Shareholder Democracy under Autocracy: Voting Rights and Corporate Performance in Imperial Russia[+]

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Abstract:

This paper investigates how the rules that corporations wrote for themselves related to their financing and performance in an environment characterized by poor investor protections, Imperial Russia. We present new data on detailed governance provisions from Imperial Russian corporate charters, which we connect to a comprehensive panel database of corporate balance sheets from 1899 to 1914. We document how variation in votes per share and other shareholder rights provisions were related to corporate choices of using debt vs. equity and whether these governance provisions correlated systematically with performance measures on the balance sheet and in terms of the market-to-book ratio. This investigation reveals the tradeoffs weighed by Imperial Russian corporations and demonstrates the surprising flexibility that Russian corporations enjoyed, conditional on obtaining a corporate charter.

Keywords: corporate governance, corporate finance, Imperial Russia, economic history

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I. Introduction

How were corporations governed in the past? What were the implications of different governance characteristics – voting structures, board membership and organization, director requirements, reporting mandates, etc. – on the financing and performance of corporations? Such internal attributes structured the level and scope of internal agency issues, impacted the extent of informational gaps between firms and outside investors, and affected the ability of the corporations to effectively undertake the activities outlined in their charters. In turn, these considerations determined how such firms utilized productive resources, engaged in new projects, adopted new technologies, and undertook daily operations and expanded. Given the outsized role that the corporate form played in many industrializing economies of the late 19th and early 20th centuries, addressing this question is of critical importance.

Unfortunately, existing empirical work on these questions has largely been limited to relatively small samples of corporations from the leading economies of the period: Belgium, Germany, Japan, the United Kingdom, and the United States. These countries all possessed well-developed legal, financial, and even – to some degree – democratic political systems. These institutional structures underpinned the adoption of increasingly sophisticated corporate governance structures that affected financial strategies and the allocation of resources within firms and industries (e.g. O'Sullivan, 2000).

On the other hand, relatively little is known about corporate governance practices – and their implications – in weaker institutional settings, especially in the past.[4] This paper studies features of corporations in late Imperial Russia, a low-income, mostly agrarian society with relatively weak legal and political institutions. While Owen (1991) and others have studied Russian corporations during this period, we know little about the underlying governance characteristics of these firms, or how these internal attributes possibly linked to performance. Was governance structured to overcome significant internal agency issues, or were charters largely tools to benefit a group of insiders? Were charters constructed to

[4] Musacchio (2009; Brazil) and ongoing work by Cihan Artunç (on Egypt and the Ottoman Empire) are important exceptions.

help bridge informational gaps between corporations and outside sources of funds, particularly smaller investors and minority shareholders? Answers to these and related questions improve our understanding of the role played by corporations in the early stages of Russian industrial development.

The heart of this paper is a presentation and analysis of the governance and financial characteristics of over 2,700 Russian corporations chartered from 1898 through 1913. Recent work in other settings suggests that non-corporate forms of organization were critical for the shift to modern economic growth through the development of small and medium-sized firms (Guinnane et al., 2007), but Gregg (2020) argues that the corporation was essential for financing large-scale investments amidst the emergence of modern industry in the Russian Empire. Indeed, that work emphasizes that the costly concession system of incorporation, whereby Russian corporations received bespoke charters (and charter revisions) through an application process with the Ministry of Finance, impeded the adoption of this form of organization that was of particular use in such an emerging market setting. How corporations were structured and how this mattered for their financing and expansion are, thus, critical questions for Russian economic history.

Following Hilt (2008) and similar studies, we first document key features of Imperial Russian corporate charters, including their voting rights schemes, number of provisions, requirements for increasing capital, makeup of the board of directors, and rules for shareholder meetings. To do this, we rely on newly collected information from founding charters, merged to the RUSCORP database (Owen, 1992) that provides some basic information on all corporations. Second, we link this information to two additional datasets that provide financial and performance outcomes: annual corporation-level balance sheet information from Ministry of Finance yearbooks and share prices from the St. Petersburg Stock Exchange Project.[5] Though the available data and context do not permit us to make causal claims about how charter provisions determined financial outcomes, we draw on the historical and modern corporate governance literatures, along with specifics of the Russian context, to form hypotheses about the

[5] The time period – 1898 to 1914 – reflects the availability of the balance sheet data.

relationships we are likely to observe, and we then evaluate their plausibility based on the correlations we can document.

Our findings suggest that Russian corporate founders designed charters to help resolve fundamental tradeoffs between attracting external finance and maintaining control over their enterprises. We find that some features, like voting rights schemes, vary greatly across corporations, though almost all corporations adopt some manner of graduated voting rights. Indeed, according to our measure (derived from Hilt, 2008), voting rights within Russian corporations were more "democratic" than for firms in many other contemporary societies, which tended to adopt structures closer to one share – one vote. We also establish that charters varied by industry, over time, and across corporation types. Larger corporations and corporations with smaller-denomination shares tended to have more graduated (i.e. "democratic") voting rights schemes. Furthermore, though voting rights do not show a strong correlation with a corporation's choice of equity vs. credit in its capital structure, corporations with more graduated voting rights schemes tended to hold more property as a proportion of total assets, perhaps reflecting a different set of strategic objectives.

Finally, we present evidence that corporations with more graduated voting rights schemes were more profitable and had greater market valuations. Though our ability to draw causal interpretations from these results is limited, our findings suggest that corporate founders in Russia could design their charters to achieve certain financial and economic outcomes for their corporations and that they did so in ways that were more open to minority investors (and less subject to concentrated control) than many Western firms. Outside shareholders may have been concerned that agency problems in corporations, for example the potential for concentrated ownership or management to exploit corporations for their own benefit, were especially acute in the Russian Empire. In this setting, corporations that employed more graduated voting rights schemes were possibly more attractive to small outside investors and, therefore, enjoyed greater valuations as a result.

Our paper begins by outlining key features of the Imperial Russian context, including Russia's history of industrial development, the financing options available to corporations, and features of the

Imperial concession system of incorporation. We briefly place this study in a comparative context relative to other historical and modern literature on corporate governance, finance, and performance. These sections help motivate an informal conceptual framework and set of hypotheses that structure the presentation of the data and the empirical work that follows. Finally, we offer a brief conclusion and thoughts on future work.

II. The Context

Our focus is on the Russian economy between the late 1890s and World War I. Over this period, the Russian economy experienced a mid-decade boom, followed by a downturn (bottoming out in 1901), growth to 1905, a massive contraction with the 1905 Revolution, and a slow, erratic recovery leading up to the First World War (Gregory, 1982; Owen, 2013). Per capita income grew very slowly over the period, and the economy remained largely agrarian, but this period did see the emergence of modern industrial development (Kafengauz, 1994). A long line of scholarship interprets this early industrial development as a consequence of various state initiatives in the economy, coupled with growing foreign investment (Gerschenkron, 1965; Von Laue, 1965).[6]

In recent work, Cheremukhin et al. (2017) assert that late Imperial industrialization was constrained by entry barriers and excessive market power. One possible source of these rigidities was the absence of general incorporation, which potentially limited the emergence of new firms with limited liability and asset shielding, thereby reducing risk-taking, investment, the adoption of new technologies, and growth (Gregg, 2020; Owen, 1991). The roughly 2800 firms that did incorporate between 1895 and 1914 did so through an individualized, possibly politicized, and likely costly concessionary process administered by the Ministry of Finance. Despite these relatively limited numbers in such a large Empire,

[6] The Witte System, a collection of policies designed to encourage industrialization and overall economic development, included a tariff regime, the formal adoption of the gold standard in 1897, a number of financial reforms, and investment return guarantees in railroads and other sectors. Some authors question whether there really was much impact from these and other state initiatives over this period (e.g. Allen, 2003; Kahan, 1989).

research suggests that these corporations played an outsized role in the modernizing sub-sectors of Russian industry (Gregg, 2020; Kulikov and Kragh, 2016; Shepelev, 1973).

While state-owned institutions continued to play a key role in capital allocation, the late Imperial Russia's financial system saw growing involvement of large investment banks in the nascent securities markets centered on the St. Petersburg exchange. Financial publications and reporting requirements meant that considerable information was made public, both domestically and to the growing number of interested foreign investors. However, poor transportation, large distances, and inadequate legal and regulatory oversight, along with low national savings and considerable economic volatility, meant that outside financing was costly, and many firms were constrained to internal sources of funding (or funds from family and friends). In this context, the key characteristics of corporations – limited liability, asset shielding, and specifically legal rights – apparently enabled lower external financing costs, which was especially important for capital-intensive investments in more advanced technologies and production facilities (Gregg, 2020; Gregg and Nafziger, 2022). The issue of concern in this paper is whether the internal governance characteristics of these corporations enabled firm expansion by mitigating agency costs and lowering the costs of accessing external finance.

II.1: The Corporation in Imperial Russia

Imperial Russia failed to introduce either general incorporation or a private (non-corporate) business form that offered complete limited liability (e.g. the PLLC, as defined by Guinnane et al. 2007). While the commercial legal code allowed for partnerships (both full and limited) and sole proprietorship, corporations were to be granted only after careful consideration of their proposed scope, structure, and adherence of applicable statutes.[7] As such, the process of charter application and approval generated considerable variation in corporate structures and, as we shall see, governance.[8] Although the Ministry of

[7] *Svod zakonov Rossiiskoi Imperii* [Digest of Laws of the Russian Empire]. The relevant section is Volume X, Chapter Six, Division 1 ("On the partnership," followed by "On corporations.").
[8] In contrast to the general incorporation practices adopted in the US and UK from the mid-19th century, Imperial Russia was among a number of other European states (mostly those drawing on the Napoleonic *Code de Commerce*

Finance provided some guidelines, heterogenous sectoral demands, financing needs, and (intended) ownership structures filtered through the bargaining and idiosyncrasies of the approval process to generate considerable variety in corporate charters. Furthermore, when corporations wished to change elements of their charter, such as their scope of activities, board structure, or capitalization level, they had to return to the Ministry and obtain a formal revision. Initial chartering and re-chartering were certainly costly processes involving lawyers, petitions, fees, and lengthy waits, which likely limited access to incorporation by many Russian firms (Gregg 2020).

Imperial Russian corporate charters consisted of approximately 70 statutes broken into specific sections. All charters were published in the *Polnoe Sobranie Zakonov Rossiskoi Imperii* [abbreviated PSZ, *Complete Collection of Laws of the Russian Empire*], though after 1895 only a short excerpt was published in the PSZ, while the full charter was published in a related legal digest called the *Sobranie uzakonenii i rasporiazhenii pravitel'stva* [abbreviated SURP, *Collection of Administrative Laws and Orders*].[9] As an example, consider the charter of the Demina Textile Manufacturing Company (number 5-0179 in SURP). This typical charter included 77 provisions divided into six sections: "Objective of the corporation's founding, and its rights and obligations;" "Capital of the corporations, shares, and obligations of shareholders;" "The Board of Directors, and its rights and obligations;" "Accounting, division of profits, and distribution of dividends;" "Shareholder meetings;" and "Corporate expenses, liabilities, and ending the corporation." We generate our key variable, the voting rights scheme, from clauses in the "Shareholder meetings" section, but we consider information from across the charters.

Corporations in Imperial Russia self-identified into two types that were indicative of this underlying variation in organizational characteristics. When initially incorporating, the vast majority of corporations defined themselves as either "A-corporations" or "share partnerships" by the use of different

of 1807 as the basis of their relevant legal codes) that maintained some amount of concessionary government authority regarding which firms could incorporate, although in practice the approval processes became more regularized over time.

[9] It does appear that a few corporations did not have their charters published in either outlet (they show up in subsequent financial or regulatory sources), although this seems to be very limited in scope.

terms – *aktsiia* or *pai* – to describe their equity stakes. Although the commercial code did not formally distinguish the two variants when it came to their legal rights and obligations, these self-identifications may have signaled the nature of their enterprise to investors (and perhaps to regulatory authorities).[10] The data suggest that larger and new enterprises, perhaps seeking outside financing from wider circles of investors, tended to define themselves as A-corporations and issue (more) smaller par-value shares, while existing partnerships that incorporated (perhaps to add a small number of new investors) tended to choose the share partnership label and issue larger par-value shares (Gregg and Nafziger, 2019 and 2022).[11] As we outline further below, such variation in organizational form is helpful for understanding how corporations addressed information asymmetries, agency issues, and other market imperfections in the Russian setting, thereby impacting their access to external finance (and, hence, their growth).

III. Comparative Perspectives

The literature on corporate governance within firms before World War I is largely limited to studies of Western Europe, the United States, and, to a lesser extent, Japan.[12] The standard historical narrative (e.g. Berle and Means, 1932) emphasizes the legal evolution of corporations from royal concessions, to specific grants by representative bodies, to "general incorporation" through administrative filings. This trajectory intertwined with the growing complexity of large-scale firms, the separation of ownership from managerial control of the firm, the concomitant development of numerous external financing instruments for such corporations, and the emergence of markets for "corporate control." Along the way, corporations

[10] "Share partnerships" (*tovarichestvo na paiakh*), though still Russian corporations formed under the concession system, tended to possess many characteristics of private limited liability companies, including small circles of investors and (at least anecdotally) more reliance on internal financing. See our discussion of the charter data below. Rozenberg's (1912, p. 42) pamphlet on Russia's absence of limited liability partnerships complained that the partnership was a "not a legal, but merely a practical form."

[11] Owen (1991), pp. 12-13 and 152. In our empirical analysis, we relate our new governance indicators to this short-hand, self-identified corporation "type" as a check on its value as a "sufficient statistic" for a particular corporate structure.

[12] We acknowledge that in many societies, non-corporate forms of firm organization (e.g. the PLLC in Germany and elsewhere) were critical drivers of economic growth during the long 19th century (Guinnane et al., 2007).

were defined by their limited liability, the tying of assets for particular purposes (and shielding them at the same time), and their legal personhood, with internal and external decisions made to maximize value for shareholders.

This last characteristic was frequently at odds with the complexity of such organizations, where day-to-day control was often left to a smaller set of managerial interests. Given this, corporations could structure their governance – specifying the composition of the board of directors, requiring share ownership to align managerial incentives, setting graduated shareholder voting rights, etc. – to mitigate the inherent agency issues and to encourage outside investment (e.g. Hilt, 2008). However, corporations did not have to do this, despite some legal requirements to do so. As constructed by insiders for a particular purpose, corporate charters could explicitly benefit managerial or large ownership interests (often founders) at the expense of smaller investors.[13] Such "insider" governance might not maximize shareholder welfare, often interpreted as the market value of the corporation. On the other hand, as pointed out by Lamoreaux and Rosenthal (2023), governance structures that provide more control to entrepreneurs instead of outside investors can allow firms to engage in projects that may be riskier and more likely to encourage the adoption of more advanced technologies. Thus, even if small shareholders can possess real control through voting at shareholder meetings, greater shareholder control may or may not lead to long-run positive outcomes for the firm or for welfare more generally.

A massive literature explores – historically and in modern data – the structure of corporate charters to understand how they a) potentially did or did not favor a controlling interest (often founders, frequently owner-managers), and b) how they encouraged interest among outside investors. These two broad objectives clearly generate a tension, and scholars have explored a large set of governance statutes to tease out the net consequences for agency and financial costs. As we cannot be comprehensive in reviewing all the relevant literature, our focus here is on a small set of empirically minded studies that directly inform our analysis of Imperial Russian corporate governance.

[13] Guinnane et al. (2017) find that among late 19th and early 20th century UK corporations, charters often departed from such patterns and were instead written to benefit managers or directors at the expense of (small) shareholders.

The starting point for such work has often been the allocation of voting rights among shareholders: how far from one share – one vote, which skews control towards larger owners, was the structure in a given charter? This could happen through a reduction in votes per share for a greater number of shares, caps on the number of votes one shareholder could receive, or other mechanisms. Berle and Means (1932) famously emphasized a long-run shift toward a "democratization" of American corporations by the early 20th century, with the prominence of graduated voting rights within firms coinciding with diffused ownership and a separation of (large-scale) ownership and control.[14] In contrast, Hilt (2008), Hansmann and Pargendler (2014), and others argue that, for earlier American corporations, concentrated ownership often coexisted with chartered governance conditions – particularly graduated voting rights - that potentially protected minority shareholders and enabled some separation.[15] This was not necessarily the case under generation incorporation in Britain, where statutes were often constructed to shift voice away from shareholders in favor of insider and managerial interests.[16] Moreover, over the twentieth century, the growing predominance of (return to?) one share – one vote governance reflected the strengthening of broader legal rights of minority investors, the deepening market for corporate control, and the rise in various alternative instruments to separate ownership and voting rights (Adams and Ferreira, 2008).[17]

[14] In some sense, the "shift" was from a perceived historical norm of one share – one vote under English common law that Hilt (2008) and others have noted did not really exist in practice. Dunlavy (1998) asserts that U.S. corporations actually saw a decline in graduated rights over the turn of the 20th century.
[15] As we discuss below, Hilt (2008) usefully provides a 0 → 1 measure of such graduated voting structures, where 1 represents one share – one vote and 0 would be one vote per shareholder, regardless of shares owned.
[16] As Guinnane et al. (2017) notes, this was not just the case for voting rights but occurred across a large set of governance statutes. Freeman et al. (2012) describe similar patterns in an earlier period, noting a move away from UK shareholder "democracy" by the early 19th century. By the turn of the century, listed UK corporations – governed by a more prescriptive law – tended to have statutes that were more favorable to minority shareholders, although this typically did not mean graduated voting (Foreman-Peck and Hannah, 2014). The relative importance of graduated voting rights for potentially attracting investors, limiting exploitation by large shareholders, protecting consumer/owner interests, and improving firm performance is a prominent theme in studies of very different societies and corporate populations over the long nineteenth century. See Bodenhorn (2014; on early 19th century U.S. banks), Burhop (2009; German banks in the 1870s), Campbell and Turner (2011; corporations in Victorian Britain), Dunlavy (1998; comparative), Musacchio (2009; on Brazilian corporations), and Hansmann and Pargendler (2013; comparative), just to name a few studies.
[17] Adams and Ferreira (2008) and other authors emphasize the emergence of various mechanisms for voting rights to exceed cash flow rights (e.g. dual-class shares), rather than the opposite case, which seems to be emphasized in the historical literature for the 19th century. Coffee (2001) and LaPorta et al. (1999) identify the presence of distinct

Beyond the structure of shareholder voting rights, the literature has considered a number of other charter elements that potentially addressed agency issues and reduced the costs of external financing for historical corporations.[18] These included whether proxy voting was allowed (allowing minority voices to aggregate via banks and other representatives), requirements on the shareholding or personal characteristics of managers or directors (often installed to improve monitoring or align their interests with those of shareholders), the size and composition of boards of directors, conditions – including quorums and agenda setting – for shareholder and board meetings, mandates about dividend issuance or particulars regarding the use of various sources of external finance (including bonds and direct credit), dissolution and resolution norms and practices (important for creditors), directives regarding managerial and director compensation, and rules about the timing and publication of accounting, financial, ownership (shareholder information), and managerial/board records (Burhop, 2009; Campbell and Turner, 2011; Freeman et al., 2012; Guinnane et al., 2017; Hilt, 2008; Musacchio, 2009).[19] Relatively little research has taken the next step and linked governance indicators to either a corporation's financing (i.e. leverage or access to credit) or performance (market valuation, return on equity, or Tobin's Q). Exceptions include Acheson et al. (2016), Burhop (2009), Bodenhorn (2014), Campbell and Turner (2011), and Hilt (2008), several of which emphasize that governance favoring founders, directors, or managerial insiders may – in particular market and institutional settings – generate better financial or performance outcomes than more "democratic" structures. This hinges on whether such actors are better positioned to solve some underlying market imperfection. To varying degrees, most of these studies take advantage of direct

systems: dispersed ownership and deep securities markets in mostly common law countries, and concentrated ownership and thinner markets in many civil law countries (including Imperial Russia). The former paper argues that this distinction withered away in recent decades, while noting that the deepening of financial markets enabled – historically – the dispersion of ownership and control (rather than an effect of systemic legal differences ala LaPorta et al.). Coffee goes on to note that 19th century societies with greater state involvement in the economy generated less momentum towards the financial deepening necessary for shareholder "democratization."

[18] Future drafts will relate this historical literature more directly to the literature on modern corporate governance.

[19] Some studies (e.g. Freeman et al., 2012) have combined a combination of these sorts of variables into an index meant to capture how corporate governance favored shareholders.

information on shareholders and/or founder, director, or manager identities to consider how the impact of governance was realized through the structure of ownership or specific control rights.

Given the historical literature's primary focus on corporations in a few relatively advanced economies, what makes the Imperial Russian case different and worth studying?[20] Low per capita incomes plus the overwhelmingly rural and agricultural nature of the economy limited the pool of savings available for investment and the demand for many industrial products. At the same time, and despite considerable institutional weakness, the Russian state maintained a relatively interventionist role in the economy across a variety of areas. This was true within the financial system, where, while some modern financing options were steadily more available, there were relatively few banks, securities markets were thin, and state institutions were particularly active (discounting, mortgage credit, and through deposits of state funds in other financial institutions). Vast distances, poor communication systems, and slow transportation, compounded by low literacy levels, meant that costly-to-address information asymmetries were rife within the financial system. Finally, the Imperial legal system – while not expressly hostile to corporations or industrial development – was relatively weak when it came to enforcement (Owen, 1991).[21]

How were these characteristics of the economic and institutional environment reflected in the governance of Russian firms? And did the subsequent corporate structures matter? Much like the above literature, our focus is on shareholder voting rights, although we do discuss some other key features of charters. As in many emerging or low-income economies today, listed corporations were a minority of firms in Imperial Russia. However, as Gregg (2020) shows, those firms that did incorporate were at the heart of the early stages of Imperial industrial development, meaning their inner workings are of great import for understanding this critical period in Russian economic history. At the same time, the limited

[20] Musacchio (2009) is an important exception with his detailed examination of the interrelationship between corporate governance, finance, and performance in late 19th and early 20th century Brazil, a much poorer and more institutional backward economy.
[21] Imperial Russian corporate law largely followed the civil traditions of France and Germany, although some adjustments were made under the 1901 law and smaller decrees.

financial markets and seemingly weak legal and economic institutions might make it seem presumptuous to talk about the particular impact of governance statutes when markets for corporate control were likely limited. However, it is exactly in this sort of environment that agency issues and information asymmetries likely loom large, thereby perhaps generating demand for specific corporate charter characteristics as ways to mitigate these concerns. This motivates our empirical work below.

IV. Data

This paper draws upon a number of novel data series on corporations in late Imperial Russia. Our starting point is newly hand-coded information from the charters of corporations founded between 1898 and 1913, inclusive.[22] In our time period, these charters were published in a series of volumes relaying official edicts, legal decrees, and administrative rulings: *Sobranie uzakonenii i rasporiazhenii pravitel'stva* [The Collection of Administrative Laws and Orders; hereafter SURP].[23] We collected data from all available founding charters of industrial corporations (excluding railroads), with some missing observations due to a lack of a SURP publication.[24] Critical to this effort was our use of the RUSCORP database (Owen, 1992), which provides basic information on the (largely complete) population of corporations founded in the Russian Empire. We took data from this source (described below) *and* utilized references within it to find the corporate charters in SURP. Such a master list is unavailable for charter revisions and amendments. While we have collected these where possible, the current paper relies exclusively on the founding corporate documents.

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[22] By "founded," we mean that the charter was formally dated to that year. The onset of corporate operations may have happened after the charter date. These charters include corporations founded across the entire Empire (c. 1900), including the Polish provinces but excluding the Finnish Governate.

[23] Prior to 1883, corporate charters were published in the annual series *Pol'noe sobranie zakonov*.

[24] We failed to code information from some charters issued in almost every year of this period. Much of this was due to SURP volumes that proved particularly tricky to track down. We have recently completed the initial collection of all relevant charters published in SURP – future drafts will incorporate data from these corporations. We focus exclusively on industrial corporations, which includes some transportation and agricultural processing firms. We leave work on the governance and financing of railroads and financial corporations for future work.

RUSCORP provides some basic corporate data at the time of chartering, including information on the founders, location of headquarters, initial capitalization, nominal share size, and whether the firm was an A-corporation or share partnership.[25] Thomas Owen and his research team initially collected these data from SURP and other published sources in the period as part of an effort to document the 4500+ private corporations ever chartered in Imperial Russia (at least through 1913). Of these, roughly 3100 were chartered between 1895 and 1913, of which we possess more detailed governance information from SURP on about 2,700 of these. Critically, we do not possess any share ownership lists or know the actual distribution of equity for any of these corporations. This means our empirical work is based exclusively on the statute governance characteristics rather than the realized concentration/diffusion of equity holdings. Overall, our main data contributions in this paper are to codify additional governance characteristics from the charters collected in SURP and to then wed the union of these and RUSCORP to other data on the finances and performance of these corporations.

The first of these sources is a panel dataset of balance sheet information on Imperial Russian non-financial, non-railroad corporations active from 1899 onwards.[26] We collected data for individual corporations as reported in tables of the Ministry of Finance Yearbooks published from 1900 through 1915, and then matched these observations by hand over time and by name to RUSCORP. While all corporations were required to report annual financial information, a number apparently did not, and the Ministry of Finance may have not included some reported data in their yearbooks (and the large-scale compilation of these data does not begin until the 1899 accounting year).[27] However, we can track the

[25] RUSCORP provides the personal characteristics of all corporations' founders, as listed in the charters, which we use to define whether a corporation has a founder who is a government official, member of the nobility, a woman, or an ethnic minority.
[26] Corporate financial firms and commercial banks' balance sheets were reported separately. The Appendix provides some additional detail on the variables collected through this effort.
[27] The Ministry of Finance compiled the balance sheet information in their yearbooks from the official commercial periodical *Vestnik finansov i torgovli.* Gregg and Nafziger (2022) discuss this and provide an example cross-checking the data from the periodical and yearbook sources. Other such spot checks suggest that the Yearbooks did accurately consolidate data from the *Vestnik* periodical, although we have no way to check the underlying quality of the publicly issued balance sheets in the latter source. Our sense is that regulatory oversight and formal audits were limited in our period, but we have no evidence that accounting practices were better or worse than in other historical contexts, even with the incentives to mask profits given the presence of a corporate income tax.

financial conditions – leverage, capitalization, credit, assets, etc. – and performance (profitability) of most non-financial corporations active between 1899 and 1914.[28]

Table 3 presents an overview of these financial data by industry and accounting year.[29] Our financial data includes 8,931 balance sheet observations of over 1,391 corporations (Panel A). Textiles, foods, and metals represent the largest industrial categories (Panel B). Gregg's (2020) work on incorporation explains this pattern, noting that both textiles and metals were capital-intensive industries with high incorporation rates relative to the size of the industries. Finally, Panel C shows that the implied annual number of corporations in our database was relatively stable except for some reporting of earlier accounting years in the 1900 Ministry of Finance yearbook. Only a small number of firms reported accounts for the year 1905 (278 total, and only 114 that we can match to original charters), most likely because of disruptions caused by the 1905 Revolution, Russo-Japanese War, and general social unrest. We control for year effects in our regression work to (partly) address this disparity, although we are aware that this does not fully address the selection issues that might arise in reporting (or not reporting) financial data in a given year.[30]

Finally, we manually match all of these data by corporation name to the monthly security prices on the St. Petersburg Stock Exchange.[31] From this source, we calculate average yearly share prices and

[28] We are careful to distinguish "exits" and "entrants" from non-reporting by looking for missing firms across all earlier and later years. The published balance sheet data are divided into "active" and "passive" sections, which roughly correspond to modern definitions of assets and liabilities. The active columns included property, materials, debits, other items, and loss; the passive columns included share capital, reserves, amortization, other capital, and credit. We have to adopt slightly different definitions of profits over the period due to changes in how they were reported. This leads us to include accounting year fixed effects in most regressions. See the Appendix Table for the original Russian terms, our translations, and our definitions of key financial ratios. See Gregg and Nafziger (2021) for a longer discussion.

[29] We are currently refining some of our financial data, which will lead to small changes in our dataset and some likely minor modifications to our results in this paper.

[30] Other than 1905, practically no corporations with missing balance sheets in a given year provide data in following years. Therefore, we view non-1905 missing data as largely indicative of corporate dissolution or exit.

[31] These data were compiled from original sources (primarily the financial press) by researchers at the Yale International Center for Finance (see https://som.yale.edu/faculty-research-centers/centers-initiatives/international-center-for-finance/data/historical-financial-research-data/st-petersburg-stock-exchange-project). Price data from other, smaller exchanges in the Empire – Warsaw, Odessa, Kiev, Moscow, etc. – were reported in local papers but have not been systematically collected. Some corporations may have been listed only on these or even smaller Imperial exchanges active during our period. The few Russian corporations that listed their securities on international exchanges also seem to have listed in St. Petersburg, which a close tracking of prices across markets.

estimate the annual corporate valuation as that price times the number of shares at founding. This may introduce some measurement error as corporations could have changed their numbers of shares after founding. Unfortunately, we have found no source listing both a company's market share price and its current number of shares. In theory, charter revisions were required in order to issue new shares or buying back outstanding ones, but we have only just begun collecting these sources. Overall, relatively few corporations were listed on the St. Petersburg exchange over our period.[32]

V. Empirical Framework and Results

In this section, we dissect key features of Imperial Russian corporate charters and investigate how they relate to financial characteristics of corporations, including capital structure, profitability, and market valuation. Besides providing descriptive evidence on Imperial Russian corporate governance, we relate the various elements of founding charters to the corporation's characteristics as an operating entity.

Descriptive Statistics for Corporate Charters and Financial Data

Table 1 lists descriptive statistics for key governance provisions in Russian corporate charters for corporations founded from 1895-1914. The number of observations in each row fluctuates a bit, since some charters are missing certain kinds of information or contain certain provisions with additional conditions or complexities. Table 1 shows that some provisions are nearly uniform across all corporations, while others vary a great deal. For example, almost all corporations in the sample have some right to increase their basic capital (generally subject to approval / charter revision) and are required to distribute financial reports at least two weeks before shareholder meetings. However, corporations

[32] Our matching process relies on the legal code identifiers (between RUSCORP and SURP) or on the names of firms (to the balance sheets and SPSE prices). The latter linkage method likely generates some missing matches that we are currently working to resolve. As we only utilize our SURP governance variables from charters issued in 1895 onwards, we are not including corporations founded before that year in the current analysis, but we will do so in future drafts.

varied significantly in the degree to which they adopted graduated their voting rights for shareholders (measured by the Hilt Index) and in the number of provisions included in their charters – we focus on these two variables here.[33] Overall, Russian corporations tended to use voting schemes with a high degree of graduation: the average voting rights index was only 0.0737, and the median was .03, with 1 reflecting one share – one vote and 0 indicating one shareholder – one vote. By comparison, the average voting rights index for the 812 New York corporations that Hilt (2008) describes for the period 1790 to 1825 was 0.63 (Table 1, p. 658), suggesting a surprising amount of authority lay in the hands of minority shareholders. We next investigate how these characteristics varied by industry, founding year, and corporation type.

A corporation's number of provisions and voting rights scheme likely varied by the complexity of the firm's operations (possibly related to the nature of internal agency issues), its need to attract external financing, and requirements placed on corporations by the commercial code. We thus investigate how key charter provisions varied by industry, which can proxy for complexity and external financing requirements, year, which can account for evolving scrutiny by the Imperial government, and corporation type, which we know is related to internal structures and the demand for external financing. Table 2 shows how the number of charter statutes and the Hilt index of shareholder voting rights varied by industry, year, and corporation type. Panel A presents a breakdown based on the relatively broad industrial categories provided by two-digit SIC codes in the RUSCORP Database. Despite the broad categorization, some patterns are apparent: manufacturing and wholesale corporations had voting rights schemes relatively closer to one-share-one vote compared to mining, finance, and transportation corporations.[34] Finance and transportation corporations also had the greatest number of provisions in their charters. Industries whose operations were relatively complex and capital-intensive, therefore, tended to have charters with more graduated voting rights schemes and detailed internal rules.

[33] See Hilt (2008) and Dayton (2019) for details on how the index is defined.
[34] Again, we do not include banks or most railroads in these calculations. Financial firms were largely insurance or financial services companies, while transportation included a number of municipal and steamship companies.

In Table 2 Panel B, we present a breakdown of the Hilt Index and the number of charter provisions by the industrial breakdown provided by the Ministry of Finance Yearbooks' balance sheet information. The number of corporations here is smaller than that shown in Panel A for three reasons: first, the Ministry of Finance balance sheets only list information for manufacturing corporations; second, the balance sheets only cover the years 1899 to 1914, so corporations founded between 1895 and 1899 would have to survive to be included in the balance sheets; and third, some corporations were not able to be matched by hand from RUSCORP to the balance sheets. Given these caveats, the industrial breakdown featured in Panel B shows interesting variation by industry *within* manufacturing: industries with simpler, less technologically advanced activities like agriculture, textiles, and paper have relatively concentrated voting rights, while more complex, high-tech industries like chemicals, metals, and transportation had more graduated voting rights schemes on average. The number of provisions show less variation across these industrial categories, though transportation corporations had noticeably longer charters.

Corporations may have chosen to call themselves A-corporations or share partnerships as a shorthand to convey to potential shareholders many of the corporation's internal rules. Table 2 Panel C shows that, though A-corporations and share partnerships had charters of similar lengths, share partnerships tended to have voting rights schemes closer to one-share-one-vote than A-corporations, which tended to have more graduated schemes. As A-corporations was more commonly adopted by newer, more capital-intensive firms (likely needed more outside financing), this is consistent with our earlier findings. In the regressions that follow, we further investigate whether a corporation's type captured intrinsic differences across corporations.

Finally, charter characteristics and the governance they represented likely changed over time, as the Imperial government enacted greater oversight of corporations, and as corporations sought investment across longer distances, including abroad. Indeed, the number of charter provisions increased significantly over time (Table 2 Panel D and the associated figures), although the voting rights index showed limited change.[35] An especially noticeable and discrete increase in the number of charter provisions follows the 1901 corporation reform, which aimed to increase the rights of small shareholders by requiring additional governance rules. The voting rights did show a small increase after 1901, perhaps providing evidence of how corporate insiders tried to maintain control over their enterprises, given the new governance requirements (this is consistent with the findings in Gregg, 2017). We are still exploring possible reasons for the subsequent decline in these two characteristics after 1907 (the Hilt index) or 1910 (number of provisions).

Tables 3 and 4 Panel A provide detailed descriptive statistics of the Ministry of Finance balance sheet data, which provide the financial and performance outcomes we investigate in the regression analyses that follow. We were able to match our charter data to almost nine thousand corporation-accounting year observations in the balance sheet data (see above for some discussion of matching methods and issues). Table 4 Panel B, meanwhile, provides an overview of a corporation-year database that matches the charter information directly to annual averages of monthly stock quotes from the St. Petersburg Stock Exchange, which improves our match rate from the charters to financial outcomes. We use these variables in Table 7 Panel B to assess the relationship between voting rights schemes and stock market outcomes.

Correlates of Corporate Governance Provisions

We next investigate how well the A-corporation vs. share partnership distinction captured underlying differences in governance provisions across corporations. Table 5 shows that, even controlling for industry, headquarters region, and size (measured as log share capital at founding), governance provisions were strongly correlated with a corporation's choice of the A-corporation or share partnership label. A-corporations, which likely had more dispersed shareholders, had lower values of the Hilt Index, corresponding to more graduating voting rights schemes. A-corporations also had a greater number of

[35] The two bolded rows indicate years for which we are missing original sources.

directors and a higher threshold for share ownership to vote in the shareholder meeting, most likely because A-corporations tended to be larger overall. The opposite signs for the Hilt Index and voting threshold might seem inconsistent, but we view these results as indicative of the trade-off corporations faced between diluting the power of large shareholders and mitigating the hold-up problems presented by broader shareholder voice. We find no meaningful differences between A-corporations and share partnerships in the likelihood to distribute lists of named shareholders prior to their shareholder meetings.[36]

Correlates of Financial Outcomes

We have established that Imperial Russian corporations wrote charters that varied over time and by industry, corporation type, and size. When composing charters, corporations' founders seem to have weighed their need to attract capital and desire to maintain control over their enterprises. In this section, we investigate whether corporations' voting rights schemes correlated with their financial characteristics. We explore the ratios of credit to assets and property to assets, where credit includes all kinds of loans including trade credit, bank loans, personal loans, and mortgages, and where property includes movable and immovable property. Given the panel structure of the data and our interest in fixed corporate characteristics, we employ random effects regressions. In some specifications, we employ median regressions to address potential extreme values in the outcomes.

The first three columns of Table 6 investigate how the voting rights scheme and corporation age (as a proxy for a variety of firm life-cycle factors) correlate with the ratio of credit to assets. We find negative relationships between credit use and the Hilt index, though the relationship of voting rights to

[36] We also find (not shown) that A-corporations tended to be larger in terms of share capital and issued shares of smaller denominations. Furthermore, corporations' voting rights schemes show strong correlations with size and share price, even after controlling for corporation type, industry, and headquarters region. Corporations with more share capital and shares of smaller denominations (at founding) tended to have more graduated voting rights schemes. These are all consistent with heterogeneity across corporations in the relationship with, or demand for, external (equity) financing.

credit is noisy. The negative correlation between the use of credit and the voting rights index is somewhat surprising, as it seems to indicate that more graduated firms were less reliant on equity financing. However, this could mean that corporations with less graduated voting rights also possessed easier access to informal sources of credit (among a tighter group of insiders) or relied on plowing back profits into their enterprises (it is important to note that we are conditioning on industry, which at least partially addresses differences in scale and capital-intensity of production). Furthermore, such a result might also indicate a potential link between more corporate "democracy" and access to formal credit through some sort of signaling mechanism. Further research is required to unpack these and other possibilities.

Columns 4, 5, and 6 of Table 6 investigate the correlation of the property-asset ratio with corporation type and the voting fights index. We find a robustly negative relationship between the voting rights index and this property ratio, where we view the latter as associated with more transparent and, likely, productive assets. As such, it may be the case that corporations with more graduated voting rights schemes focused more on fixed investments in real estate, buildings, machinery, and other forms of fixed assets (i.e. in what was counted as "property"), rather than assets that could be more easily manipulated or expropriated by firm insiders. If property was a relatively productive way to constitute firm assets, then this association with wider shareholder rights should be reflected in measures of corporate performance.

Correlates of Corporate Performance

What were the economic consequences of how corporations designed their charters? Our sources and context do not permit us to address this fundamentally causal question, but we can document whether key governance provisions in corporation charters were correlated with measures of corporate performance, including profitability on the balance sheet and market price on the St. Petersburgh Stock Exchange. Though the market price is perhaps a more reliable measure of performance, we have only a few hundred observations of this important variable, since relatively few corporations were listed (at least in terms of our matching).

Table 7 Panel A considers corporation-year observations where the Ministry of Finance balance sheet data serves as the focal database. In Columns 1 and 2, we examine correlates of a corporation's return on assets as measured by the ratio of balance sheet profits to total assets. A-corporations and corporations with less graduated voting rights tended to have lower values of ROA, though the relationship between the voting rights index and ROA is only significant in the median regression in column 2 (which does not cluster standard errors by corporation). Thus, we have some evidence, though not entirely robust, that corporations which moved away from one share – one vote may have seen some benefit from doing so, at least in terms of reported profitability. Speculatively, such corporations may have seen greater reported profits due to less insider control of cash flows.

As ROA in these regressions is based on self-reported balance sheet information, however, we continue our investigation by considering market values from the St. Petersburg Stock Exchange. The regressions in Table 7 Panel A columns 3 through 7 focus on two measures of stock market valuation: the log market-to-book ratio and log of market price over the par value of the corporation's shares. Neither measure is perfect. Here, the market to book ratio is calculated as the market price times the number of shares at founding divided by the book value of assets. This assumes that the corporation has the same number of shares as it did at the moment of its founding. Meanwhile, the ratio of price over par is also imperfect, since it omits any information on the company's size or number of shares. However, encouragingly, we find a similar result for both measures: corporations with higher values of the voting rights index have lower market values, though the result is somewhat noisy. Panel B repeats this exercise for the ratio of market price to par value, but we use the stock market data as the foundational database and omit information from the corporation's balance sheets, which improves our match rate and increases the number of observations. Here we find a robustly negative relationship between the voting rights index and market valuation. Corporations that employed more graduated voting rights schemes, therefore, had greater market values. In a context like the Russian Empire, where shareholders could count on few legal protections, graduated voting rights could have been especially critical for attracting large numbers of far-away, anonymous investors, thereby generating demand for the securities of such firms.

VI. Conclusion

In this paper, we have documented how Imperial Russian corporations defined their internal rules in their founding charters, and how these provisions related to financial and stock market outcomes. We find that Russian corporate charters were far from uniform, and the differences across these founding documents demonstrated relationships with variables collected from corporate balance sheets and stock markets that can be rationalized by considering a corporation's tradeoffs between raising external finance and allocating control rights. Perhaps surprisingly in an autocratic and legally underdeveloped society, these corporations were apparently structured with minority owners and costly agency issues in mind.

These findings relate to the specific context of late Imperial Russia, but they potentially can speak to similar issues of corporate governance and performance in other emerging market settings, including Russia and much of Eastern Europe and Eurasian after the fall of the Soviet Union.[37] The wholesale construction of new systems of corporate law and finance, in a context of dramatic social and economic change, generated considerable scope for managerial malfeasance, financial corruption, and asset stripping in transition economies. As these and other emerging markets look to address these issues in their corporate sectors, the ways that internal governance structures functioned in late Imperial Russia can offer some useful parallels.

This paper is part of a larger project examining the governance, finance, and performance of Imperial Russian corporations. In future works, we hope to examine the amendments to charters also published in SURP, which will provide variation in governance by corporation over time and thus partially address concerns over simultaneity of charter provisions and financial outcomes. Even this exercise will be imperfect, since the choice to revise a charter is endogenous as well, but it will give us a

[37] While post-Soviet corporate legal codes of the early 1990s were not grounded in any pre-Soviet practices, such efforts borrowed substantially from Western sources, much as the structure of Imperial corporations drew on European examples.

sense of both how much the Ministry of Finance scrutinized individual charter provisions and the degree to which those provisions constrained corporations' financial choices. Exploring the dynamics of Imperial Russian corporate governance will shed light on similar changes in modern emerging markets.

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Table 1: Descriptive Statistics for Russian Corporate Governance Provisions, 1895-1910

	n	mean	median	std. dev	min	max
Number of provisions	2,715	72.5035	71.00	5.61	46.0	115.0
Hilt Index	2,708	0.0737	0.03	0.11	0.0	1.0
Does the corporation have the right to increase its basic capital?	2,707	0.9985	1.00	0.04	0.0	1.0
Must the first round of shares be issued/paid fully prior to raising basic capital	2,697	0.5291	1.00	0.50	0.0	1.0
Is there a limit placed on the increase of basic capital?	2,699	0.9544	1.00	0.21	0.0	1.0
How many members serve on the board of directors?	2,422	3.5054	3.00	0.98	1.0	12.0
What is the share requirement for directors?	2,708	24.7976	20.00	26.15	0.0	300.0
What is the [additional] share requirement for the executive director?	2,665	20.3490	10.00	21.77	0.0	250.0
What is the minimum number of shares required to vote in the general meeting?	2,717	11.7236	10.00	12.11	0.0	100.0
Can shareholders vote by proxy?	2,719	0.9996	1.00	0.02	0.0	1.0
What is the quorum established for the general meeting?	18	0.4833	0.50	0.07	0.2	0.5
Is a list of shareholders provided prior to the general meeting?	2,715	0.6622	1.00	0.47	0.0	1.0
Is the corporation required to distribute financial reports at least 2 weeks prior	2,708	0.9967	1.00	0.06	0.0	1.0
Does the corporation specify an end date?	2,711	0.0129	0.00	0.11	0.0	1.0

Note: These data were coded from the founding corporate charters issued in *SURP*, multiple vols., 1895-1913. See the text for further discussion.

Table 2: Summary Statistics by Industry, Year, and Corporation Type: Hilt Index, Number of Charter Provisions, and Net Profits / Total Assets

Panel A: By Industry (Charter / Ruscorp Categories)

Industry	Hilt Index			Num Provisions		
	n	Mean	St. Dev	n	Mean	St. Dev
Agriculture	26	0.111	0.136	26	71.923	3.752
Construction	66	0.032	0.027	65	70.938	3.561
Finance	112	0.053	0.064	113	75.354	10.352
Manufacturing	1,791	0.076	0.115	1,793	71.555	3.951
Mining	182	0.045	0.063	182	72.522	4.304
Not Classified	3	0.184	0.133	3	67.000	2.000
Retail	8	0.228	0.328	8	73.875	5.693
Services	77	0.058	0.065	77	72.571	4.272
Transportation	240	0.072	0.131	245	78.559	9.921
Wholesale	203	0.098	0.149	203	72.542	4.114
Total	2,708	0.074	0.115	2,715	72.504	5.608

Panel B: By Industry with Manufacturing (Balance Sheets Categories)

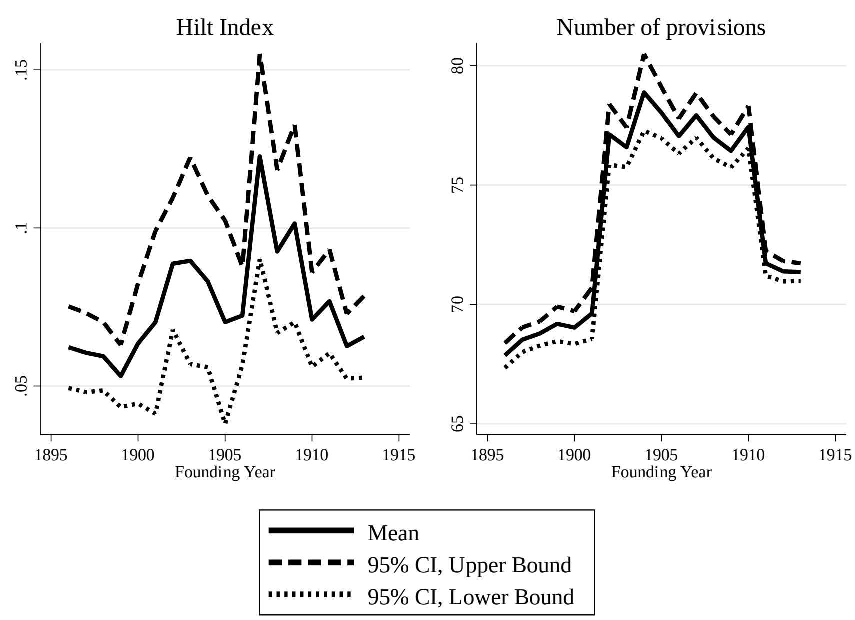
Industry	Hilt Index			Num Provisions		
	n	Mean	St. Dev	n	Mean	St. Dev
Agriculture	4	0.273	0.485	4	68.750	5.679
Animals	29	0.078	0.092	29	72.793	4.593
Ceramics	65	0.063	0.079	65	69.662	3.183
Chemicals	71	0.077	0.094	71	72.000	4.954
Food	212	0.076	0.101	212	71.368	3.916
Metals	173	0.056	0.075	174	70.891	3.919
Mining	172	0.044	0.065	172	72.674	4.721
Miscellaneous	103	0.097	0.159	103	73.165	5.215
Mun. Serv.	86	0.058	0.065	86	72.012	5.396
Paper	58	0.157	0.227	58	71.000	4.052
Textiles	163	0.123	0.171	163	71.264	3.763
Trade	166	0.113	0.167	166	73.235	4.893
Transportation	47	0.057	0.077	50	82.080	12.618
Wood	45	0.058	0.068	45	72.289	5.053
Total	1,394	0.082	0.128	1,398	72.223	5.382

Panel C: By Type

Corp. Type	Hilt Index			Num. of Prov.		
	n	Mean	St. Dev	n	Mean	St. Dev
Share Part.	785	0.127	0.158	786	72.494	4.966
A-Corporation	1,921	0.051	0.079	1,925	72.526	5.840

Panel D: By Year of Founding

Year	Hilt Index			Num Provisions		
	n	Mean	St. Dev	n	Mean	St. Dev
1894	15	0.257	0.261	15	67.333	1.234
1895	95	0.077	0.120	96	68.000	3.369
1896	129	0.062	0.074	130	67.862	2.998
1897	135	0.061	0.074	135	68.519	3.037
1898	193	0.059	0.076	194	68.778	3.571
1899	150	0.053	0.061	150	69.187	4.494
1900	131	0.063	0.110	129	69.031	3.947
1901	75	0.070	0.125	75	69.627	4.649
1902	73	0.089	0.090	75	77.120	5.543
1903	72	0.090	0.139	72	76.583	3.520
1904	85	0.083	0.126	86	78.884	7.503
1905	64	0.070	0.129	64	78.031	4.291
1906	98	0.072	0.078	98	77.051	3.676
1907	118	0.123	0.178	119	77.924	5.129
1908	109	0.093	0.136	109	76.991	4.624
1909	110	0.101	0.165	111	76.432	3.657
1910	180	0.071	0.102	181	77.431	6.024
1911	221	0.077	0.124	221	71.719	3.918
1912	321	0.063	0.093	322	71.388	3.887
1913	334	0.066	0.120	333	71.354	3.411
Total	2,708	0.074	0.115	2,715	72.504	5.608



Note: The number of provisions and the "Hilt Index" were coded from the charters issued in SURP, 1895-1913. Profit data come from the *Ezhegodnik ministerstva finansov* [Ministry of Finance Yearbook], 1900-1915.

Table 3: Balance Sheet Data: Number of Imperial Russian Corporations by Accounting Year and Industry (Only Corporations with Voting Rights Index Collected)

Panel A: Number of Observations and Unique Firms

	Number
Total Observations	8,931
Unique Firms	1,391

Panel B: Number of Corporate Observations by Industry, 1896-1914

Industry	Number	Percentage	Percentage of Total Share Capital
Agriculture	27	0.3	0.07
Animals	139	1.56	1.04
Ceramics	467	5.23	2.96
Chemicals	481	5.39	4.16
Food	1,544	17.29	8.88
Metals	1,287	14.41	22.14
Mining	1,087	12.17	23.36
Miscellaneous	528	5.91	5.56
Municipal Serv.	507	5.68	3.27
Paper	339	3.8	2.20
Textiles	1,139	12.75	12.12
Trade	870	9.74	7.95
Transportation	285	3.19	4.97
Wood	231	2.59	1.33
Total	8,931	100	100

Panel C: Number of Corporate Observations by Accounting Year, 1896-1914

Accounting Year	Number	Percentage	Accounting Year	Number	Percentage
1897	3	0.03	1906	527	5.9
1898	49	0.55	1907	553	6.19
1899	306	3.43	1908	610	6.83
1900	414	4.64	1909	533	5.97
1901	447	5.01	1910	696	7.79
1902	474	5.31	1911	738	8.26
1903	495	5.54	1912	854	9.56
1904	459	5.14	1913	962	10.77
1905	114	1.28	1914	697	7.8
			Total	8,931	100

Source: *Ezhegodnik ministerstva finansov* [Ministry of Finance Yearbook], 1900-1915, matched to charters in the *SURP*. See the text for further discussion.

Table 4: Descriptive Statistics for Balance Sheet and Market Valuations Data

Panel A: Descriptive Statistics for Balance Sheet Data (Companies with Voting Rights Index)

Variable	Obs	Mean	Std. Dev	Median	Min	Max
Balance Sheet Entries						
Share Capital	8,931	1,438,048	2,196,458	750,000	1,123	50,000,000
Total Assets	8,930	3,226,057	5,451,402	1,597,968	14,650	136,000,000
Share Capital/ Assets	8,930	0.52	0.23	0.50	0.00	9.93
Total Property/ Assets	8,867	0.49	0.25	0.49	0.00	1.00
Credit / Assets	8,833	0.31	0.20	0.30	0.00	1.38
Profit or Loss / Assets	8,694	0.02	0.09	0.03	-0.98	1.13
Dividend Amt/ Assets	4,694	0.03	0.02	0.03	0.00	0.83
Fixed Characteristics						
A-Corporation	8,921	0.63	0.48	1.00	0.00	1.00
Has Noble Founder	8,931	0.09	0.28	0.00	0.00	1.00
Has Gov't Founder	8,931	0.16	0.36	0.00	0.00	1.00
Has Gentry Founder	8,931	0.19	0.39	0.00	0.00	1.00
Market and Par Values						
Market Price	326	302.58	251.90	247.30	15.00	1,518.33
Par Price	8,931	882.48	1,343.81	500.00	50.00	15,000.00
Num. Shares	8,931	3,935.96	8,674.85	1,200.00	50.00	300,000.00
Mkt Valuation	326	2,973,090	3,510,105	1,580,750	40,000	26,200,000
Market-to-Book	326	1.06	2.27	0.79	0.03	24.79

Panel B: Descriptive Statistics for Market Valuations Data (Companies with Voting Rights Index)

Variable	Obs	Mean	Std. Dev	Median	Min	Max
Fixed Characteristics						
A-Corporation	664	0.87	0.33	1.00	0.00	1.00
Market and Par Values						
Market Price	664	297.24	292.22	213.34	4.50	2,189.38
Par Price	664	302.48	277.89	250.00	50.00	2,500.00

Source: Ezhegodnik ministerstva finansov [Ministry of Finance Yearbook], 1900-1915, Ruscorp, and St. Petersburg Stock Exchange Project. Profit in 1910 is "Balance Profit", and Profit after 1911 is "Profits for Distribution." Russian balance sheets were divided into "active" and "passive" sections, which roughly correspond to assets and liabilities. Active columns included property, materials, debits, other items, and loss; passive columns included share capital, reserves, amortization, other capital, and credit. The reported par value of shares is Owen's (1989) standardized measure. Other variables are defined and discussed in the text and the Appendix.

Table 5: Correlates of Governance Characteristics (Corporation-Level Regressions)

	Hilt Index		Directors		Req List of. Shareholders		Number of Shares Req. to Vote	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A-Corporation	-0.0754***	-0.0672***	0.415***	0.329***	-0.0200	0.0187	6.938***	6.776***
	(0.00616)	(0.00646)	(0.0314)	(0.0402)	(0.0198)	(0.0216)	(0.369)	(0.509)
Log(Share Cap.	-0.00262	-0.00292	0.339***	0.308***	-0.0533***	-0.0645***	3.626***	3.472***
At Founding)	(0.00257)	(0.00276)	(0.0299)	(0.0314)	(0.00853)	(0.00867)	(0.290)	(0.298)
Constant	0.144***	0.161***	1.049***	1.272***	1.021***	0.870***	-16.57***	-11.95***
	(0.0154)	(0.0321)	(0.196)	(0.316)	(0.0551)	(0.118)	(1.793)	(4.413)
Observations	2,706	2,668	2,418	2,384	2,711	2,674	2,713	2,676
R-squared	0.094	0.107	0.167	0.197	0.014	0.083	0.180	0.197
Ind. Controls	NO	YES	NO	YES	NO	YES	NO	YES
Reg. Controls	NO	YES	NO	YES	NO	YES	NO	YES

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 6: Governance-Based Correlates of Capital Structure

	Log Creditors/Assets			Log Property/Assets		
Model:	RE	RE	Median Reg	RE	RE	Median Reg
	(1)	(2)	(3)	(4)	(5)	(6)
Hilt Index	-0.392	-0.367	-0.0435	-1.413***	-1.404***	-0.565***
	(0.377)	(0.377)	(0.0989)	(0.381)	(0.382)	(0.0644)
Log Age		0.126***	0.00602		0.0344	0.000776
		(0.0315)	(0.0152)		(0.0235)	(0.0100)
Constant	-0.727***	-1.053***	-1.254***	-0.563***	-0.652***	-1.834***
	(0.207)	(0.215)	(0.197)	(0.209)	(0.216)	(0.130)
Observations	6,997	6,997	6,997	7,036	7,036	7,036
R-squared	0.0962	0.0922	0.0750	0.265	0.268	0.220
Unique Firms	956	956	956	952	952	952
Industry Controls	YES	YES	YES	YES	YES	YES
Year Controls	YES	YES	YES	YES	YES	YES
Region Controls	YES	YES	YES	YES	YES	YES

*** p<0.01, ** p<0.05, * p<0.1. Source: Ministry of Finance Balance Sheets, Ruscorp, and Corporate Charters. Standard errors in parentheses in columns 3 and 6. Standard errors clustered by corporation in columns 1, 2, 4, and 5.

Table 7: Governance and Performance

Panel A: Corporation-Year Observations from Balance Sheets Panel (Manufacturing Corporations Only)

	ROA	ROA	logMB	logMB	logMB	log(p/par)	log(p/par)
	RE	med	RE	RE	med	RE	med
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hilt Index	0.00138	-0.0132**	-13.74***	-13.70***	-13.88***	-8.994***	-13.28***
	(0.0186)	(0.00545)	(3.935)	(3.888)	(2.049)	(2.693)	(1.313)
Log (Age)	-0.00903***	0.00166*		-0.0665	-0.0873	-0.0279	-0.0234
	(0.00254)	(0.000854)		(0.116)	(0.0837)	(0.0991)	(0.0537)
Constant	-0.0417	0.0281**	-0.570***	-0.406	0.212	-0.0546	0.336
	(0.0512)	(0.0113)	(0.187)	(0.379)	(0.633)	(0.294)	(0.406)
Observations	6,889	6,889	299	299	299	299	299
R-squared	0.0363	0.0318	0.146	0.148	0.193	0.141	0.197
Unique Firms	946	946	79	79	79	79	79
Industry Controls	YES	YES	YES	YES	YES	YES	YES
Year Controls	YES	YES	YES	YES	YES	YES	YES
Region Controls	YES	YES	NO	NO	NO	NO	NO

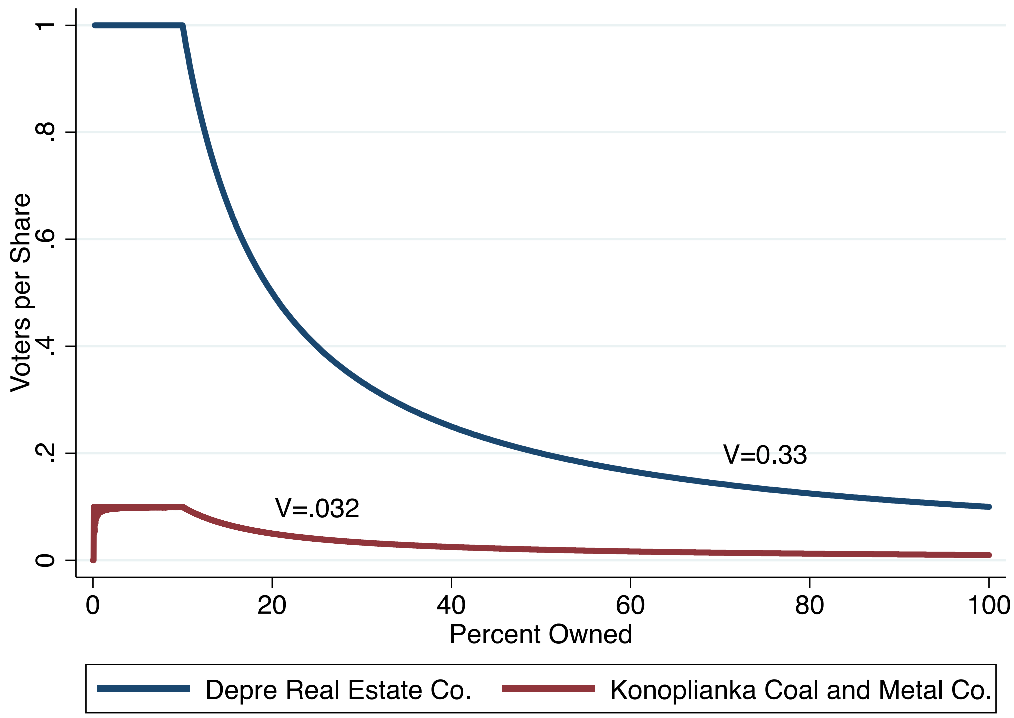
*** p<0.01, ** p<0.05, * p<0.1. Source: Ministry of Finance Balance Sheets, Ruscorp, and Corporate Charters. Standard errors in parentheses in columns 2, 5, and 7. Standard errors clustered by corporation in columns 1, 3, 4, and 6.

Panel B: Corporation-Year Observations from Stock Market Panel

		log(p/par)	
Model	RE	RE	Median Reg.
	(1)	(2)	(3)
Hilt Index	-6.869**	-6.869**	-9.857***
	(2.822)	(2.822)	(1.408)
Constant	-0.308	-0.308	-1.396
	(0.507)	(0.507)	(1.043)
Observations	664	664	664
R-squared	0.155	0.155	0.181
Number of Corps.	117	117	117
Industry Controls	YES	YES	YES
Year Controls	YES	YES	YES
Region Controls	NO	NO	NO

*** p<0.01, ** p<0.05, * p<0.1. Source: Ministry of Finance Balance Sheets, Ruscorp, and Corporate Charters. Standard errors in parentheses in column 3. Standard errors clustered by corporation in columns 1 and 2.

Figure 1: The Voting Rights Index: Example Comparing Two Companies



Source: Author's calculations from the charters of the Depre Real Estate Company (SURP 1-1670, "Aktsionernoe Obshchestvo Nedvizhimostei Depre i Ko," 1901) and the Konoplianka Coal and Metal Company (SURP 5-0009 "Konoplianskoe Kamennougol'noe i Metallurgicheskoe Obshchestvo," 1905).

Table A1: The Russian Balance Sheets and the Ratios We Use

Panel A: Items on the Russian Balance Sheet, with Translations

Left Hand Page		Right Hand Page	
Счет:	Account (Total)	**Пассив**	Passive (Liabilities)
Прибылей	Revenue	Основной капитал	Share Capital
Убытков	Expenditures	Запасный капитал	Capital Reserves
		Аммортизация (sic)	Amortization (and Depreciation)
Актив	Active (Assets)	Прочие капиталы	Other Capital (Including Bonds)
Имущество	Property		
Товары и материалы	Goods and Materials	Облигации	Bonds
		Кредиторы	Accounts Payable
Дебиторы	Accounts Receivable	Прочие статьи	Other Items
Прочие статьи	Other Items		
Убыток	Loss	**Прибыль**	Profit
Наличность и ценные бумаги	Cash and Commercial Paper	Общая	Net Profit
		Дивиденд: Сумма	Dividend Sum
		Дивиденд: %	Dividend Percentage

Panel B: Definitions of Accounting Terms Used in the Paper

Standard Term	Our Definition Using the Russian Data
Total Assets	Property + Goods and Materials + Accounts Receivable + Loss (Active) + Other Items (Active) + Commercial Paper (when listed)
Valuation	Market Share Price * Number of Shares (at founding)
Log Size	Log (Total Assets)
ROA	Profit or Loss / Total Assets