	0	0	1	1.5	0							
5	State-held federals	18	Form	0.11	0.39	0.33	0.61	0.28	0	0	0	2.5	0	0.28	0.47	0.00	0.38	0.29	20.2	0.39
			Infor	0.67	0.44	0.72	0.83	0.61	1	1	2	2	1							

Note: Proportions ≥ 0.5 are in bold.

Next, we present the grouping of banks by cluster. Table 7 characterizes the clusters by the proportion of banks with particular connections, median number of connected bankers, ownership forms, parent-organization ties, size, and spetsbank

origin. Table 8 reports t-test comparisons of financial ratios across clusters. A detailed description of each cluster, including bank examples and significant differences in business models and financial performance, is provided below.

Table 8. Financial ratios differences between cluster and other banks based on t-tests

Cluster	Δ ROA (std = 0.012)	Δ SOL (std = 0.042)	Δ E_A (std = 0.088)	Δ LNA (std = 0.195)	Δ RLA (std = 0.098)	Δ RDA (std = 0.109)
Cluster 1	-0.001	-0.010***	0.035***	-0.010	-0.022***	0.067***
Cluster 2	0.003*	0.005	-0.014*	-0.061**	0.017	-0.041***
Cluster 3	-0.002	0.005	0.033**	0.011	-0.019**	-0.009
Cluster 4	0.003**	0.002	-0.021***	0.030	0.032**	-0.016
Cluster 5	-0.004***	0.007*	-0.061***	0.043*	0.006	-0.063***

Note: The table reports t-tests comparing mean financial ratios for each cluster against banks outside that cluster. Levene's test was used to assess homogeneity of variances; when the test indicated unequal variances ($p < 0.05$), we applied Welch's t-test. A positive delta indicates that the cluster mean exceeds that of banks outside the cluster. Unbiased standard deviations for each ratio, calculated for the full sample ($N = 780$), are shown in parentheses. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Cluster 1. “Small Regionals” (46 banks) is the largest group, comprising small and medium-sized banks, occasionally with state or foreign ownership. Political connections are predominantly regional: 85% have at least one representative linked to regional or local authorities, and 37% originated from Soviet spetsbanks. These banks actively attract retail deposits ($p < 0.001$) but lend slightly less to households ($p < 0.001$). Their corporate lending is indistinguishable from other banks, partly because 14 of the 19 banks with above-median formal regional revolvingdoors connections, i.e., banks that lend significantly less to the economy, fall into this cluster. Credit risk is lower ($p < 0.001$), and capital adequacy is higher ($p < 0.001$). The latter pattern is not evident when examining regional connections alone, suggesting markedly distinct behavior among small regional banks.

Cluster 2. “Unconnected Outsiders” (18 banks) is a group of large or medium-sized banks, half of which are foreign-owned. They have virtually no significant political connections but maintain strong ties to parent (usually nonfinancial) businesses: on average, 35% of beneficiaries or managers work in or own the parent company, for which the bank is not a core asset. These banks show slightly higher efficiency ($p < 0.05$), lower capital adequacy ($p < 0.05$), significantly less reliance on retail deposits ($p < 0.001$), and less active corporate lending ($p < 0.01$).

Cluster 3. “Elected from Regions” (14 banks) consists of banks with acquaintances in the federal parliament; in half of these banks, directors or owners are former or current deputies or senators. Regional connections are also widespread. The banks are mostly small or medium-sized, without state or foreign ownership, and have minimal ties to larger businesses through ownership or management ex-

perience. Financially, these banks are less engaged in retail lending ($p < 0.01$) and maintain higher capital buffers ($p < 0.01$). Notably, five of the six banks whose bankers became federal deputies postjoining fall into this cluster; these five exhibit significantly better profitability and lower credit risk than banks where former deputies or senators joined the banking business after their term. While these differences are not significant for the full cluster, 12 of the 14 banks have abovemedian revolving doors connections of various types – informal parliamentary (seven banks), informal governmental (four), informal corporate (three), and formal regional (three) – suggesting potential insulation from state interference.

Cluster 4. “Influential Corporators” (19 banks) is a group of large and medium-sized banks, some with foreign ownership. They maintain extensive federal connections, particularly with stateowned enterprises (SOEs), both informal and through work experience. Half have multiple directors or CEOs with SOE contacts, often combined with strong parentorganization ties. These banks are onethird SD more active in retail lending ($p < 0.01$) and have lower capital adequacy ($p < 0.001$). Unlike Cluster 3, they exhibit multiple connection types simultaneously, with informal SOE access as a common thread, and show higher profitability ($p < 0.01$).

Cluster 5. “State-Held Federals” (18 banks) comprises the largest federal banks, state or foreign owned, with political connections of all types. Over half have two or more directors connected to the Russian government or SOEs. Although the spetsbank variable was not used in clustering, 39% of these banks originated from spetsbanks – the highest share among clusters. These banks lend more to the economy ($p < 0.05$), often in line with public policy

objectives, and rely less on retail deposits ($p < 0.001$). Consistent with the moral hazard logic, they have higher bad loan ratios ($p < 0.05$), two-thirds SD lower capital adequacy ($p < 0.001$), and lower market efficiency ($p < 0.001$).

Conclusion

This paper introduces a manually collected dataset of 2,598 bankers from 115 Russian banks (2015–2021) and presents a detailed approach to identifying and operationalizing corporate political connections – applicable to banks or any other firms. Using mean comparisons and cluster analysis, we show that finer-grained measures of political connections reveal heterogeneity masked by conventional proxies, and that these measures, together with institutional characteristics, combine into distinct political patterns associated with bank governance and performance. We also address endogeneity concerns by proposing variables that capture connection exogeneity and discuss the inherent limitations of quantitative methods in this regard.

Our analysis confirms the deep political embeddedness of the Russian banking sector: every fifth banker and nine out of ten banks in our sample have at least one political connection. However, their distribution is uneven. Directors, board chairs, and owners are more frequently connected than managers or CEOs. Formal ties to federal bodies are rare (10–15% of banks), while connections to state-owned companies or regional authorities appear in 30–35% of banks. Informal ties – especially with regional bodies and federal executives – are more common, present in about half of all banks. Most formal connections (except corporate) are not ongoing or postjoining, whereas around half of informal ties are. Informal connections also tend to last longer than formal ones. Notably, only 14 banks have connections we were able to confidently classify as exogenous. Ttests reveal that different connection types correlate with institutional characteristics (e.g., size, parent company dependence) and can produce opposing effects on financial indicators depending on identification method (direct vs. indirect) and connection features (e.g., the moment of establishment). Cluster analysis reinforces these findings, identifying five groups of banks with distinct configurations of political connections, size, and ownership – from small regional banks with localized connections to large state-owned federal banks with comprehensive political networks. These clusters also exhibit statistically significant differences in financial outcomes and business models.

This research makes two main contributions. Theoretically, it confirms the widespread and heterogeneous nature of political connections in the Russian banking sector and deepens the understanding of how political interests permeate bank activities. Practically, it offers a system of variables capturing the origins, relevance, and maturity of political connections, creating additional variation that enables a more theoretically grounded estimation of how such connections affect bank behavior and financial performance. For future applications, researchers can select from our metrics those best suited to their specific research question, accounting for institutional context and endogeneity.

Consider two illustrations from banking studies. First, research on market discipline could use our measures to test whether depositors' sensitivity to bank risk varies not only by the presence of a connection but by its type – for instance, distinguishing parliamentary from executive ties (Disli, Schoors, Meir, 2013) [33]. Finer-grained features, such as the time of connection establishment, can further reveal the interests behind them, helping explain why depositors perceive certain connections as stronger signals of implicit state protection, or why connected banks attract more government deposits. Second, our variables can help disentangle banks' strategic responses to government interventions like subsidized lending programs. Banks with transactional ties to regulators may more easily opt out of riskexposed programs, while those with longstanding connections to local executive bodies may leverage them to signal compliance and secure participation. Additionally, exogenous connections – those established independently of a desire to influence bank outcomes – can serve as instruments to isolate causal effects and address endogeneity. In both cases, our framework enables researchers to align connection measures with the theorized mechanism, moving beyond the question of whether political connections matter to understanding which connections matter, when, and why. In essence, we offer a deeper lens through which political connections can be analyzed, explaining why prior studies often report heterogeneous or seemingly contradictory effects.

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Appendix

Procedure for encoding political connections of banks using direct and indirect approaches

To encode the political connections of each bank in the sample, we compiled a list of the bank's owners holding more than 1% of shares and disclosed by the bank, all members of the supervisory board, all members of the collegial executive body (including CEO), and the chief accountant who held their positions during at least one year between 2015 and 2021.

Then, for each person on the list, we recorded their job experience and positions held in government bodies, departments and companies that signaled the presence of a *common* connection. The examples of such bodies, and positions held in them, coded with a value of 1 for a person on the list, are given in Table A.1. The first source of information on such experience were quarterly reports and publications published by banks that disclosed the qualifications and work experience of bank executives for at least the past 5 years. In the absence of such information in the official bank publications, each person on the list was checked for the presence of any bibliographic information on the network using the Yandex search engine. The main sources of biographical and work-related information were

pages about these persons on portals such as *tadviser.ru*, *whoiswhopersona.info*, *wikipedia.org*, as well as pages of federal and regional government bodies containing the biography of the person in question (if the person had work experience in these bodies).

If any facts corresponding to the presence of a formal political connection of one of the five types were discovered, this information was cross-checked using an additional search query. If the fact was confirmed by the biography from other open sources, a value of 1 was assigned for the person under the corresponding type of connection. The variables of the connection formation time (*revolv*), its current status (*bynow*) and duration (*durat*) were encoded in the same way according to the algorithm (see Figure 1).

Next, all persons from the list were checked for the presence of a political connection of one of the five types using an informal approach (indirect identification). A search query was made for each person in the Yandex search engine. The query, in addition to the person's name and the name of the bank, was also accompanied by marker words, such as "power", "government", "connections", and "corruption". In case of detection of any publications involving the person of interest, they were checked for information about their acquaintances or other indirect facts. Examples of such information, which support the person's connectedness, are also presented in Table A.1. Similarly, the variables *revolv*, *bynow* and *durat* were encoded for every person on the list.

Table A.1. Examples of information on the presence of political connections

Type of connection	Formal approach: work experience	Informal approach: acquaintance
Parliamentary (<i>parl</i>)	Deputy of the State Duma of the Federal Assembly of the Russian Federation in 2018–2021, Head of the Secretariat of the First Deputy Chairman of the State Duma of the Federal Assembly of the Russian Federation; Member of the Federation Council of the Federal Assembly of the Russian Federation from the Sakhalin Region in 2012–2017	Member of the Supreme Council of the United Russia party; son of a member of the Federation Council of the Federal Assembly of the Russian Federation from the Sverdlovsk Region in 2010–2021; partner of a member of the Federation Council of the Federal Assembly of the Russian Federation from the Kabardino-Balkarian Republic in 2014–2020; member of the Commission on Federal, Interregional and Regional Socio-Economic Policy under the Chairman of the Federation Council of the Russian Federation
Regulatory (<i>regul</i>)	Acting General Director at the Agency for Restructuring of Credit Organizations from 1998 to 2005; deputy head of the Main Directorate of the Central Bank of the Russian Federation for St. Petersburg	Has known E. Nabiullina since his time in the Government of the Russian Federation; chairman of the expert council on financial literacy at the Bank of Russia; advisor to the deputy chairman of the Central Bank of the Russian Federation in 2014–2017; under his leadership, the bank engaged in the rehabilitation of Investorgbank
Government (<i>gov</i>)	Minister of Agriculture of the Russian Federation since 2018; Deputy Head of the Strategic Development Department of the Strategic Planning Department of the Ministry of Regional Development of the Russian Federation in 2013–2014; Assistant to the Plenipotentiary Representative of the President of the Russian Federation for the Northwestern Federal District	Direct relationship with the Presidential Executive Office during the implementation of the South Stream project; has headed the direction of technology business development at ASI since 2011, has been a member of the expert council under the Government of the Russian Federation; was awarded for his services in the field of economics and finance by the Decree of the President of the Russian Federation dated October 25, 2018
Corporate (<i>corp</i>)	Member of the Board of Directors of PJSC Rostelecom, JSC Mortgage Lending Agency, VEB.RF; since 2011, has been heading the direction of technology business development at ASI; member of the boards of directors of subsidiaries of PJSC Rosseti	Chairman of the Coordination Council of the RSPP in the Central Federal District; implemented the project to create a Nano-center commissioned by A. Chubais at RUSNANO; member of the Chamber of Commerce and Industry of the Russian Federation; in 2013–2015 companies associated with the bank director signed contracts with a subsidiary of Russian Railways for 37 billion rubles
Regional (<i>region</i>)	Head of the Office of the Mayor and the Government of Moscow in the rank of First Deputy Mayor of Moscow; deputy of the Kirov City Duma; Minister of Finance of the Government of the Chelyabinsk Region; vice-governor of St. Petersburg	Son of the mayor of Yekaterinburg; member of the public council under the Ministry of Economy of the Perm Region in 2014–17; former employee - Chairman of the Public Council under the Federal Tax Service of Russia for the Krasnodar Region; awarded the title of “honorary citizen” by the governor

As for additional indirect proof of connections, we resorted to scrolling through various regional media pages or portals of business information, publishing photographs, chronological notes, reports revealing company ownership structure, government procurement statistics, news about persons' participation in joint events, etc. The Integrum media archive was also used. As for the most publicly known personalities, major Russian businessmen and officials, search queries were formed specifically for the appropriate type of connections using marker words, e.g., “State Duma”, “Central Bank”, “Russian Union of Industrialists and Entrepreneurs”.

The use of media materials, especially investigative ones, in the encoding procedure allowed for a more thorough analysis of scandalous incidents (e.g., a raid, an arrest, or a business dispute between a bank and a company) from the viewpoint of the interests of individual actors, including officials. This approach to the detection of connections, based on fact-checking of media materials regarding corporate or public interactions, was used by Gulnaz Sharafutdinova in her study of “crony capitalism” in Russia (2010, p. 17, 40) [37].

Figure A.1. All proposed variables for political connections and institutional features of banks

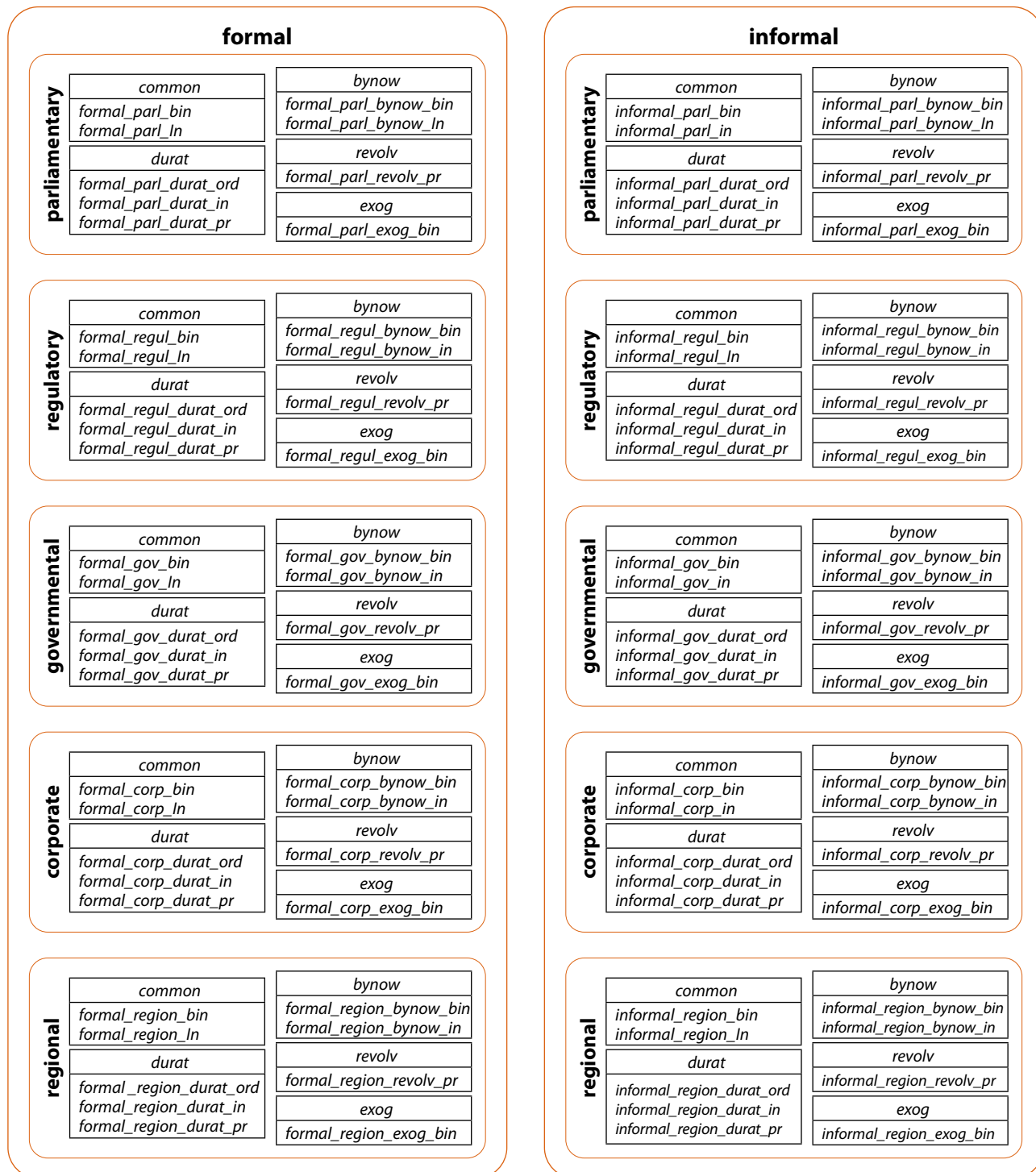
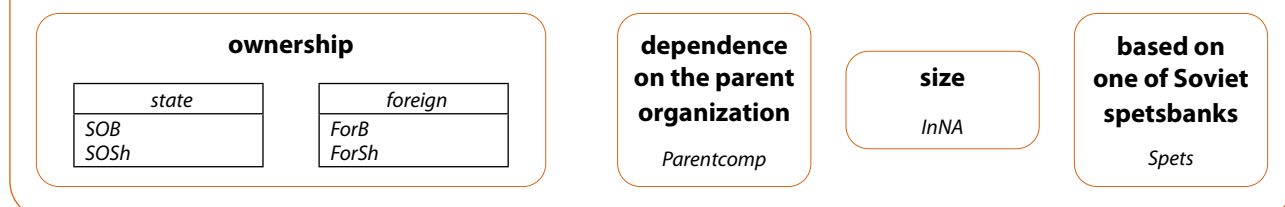
Political connections (x90 variables)**Institutional features (x7 variables)**

Table A.2. The variables of political connections and other institutional features: an example of a formal parliamentary political connection

Variable name	Computation	Notation
$Formal_parl_bin_{jt}$	$\max(common_{ijt})$ where $common_{ijt}$ – a binary variable, for i banker of j bank in t year	The binary variable denoting if there is at least one banker with a <i>common</i> formal parliamentary connection
$Formal_parl_bynow_bin_{jt}$	$\max(bynow_{ijt})$ where $bynow_{ijt}$ – a binary variable, for i banker of j bank in t year	The binary variable denoting if at least one banker currently maintains a formal parliamentary connection
$Formal_parl_exog_bin_{jt}$	$\begin{cases} 1 & \text{if } \max(exog_{ijt}) = 1 \text{ and } \\ & \sum(exog_{ijt}) = \sum(common_{ijt}) \\ 0 & \text{if } \max(exog_{ijt}) = 0 \text{ or } \\ & \sum(exog_{ijt}) < \sum(common_{ijt}) \end{cases}$ where $exog_{ijt}$ and $common_{ijt}$ – binary variables of the same connection type, for i banker of j bank in t year	The binary variable of the exogenous parliamentary connection in the direct identification approach (i.e., formal), denoting if there is at least one banker with such an exogenous connection and no bankers maintain an endogenous connection of the same type
$Formal_parl_ln_{jt}$	$\ln(\sum(common_{ijt}) + 1)$ where $common_{ijt}$ – a binary variable, for i banker of j bank in t year	The natural logarithm of the number of bankers with a <i>common</i> formal parliamentary connection
$Formal_parl_bynow_ln_{jt}$	$\ln(\sum(bynow_{ijt}) + 1)$ where $bynow_{ijt}$ – a binary variable, for i banker of j bank in t year	The natural logarithm of the number of bankers with a current formal connection of a parliamentary type
$Formal_parl_revolv_pr_{jt}$	$\frac{\sum(revolv_{ijt})}{\sum(common_{ijt})}$ where $revolv_{ijt}$ and $common_{ijt}$ – binary variables of the same connection type, for i banker of j bank in t year	The proportion of bankers with a formal parliamentary connection established after affiliation with the bank, of the total number of bankers with the same connection type
$Formal_parl_durat_ord_{jt}$	$\max(ordered(durat_{ijt}))$ where $durat_{ijt}$ – the number of years a connection has lasted for, and the function <i>ordered</i> converts it into values 0–6, for i banker of j bank in t year	The ordinal variable of the maximum number of years for which a formal parliamentary connection has lasted among all bankers with a lasting political connection of the same type

Variable name	Computation	Notation
$Formal_parl_durat_ln_{jt}$	$\frac{\sum (\ln(durat_{ijt} + 1))}{\sum (common_{ijt})}$ where $durat_{ijt}$ and $common_{ijt}$ – variables of the same connection type, for i banker of j bank in t year	The mean natural logarithm of the number of years for which a formal parliamentary connection has lasted, taken with respect to the total number of bankers with the same connection type
$Formal_parl_durat_pr_{jt}$	$\frac{\sum (relational(durat_{ijt}))}{\sum (common_{ijt})}$ where $durat_{ijt}$ and $common_{ijt}$ – variables of the same connection type, and the function <i>relational</i> converts $durat_{ijt}$ into 0 for values 0–1 and into 1 for values 2–6, for i banker of j bank in t year	The proportion of bankers with a relational (lasting) political connection of a parliamentary type in the direct identification approach, of the total number of bankers with a political connection of the same type
$Parentcomp_{jt}$	$\frac{\sum (parentcomp_{ij})}{\sum (ij_t)}$ where $parentcomp_i$ – a binary variable, for i banker of j bank	The proportion of bankers who are affiliated with the bank's parent organization, of the total number of bankers
SOB_{jt} and $ForB_{jt}$	$\begin{cases} 1 & \text{if } share_{jt} > 50\% \\ 0 & \text{if } share_{jt} \leq 50\% \end{cases}$ where $share_{ij}$ – a share of state-owned or foreign entity in j bank's equity in t year	The binary variables of the state or foreign control over the bank through ownership
SOS_{jt} and $ForSh_{jt}$	$\begin{cases} 1 & \text{if } share_{jt} > 0\% \\ 0 & \text{if } share_{jt} = 0\% \end{cases}$ where $share_{ij}$ – a share of state-owned or foreign entity in j bank's equity in t year	The binary variables of the state or foreign participation in the bank's equity
$lnNA_{jt}$	$\ln(NA_{jt})$ where NA_{jt} – net assets of j bank in t year	The bank's size as the natural logarithm of its net assets
$Spets_j$	$\begin{cases} 1 & \text{if bank } j \text{ was formed or developed on the basis of former Soviet spetsbanks} \\ 0 & \text{otherwise} \end{cases}$	The binary variable of the foundation or development of the bank based on former Soviet spetsbanks

Principal Components' Analysis for the reduction of the number of political connections variables from 8 to 2 for each of the five types

Two principal components (PCs) were constructed for each of the five types of political connections. The PCs were derived from eight quantitative variables (each with two different values for direct and indirect identification approaches): the natural logarithm of the total number of connected bankers (*common*), the natural logarithm of the number of bankers who have an ongoing connection (*bynow*), the proportion of bankers who obtained a particular type of connection after joining the bank from the total number of bankers with the *common* connection of the same type (*revolv*), the average natural logarithm of the number of years for which a connection lasts (*durat*). Table A.3 presents the loadings (weights) for these variables,

showing their contribution in the formation of the two PCs. The proportion of the total variance of the connection variables explained by each of the PCs is given in parentheses.

According to these loadings, the greatest variance of variables for any connection types is contained in the connection duration. The first of the PCs of parliamentary, regulatory and governmental types characterizes mainly informal connections, and the second – the job experience. This also means that the higher variation in these connection types across banks is noticeable precisely in the informal dimension. With regard to the PCs of connections with state-owned companies and regional authorities, this interpretation is difficult, since the first PC of these types fairly evenly absorbs the differences in both work experience and acquaintances. As for the second PC, it is mostly formed by the formal ones for corporate connections, and by informal ones for regional connections.

Table A.3. Loadings of the variables forming the principal components for each of the five types of political connections

Type of political connection	Parliamentary (<i>parl</i>)		Regulatory (<i>regul</i>)		Governmental (<i>gov</i>)		Corporate (<i>corp</i>)		Regional (<i>region</i>)	
	PC1 (0.74)	PC2 (0.16)	PC1 (0.59)	PC2 (0.32)	PC1 (0.65)	PC2 (0.19)	PC1 (0.61)	PC2 (0.26)	PC1 (0.60)	PC2 (0.24)
Formal common	0.089	0.305	0.122	0.352	0.099	0.464	0.298	0.366	0.273	−0.290
Informal common	0.293	−0.091	0.340	−0.053	0.340	0.148	0.278	−0.142	0.296	0.021
Formal revolving doors	0.070	0.178	0.000	0.000	0.001	0.030	0.049	0.099	0.070	−0.066
Informal revolving doors	0.174	−0.226	0.168	−0.044	0.120	−0.017	0.086	−0.203	0.119	0.010
Formal current status	0.036	0.092	0.035	0.041	0.051	0.201	0.235	0.266	0.127	−0.163
Informal current status	0.206	−0.076	0.213	−0.033	0.260	0.090	0.248	−0.107	0.164	0.116
Formal duration	0.264	0.868	0.229	0.897	0.151	0.795	0.441	0.654	0.597	−0.624
Informal duration	0.870	−0.219	0.862	−0.252	0.876	−0.283	0.716	−0.533	0.648	0.695

Note: The proportion of the total variance of the connection variables explained by each of the PCs is given in parentheses.

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