Why Do Boards Exist? Governance Design in the Absence of Corporate Law

Finance Working Paper N° 504/2017
August 2021

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Keywords: Board roles, mediation, conflicts of interest, ownership structure, voting, authority

JEL Classifications: G3, D23, K2, N80

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Abstract

We study when firms choose to install boards and their roles in a historical setting where neither boards nor their duties are mandated by law. Boards arise in firms with large, heterogenous shareholder bases. We propose that an important role of boards is to mediate between heterogenous shareholders with divergent interests. Voting restrictions are common and ensure that boards are representative and not captured by large blockholders. Boards are given significant powers to both mediate and monitor management, and these roles are intrinsically linked.

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Boards of directors are central to the governance of public corporations. The roles commonly attributed to boards are monitoring and advising top management. As pointed out by Adams, Hermalin, and Weisbach (2010), what boards do cannot be directly tested because all public corporations are mandated to have boards. Instead, researchers infer the roles and value of boards indirectly from their composition, regulatory changes, or surveys.

In this paper, we analyse when firms choose to install boards and what roles they confer on them in a setting where neither a board nor its duties are mandated by law. We study 85 Norwegian firms at the turn of the twentieth century, when Norway had no statutory corporate law but limited liability firms had legal personhood. The law granted contractual freedom, allowing owners to freely draw up the articles of association (statutes). Our sample firms are publicly traded industrial corporations with separation of ownership and control, managed by small teams of shareholders.

The historical setting allows us to examine the raison d'être of boards in a direct manner that is not available to studies of contemporary boards. Since boards are optional, we can identify the circumstances in which owners consider a board to be beneficial. We map the corporate statutes into a codable set of governance variables. In particular, we record shareholder voting rights and whether the board (if installed), management, or the general shareholder meeting (GM) are given the authority over important strategic decisions such as asset sales, borrowing, and dividends. In the analysis, we examine the choice to install a board and relate it to ownership structure and voting rights. We also investigate the decision powers conferred on boards and use the allocation of authority to infer their roles. In much of the analysis we rely on share denomination as a proxy for ownership structure because information about owners is available only for a subsample of firms.

The relationships uncovered by our analysis reveal the costs, benefits, and roles of boards, because they arise in a setting where firms can freely choose their governance rules. Four main patterns emerge which we briefly describe before providing our explanation of how "it all fits together."

First, one-quarter of the sample firms install boards whereas the other firms choose not to do so.

Second, in a subsample of firms for which we observe the owners, large shareholders are ubiquitous and present also in firms with boards. The distinctive ownership characteristic of firms with boards is a large heterogeneous shareholder base that includes numerous small shareholders who collectively own a majority stake.

Third, the majority of firms adopt voting restrictions (capped or graduated voting schemes).[1] In particular, low voting-cap thresholds of 2.5% or 5% of paid-in equity are common, and firms with boards tend to adopt the most stringent voting restrictions.

Fourth, boards are given significant decision powers at the expense of management and GMs. They are usually endowed with the power to take one or several important strategic decisions and nearly always determine dividends. Furthermore, boards in firms with more stringent voting restrictions have greater decision-making powers.

What do these governance patterns tell us about boards and their roles? Separation of ownership and control is commonly associated with a lack of monitoring by dispersed shareholders and the risk that managers pursue their own interests to the detriment of shareholders (e.g. Hart (1995)). In the conventional view, boards are one mechanism that mitigates managerial agency problems (e.g., Becht, Bolton, and Roell (2003)). It is also common to perceive large investors, who have incentives to monitor (e.g., Shleifer and Vishny (1986)), as an alternative mechanism to boards.

In light of this notion—that large shareholders and boards are substitutes for monitoring management—our first two findings are surprising: Firms that install boards also have (multiple) large shareholders. Thus, boards appear less associated with an absence of large shareholders and more with heterogeneous and large shareholder bases. This suggests that boards do more than compensate for a lack of large shareholder monitoring.

We propose that boards also play a role vis-á-vis shareholders as mediators of conflicts. This role involves making compromise decisions by taking into account the preferences of all shareholders, that is, governing with a balanced objective function. The potential for conflicts between large and small shareholders is evident in our firms. In addition, shareholders

[1] Under graduated voting, the number of votes exercisable by a shareholder increase disproportionately less than the number of shares, while a capped voting scheme imposes an upper ceiling on the total number of votes a single shareholder can exercise regardless of the amount of stock held.

with similar ownership stakes, or irrespective of their stakes, may have different preferences over corporate decisions. For example, local shareholders may prefer to procure inputs from local firms. Arguably, such conflicts become likelier where there are numerous shareholders, rendering decision-making (collective action) in the GM very costly. Firms with heterogenous and large shareholder bases have the largest scope for conflicts and, therefore, the largest need for mediation.

Balancing shareholder interests requires that boards represent the entire shareholder base and are not captured by large shareholders. We posit this as the rationale underlying the third observation: Voting restrictions dilute the influence of large shareholders and empower small shareholders in board elections and other votes taken by GMs. Notably, firms with boards have more stringent voting restrictions, which we interpret as a means of promoting a balanced board composition to ensure that small shareholders' interests receive weight. Indeed, in firms where we observe the board composition, large shareholders are far from dominant. Board members come from diverse backgrounds and the majority owns less than a one percent stake.

The mediation role requires authority vis-á-vis shareholders, enabling a board to push through compromise solutions. Our fourth observation is that both management and GMs cede decision-making powers to boards, and board powers are larger when voting restrictions are tighter. The stringency of voting restrictions is also a measure of the potential for shareholder conflicts—thus, it is consistent with the mediation role that boards hold more power when the potential for disagreement is greater. We see further evidence of the mediation role in the fact that boards almost always determine dividends. Dividend policy can be particularly contentious (e.g., Eckbo and Verma (1994)), notably when equity markets are less liquid.

Once equipped with authority to mediate between shareholders, boards also have authority vis-á-vis management and are empowered to monitor. The power to ratify decisions enables boards to block managerial initiatives that go against shareholders' interests. Mediation and monitoring are, therefore, intrinsically linked, as both roles rely on authority.

Our overall proposition is that firms with a large and heterogeneous shareholder base install boards because collective action problems and conflicts among shareholders make the GM an inferior decision-making body. In particular, when blockholders are in a minority position,

they are more inclined to pursue private benefits detrimental to firm value. Conversely, when blockholders own more (most) shares, their interests are much more aligned with those of small shareholders as Jensen and Meckling (1976) point out, albeit in a different context. This alignment effect, in combination with collective action problems among numerous small shareholders, implies what may at first glance seem paradoxical: Small shareholders in a majority position are more in need of protection, and hence a board, than small shareholders in a minority position.[2]

The fact that firms with a smaller shareholder base do not install boards, suggests that boards generate not only benefits but also costs. This, in turn, begs the question: why do some firms raise so much of their equity funding from small investors that they have to install boards? We show that small investor finance is linked to wealth constraints. The demand for capital at the turn of the twentieth century simply exceeded the wealth of affluent individuals in Norway, as it did in other countries (e.g., Berle and Means (1932)). Some firms are forced to raise much of their equity capital from the bourgeoisie (middle class) and end up with large, heterogeneous shareholder bases.

The interpretation that boards arise as a constrained optimal governance choice for a given shareholder base implies a causal relation running from ownership structure to board installment. Yet, our main analysis does not include exogenous variation in ownership, raising the possibility that omitted variables could explain the correlation. We address such concerns by providing evidence of causality, exploiting regional variation in the supply of small investor finance. We show that a larger (local) supply has a strong positive effect on the likelihood of having a board.

The governance literature brings attention to the conflict between large and small shareholders (e.g., LaPorta et al. (1998)), but it largely overlooks the mediation role of boards. The scope for mediation is much broader than the classic conflict between blockholders and minority shareholders because conflicts can materialize along many other dimensions as recent

[2]By contrast, blockholders in a minority position are not at risk of getting expropriated when a firm is run (by the board) in small shareholders' interests. Since private benefits can arguably only be shared among a few parties, small shareholders want the firm value to be maximized. Consequently, blockholders receive their fair pro rata share.

papers demonstrate.[3]

Board mediation is also relevant in modern-day corporations, although legal protection of minority shareholders has greatly expanded since the time of our setting.[4] Still, regulatory standards (e.g. equal treatment) or constraints on particular actions (e.g. related-party transactions), do not eliminate all discretionary leeway in decision-making and consequently do not eliminate the scope for favoring one shareholder group over others. Our findings suggest that diluting (or augmenting) the appointment rights of certain shareholder groups can help a firm achieve a balanced board that makes consensual decisions in the interests of all shareholders.

The mediation role of boards also has bearing on the current shareholder empowerment debate (see Bebchuck (2005)). Some critics argue that shareholder empowerment is unlikely to benefit shareholders as a class because of diverging interests (Anabtawi (2006)). We find that boards assume powers at the expense of GMs exactly when the potential for shareholder disagreement is large, implying that mediation is a reason for having boards with strong governance powers.

The paper proceeds as follows. In Section 1 we discuss the relation to the existing literature. In Sections 2 and 3 we describe the data and the statutes. In Section 4 we characterize firms that install boards and, in Section 5 we explain how voting restrictions are related to shareholder conflicts. Section 6 discusses board authority and the link between the mediation and monitoring roles. In Section 7 we discuss why firms have small shareholders and address causality issues. Concluding remarks are in Section 8. In the appendices we provide a brief account of the institutional corporate setting for our sample, summary statistics for the statute provisions, examples of provisions pertaining to the functioning of boards and management, and examples of mediation from our sample firms.

[3]Shareholders have varying tax positions (Eckbo and Verma (1994), Desai and Jin (2012)) and varying exposures due to hedging (Martin and Partnoy (2005)). Institutional investors differ in their support for management (Matvos and Ostrovsky (2010)) and have varying time horizons (Gaspar, Massa, and Matos (2005), Chen, Harford, and Li (2007)). Further, shareholders may differ in their views because they represent particular constituencies, such as unions (Matsusaka, Ozbas, and Yi (2019), Agrawal (2012)) or public pension funds (Romano (1993)). Li, Maug, and Schwartz-Ziv (2019) and Bolton et al. (2019) show how shareholders' disagreement is reflected in their voting patterns. Schwartz-Ziv and Volkova (2020) find that having multiple heterogeneous blockholders exacerbates disagreement in shareholder meetings.

[4]A prominent example of boards intervening to protect minority shareholders' interests against overreach by a majority shareholder is the proposed merger of CBS and Viacom by the controlling Redstone family (e.g. "CBS sues Shari Redstone, its controlling owner," CNN Business, May 14, 2018).

1 Literature

Our paper is related to several strands of the literature, most directly to the large and continuously growing literature on corporate boards (Adams (2017)). The economics and finance literature considers monitoring and advising the main roles of boards (Fama and Jensen (1983), Adams et al. (2010)). The monitoring role is the subject of a wealth of empirical studies, many of which focus on the characteristics that make boards effective monitors (e.g., Weisbach (1988), Yermack (1996)). More recently, the literature has also begun examining the advisory role, pointing out the tension between the two roles (e.g., Holmström (2005), Harris and Raviv (2005), Adams and Ferreira (2007), Faleye, Hoitash, and Hoitash (2011), Schmidt (2015)). We argue that boards play a role not only vis-á-vis management, whether through monitoring or advising, but also vis-á-vis shareholders, mediating between shareholders with differing ownership stakes, preferences, and beliefs.

The potential for mediation by boards has been largely overlooked, with a few exceptions. Bennedsen (2002) and Villalonga et al. (2019) study closely-held firms and propose that boards are installed to alleviate conflicts between controlling and non-controlling shareholders. Our sample firms are not closely held and their much larger shareholder bases include multiple large, but not controlling, shareholders. A few recent papers examine the notion that unbiased board members can serve as mediators between the other directors. Broughman (2010, 2013) and Ewens and Malenko (2020) examine arbitration of disputes between entrepreneurs and venture capitalists and find that independent directors both advise and mediate in specific phases of the lifecycle of start-ups. Ng and Roberts (2007) report that independent directors arbitrate between controlling and minority owners in family-controlled Asian companies. In these papers, the mediating role arises from the addition of independent directors as designated arbitrators to the board, while in our firms, mediation comes about because boards represent all shareholder groups.

The mediation role of boards has been recognized in the law literature. According to Gevurtz (2004), predecessors of corporate boards in merchant societies were bodies of representatives mediating between their constituencies. Questioning the merits of shareholder

primacy, Blair and Stout (2001) argue that boards balance the competing claims of stakeholders, arising as the organizational solution to the problem that one group may appropriate profits and discourage firm-specific investments by other groups. Closer to our line of reasoning, Anabtawi (2006) points to the need for mediation to balance the private interests of heterogeneous shareholders as a rationale for granting decision authority to boards.

In addition to advocating mediation, we also differ from the extant literature in how we infer the roles of boards. Empirical studies commonly use board characteristics, such as independence, size, or busyness to determine whether a board is more monitoring- or advisory-oriented. By contrast, we identify board roles from the allocation of decision-making powers, showing that boards endowed with strong powers both monitor and mediate. Our findings do not eliminate the scope for boards' advisory role, because "friendly" boards should have weak decision-making powers (Adams and Ferreira (2007)). Furthermore, our paper is, as far as we can establish, unique in being able to address the more fundamental question, of why or when public firms may voluntarily want to install boards in the first place.

Our paper is also related to the theoretical literature on delegation in organizations. However, delegation models typically examine two-layer hierarchies, speaking to the allocation of authority in firms without boards. Thus, they do not address our focal question of when to install a board. To the best of our knowledge, the same applies to the theoretical board literature as well as to the corporate governance literature in general. The choice of moving from a two- to a three-layer organization is addressed in the organization theory literature, albeit not specifically for boards. In Tirole (1986) the (intermediary) supervisor is, by assumption, better informed than the principal, has no authority, and her task is to report the agent's productivity when she observes it. In Dessein (2002) a three-layer organization is superior to either no delegation or delegation to the agent when the bias of the supervisor is moderate. In both models, the principal is a monolithic actor whereas our firms have numerous heterogeneous owners. The need to mitigate collective action problems that our boards address is, therefore, absent in these models.

Theoretical results from the organizational literature offer little in the way of testable predictions for when boards should have power, as they typically rely on parameters that are

difficult to observe. Nevertheless, boards' authority matters, as two recent papers illustrate. Cornelli, Kominek, and Ljungqvist (2013) show that a legal shift in authority to fire the CEO from the GM to the board increases the correlation between CEO turnover and firm performance. Examining a Swiss reform, Wagner and Wenk (2017) document how allowing shareholders a binding say on directors' pay causes negative stock-price reactions.

Finally, our paper is related to research in the law and finance tradition which uses historical data from periods similar to ours (Coffee (2000), Cheffins (2006), Guinnane, Harris, and Lamoreaux (2014), Musacchio (2008), Franks, Mayer, and Rossi (2009)). In general, these studies tend to emphasize the necessity of statutory law for good governance (LaPorta et al. (1998)), whereas we focus on the role of boards.

2 Data

The data are hand-collected from Carl Kierulf's annual *Handbook of Norwegian Bonds and Stocks* (*Haandbog over Norske Obligationer og Aktier*), the historical *Norwegian trade register* (*Brønnøy-sundregistrene*), and individual company records kept in regional archives. The Kierulf Handbook, first published in 1900, reports rudimentary information for publicly traded companies, including year-end dividend payments dating back three to five years. The first volume also contains company statutes. Additional company statutes and financial statements are collected from archives and the trade register. Firms were not required to disclose their financial statements, so accounting variables are not available in all years for many firms and are completely missing for several firms.

Overall, our sample comprises company statutes of 85 industrial corporations and firm-level financial data covering the period 1896-1920.[5] For all but three firms, the statutes are those in effect in 1900 (the others are from 1905, 1907, and 1908). The firms are located across the country but their shares are traded on the curb in Oslo.

We map the corporate statutes into a codeable set of categorical and numeric governance variables which capture essential features of the governance structures. In particular, we record

[5]Some of these data were collected in Ostergaard and Smith (2011).

the existence of a board, the voting rules, and the decision-making powers conferred on the corporate bodies.

For a subsample of 17 firms, we know the ownership structure in a year close to when their statutes were approved, because the archives contain shareholder protocols listing owners and their equity holdings.[6] Five of the 17 firms have a board, and we know the identity and the stock holdings of their board members. We analyse this subsample separately, and in regressions on the entire sample we use a proxy for ownership structure, which we discuss in Section 4.1.

Finally, we record whether a founder is part of the management group as the data include the names of the managers. We identify founders through internet searches and archive information. In 18 firms the founder is a manager and in 46 firms he is not. For the remaining 21 firms we are unable to establish which is the case.

In Appendix A we provide a brief account of the legal background for our setting. Appendix B lists the governance variables and shows descriptive sample figures and statistics.

3 Statutes and corporate bodies

A statute first identifies a firm as a limited liability company, states the amount of paid-in equity and the nominal share denomination, and typically also outlines rules for transferring shares and issuing new ones. The individual provisions follow in numbered paragraphs, defining the corporate bodies, their powers and duties, and rules pertaining to the execution of these powers. All the firms hold annual GMs of shareholders and have a management group, called the board of directors. In addition, some firms set up an intermediary body—the board of representatives—which corresponds to modern-day boards. The statutes confer formal authority over various corporate decisions on these bodies. We describe each corporate body in turn.

In the GM, shareholders vote on those corporate decisions over which they hold formal

[6] Listed stockholdings do not quite add up to the total number of shares for five firms. We assume that unaccounted-for shares are held in stakes equal to the average stake of the listed shareholders. The fraction of unaccounted-for shares ranges form 0.3–12 percent (5 percent on average).

authority and elect members to the board of representatives and the management group. Meetings are carefully described, including rules for announcing and conducting them, as well as voting procedures (Section 5 describes the voting rules in detail). Meeting protocols from archives reveal that the initial statutes are approved as the first item in the inaugural shareholder meeting. Voting and elections to the board and the management group occur subsequently, pursuant to the rules specified in the statutes.

The boards of directors in the sample firms are, despite their names, closely involved in the operational aspects. This contrasts with modern-day boards but was at the time common also in other countries (e.g. Hilt (2008)). To avoid confusion with modern-day boards, we refer to them as the management group or just management henceforth.[7]

Management groups vary in size from two to nine members, with a median of three members, and are typically elected for staggered two-year terms. Managers are almost always shareholders. Some statutes (33 percent) stipulate a minimum meeting frequency, ranging from four to 52 times a year. Most statutes also mention the hiring of a superintendent or supervisor who is in charge of day-to-day management. Superintendents take directions from management and may participate in management meetings, but never have direct power over strategic decisions.

Operating between the management group and the GM, some firms set up boards of representatives which share fundamental characteristics with modern-day one-tier boards of directors. We refer to them as "boards" throughout the paper. Like modern-day boards, they are formally distinct from both management and the GM, and have multiple members who are elected by and among the shareholders. The boards are frequently afforded power over strategic corporate decisions and hence have power to govern the company as well as to supervise its management group. Boards may also be given the power to elect managers,

[7]It is evident from the tasks given to the boards of directors that they are deeply involved in operations. For example, the statute of Union, a mineral water producer (§10), reads: "The board of directors meets at least once every two weeks. Negotiations and decisions must be protocolled. The board of directors must 1) carry out the necessary investigations and suggest building sites, determine the building plan, choose the master builder, and implement these plans as determined together with the board of representatives; 2) decide and carry out everything deemed necessary for the management of the business, use the company's credit to raise additional working capital, if such is needed, decide the price of the products, and in general manage the company and its operations." (See also Appendix C).

and half of them include the managers, who participate and vote in board meetings. Meeting protocols uncovered from archives suggest that proposals are typically initiated by management and presented in board meetings for ratification, similar to modern corporations.

Board sizes range from five to 27 members, with a median size of 12, and members are typically elected for two years with staggered terms. The majority of firms with boards stipulate a minimum meeting frequency, ranging from two to four times a year. The statutes do not mention compensation for board members, in contrast to managers' remuneration, suggesting that the former are typically not paid for their services.

The directives for boards vary substantially across firms. For some firms, the statutes provide detailed instructions, as for instance those of the Christiania Joint Stock Beer Brewery. Other statutes, such as those of Christiania Swine Slaughterhouse, are kept more general, and yet others are very brief, e.g., Christiania News and Advertisement Periodical (all reproduced in Appendix C). The responsibilities and powers conferred on boards also vary considerably. In addition to having formal authority over important strategic decisions and electing managers, boards frequently determine managers' salaries, hire auditors, and approve the financial statements, among other functions (Section 6 elaborates).

4 Which firms choose boards?

4.1 Share denominations and ownership structures

As discussed in the introduction, the common notion is that boards address managerial agency problems associated with dispersed ownership. It seems logical, therefore, to begin by looking at the relation between board existence and ownership structure. As we lack shareholder lists for much of the sample, we use share denomination (nominal share size) as a proxy for ownership structure: a firm with small-denomination shares is more likely to have a broad shareholder base comprising many small investors. We later show that the subsample of 17 firms with known owners, corroborates the validity of this proxy.

Share denominations vary considerably across firms in our sample, ranging from 100 to

10,000 NOK, or equivalently, from 830 to 82,972 USD in 2017 figures.[8] We split firms into a large-denomination, a mid-denomination, and a small-denomination group according to the tertiles of the distribution. A total of 40 firms comprise the small-denomination group, with share values ranging from 100–500 NOK; 40 firms are in the large-denomination group, with share values ranging from 1,000–10,000 NOK. The remaining five firms are in the mid-denomination group, with values ranging from 501–999 NOK. The split does not result in groups of equal size due to observation ties at the thresholds of 500 and 1,000 NOK. Figure B1 depicts the distribution in denominations.

Firms with large share denominations are unlikely to have many small shareholders because investors in such firms must put up a considerably larger amount of money to acquire a share. Share denominations and market values are highly correlated and large-denomination shares are prohibitively costly for individuals from most social groups.[9] This point is illustrated by the annual gross salary of a well-paid government official which, in 1900, ranges from 1,100 NOK to 6,000 NOK (Grytten (2007)). Hence, large-denomination firms are bound to have wealthier owners while small-denomination shares are affordable to individuals with fewer financial resources.[10]

4.2 Firms with boards

The fact that not all firms choose to set up boards, suggests that boards have costs as well as benefits. As discussed earlier, delegating authority to a board is costly because it adds an additional agency layer to the organizational structure and entails a loss of direct shareholder control. In our sample, 22 firms have a board, while three-quarters choose not to have boards. Table 1 compares firms with and without boards as well as large and small-denomination firms

[8] These figures are inflation-adjusted and convert to USD at the exchange rate of 8.2050 as of December 31, 2017. Inflation is computed according to the Consumer Price Index published by the Central Bank of Norway.

[9] The correlation seems to stem from a preference for having shares trade at prices close to their denomination. We have examples where shareholders carefully set the magnitude of equity write-ups to avoid having shares trade below par.

[10] In support of this conjecture, Amihud, Mendelson, and Uno (1999) find that minimum trading unit reductions for shares on the Tokyo Stock Exchange increase the number of individual shareholders. Furthermore, U.S. households tilt their investments toward low-priced and small-denomination stocks (Kumar and Lee (2006), Barber and Odean (2000)), and surveyed corporate managers consider stock price reductions, making stocks affordable to small investors, the primary motive for stock splits (Baker and Gallagher (1980)).

along basic dimensions.

We note first that boards are significantly more present in small-denomination firms (45 percent). In fact, the group of large-denomination firms contains only one firm with a board. (The mid-denomination group contains three firms with boards.) Firms with boards have considerably smaller share denominations and a larger number of shares than firms without boards, suggesting that they can accommodate a larger number of shareholders.

Firms with boards are larger on average, measured by paid-in equity, than firms without boards (0.830 vs. 0.705 million NOK), although the difference is not significant. At the same time, large-denomination firms are significantly larger than small-denomination firms (0.912 vs. 0.567 million NOK). These two observations are reconciled by the fact that the group of firms without a board is comprised of two types: large-denomination firms, which tend to be quite large, and small-denomination firms without a board, which tend to be quite smaller than small-denomination firms with a board. Indeed, we observe that firms with boards raise almost as much equity as the average large-denomination firm. This relationship holds up when we measurer size by total assets. Paid-in equity is observed for all firms in all years, while missing observations lead us to estimate total assets as the average of all available firm-level data over the 1896-1910 period. Using averages, we can estimate total assets for 44 firms. The correlation between estimated total assets and paid-in equity for these firms is high (0.90), justifying the use of paid-in equity as a measure of size.

Firms with boards tend to operate in industries with a higher ratio of fixed-to-total assets (0.68 vs. 0.57). This suggests that, together with their larger size, they have greater capital needs. Our measure of fixed-to-total assets is industry-based as a result of missing observations (see Table B1 for details). Leverage ratios hover around 35 percent, and there are no significant differences in leverage across firms. Also, there are no significant differences in profitability, measured as return-on-assets (ROA) for firms with and without boards, although large-denomination firms seem to have lower ROA. There are only 11 observations in this group, however, so the estimate is less reliable.[11] Accounting figures tend to be less com-

[11] Because of missing observations, we estimate total debt and ROA as the average of firm-level observations over the 1896-1910 period. In this manner we estimate debt-to-total assets ratios for 43 firms, debt-equity ratios for 45 firms, and ROA for 41 firms.

plete for large-denomination firms, another fact that is consistent with them having narrower shareholder bases.

Firms with boards tend to be younger (14.9 vs. 22.3 years). Lastly, founders are present in 20-30 percent of firms, and firms without boards are no more likely to be run by founders than firms with boards. Overall, the main difference between firms with and without boards seems related to their share denominations and, to some extent, to their age.

To interpret share denomination as a proxy for ownership structure, paid-in equity must be held constant—otherwise, large-denominations firms may simply be firms that issue more equity. Table 2 presents the results from logit regressions of board existence on share denomination for the entire sample, controlling for paid-in equity, henceforth referred to as firm size, fixed assets, and firm age according to founding year. In column (1), share denomination has a large negative effect on the existence of a board, confirming the univariate results reported in Table 1. A one-standard deviation increase around its mean is associated with a 37 percent lower probability of a board. Columns (2) and (3) show that large-denomination firms are 49 percent less likely to have a board, and small-denomination firms are 34 percent more likely to have a board than the rest of firms. All estimates are significant at the 1 percent level. These results are consistent with the notion that it is firms with numerous small shareholders that set up boards.

The control variables also capture possible alternative explanations of board existence. As complex organizations are more challenging to manage, larger firms may install boards to overcome monitoring difficulties and/or to support management with advice. The marginal effects of firm size are 8-16 percent and very significant. The results reject operational complexity as the only reason for boards, however, because the large economic effect of share denomination is above and beyond the effect of firm size. Also, large denomination firms do not have boards, despite being the largest. The results also do not support firm age as the prime reason for having a board. Young age may proxy for novelty of technology or governance practices that have evolved towards having boards as a standard. While young firms are more likely to have boards, the effect is economically smaller and much less significant than that of firm size. Fixed-to-total assets is another proxy for technology, but it falls far short of statistical

significance.

Boards may be adopted to mitigate the risk that founders entrench themselves. Conversely, entrenched founders may oppose boards to avoid being scrutinized. Column (4) shows that founder-managed firms are less likely to install boards but the inclusion of a founder dummy does not change the marginal effect of small denomination. In column (5) we include leverage in the regression to explore whether boards may be used by creditors to safeguard their interests by e.g. vetoing excessive dividend payouts. The coefficients are far from significant. The results are similar if we use long-term leverage instead. Overall, the above results are in line with the common notion that boards are installed to overcome collective action problems stemming from dispersed ownership.

4.3 Boards and ownership structures in the subsample

We now examine the ownership structure of the subsample of 17 firms for which we have shareholder lists. This allows us to evaluate the validity of the share denomination proxy and provides further insights into the relationship between boards and ownership structures.

Table 3 shows that firms with boards have substantially more shareholders than firms without boards—on average 369.0 shareholders compared with 82.6 in firms without boards. The difference is significant at the 10 percent level. Moreover, small-denomination firms have more shareholders than large-denomination firms (267.8 vs. 38.9 shareholders), and the difference is significant at the 5 percent level. The subsample thus suggests that share denomination is indeed a valid proxy for the number of small shareholders. The table shows results from t-tests of differences in means. Because of the very small sample size, we verify that the differences are also significant with the nonparametric Wilcoxon rank sum test but do not include those tests.

Table 3 also shows that shareholders in firms with boards own considerably smaller stakes than shareholders in firms without boards. The stakes of the median owner in firms with and without boards are 0.15 and 1.47 percent, respectively, and the stakes of the smallest owners are 0.04 and 0.38 percent, respectively. Both differences are highly significant. The pattern between small and large-denomination firms is similar, but for brevity, we henceforth discuss

only differences between firms with and without boards.

Surprisingly, all firms have both large and small shareholders, and the stakes of individual large owners are similar across firms. For instance, the average stake of the largest shareholder in firms with a board is not significantly different from that in firms without boards (19.1 vs. 21.3 percent). This pattern remains when we consider the monetary values of the stakes.

In Table 4 we compare the collective ownership of large and small shareholders, the latter defined as investors owning stakes of less than 2.5%. In no firm do the three or five largest shareholders own 50 percent or more of the shares and their combined blocks do not differ significantly across firm types. For example, the three largest shareholders together own 35.1 percent of the shares in firms with boards. This is rather surprising because it conflicts with the common notion that boards fulfill the monitoring role because of the absence of large shareholders. Small shareholders collectively own a majority of the shares in firms with boards but well below the majority in firms without boards (56.5 vs. 36.0 percent). All reported differences are significant also with the rank sum test.

The bottom section of Table 4 displays the combined ownership stakes of management groups. In firms with boards, management owns less than 10 percent of shares, and even in large-denomination firms their stake is merely 26.4 percent. Large shareholders, therefore, exist also outside of management. This confirms that there is considerable separation of ownership and control in all firm types and rules out that firms without boards are closely held. Hence, the potential for managerial agency problems ought to exist in all firms.

The economic implication of the above observations is that boards do not arise as substitutes for blockholders. As expected, we observe numerous small shareholders in small-denomination firms and firms with a board, but also that there are large and small shareholders co-existing in all firms. Boards, therefore, seem closely linked to heterogeneous shareholder bases with numerous small shareholders, and blockholders in a minority position.

Small shareholders are typically in a majority position in firms with a board, but they are poor monitors of management and ill-suited to make complex business decisions. They have too few incentives to become active owners and their large number renders collective decision-making costly, encumbering concerted action. At the same time, it is costly to leave monitoring

and decision-making to blockholders because of the misalignment of interests stemming from the latter's minority stake (Jensen and Meckling (1976), Shleifer and Vishny (1997)).[12] These features make the GM a poor decision-making body, and boards are installed in response. Besides monitoring management, boards also arbitrate between shareholders and reach compromise solutions, carrying out "balanced governance," as we discuss below.

The ownership composition of firms without boards differs along two dimensions. First, blockholders jointly own considerably more equity and are therefore less inclined to extract private benefits at the expense of firm value.[13] With interests of small and large shareholders relatively aligned, it is less costly for the former to leave decision-making (in the GM) in the hands of the latter.[14] Second, the number of shareholders is substantially smaller which reduces the cost of collective decision making. Taken together, these features make the two-layered structure the better governance system. That is, adding a board to the organizational structure with its loss of direct shareholder control would lead to higher (agency) costs than having management directly overseen and advised by shareholders.

The capacity of boards to mediate has two prerequisites: boards must represent the shareholder population and must also have decision-making power. In the next two sections, we discuss how such representative boards are achieved and investigate the powers given to boards.

5 Mediation and voting restrictions

Given that large shareholders are ubiquitous, the potential for conflicts between large and small shareholders in the sample firms is evident. This was recognized at the time, as illustrated in the lectures by Oscar Platou, a prominent legal scholar: "(...) it is easily thinkable that [exclusion of small shareholder representatives from the board] will inflict damage on small

[12] Assigning decision-making to managers is not a valid solution either, because of the separation between ownership and control.

[13] In a setting with private benefit extraction, continuously improved alignment as controlling owners' equity stake increases relies on convex extraction costs (Burkart, Gromb, and Panunzi (1997), Bennedsen and Wolfenzon (2000)), while it requires a convex cost function in an effort framework (Jensen and Meckling (1976)).

[14] Also, multiple blockholders are not isomorph to one shareholder owning their collective equity stake due to e.g., duplication of monitoring, bargaining frictions, or disagreement. But even with such frictions, a larger collective equity stake makes blockholders internalize more of the firm value, thereby aligning their interest better with those of the small shareholders.

shareholders if it is conferred on the board to elect both management and decide the allocation of the surplus (...)."[15] Boards can address such conflicts only if they are not captured by large shareholders. This is achieved through the use of voting restrictions which limit their voting power. The stringency of voting restrictions, thus, is a measure of the degree of conflicts of interests as well as a remedy.

The voting rules of the sample firms commonly involve caps that limit the votes a single shareholder can exercise, and graduated voting wherein the exercisable votes increase less than proportionally with the number of shares. For example, Akers Mechanical Workshop, a shipbuilder and iron works company, has the following graduated voting rules: one to two shares qualify for one vote, three to five shares qualify for two votes, six to 10 shares qualify for three votes, 11 to 15 shares qualify for four votes, and 16 to 20 shares qualify for five votes. Thereafter, any additional 10 shares provide one more vote but no shareholder can have more than 10 votes.[16]

The statutes specify that only shareholders may be elected to the board. GM protocols show that firms use a first-past-the-post electoral system, such that votes are cast simultaneously for all candidates and the candidates who receives the most votes are elected. This, and the voting restrictions, enhance small shareholders' ability to elect their preferred candidates and once on the board, their voting power is equal to that of any other director.[17]

5.1 Which firms have voting restrictions?

Table 5 displays the pervasiveness of voting restrictions in the sample firms. Restrictions are by far most severe in firms with boards—41 percent of firms with boards cap votes at 2.5% of paid-

[15] Platou (1911), p. 200.

[16] Similar voting arrangements exist at the time in many other countries (e.g. Dunlavy (2004), Hannah (2007), Hilt (2008), and Musacchio (2008)) and persists in Dutch, French, and Swiss corporations. Today, voting caps are permitted in U.S. and U.K. corporate law but not in German and Japanese law (Armour et al. (2017)).

[17] Voting caps are obviously not the only means of promoting the representation of small shareholders, or any other shareholder group, in the board room. Today, a number of jurisdictions allow or mandate privileged director appointment rights—Italy, for example mandates board representation for minority shareholders in listed companies. The voting restrictions observed in our sample promote board representation of small shareholders as well as overweighing their votes in all matters on which the GM decides. Such general empowerment provides greater protection than most modern appointment rights, which seems called for in our setting without statutory minority shareholder protection.

in equity or below compared with 5 percent of firms without boards.[18] No large-denomination firm imposes a cap at such a low level, although they also have caps. Small-denomination firms without boards, in turn, impose stricter voting caps than large-denomination firms. For example, 40 percent of large-denomination firms impose caps at the 10%-threshold or below, compared with 70 percent of small-denomination firms and 77 percent of firms with boards. In the last line of the table, the measure of voting restrictions "votes per share overall" is the ratio of the votes attained if one shareholder held all shares. It captures both the graduation of the voting scheme and voting caps, if adopted. When it is further below one, the voting scheme deviates more from the one-share-one-vote rule. Firms with boards have significantly lower votes per share overall than firms without boards (0.12 vs. 0.20).

The top section of Table 6 illustrates how the more stringent voting restrictions in firms with boards empower small shareholders. The three (five) largest shareholders own 35.1 (42.5) percent of the shares in firms with boards (Table 4), but control only 11.4 (16.5) percent of the votes. Small shareholders own 56.5 percent of shares, but control 84.0 percent of the votes. Furthermore, small shareholders control significantly more votes in firms with boards than in firms without boards (84.0 vs. 44.0 percent of the votes). Large shareholders, in contrast, control most of the votes in firms without boards. The bottom section of the table displays the relationship between votes and ownership. In firms with boards, the largest shareholder has only 18 percent of the votes he would have had under a one-share-one-vote rule, whereas the median and smallest shareholders possess 90 and 260 percent more votes, respectively. Small shareholders' majority, thus, comes not only from their combined equity stakes but to a considerable extent from the voting restrictions.

5.1.1 Two types of conflicts

By design, voting caps relate to the conflict between small and large shareholders. Conflicts of interest, however, are not necessarily directly related to the size of investors' equity stakes

[18] A 2.5% voting cap threshold (our calculation) means that the upper limit on votes kicks in at a point where a shareholder owns a number of shares corresponding to 2.5 percent of outstanding shares. In the Akers Mechanical Workshop example, the upper limit of 10 votes is reached when a shareholder owns 66 shares. This corresponds to 5.5 percent of the 1,200 outstanding shares.

but may also arise from differences in preferences or beliefs. For example, local shareholders may prefer to procure inputs from local firms, whereas out-of-town shareholders do not benefit from supporting the local economy. Arguably, conflicts unrelated to equity stakes are more prevalent when the shareholder base is larger.

The mediation role of boards addresses both types of conflicts. In Table C2 we present examples of each form of mediation from company protocols. They illustrate that large owners' influence are managed through the voting caps and the board, and that boards are actively engaged in sorting out shareholder conflicts.

The regression in Table 7 assesses the separate impact of conflicts between large and small shareholders and collective action problems on board existence. We add dummy variables for voting caps with various threshold levels to the logit regression of board existence in Table 2. Because voting caps measure the conflict potential between large and small shareholders, share denomination captures the effect of a large shareholder base above and beyond those related to differences in the size of equity stakes. The regression thus speaks to each of the two types of mediation.

Voting caps and share denomination both have an economically large effect on board existence. The marginal effects of share denomination are virtually unaffected by the inclusion of voting cap dummies. The marginal effects of the latter are as large and significant as that of small share denomination. For example, a strict voting cap at the 2.5%-threshold is associated with 29 percent higher likelihood of having a board. The marginal effect of a voting cap is increasing in the strictness of the cap. We interpret the results in this table as evidence that both types of mediation are important functions of boards.

5.1.2 Voting restrictions in firms without boards

Most firms without boards also use some degree of voting restrictions. These restrictions protect small shareholders by increasing the size of the equity stake required for a majority of the votes.[19] At the same time, firms without boards rely on large shareholders to be

[19] Bennedsen and Wolfenzon (2000) argue that a one-share-one-vote structure is optimal for firms with many blockholders. While they do not explicitly consider voting caps, such restrictions would be beneficial in their setting because they would force any controlling coalition of blockholders to hold an even larger equity stake,

active owners, striking the "right balance between managerial discretion and small shareholder protection" (Becht et al. (2003)). This explains why firms without boards use laxer voting restrictions than firms with boards. In large-denomination firms, blockholders collectively own a larger stake and their interests are better aligned with small shareholders' interests.

Because lax voting caps affect only owners with sufficiently large stakes, one could imagine that voting restrictions serve another role in large-denomination firms—maintaining a balance of power between blockholders by preventing any one from becoming too dominant. If balance of power is indeed a concern, one could imagine that the statutes contain other provisions that serve to prevent the emergence of a dominant owner, such as share-transfer restrictions. Transfer restrictions, however, are rare and are imposed in only one large-denomination firm. The absence of such provisions may indicate that either balance of power is not a serious concern or that lax voting caps are sufficient for maintaining the balance.

5.2 Board compositions

The nature of mediation we propose, differs from other forms of minority shareholder protection that impose legal duties on corporate insiders or allocate particular legal rights to minorities. Our boards mediate by giving the different shareholder groups a seat at the table for the purpose of achieving compromise decisions. It is, therefore, of interest to consider whether boards in our sample seem representative of the shareholder population.

For the five firms with a board and known owners, we can determine board members' ownership stakes. Table 8 shows board compositions in terms of ownership stakes, including the number of members with stakes of less than 0.1 percent, less than 1 percent, and less than 5 percent. Both large and small shareholders sit on boards, but most members own stakes of less than one percent. Also, the chairman's stake is typically small, except in one case where it is 11.8 percent. Small shareholders are widely represented on all the boards, but the presence of the largest shareholders varies across firms. For example, three of the five largest non-executive owners do not sit on the board in Hansa Brewery. In Bergen Mechanical Workshop, in contrast, the chairman is the second largest owner. In Table D1 we list the individual

thereby aligning their interest better with those of the shareholders in the minority position.

board members. Judging from their titles, most belong to the educated middle class (doctors, engineers, lawyers) and the business community (merchants), but there are also shopkeepers and farmers. The majority appear to be independent in the sense that they are unlikely to be employed in the firm. Although the small sample size renders it difficult to draw general conclusions, boards do not appear to be dominated by blockholders and their members have diverse backgrounds.

Even if boards are representative, individual members may act in their self-interest or may feel compelled to cooperate with wealthy blockholders who may have influence well beyond the firm. While it is impossible to rule out such agency problems entirely, there are several reasons why board members have incentives to make decisions conducive to firm value and profits.

First, firms with boards are typically located in larger towns (documented in Section 7). Economic life and opportunities in these places are unlikely to be under the control of wealthy individuals. Second, all board members are shareholders and have some skin-in-the-game, although their stakes are typically small, and it is common for the GM, ex post, to pay the chair of the board a honorarium. Third, reputational and career concerns are likely to play a role (Fama and Jensen (1983)). Empirical studies document that poor performance and other negative events are associated with higher turnover of board members and fewer additional directorships.[20] In our setting, anecdotal evidence suggest reputational effects have some potency. For example, the major business magazine at the time, *Farmand*, reports from the 1898 extraordinary GM of the shipping firm Sønderfjelds Norske Dampskibsselskab (not in our sample) in which shareholder Mathiesen condemns the company's loss of market share in a "dramatic" speech. His proposal to elect a new board and change the statute to ensure the election of deputy board members, is approved with a four-to-one majority.[21] Generally, newspapers tend to cover contentious GMs. We also often observe that individual shareholders put forth proposals at the GMs, suggesting a degree of independence from blockholders. Finally, board members generally have allegiance to those who put them on the board, as documented

[20] See Yermack (2004), Fos and Tsoutsoura (2014), and Brochet and Srinivasan (2014).

[21] Farmand reports in details from the meeting, even printing Mathiesen's speech in full. February 5, 1897, p. 92.

by several empirical studies.[22] Our firms give small shareholders much voting power in board elections, suggesting that the allegiance of boards is tilted towards them.

6 Mediation and board authority

Boards must have decision-making powers in order to carry out "balanced governance" and push through compromise decisions.[23] A unique feature of our setting, in addition to the optionality of boards, is that the powers conferred on boards are not prescribed by corporate law but are freely set by firms themselves. The allocation of powers to boards, therefore, possess information about their role(s), as we elaborate below.

6.1 Authority of boards

Five strategic corporate decisions are regularly mentioned in the statutes of our sample: (1) purchases/sales of company assets, (2) borrowing secured by company assets or real estate, (3) equity issuance, (4) liquidation, and (5) dividends. These decisions largely coincide with those major executive decisions that modern-day corporate law reserves for special regulations (Armour et al. (2017)). In some cases authority over a decision is shared between management and either the board or the GM.[24] Statutes also assign authority over the hiring of the bookkeeper, the auditor, and their salaries, or over operational decisions, such as inventory management, negotiations with third parties, and the pricing of products. We refer to such authority as "occasional authority," as they appear irregularly in the statutes and are not of the broad strategic nature as the decisions mentioned above.[25] Authority to amend statutes

[22] For instance, Ferreira, Ferreira, and Mariano (2018) show that directors with links to the firm's creditors push for creditor-friendly policies. Similarly, boards with a larger proportion of directors appointed subsequent to the CEO appear to be more lenient monitors (Coles, Naveen, and Naveen (2014), Wade, O'Reilly, and Chandratat (1990), and Landier et al. (2013)).

[23] As pointed out by Coase (1937), transactions inside firms are based on authority.

[24] A few statutes are silent on the control over one or more of these decisions, most often liquidation of the firm. Some statutes assign authority indirectly by conferring all authority on a particular body, e.g., "[m]anagement holds any authority not reserved for the general meeting" (Christiania Handle and Lock Factory).

[25] Boards are occasionally authorized to take the following decisions: Determining managers' authority, setting the maximum amount for which managers can bind a firm (*procura*), resolving disputes among managers, deciding or approving minor business decisions (e.g. product prices), giving directions to the superintendent, electing the auditor, writing the instructions for the auditor, hiring the bookkeeper, hiring the treasurer, determining the amount of collateral posted by the treasurer.

is always assigned to GMs, so we disregard that decision for lack of variation.

Figure 1 displays the frequency distribution of the number of decisions controlled by the board. It records the propensity with which boards control decisions exclusively or possibly jointly with management.[26] Despite a small sample of only 22 firms with boards, both measures reveal considerable heterogeneity in board powers, suggesting that not all boards mediate or monitor to the same extent. The literature has pointed out that extensive monitoring undermine boards' advisory role by deterring managers from sharing information (Adams and Ferreira (2007)). The heterogeneity in board powers, therefore, is consistent with boards serving different purposes in different firms, or having multiple roles. That is, boards with few decision powers primarily advise, while boards with stronger powers fulfill primarily mediation and monitoring roles (see Section 6.2).

Table 9 compares authority allocations in firms with and without boards. There are two main observations. First, when a board is installed, it typically seizes decision-making power from both the GM and management. Considering exclusive authority, in firms without boards, the GM controls, on average, 3.30 decisions and management controls 0.92 decisions. In firms with boards, the GM controls only 1.81 decisions and management controls 0.32 decisions. The differences between firms with and without boards are highly significant. Considering exclusive and joint authority together, the board is the body with the most authority in the group of firms with boards. It controls 2.23 decisions compared with 1.95 decisions controlled by the GM and 1.05 decisions controlled by management. The second observation is that management overall has relatively little power. Thus, in firms without boards, GMs are the most powerful bodies.

These findings show that boards are on average given considerable authority over important decisions, consistent with the role of mediation. At the same time, the considerable powers that GMs retain in firms without boards suggest that GMs are functioning decision-making bodies and that (large) shareholder monitoring of management is mostly effective. Otherwise it would make more sense to empower management, rather than allowing GMs to take poor decisions. This observation is also consistent with boards not emerging primarily for the

[26] Boards never have joint authority with GMs, which by itself is evidence of the mediation role.

purpose of monitoring.

The above reasoning implies that if boards mediate, they should have more power when the potential for conflict is larger. To explore this hypothesis, we examine the correlation between board powers and voting restrictions. Table 10 displays a positive relationship between the number of decisions controlled by the board and voting-cap thresholds, as well as votes per share overall. The sample size is very small, yet the pattern is significant. The results are similar when we use the rank sum test. Firms with more stringent voting schemes assign more decisions to their boards than firms with less stringent schemes. Considering exclusive authority, for voting caps at or below the 2.5% threshold the difference is 2.00 vs. 1.21 decisions, for voting caps at or below the 5% threshold the difference is 1.64 vs. 1.25 decisions, and for above- vs. below-median votes per share overall the difference is 2.00 vs. 1.00 decisions. The difference at the 5% threshold is not significant, whereas the difference in votes per share overall is significant at the 5 percent level. The pattern is similar, albeit somewhat weaker, when considering joint and exclusive authority together. For occasional authority, the correlations are all strongly significant. At the 2.5% threshold the difference is 3.50 vs. 2.36 decisions, for the 5% threshold the difference is 3.21 vs. 2.00 decisions, and for average votes per share overall the difference is 3.64 vs. 1.91 decisions.

We find additional evidence for the mediation hypothesis through a closer examination of which of the five strategic decisions is most likely controlled by the boards. Figure 2 shows the fraction of boards that have authority over each decision. Boards are most often given the power to determine dividends—exclusively so in most of firms with a board (73 percent).

We interpret this as further and direct evidence of the mediation role because shareholders are likely to value a steady dividend stream differently. Dividends are an important source of income for many investors in early financial markets, and equity markets are much less liquid at the time, making stock sales a poor substitute (see Baskin (1988)). For instance, Platou (1911) writes: "Small shareholders' interest will often be towards a stable annual dividends, whereas for wealthy board members it is irrelevant if they for the moment do not receive dividend and prefer an expansion of the business and therefore allocate revenues to a future expansion."

Indeed, we observe that the split of the annual surplus between dividends and reserves is a contentious issue in the GMs of firms with and without a board.[27] By having authority over dividends, the board is enabled to balance heterogeneous shareholder preferences for consumption against the firm's need for reserves and reinvestment. Board deliberations over dividends were news-worthy. For example, *Farmand*, reports that the board of Christiania Brewery voted to lower dividends in response to adverse circumstances, rejecting a proposal to use reserve funds to keep dividends unchanged.[28] Dividends decisions can also be contentious nowadays because of varying marginal tax rates, heterogenous information, or because owner-managers prefer retained earnings to payouts (Eckbo and Verma (1994)).

Other than dividends, board powers relate mostly to the use of corporate assets. Thus, many boards have exclusive authority over secured borrowing and acquisition/sale of assets (both 36 percent) and many boards control these decisions together with management (28 and 23 percent).

6.2 Monitoring

If boards mediate, do they also monitor? We argue that boards typically performs both functions. With the authority to mediate comes also the power needed to monitor, that is, the ability to overrule management. Thus, mediation and monitoring are intrinsically linked as both roles require that the board is empowered. Moreover, relying on board monitoring is appropriate because strict vote capping diminishes large shareholders' incentives to be active.

To test whether empowered boards monitor, we examine whether board authority is positively correlated with additional provisions in the statutes that ask boards to engage in monitoring. The statutes frequently state that boards must approve the annual financial statement (73 percent of boards) and are required to make (unannounced) inspections of company books and cash holdings (32 percent). A t-test reveals that 56 percent of boards with above-median exclusive or joint authority are required to make inspections compared with just 15 percent

[27] These debates are recorded in GM protocols. For example, at the 1893 GM of Bægna Wood Sanding Company, a firm without a board, management proposes a 5% dividend and to add 720 NOK to reserves. This proposal is rejected in favor of an alternative put forward by shareholder Bjørklund, involving a fixing of the level of dividends at 6% in the statute (and consequently adding less to reserves in that year).

[28] November 17, 1900, p. 966.

of the rest of boards. The difference is significant at the 7% level. Considering only exclusive authority (60 vs. 8 percent of boards), the difference is even significant at the 1% level. (The rank sum test yields similar results.)

The power to hire and fire managers is also part of monitoring (Hermalin and Weisbach (1998)) and boards are frequently given influence over managers' careers: Boards elect the managers (82 percent of boards), boards decide managers' salaries (68 percent), and boards can fire the managers (5 percent). Boards with above-median authority are given more power over managers, but the differences are not significant withe the rank sum test.

Finally, we consider how board powers correlated with board size and meeting activities. Boards with above-median exclusive or joint authority are required to meet more frequently (3.86 vs. 2.5 times a year) and are on average smaller than boards with below-median authority (10.7 vs. 12.9 members). The differences are significant at the 1% and the 11% level, respectively. This evidence is thus consistent with the expectation that boards that monitor meet more frequently. Also, small boards have been shown to be more effective in monitoring (Yermack (1996)).

7 Wealth distribution and shareholder base

Above we argue that a large heterogeneous shareholder base induces the establishment of a board. Boards are installed to overcome collective action problems and conflicts between shareholders but also entail costs. An alternative ownership structure, comprised predominantly of large shareholders, would seem to eschew these problems. This raises the question of why the firms in our sample raise finance from small investors at all.

We conjecture that the limited wealth of rich individuals is a primary reason. Demand for capital from corporations simply exceeds the wealth of affluent individuals. Consequently, some firms have to tap public equity markets and cater to small(er) investors from the middle class. This argument has been made by Berle and Means (1932) and Warshow (1924) for the U.S. and Foreman-Peck and Hannah (2011) for the U.K., among others, to explain the rise of the modern corporation. Similar historical studies for Norway do not seem to exist, but there is plenty of

anecdotal evidence in *Farmand*, which regularly comments on the lack of domestic capital.[29] We provide (novel) evidence consistent with the wealth-constraint hypothesis below. There may well be complementary reasons for attracting small shareholders, e.g., diversification, risk sharing, liquidity (Bolton and von Thadden (1998)), and the incentivization of managers (Burkart et al. (1997)).[30] We do not explore such alternative reasons as we are unable to identify proxies with exogenous variation (see Section 7.1).

The wealth-constraints hypothesis implies that firms which raise most of their capital from rich investors will choose large-denomination shares. Firms with substantial capital needs, but poor access to rich investors, are forced to raise equity capital from numerous small investors. Consequently, a limited supply of small investor finance is a constraint on the growth, or even emergence, of poorly connected firms. This conjecture is consistent with the size pattern documented in Table 1, where the largest firms are large-denomination firms and small-denomination firms with boards. We provide evidence in support of this interpretation in Section 7.1.

A related question is why capital-constrained firms do not use more bank debt.[31] Debt might be a preferable funding source compared with small investors because it avoids the costs associated with collective action problems. If so, we would expect firms to exhaust their debt capacity before turning to small investors. Hence, firms with many small shareholders ought to carry more debt.

Table 1 shows that there is no statistically significant difference between leverage or debt-to-equity ratios across firm types, suggesting that firms with boards either do not prefer more debt or that more debt is not available. A limited supply of bank credit seems a likely explanation because the Norwegian commercial banking system at that time was not well developed (Egge (1983) and Nordvik (1993)), and *Farmand* repeatedly complains that Norwegian banks were slower to adopt the practice of lombard loans than German and Danish banks.[32] The fact

[29]For example, a dearth of Norwegian investors has forced the Ankerske Marble Quarry (in our sample) to raise two-thirds of its 1.5 million kroner equity capital abroad (June 8, 1895, p. 415).

[30]These theories are all mute on reasons for establishing boards. Boards, therefore, must be motivated by reasons outside the models, for instance, with the arguments that we propose—conflicts between shareholders.

[31]The tax benefit of debt cannot be a reason to prefer bank finance because interest expenses were not deductible at the time.

[32]See, for example, 28. September, 1895, p. 701.

that sample firms with a higher ratio of fixed-to-total assets have higher leverage suggest that debt finance is constrained.[33] There is also anecdotal evidence: In 1905, Kristiania Tramways Company fails to raise debt domestically and turns to a consortium of Berlin-based banks to sell bonds. The consortium asks the company to raise additional equity as a condition for the bond issue.[34]

7.1 Causality

The above reasoning implies that firms choose their governance structures with regard to their shareholder base. That is, the provisions in the statutes, including the decision to establish a board, are constrained optimal governance choices for a given shareholder base. The estimated coefficients in the preceding analysis reflect equilibrium relations between share denomination, voting rules, and the decision to install a board. They cannot be given a causal interpretation because we cannot claim to have exogenous variation in share-denomination. The relationships are, nevertheless, informative about the costs, benefits, and roles of boards because they arise in a setting where firms can freely choose their own governance rules.

The lack of causal assertion, however, raises the issue of whether an omitted variable could be driving ownership structure. For an omitted variable to explain our results it must not only explain the presence of numerous small shareholders but also the simultaneous presence of a board. To address such causality concerns, we use proxies for the geographic variation in the supply of small investor finance and estimate the effects of supply on share denomination choice and board existence.

We exploit the fact that shareholders are often local (e.g., Franks et al. (2009)). For the subsample of firms with known owners, this can be directly verified. We expect small-denomination firms to be more prevalent in areas where the middle class is larger because the supply of small investor finance is larger.

Ideally, we would use the distribution of wealth within a region to measure the size of the

[33] A t-test shows that for 42 firms for which we have data on fixed and total assets, firms with above-median fixed-to-total asset ratios have an average debt-to-equity ratio of 89 percent compared with 43 percent for below-median firms. The difference is significant at the 16 percent level.

[34] Report to extraordinary GM, December 1st, 1905.

middle class. Because this information is not available for the years around 1900, we use the number of tax payers in a region as a proxy. At that time, individuals were predominantly taxed on income, financial wealth, and property, but only above a certain threshold depending on the size of the household (Gerdrup (1998)). This taxation regime applies to both rural areas and towns since a 1882 reform. A higher number of tax payers in the population implies that wealth is dispersed more widely, ceteris paribus. If we simultaneously control for the level of wealth, tax payers per capita proxies for the relative size of the middle class. The periodical *Norway's municipal finances*[35] reports aggregate wealth and the number of tax payers in 1900 for the 13 Norwegian regions of the time, and the regional population is available from the 1900 census.

One may have reservations about the exogeneity of tax-payers per capita because wealth and income are related to economic activity. We therefore also collect an arguably more exogenous measure of the size of the middle class, the number of civil servants per capita, taken from the 1900 census. Civil servants comprise a part of the middle class that does not depend directly on economic activity. Even if the public sector grows with the economy, its growth typically lags behind. Indeed, the correlation across regions between tax payers per capita and civil servants per capita is 0.07. We discuss the exogeneity of our proxies further in the context of the regression results below.

Appendix Table B3 displays summary statistics for the regional variables used in the regressions. As a test of reassurance, we find that the correlation between tax payers per capita and wealth per tax payer is negative, at -0.22, suggesting that the number of tax payers per capita is inversely related to the concentration of wealth. For each region we compute the average share denomination and the proportion of sample firms with small- and large-denomination shares. Figure 3 plots average share denomination against tax payers per capita for the 13 regions. The highest number of tax payers (40 percent) is in Bergen, a wealthy city with strong historical trading ties to the Hanseatic League. The figure displays a clear negative relationship between share denomination and tax payers per capita. The sizes of the circles indicate the weight of the region in the full sample of 85 firms. One observation is hidden

[35] Norges Kommunale Finantser.

behind Oslo, where 52 percent of the sample firms are located.

The corresponding OLS regression results are shown in Table 11. With just 13 regions, we control only for the level of wealth per capita, which is important to ensure that its variation is not picked up by the number of tax payers, although the correlation between the two variables is low (0.09).

The first four columns show a negative and highly significant relationship between average share denomination and the number of tax payers, suggesting that firms issue more affordable shares in regions where the middle class is larger. The coefficient of 8.75 implies that a one-percentage-point increase in the number of tax payers lowers average share denomination by 87.5 NOK. Measured by the fraction of large- and small-denomination firms, the relationship to the number of tax payers is similar, although the small-denomination effect is significant only at the 16 percent level. The coefficients imply that a one-percentage-point increase in the number of tax payers lowers the fraction of large-denomination firms by 5.92 percentage points, and increases the fraction of small-denomination firms by 3.50 percentage points. The regressions also show that the fraction of firms with a board is positively and significantly related to tax payers per capita.[36] If we control for income per capita instead of wealth per capita, the results are similar.

Because wealth is correlated with economic growth, regional differences in small investor finance may simply reflect differences in economic growth. Even so, one would still have to explain why share denomination covaries with economic growth, which is less straightforward, although it cannot be ruled out that newly founded firms issue shares with lower denominations for reasons unrelated to wealth constraints. For example, small-denomination shares could become the new norm. While this would explain the positive correlation between tax payers and small-denomination firms, it has no direct implications for boards. The argument that boards are installed in newly founded firms because these firms have small shareholders is analogous

[36]The relationship between board existence and tax payers should be interpreted with some care, because it relies on the inclusion of the region of Bergen. There are two firms from Bergen in the sample and both have boards. Omitting Bergen, the effect of tax-payers per capita on the fraction of firms with boards disappears, but the effect of tax-payers per capita on the small denomination dummy becomes highly significant. The regressions in the first two columns are unchanged when omitting Bergen. The sensitivity of the results to the Bergen firms likely reflects the low number of observations and the averaging across firms in a region. With civil servants as the regressor, the results are unaffected when Bergen is omitted.

to our claim that boards arise in firms with large and heterogeneous shareholder bases. Alternatively, one may postulate that boards could also become the new norm. This explanation of joint new norms, however, fails to explain why small-denomination firms have numerous small owners and large-denomination firms do not, since wealthy investors can acquire large blocks by purchasing many small-denomination shares.

In the last four columns of Table 11 we substitute tax-payers per capita with the number of civil servants per capita. The results are qualitatively similar. The alternative joint new norm explanation is now even less convincing because civil servants per capita is less closely tied to economic growth. Under the alternative explanation, firms which follow the new norms are younger and belong to regions which experienced economic growth more recently. But these regions are exactly those where the civil administration has had the least time to adjust to economic growth. The larger coefficients on the civil servants variable likely reflect that outcome effects are heterogenous across subgroups of the population. Thus, the propensity to place savings in the stock market may be higher for individuals in the civil administration than in the middle class at large, because their income is relatively unaffected by business risk.

For Table 12 we re-estimate the main regression of board existence, Table 2, replacing the regressor of share denomination with tax-payers per capita and civil servants per capita in the full sample of 85 firms (columns (1)-(2)). The regressions yield results that are qualitatively similar to those reported in Table 2, implying that a one-standard-deviation increase in the instrument generates a 7-8 percent increase in the likelihood of having a board. In column (3) we add a control for regional wealth and, in column (4), a further control for the city of Oslo, given that 52 percent of the sample firms are located in the capital. Controlling for wealth increases the marginal effect of civil servants per capita to 22 and 30 percent, respectively. Omitting the firms located in Bergen does not change the results.

7.2 Matching of firms and large investors

The previous section shows that different regions have different capacities for large-denomination firms. This, in turn, raises the question of which firms (within a region) attract more large investors—that is, how are firms and large investors matched? We search for common char-

acteristics among large-denomination firms. For brevity, we only summarize our findings but regression results are available upon request.

We find strong evidence that large-denomination firms are most prevalent in business-to-business industries.[37] This may reflect that investors have a preference for businesses with which they are familiar (e.g., Frieder and Subrahmanyam (2005)). Small investors are familiar with mostly retail and consumer-oriented firms, whereas large investors, who are often business men, know a wide range of firms. The former firms, therefore, face a relatively larger supply of small investor finance.

The result is also consistent with the alternative interpretation that the business-to-business variable is a proxy for opportunities for self-dealing when some shareholders are on both sides of the deal (e.g., Johnson et al. (2000)). In this interpretation, ownership structures with multiple blockholders are more prevalent in business-to-business industries because mutual monitoring and the size of blokholders' combined stakes make diversion of resources less attractive.

We find little evidence that large shareholders are present in firms where managerial agency problems are especially large or where monitoring is particularly difficult because business risk is high. There is also little support for the hypothesis that large investors, being in excess demand, select the firms which they believe to be the most profitable. Taken together with the results of the previous section, our findings suggest that small investor finance is more readily available to firms in areas with larger middle classes and firms in the retail industries, or alternatively, firms that face less severe self-dealing problems.

8 Conclusion

We study when owners, free from the constraints of corporate law, choose to install a board in a sample of Norwegian publicly traded firms at the turn of the 20th century. Surprisingly, firms with boards have multiple large shareholders in addition to numerous small sharehold-

[37] Firms in the following industries are characterized as business-to-business firms: chemicals, basic materials and resources, industrial construction and materials, industrial goods, utilities. 73 percent of large-denomination firms belong to the business-to-business segment compared with only 18 percent of small-determination firms.

ers who collectively own a majority stake. This suggests that there is more to boards than compensating for the lack of large shareholder monitoring.

We argue that an important role of boards is to mediate between heterogeneous shareholders and that boards are installed when conflicts of interest make the GM an inferior decision-making body. Conflicts of interests may arise both between large and small shareholders and between shareholders with different preferences or beliefs, independent from their equity stake. In the former case, small shareholders are more at risk of expropriation when they collectively own a majority stake, since their interests and those of blockholders' diverge more. Small shareholders cannot rely on blockholders monitoring of management, but at the same time, collective action problems prevent them from governing in the GM.

The mediation role requires that the board represents a firm's shareholder base and is not captured by blockholders. In our view, this is the reason for the strict voting restrictions in firms with boards. We observe that board compositions seem representative of the shareholder populations.

The mediation role also requires boards to have power vis-á-vis shareholders, i.e. the GM. Many boards, when installed, are indeed given significant decision-making powers at the expense of management and GMs. This circumstance is also consistent with the traditional view that boards have authority over management for the purpose of monitoring. Thus, mediation and monitoring are intrinsically linked as both roles result from giving authority to boards, and we find evidence that boards with power also monitor.

References

Adams, Renée, 2017, Boards, and the directors who sit on them, in Benjamin E. Hermalin and Michael S. Weisbach, (eds.) *The Handbook of the Economics of Corporate Governance*, volume 1, chapter 6, 291–382 (North Holland).

Adams, Renée B., and Daniel Ferreira, 2007, A theory of friendly boards, *Journal of Finance* 62, 217–250.

Adams, Renée B., Benjamin E. Hermalin, and Michael S. Weisbach, 2010, The role of Boards of Directors in corporate governance: A conceptual framework, *Journal of Economic Literature* 48, 48–107.

Agrawal, Ashwini K., 2012, Coporate governance objectives of labor union shareholderes: Evidence from proxy voting, *Review of Financial Studies* 25, 187–226.

Amihud, Yakov, Haim Mendelson, and Jun Uno, 1999, Number of shareholders and stock prices: Evidence from Japan, *Journal of Finance* 54, 833–1197.

Anabtawi, Iman, 2006, Some skepticism about increasing shareholder power, *UCLA Law Review* 53, 561–600.

Armour, John, and Luca Enriques et al., 2017, *The anatomy of corporate law: A comparative and functional approach, 3rd ed.* (Oxford University Press, Oxford).

Baker, Kent H., and Patricia L. Gallagher, 1980, Management's view of stock splits, *Financial Management* 9, 73–77.

Barber, Brad M., and Terrance Odean, 2000, Trading is hazardous to your wealth: The common stock investment performance of individual investors, *Journal of Finance* 55, 773–806.

Baskin, Jonathan B., 1988, The development of corporate financial markets in Britain and the United States 1600–1914: Overcoming asymmetric information, *The Business Historical Review* 62, 199–237.

Bebchuck, Lucian Arye, 2005, The case for increasing shareholder power, *Harvard Law Review* 118, 833–914.

Becht, Marco, Patrick Bolton, and Alisa Roell, 2003, Corporate governance and control, in George Constantinides, Milton Harris, and René Stulz, (eds.) *The Handbook of the Economics of Finance* (Oxford University Press, North-Holland).

Beichmann, F., 1890, *Lov om Handelregistre, Firma og Prokura Af 17de Mai 1890* (W. C. Fabritius & Sønner, Kristiania), 1st edition.

Bennedsen, Morten, 2002, Why do firms have boards?, *Copenhagen Business School, Working Paper*.

Bennedsen, Morten, and Daniel Wolfenzon, 2000, The balance of power in closely held corporations, *Journal of Financial Economics* 58, 113–139.

Berle, Adolf, and Gardiner Means, 1932, *The Modern Corporate and Private Property* (Macmillen, New York).

Blair, Margaret M., and Lynn A. Stout, 2001, Director accountability and the mediating role of the corporate board, *Washington University Law Quarterly* 79, 403–448.

Bolton, Patrick, Tao Li, Enrichetta Ravina, and Howard Rosenthal, 2020, Investor ideology, *Journal of Financial Economics* 137, 320–352.

Bolton, Patrick, and Ernst-Ludwig von Thadden, 1998, Blocks, liquidity, and corporate control, *Journal of Finance* 53, 1–25.

Brochet, Francois, and Suraj Srinivasan, 2014, Accountability of independent directors: Evidence from firms subject to securities litigation, *Journal of Financial Economics* 111, 430–449.

Broughman, Brian, 2010, The role of independent directors in startup firms, *Utah Law Review* 461–510.

Broughman, Brian, 2013, Independent directors and shared board control in venture finance, *Review of Law and Economics* 9, 41–72.

Bråthen, Tore, 2019, *Selskapsrett (Company Law)* (Gyldendal/Focus Forlag, Oslo).

Burkart, Mike, Denis Gromb, and Fausto Panunzi, 1997, Large shareholders, monitoring, and the value of the firm, *Quarterly Journal of Economics* 112, 693–728.

Cheffins, Brian R., 2006, Dividends as a substitute for corporate law: The separation of ownership and control in the United Kingdom, *Washington & Lee Law Review* 63, 1273–1338.

Chen, Xia, Jarrad Harford, and Kai Li, 2007, Monitoring: Which institutions matter?, *Journal of Financial Economics* 86, 279–305.

Coase, Ronald H., 1937, The nature of the firm, *Economica* 4, 386–405.

Coffee, John C. Jr., 2000, Convergence and its critics: What are the preconditions to the separation of ownership and control?, *Columbia University School of Law, Working Paper No. 179*.

Coles, Jeffrey L., Daniel D. Naveen, and Lalitha Naveen, 2014, Co-opted boards, *Review of Financial Studies* 27, 751796.

Cornelli, Francesca, Zbigniew Kominek, and Alexander Ljungqvist, 2013, Monitoring managers: Does it matter?, *Journal of Finance* 68, 431–481.

Desai, Mihir A., and Li Jin, 2012, Institutional tax clienteles and payout policy, *Journal of Financial Economics* 100, 68–84.

Dunlavy, Colleen, 2004, From citizens to plutocrats: 19th-century shareholder voting rights and theories of the corporation, in Kenneth Lipartito and David Sicilia, (eds.) *In Constructing Corporate America: History, Politics, Culture*, 66–93 (Oxford University Press, Oxford).

Eckbo, Espen B., and Savita Verma, 1994, Managerial shareownership, voting power, and cash dividend policy, *Journal of Corporate Finance* 1, 33–62.

Egge, Åsmund, 1983, Transformation of bank structures in the industrial period: The case of Norway 1830-1914, *Journal of European Economic History* 12, 272–273.

Ewens, Michael, and Nadya Malenko, 2020, Board dynamics over the startup lifecycle, *Working Paper, Boston College*.

Faleye, Olubunmi, Rani Hoitash, and Udi Hoitash, 2011, The costs of intense board monitoring, *Journal of Financial Economics* 101, 160–181.

Fama, Eugene F., and Michael C. Jensen, 1983, Separation of ownership and control, *Journal of Law and Economics* 26, 301–325.

Ferreira, Daniel, Miguel A. Ferreira, and Beatriz Mariano, 2018, Creditor control rights and board independence, *Journal of Finance* 73, 2385–2423.

Foreman-Peck, James, and Leslie Hannah, 2011, Extreme divorce: The managerial revolution in uk companies before 1914, *Economic History Review* 65, 1217–1238.

Fos, Vyacheslav, and Margarita Tsoutsoura, 2014, Shareholder democracy in play: Career consequences of proxy contests, *Journal of Financial Economics* 114, 316–340.

Franks, Julian, Colin Mayer, and Stefano Rossi, 2009, Ownership: Evolution and regulation, *Review of Financial Studies* 22, 4009–4056.

Frieder, Laura, and Avanidhar Subrahmanyam, 2005, Brand perceptions and the market for common stock, *Journal of Financial and Quantitative Analysis* 40, 57–85.

Gaspar, Joseé-Miguel, Massimo Massa, and Pedro Matos, 2005, Shareholder investment horizons and the market for corporate control, *Journal of Financial Economics* 76, 135–165.

Gerdrup, Karsten R., 1998, Tax system and tax statistics in a historical perspective (*skattesystem og skattestatistikk i et historisk perspektiv*), *Statistics Norway Reports 98/6*.

Gevurtz, Franklin A., 2004, The historical and political origins of the corporate board of directors, *Hofstra Law Review* 89, 89–166.

Grytten, Ola H., 2007, Nominal wages in Norway 1726-1940 by occupation, in Øyvind Eitrheim, Jan T. Klovland, and Jan F. Qvigstad, (eds.) *Historical Monetary Statistics for Norway 1819-2003 Part II*, 231–342 (Occational Paper 38, Norges Bank, Oslo).

Guinnane, Timothy W., Ron Harris, and Naomi R. Lamoreaux, 2014, Contractual freedom and the evolution of corporate control in Britain, 1862 to 1929, *NBER Working Paper No. 20481*.

Hannah, Leslie, 2007, The "divorce" of ownership from control from 1900 onwards: Recalibrating imagined global trends, *Business History* 49, 404–438.

Harris, Milton, and Artur Raviv, 2005, Allocation of decision-making authority, *Review of Finance* 9, 353–383.

Hart, Oliver, 1995, Corporate governance: Some theory and implications, *Economic Journal* 105, 678–689.

Hermalin, Benjamin E., and Michael S. Weisbach, 1998, Endogenously chosen boards of directors and their monitoring of the CEO, *American Economic Review* 88, 96–118.

Hilt, Eric, 2008, When did ownership separate from control? Corporate governance in the early ninetheenth century, *The Journal of Economic History* 68, 645–685.

Holmström, Bengt, 2005, Pay without performance and the managerial power hypothesis: A comment, *Journal of Corporation Law* 30, 703–716.

Jensen, Michael C., and William H. Meckling, 1976, Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305–60.

Johnson, Simon, Rafael La Porta, Florencio Lopez de Silanes, and Andrei Shleifer, 2000, Tunneling, *American Economic Review* 90, 22–27.

Killi, Terje, 1996, *Aksjemarkedet i Norge 1880-1990 (The Stock Market in Norway 1880-1990)* (Research on Banking, Capital, and Society, Report no. 88, Norwegian Research Council).

Kumar, Alok, and Charles M. C. Lee, 2006, Retail investor sentiment and return comovements, *Journal of Finance* 61, 2451–2486.

La Porta, R., F. Lopez de Silanes, A. Shleifer, and R. W. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113–1155.

Landier, Augustin, Julien Sauvagnat, David Sraer, and David Thesmar, 2013, Bottom-up corporate governance, *Review of Finance* 17, 161–201.

Langeland, Nils Rune, 2005, *Sidste ord: Høgsterett i norsk hisotir 1814-1965 (Last word: The Supreme Court in Norwegian history 1814-1965)* (Cappelen, Oslo).

Li, Sophia Z., Ernst Maug, and Miriam Schwartz-Ziv, 2019, When shareholders disagree: Trading after shareholder meetings, *ECGI Finance Working Paper No. 594*.

Martin, Shaun P., and Frank Partnoy, 2005, Encumbered shares, *University of Illinois Law Review* 2005, 775–814.

Matsusaka, John G., Oguzhan Ozbas, and Irene Yi, 2019, Opportunistic proposals by union shareholders, *Review of Financial Studies* 32, 3215–3265.

Matvos, Gregor, and Michael Ostrovsky, 2010, Heterogeneity and peer effects in mutual fund proxy voting, *Journal of Financial Economics* 98, 90–112.

Michalsen, Dag, 2011, *Rett. En internasjonal historie (Law. An international story)* (Pax Forlag, Oslo).

Musacchio, Aldo, 2008, Laws versus contracts: Legal origins, shareholder protections, and ownership concentration in Brazil, 1890-1950, *Business History Review* 82, 445–473.

Ng, Wilson, and John Roberts, 2007, 'helping the family': The mediating role of outside directors in ethnic chinese family firms, *Human Relations* 60, 285–314.

Nordvik, Helge W., 1993, The banking system, industrialization and economic growth in Norway, 1850-1914, *Scandinavian Economic History Review* 41, 51–72.

Ostergaard, Charlotte, and David C. Smith, 2011, Corporate governance before there was corporate law, *BI Norwegian Business School, CCGR Working Paper 3/2011.*

Platou, Oscar, 1911, *Forelæsninger over Norsk Selskabsret II (Lectures Over Nowegian Corporate Law II)* (T. O. Brøgger, Christiania), 1st edition.

Romano, Roberta, 1993, Public pension fund activism in corporate governance reconsidered, *Columbia Law Review* 93, 795–853.

Schmidt, Breno, 2015, Costs and benefits of "friendly " boards during mergers and acquisitions, *Journal of Financial Economics* 117, 424–447.

Schwartz-Ziv, Miriam, and Ekaterina Volkova, 2020, Is blockholder diversity detrimental?, *Working Paper.*

Shleifer, Andrei, and Robert W. Vishny, 1986, Large shareholders and corporate control, *Journal of Political Economy* 94, 461–488.

Shleifer, Andrei, and Robert W. Vishny, 1997, A survey of corporate governance, *Journal of Finance* 52, 737–783.

Tirole, Jean, 1986, Hierachies and bureaucracies: On the role of collusion in organization, *Journal of Financial Economics* 2, 181–214.

Villalonga, Belen, María-Andrea Trujillo, Alexander Guzmán, and Neila Cáceres, 2019, What are boards for? Evidence from closely held firm, *Financial Management* 4, 537–573.

Villars-Dahl, Leif, 1984, *Stortingsdebattene om den Første Norske aksjelov ("The Parliamentary debates over the first Norwegian corporate law)* (Masters thesis, Institutt for privatrett, Universitetet i Oslo, Oslo).

Wade, James, Charles A. O'Reilly, and Ike Chandratat, 1990, Golden parachutes: CEOs and the exercise of social influence, *Administrative Science Quarterly* 35, 587603.

Wagner, Alexander F., and Christoph Wenk, 2017, Agency versus hold-up: Benefits and costs of shareholder rights, *Swiss Finance Institute Working Paper.*

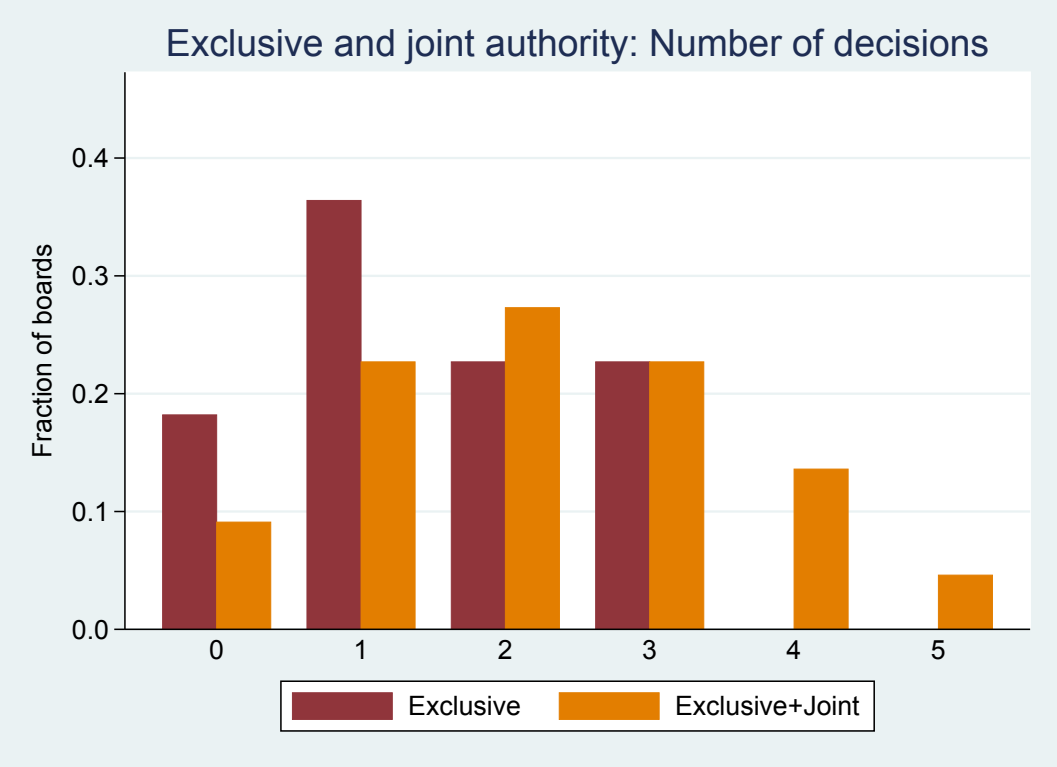
Warshow, H. T., 1924, The distribution of corporate ownership in the united states, *Quarterly Journal of Economics* 39, 15–38.

Weisbach, Michael S., 1988, Outside directors and CEO turnover, *Journal of Financial Economics* 20, 431–460.

Yermack, David, 1996, Higher market valuation of companies with a small board of directors, *Journal of Financial Economics* 40, 185–211.

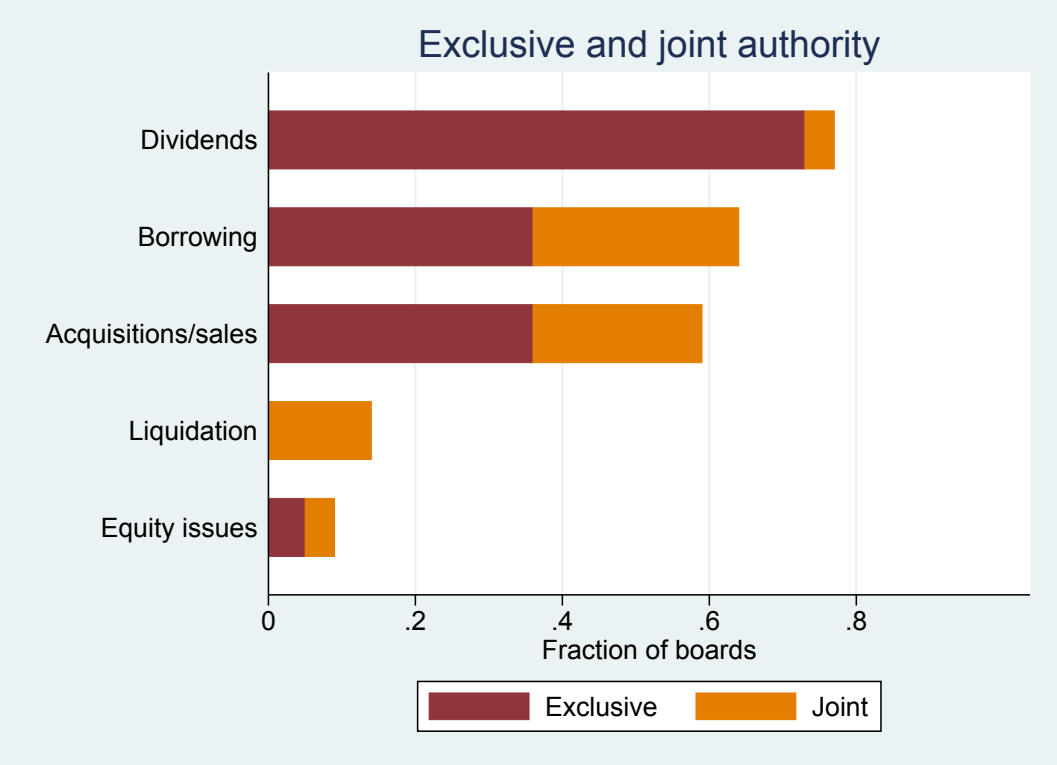
Yermack, David, 2004, Remuneration, retention, and reputation incentives for outside directors, *Journal of Finance* 59, 2281–2308.

Figure 1: **Distribution of Boards' Decision Authority**



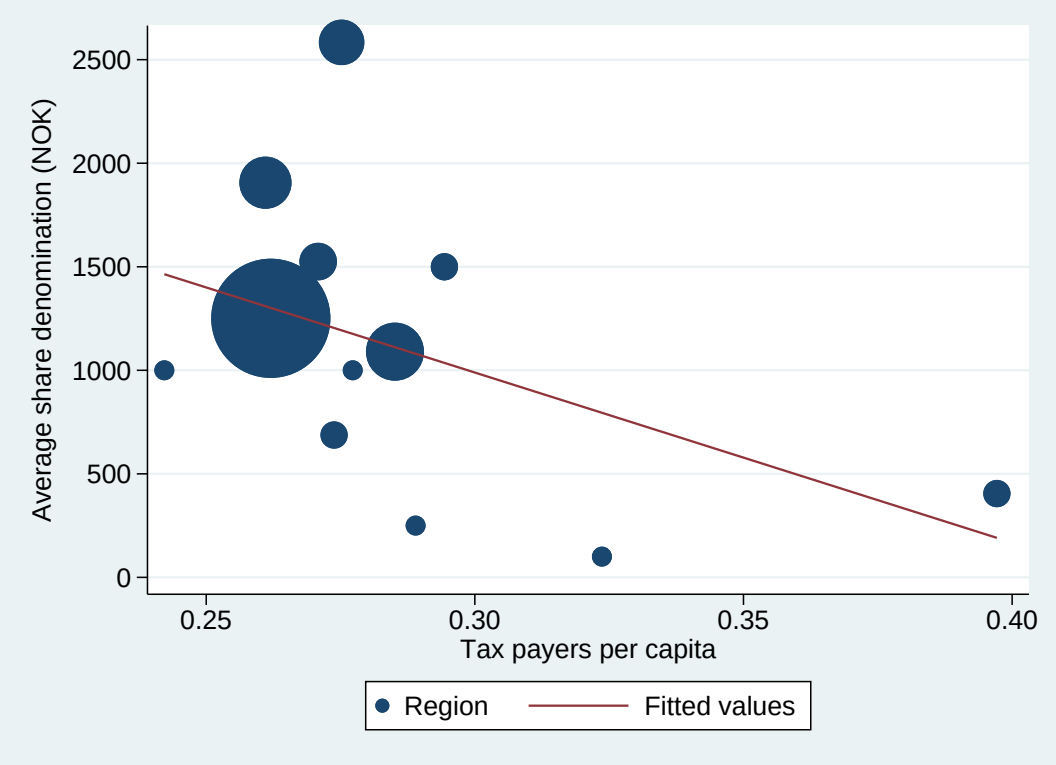
The figure shows the frequency distribution of the number of five strategic corporate decisions controlled by the board. Boards may have exclusive authority or may share authority with management. The red (orange) bars indicate the fraction of firms in which boards are given exclusive (exclusive or joint) authority over zero, one,..., five decisions respectively. The strategic decisions are acquisitions/sales of assets, borrowing against the assets, equity issuance, liquidation, and dividend payments.

Figure 2: **Board Authority over Five Strategic Decisions**



The figure shows the fraction of firms with boards that allocate either exclusive or joint authority over the individual strategic decisions to their boards. The strategic decisions are acquisitions/sales of assets, borrowing against firm assets, equity issuance, liquidation, and dividend payments.

Figure 3: **Tax-payers and Share Denomination in Regions**



The figure shows the relationship between the average share denomination and the number of tax payers per capita in the 13 regions (one observation is hidden). The size of each observation reflects the relative number of sample firms in each region, the largest being Oslo.

Table 1: **Firm Characteristics**

	Firms with boards	Firms without boards	Difference in means (p-value)	Small-denomination firms	Large-denomination firms	Difference in means (p-value)
Board existence	–	–	–	0.45	0.03	-0.43***
	–	–	–	(0.08)	(0.03)	(0.000)
Share denomination	426	1,657	-1,231***	381	2371	-1,991***
	(49)	(237)	(0.000)	(25)	(322)	(0.000)
Number of shares	2,242	648	1,594***	1558	553	1,005***
	(438)	(85)	(0.002)	(277)	(106)	(0.001)
Paid-in equity (million)	0.830	0.705	-0.125	0.567	0.912	-0.345*
	(0.116)	(0.107)	(0.431)	(0.074)	(0.159)	(0.056)
Total assets (million)	1.662	1.729	-0.067	1.395	2.728	-1.334+
	(0.275)	(0.334)	(0.878)	(0.193)	(0.754)	(0.114)
Fixed assets ratio	0.68	0.57	0.11+	0.63	0.56	0.07
	(0.07)	(0.03)	(0.142)	(0.04)	(0.04)	(0.260)
Leverage ratio	0.33	0.37	-0.03	0.35	0.39	-0.04
	(0.05)	(0.04)	(0.645)	(0.04)	(0.04)	(0.468)
Debt-equity ratio	0.77	1.04	-0.27	1.03	0.86	0.17
	(0.21)	(0.20)	(0.364)	(0.24)	(0.11)	(0.523)
ROA	0.07	0.06	0.01	0.08	0.04	0.04+
	(0.03)	(0.02)	(0.891)	(0.02)	(0.01)	(0.131)
Firm age in 1900 (found.)	14.9	22.3	-7.4*	15.6	23.8	-8.2*
	(3.3)	(2.6)	(0.086)	(2.6)	(3.5)	(0.062)
Firm age in 1900 (incorp.)	10.7	13.3	-2.5	10.5	12.8	-2.4
	(2.5)	(1.7)	(0.412)	(1.93)	(2.02)	(0.398)
Founder in management	0.23	0.33	-0.10	0.32	0.33	-0.01
	(0.12)	(0.07)	(0.468)	(0.09)	(0.08)	(0.923)

The table compares characteristics of firms with a board (22 firms) to firms without a board (63 firms), and small-denomination firms (40 firms) to large-denomination firms (40 firms), respectively. The characteristic variables are defined in Table B1. Standard errors are reported in parentheses for the group averages. p-values are reported in parentheses for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 2: **Board Existence**

	(1)	(2)	(3)	(4)	(5)
Share denomination	-0.37***				
	(0.00)				
Large denomination dummy		-0.49***			
		(0.00)			
Small denomination dummy			0.34***	0.34***	0.50***
			(0.00)	(0.00)	(0.00)
Size (log)		0.14***	0.12***	0.12***	0.11**
		(0.00)	(0.00)	(0.00)	(0.05)
Firm age in 1900		-0.08*	-0.06	-0.07+	
		(0.09)	(0.19)	(0.11)	
Fixed assets ratio		0.01	0.02	0.01	
		(0.79)	(0.60)	(0.75)	
Founder in mangement				-0.16*	
				(0.08)	
Leverage ratio					-0.05
					(0.42)
Constant	0.98*	1.17	-2.02**	-1.53+	-2.08*
	(0.09)	(0.35)	(0.03)	(0.14)	(0.08)
Obs.	85	85	85	85	43
p-value	0.00	0.00	0.00	0.00	0.08
Pseudo R-squared	0.24	0.39	0.25	0.28	0.18

The table presents the marginal effects from firm-level logit regressions of the existence of a board on share denomination, a dummy for large (small)-denomination firms, and control variables. Control variables include firm size (log), firm age in 1900 by founding year, and the industry average ratio of fixed to total assets. For share denomination, size, age, and fixed assets ratio, the reported marginal effect is the increase in the probability of a board from a one standard deviation increase around their respective means. For the small and large-denomination dummies, the marginal effects are the changes in the probability of a board from a change in the value of the dummy from zero to one. The variables are defined in Table B1. The p-values for the marginal effects, based on robust standard errors, are reported in parentheses. In addition, the table reports the p-value from a test of joint significance of the explanatory variables and McFadden's pseudo R-squared values. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 3: **Ownership Structure in Subsample**

	All firms (mean)	Firms with boards	Firms without boards	Difference in means	p-value	Small denomination firms	Large denomination firms	Difference in means	p-value
Number of shareholders	166.8	369.0	82.6	286.4*	0.074	267.8	38.9	228.9**	0.018
		(119.9)	(21.1)			(77.1)	(6.97)		
Herfindahl index	0.099	0.062	0.115	-0.053	0.317	0.110	0.089	0.021	0.767
		(0.016)	(0.049)			(0.065)	(0.023)		
Ownership (equity stake in percent)									
smallest shareholder	0.28	0.04	0.38	-0.34**	0.012	0.10	0.55	-0.44**	0.035
		(0.01)	(0.11)			(0.05)	(0.16)		
median shareholder	1.08	0.15	1.47	-1.32***	0.004	0.57	1.86	-1.29**	0.031
		(0.05)	(0.37)			(0.40)	(0.36)		
largest shareholder	20.7	19.1	21.3	-2.22	0.750	20.8	20.2	0.69	0.939
		(3.08)	(6.10)			(7.62)	(4.71)		
Nominal value of stake (NOK/'000)									
smallest shareholder	1.60	0.27	2.16	-1.89**	0.012	0.36	3.36	-3.00**	0.011
		(0.08)	(0.63)			(0.05)	(0.82)		
median shareholder	4.96	0.97	6.63	-5.66***	0.002	1.35	10.0	-8.65***	0.000
		(0.36)	(1.36)			(0.37)	(1.05)		
largest shareholder	202.3	149.1	224.5	-75.3	0.562	230.0	161.6	68.5	0.689
		(49.1)	(116.8)			(151.1)	(70.1)		

The table compares the ownership structures of firms with boards to firms without boards, and small-denomination firms to large-denomination firms, respectively, in a subsample of 17 firms whose shareholder lists are available. Of the 17 firms, seven firms are large-denomination firms, nine firms are small-denomination firms, and one firm falls in the mid-denomination group. Four small-denomination firms and one mid-denomination firm have a board. The variables are defined in Table B1. Standard errors are reported in parentheses for the group averages. p-values are reported for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 4: **Shareholder Blocks in Subsample**

	All firms (mean)	Firms with boards	Firms without boards	Difference in means	p-value	Small denomination firms	Large denomination firms	Difference in means	p-value
Aggregate ownership (percent of equity)									
3 largest shareholders	35.2	35.1 (4.91)	35.3 (5.89)	-0.1	0.985	33.2 (7.15)	36.4 (5.45)	-3.22	0.726
5 largest shareholders	43.8	42.5 (5.63)	44.3 (5.67)	-1.9	0.817	40.4 (6.84)	46.7 (5.44)	-6.29	0.483
small shareholders (individual ownership <2.5%)	42.0	56.5 (5.54)	36.0 (7.49)	20.6**	0.044	53.2 (8.14)	27.1 (6.99)	26.1**	0.029
inside shareholders (managers)	15.0	7.99 (3.39)	17.9 (5.69)	-9.9	0.155	7.43 (2.81)	26.4 (8.05)	-19.0*	0.059

The table compares the cumulative ownership stake of different shareholder groups in firms with boards to firms without boards, and small-denomination firms to large-denomination firms, respectively, in a subsample of 17 firms whose shareholder lists are available. Of the 17 firms, seven firms are large-denomination firms, nine firms are small-denomination firms, and one firm falls in the mid-denomination group. Four small-denomination firms and one mid-denomination firm have a board. The variables considered are the aggregate percentage equity owned by the largest 3, the largest 5, all small (individual stake $< 2.5\%$), and all inside (managers) shareholders. The variables are defined in Table B1. Standard errors are reported in parentheses for the group averages. p-values are reported for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 5: **Voting Restrictions**

	Firms with boards	Firms without boards	Difference in means (p-value)	Small-denomination firms	Large-denomination firms	Difference in means (p-value)
Vote capping at 2.5% and below	0.41	0.05	0.36***	0.23	0.00	0.23***
	(0.03)	(0.11)	(0.000)	(0.07)	(0.00)	(0.002)
Vote capping at 5% and below	0.64	0.24	0.40***	0.50	0.13	0.38***
	(0.10)	(0.05)	(0.001)	(0.08)	(0.05)	(0.002)
Vote capping at 7.5% and below	0.68	0.35	0.33***	0.58	0.23	0.35***
	(0.10)	(0.06)	(0.007)	(0.08)	(0.07)	(0.001)
Vote capping at 10% and below	0.77	0.51	0.26**	0.70	0.40	0.30***
	(0.09)	(0.06)	(0.032)	(0.07)	(0.08)	(0.007)
Votes per share overall	0.12	0.20	-0.08***	0.18	0.20	-0.03
	(0.06)	(0.04)	(0.001)	(0.06)	(0.05)	(0.739)

The table compares the strictness of voting restrictions of firms with boards (22 firms) to firms without boards (63 firms), and small-denomination firms (40 firms) to large-denomination firms (40 firms), respectively. Vote capping at α% or below is a dummy variable that takes the value of one if a voting cap is in effect for shareholders with an equity stake corresponding to α% or less of paid-in equity. Votes per share overall measures voting restrictions as the ratio of the total number of votes attained by a shareholder owning all shares. The remaining variables are defined in Table B1. Standard errors are reported in parentheses for the group averages. p-values are reported in parentheses for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 6: **Voting Rights in Subsample**

	Firms with boards	Firms without boards	Difference in means	p-value
Aggregate votes (as percentage of total)				
3 largest shareholders	11.4	28.4	-17.0*	0.064
	(5.26)	(6.60)		
5 largest shareholders	16.5	36.4	-19.9*	0.069
	(7.20)	(6.78)		
small shareholders	84.0	44.0	40.0***	0.003
(individual ownership <2.5%)	(6.57)	(9.12)		
Ratio between votes and ownership (V/O)				
smallest shareholder	3.60	2.35	1.26	0.265
	(0.90)	(0.51)		
median shareholder	1.90	1.17	0.73+	0.108
	(0.35)	(0.05)		
largest shareholder	0.18	0.68	0.50***	0.000
	(0.06)	(0.07)		

The table compares the cummulative voting rights of different shareholder groups in firms with boards to firms without boards in a subsample of 17 firms whose shareholder lists are available. The variables considered are the aggregate votes (as a percentage of total votes) held by, in turn, the largest 3, the largest 5, and all small (individual stake $< 2.5\%$) shareholders. The variables are defined in Table B1. Standard errors are reported for the group averages. p-values are reported in parentheses for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% (+), 10% (*), 5% (**), and 1% (***) levels.

Table 7: **Board Existence and Vote Capping**

	(1)	(2)	(3)	(4)	(5)	(6)
Small denomination dummy	0.30***	0.28***	0.31***	0.32***	0.34***	0.34***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Vote capping at 2.5% and below	0.29***					
	(0.00)					
Vote capping at 5% and below		0.20***				
		(0.00)				
Vote capping at 7.5% and below			0.15*			
			(0.06)			
Vote capping at 10% and below				0.11		
				(0.22)		
Votes per share overall					-0.15	
					(0.31)	
Controls	yes	yes	yes	yes	yes	yes
Constant	yes	yes	yes	yes	yes	yes
Obs.	85	85	85	85	85	85
p-value	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo R-squared	0.35	0.32	0.29	0.27	0.27	0.26

The table presents the marginal effects from firm-level logit regressions of the existence of a board on share denomination, measures of the severity of vote capping, and control variables. Control variables include firm size (log), firm age in 1900 by founding year, and the industry average ratio of fixed-to-total assets (cf. table 2). Vote capping at α% or below is a dummy variable taking the value of one if a voting cap is in effect for shareholders with an equity stake corresponding to α% or less of paid-in equity. Votes per share overall measures voting restrictions as the ratio of the total number of votes to the total number of shares attained by a shareholder owning all shares. The remaining variables are defined in Table B1. For the small denomination and vote capping dummies, the marginal effect is the change in the probability of a board from a change in the value of the dummy from zero to one. For votes per share overall, the reported marginal effect is the increase in the probability of a board from a one standard deviation increase around its mean. The p-values for the marginal effects, based on robust standard errors, are reported in parentheses. In addition, the table reports the p-values from a test of joint significance of the explanatory variables and McFadden's pseudo R-squared. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 8: **Ownership Stakes of Board Members**

	Board size (members +deputies)	Members with known ownership	Members among top 10 owners	Chairman of board (percent)	Members with stakes ≤0.1%	Members with stakes ≤1%	Members with stakes ≤5%
Bergen Mechanical Workshop	5	5	3	11.8	0	1	3
Bodø Brewery	9+3	10	0	0.32	0	10	10
Hansa Brewery	12+4	15	4	0.05	3	11	12
Holmenkollen Tramway Company	15	8	0	0.50	5	8	8
Trondheim Brewery	13+5	18	2	0.62	1	14	18

The table presents board compositions of firms for which board members as well as their ownership stakes are available. The variables considered are board size as the number of board members plus the number of deputy members (where available), the number of members (incl. deputy members) whose ownership stake is known, the number of members (incl. deputy members) who belong to the 10 largest shareholders, the ownership stake of the board chairman, and the number of members (incl. deputy members) with ownership stakes below 0.1, 1, and 5% of paid-in equity, respectively. Missing information is indicated by n/a.

Table 9: **Authority Structures in Firms With and Without Boards**

	Firms with boards	Firms without boards	Difference in means	p-value
Average number of decisions assigned to the GM exclusively	1.81	3.30	-1.48***	0.000
	(0.30)	(0.14)		
a board exclusively	1.5	–	–	–
	(0.23)	–		–
management exclusively	0.32	0.92	-0.60**	0.024
	(0.17)	(0.20)		
the GM exclusively or jointly	1.95	3.79	-1.84***	0.000
	(0.32)	(0.18)		
a board exclusively or jointly	2.23	–	–	–
	(0.29)	–		–
management exclusively or jointly	1.05	0.98	0.06	0.877
	(0.34)	(0.20)		

The table compares the average number of strategic decisions conferred to the general meeting, the board, and management in firms with a board to firms without a board. The table considers decisions that a corporate body controls exclusively as well as decisions that it controls jointly with another corporate body. Strategic decisions are acquisitions/sales of assets, borrowing against the firm's assets, equity issuance, firm liquidation, and dividend payments. Standard errors are reported for the group averages. p-values are reported in parentheses for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 10: **Board Authority and Voting Restrictions in Firms With Boards**

	Authority assigned to boards exclusively (no. decisions)	Difference in means (p-value)	Authority assigned to boards exclusively or jointly (no. decisions)	Difference in means (p-value)	Occasional authority assigned to boards (no. decisions)	Difference in means (p-value)
Voting caps at 2.5%						
firms at threshold or below	2.00		2.38		3.50	
	(0.33)		(0.38)		(0.52)	
firms above threshold	1.21	0.79*	2.01	0.30	2.36	1.14+
	(0.28)	(0.087)	(0.41)	(0.592)	(0.45)	(0.122)
Voting caps at 5.0%						
firms at threshold or below	1.64		2.57		3.21	
	(0.29)		(0.34)		(0.49)	
firms above threshold	1.25	0.39	1.63	0.95+	2.00	1.21*
	(0.37)	(0.413)	(0.50)	(0.136)	(0.38)	(0.065)
Votes per share overall						
firms below median	2.00		2.82		3.64	
	(0.27)		(0.38)		(0.53)	
firms above median	1.00	1.00**	1.64	1.18**	1.91	1.72**
	(0.30)	(0.023)	(0.36)	(0.035)	(0.34)	(0.014)

The table compares the authority conferred to boards in firms with "strict" versus "lax" voting restrictions. The severity of voting restrictions is measured according to three thresholds: voting caps at 2.5%, voting caps at 5%, and the median value of the overall number of votes per share. Vote capping at α% or below is a dummy variable taking the value of one if a voting cap is in effect for shareholders with share ownership corresponding to α% or less of paid-in equity. Votes per share overall measures voting restrictions as the ratio of the total number of votes to the total number of shares attained by a shareholder owning all shares. The table considers decisions that a corporate body controls exclusively, decisions that it controls jointly with another corporate body, and occasional authority. Strategic decisions are acquisitions/sales of assets, borrowing against the firm's assets, equity issuance, firm liquidation, and dividend payments. Occasional authority and the remaining variables are defined in Table B1. Standard errors are reported in parentheses for the group averages. p-values are reported in parentheses for a two-sided t-test of the difference in means with unequal variances. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 11: **Regional Wealth Dispersion and Ownership Structure**

	Average denomination	Fraction of large denomination firms	Fraction of small denomination firms	Fraction of firms with boards	Average denomination	Fraction of large denomination firms	Fraction of small denomination firms	Fraction of firms with boards
Tax-payers per capita	-8.75***	-5.92***	3.50	5.55**				
	(0.00)	(0.01)	(0.16)	(0.03)				
Civil servants per capita					-80.0	-75.0**	59.7*	57.4**
					(0.31)	(0.03)	(0.07)	(0.04)
Wealth per capita	0.54+	0.21	-0.27	-0.14	1.15	0.80**	-0.75*	-0.59
	(0.15)	(0.37)	(0.32)	(0.68)	(0.19)	(0.05)	(0.08)	(0.17)
Constant	3.03***	1.93***	-0.26	-1.20**	0.93*	0.60*	-0.47+	0.11
	(0.00)	(0.00)	(0.71)	(0.04)	(0.10)	(0.07)	(0.12)	(0.75)
Obs.	13	13	13	13	13	13	13	13
p-value	0.01	0.02	0.29	0.05	0.37	0.08	0.16	0.12
R-squared	0.61	0.42	0.26	0.38	0.17	0.29	0.29	0.17

The table presents results from regional regressions of governance structures on variables proxying for the size of the middle class (Tax payers per capita, Civil servants per capita), controlling for the level of wealth (Wealth per capita). Regional governance structures are measured as average share denomination in the region, the fraction of large (small)-denomination sample firms in the region, as well as the fraction of sample firms in the region that have a board. Tax-payers, wealth, and civil servants per capita are defined in Table B1. Average share denomination is the average denomination of sample firms located in a given region. Fraction of large (small)-denomination firms is the fraction of sample firms located in a given region whose shares are of large (small) denomination. Fraction of firms with a board is the fraction of sample firms located in a given region that have a board. Robust standard errors are reported in parentheses. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Table 12: **Board Existence Instrumented With Civil Servants**

	(1)	(2)	(3)	(4)
Tax-payers per capita in region, 1900	0.07**			
	(0.02)			
Civil servants per capita in region, 1900		0.08*	0.22**	0.30***
		(0.09)	(0.02)	(0.00)
Wealth per capita in region, 1900			-0.14+	-0.14
			(0.11)	(0.19)
Oslo-dummy				-0.34
				(0.48)
Size (log)	0.08*	0.07*	0.08*	0.09*
	(0.09)	(0.10)	(0.06)	(0.06)
Firm age in 1900	-0.09*	-0.09*	-0.09*	-0.09*
	(0.06)	(0.07)	(0.07)	(0.06)
Fixed assets ratio	0.10**	0.09*	0.08+	0.08+
	(0.04)	(0.08)	(0.12)	(0.11)
Constant	-6.71***	-3.03***	-2.41*	-4.44
	(0.01)	(0.01)	(0.06)	(0.21)
Obs.	85	85	85	85
p-value	0.06	0.01	0.01	0.02
Pseudo R-squared	0.14	0.14	0.15	0.16

The table presents the marginal effects from firm-level logit regressions of board existence on proxies for the regional supply of small investor finance, controlling for firm size, age, and the industry average fixed-asset ratio (cf. Table 2). The variables are defined in Table B1. Column (1) proxies the supply of small investor finance with the number of tax payers per capita in the region. Columns (2)-(4) proxy the supply of small investor finance with the number of civil servants per capita. Columns (3)-(4) control for the regional level of wealth, and column (4) controls for firms located in Oslo. Reported coefficients are average marginal effects. For tax payers, civil servants, wealth, size, age, and fixed-asset ratio the reported marginal effect is the increase in the probability of a board from a one standard deviation increase around their respective means. For the Oslo-dummy, the marginal effects is the change in the probability of a board from a change in the value of the dummy from zero to one. The p-values for the marginal effects, based on robust standard errors, are reported in parentheses. In addition, the table reports the p-value from a test of joint significance of the explanatory variables and McFadden's pseudo R-squared values. Statistical significance is reported at the 15% ($^{+}$), 10% (*), 5% (**), and 1% (***) levels.

Appendix A Legal and institutional background

Around 1900, Norwegian stock markets flourished, and dispersed corporate ownership had emerged in a fashion similar to that of other industrialized nations (Killi (1996)). Norwegian courts had permitted the free establishment of joint stock companies as legal persons without the need for a government concession in the early nineteenth century (Michalsen (2011)), and beginning in 1840, joint stock companies began emerging in large numbers.[38]

Public unfamiliarity with the new company form and episodes of outright fraud led authorities to require registration of firms for the purpose of protecting third parties and increase public confidence in the integrity of business (Langeland (2005)). The 1874 Law of Company Registry was modeled on the English 1844 Joint Stock Companies Registration and Regulation Act. By making basic information available to the public, third parties could seek out the legal nature of a firm and the identity of the individuals behind it, but still carried the burden of assessing the soundness of the business as there were no requirements for the reporting of capitalization. Failure to accurately disclose the legal form, made owners personally liable.

The law was replaced with a more extensive law, the 1890 Law of Trade Registry, Firms, and Procura, requiring the reporting of additional information, including the amount of paid-in equity, whether shares were fully paid in, and the identity of individuals with the power to sign for the firm. The articles of association had to be attached to the registration along with proof of identification of directors (Beichmann (1890).

Norwegian authorities and scholars were well aware of legal developments in other countries, and Swedish, U.K., and German legislation, in particular, were debated intensely. Businesses and, especially the shipping industry, however, resisted a more comprehensive regulation of the joint stock company form, fearing restrictions on their livelihoods. A drafting commission for a corporate law was deployed in 1881, but it would take another 30 years before a law was finally enacted in 1911 (Villars-Dahl (1984)).

The principle of contractual freedom applied in Norway from the late 17th century and

[38] As a result of war, Norway was in a union with Sweden from 1814 to 1904, but during this time the Norwegian parliament enacted its own legislation. Thus, the Swedish corporate law of 1895 did not apply to Norway.

was strongly upheld by the courts (Michalsen (2011)). Evidence we collected for this paper, suggests that the articles of associations adopted by Norwegian corporations were indeed enforced by the courts as contracts. Contemporary rulings from the city court of Oslo suggest that the court interpreted companies' statutes to the letter.[39] For example, a ruling issued by the Oslo Town Court in 1888 concerns a conflict between shareholders over an individual's transfer of a share to his son as a gift. While the company's statutes assigned a first right of purchase to the other shareholders, the court rejected the complaint with reference to the fact that the statutes referred only to the *sale* of shares.[40]

Eventually, the pressure for a statutory law became untenable. In 1911, parliament passed the Limited Liability Companies Act, but neither this nor later acts mandated the board of representatives ("the board" in our analysis). Its decision-powers were significantly reduced over time, however, as the law concentrated powers in the board of directors ("the management group") and the CEO. In particular, the 1957 Limited Liability Companies Act targeted the widespread praxis of splitting executive responsibilities between the board of directors and and the board of representatives, seeking to avoid a blurring of accountability. The latter was defined as a predominantly controlling body with powers to elect and fire directors, and were permitted to share authority with the board of directors over special decisions only.

Today, the board of representatives no longer exists in large (over 200 employees) and publicly listed corporations. It has been replaced by a corporate assembly, whose members are elected by the employees (one third) and the shareholders (two thirds), and is responsible for electing and firing directors. The board of representatives remains an option for smaller and unlisted companies, but is mandated in financial institutions and shipping firms. The modern Norwegian corporate governance system, thus, is a hybrid of the Anglo-Saxon one-tier board structure and the German two-tier board structure (Bråthen (2019)).

[39] A search through all rulings by the Oslo city court in the 1867-1905 period reveals three rulings with direct reference to the company's articles of association. We have not found any cases that involves a firm included in our data set. Most legal disputes concerned the position of creditors against the firm and its owners.

[40] Oslo Byret: Ruling 1429 of 20. August 1888, case no. 476/87.

Appendix B The sample

Table B1: **List of variables**

Variable	Description
Authority index	Index that counts the number of strategic corporate decisions over which a corporate body may be granted authority. Decisions include (1) purchases/sales of company assets, (2) borrowing secured by company assets or real estate, (3) distribution of dividends, (4) equity issuance, and (5) liquidation. The index values range from zero to five.
Board existence	Dummy variable taking the value of one if statutes stipulate that a board must be established.
Board size	The number of board members, excluding deputy members unless otherwise indicated. For boards where managers can vote in meetings, the members include the managers.
Civil servants per capita	The number of individuals above 15 years of age in a region employed as state officials or public servants relative to the total population in that region.
Debt-equity ratio	Firm-level ratio of total loans to paid-in equity computed as the average of all observations of the ratio available for a firm over the 1896-1910 period.
Founder in management	Dummy variable taking the value of one if the founder of a firm is a member of the management group.
Firm age in 1900 (found.)	The firm's age in 1900 measured relative to the year a firm was founded.
Firm age in 1900 (incorp.)	The firm's age in 1900 measured relative to the year a firm was incorporated.
Firm size	The nominal value of paid-in equity (in millions of NOK) in the year a firm's statutes were adopted.
Fixed assets ratio	Ratio of industry-level tangible assets to total assets computed as the average of all observations of the ratio available for firms in an industry over the 1896-1910 period. For two industries, tangible assets are not available for any firm before 1910. We therefore employ accounting data up to 1920 for these two industries.
Large-denomination dummy	Dummy variable taking the value of one if the share denomination is larger or equal to 1,000 NOK.

The table continues on the next page.

Table B1: **(Continued) List of variables**

Variable	Description
Leverage ratio	Firm-level ratio of total loans to total assets computed as the average of all observations of the ratio available for the firm over the 1896-1910 period.
Number of shares	The number of shares constructed as the value of paid-in equity divided by the nominal share value.
Occasional authorithy index	Index that counts the number of firm-specific decisions over which boards in some statutes are given authority. Decisions include: (1) determining managers' authority over certain decisions, (2) setting the maximum amount for which managers can bind a firm (*procura*), (3) resolving disputes between managers, (4) firing of managers, (5) selecting managers from amongst the board, (6) setting managers' salaries, (7) deciding or approving minor business decisions (e.g. product prices), (8) giving directions to the superintendent, (9) hiring the auditor, (10) writing the instructions for the auditor, (11) hiring the bookkeeper, (12) hiring the treasurer, (12) determining amount of collateral to be posted by the treasurer.
Ownership (equity stake in percent)	Share of paid-in equity owned by a given shareholder. Can be computed for the subsample of firms for which shareholder lists are available.
Paid-in equity	The nominal value of paid-in (common and preferential) equity in (1,000,000 NOK).
Ratio between votes and ownership (V/O)	Ratio of the voting rights to cash-flow rights for a given shareholder. Can be computed for the subsample of firms for which shareholder lists are available.
ROA (return on assets)	Firm-level annual surplus over total assets computed as the average of all observations of the ratio available for a firm over the 1896-1910 period. Annual surplus is net of interest payments, which are not available for many firms, hence the variable only proxies for ROA.
Size	Firm-level paid-in equity. The variable is logged in the regressions.
Share denomination	The nominal value of a common share (in NOK).
Small-denomination dummy	Dummy variable taking the value of one if the share denomination is smaller than or equal to 500 NOK.
Tax payers per capita	The number of individuals in a region that pay income, wealth, or property taxes relative to the total population in that region.
Total assets	Total assets computed as the average of all observations available for a firm over the 1896-1910 period.

The table continues on the next page.

Table B1: **(Continued) List of variables**

Variable	Description
Vote capping at α%	Dummy variable taking the value of one if a voting cap is in effect (the maximum number of votes) for shareholders with share ownership corresponding to α% of paid-in equity or less.
Votes per share overall	The ratio of the votes attained over the total number of shares if one shareholder held all shares. When this ratio is closer to zero, the deviation from the one vote per share principle is larger.
Wealth per capita	Private wealth of individuals in a region relative to that of the total population in that region.

Table B2: **Summary Statistics: Firm-level sample**

	Obs.	Mean	Median	Std Dev.	Min	Max
Share denomination (NOK)	85	1,338	700	1,705	100	10,000
Number of shares	85	1,058	600	1,373	27	10,000
Paid-in equity ('000,000 NOK)	85	0.737	0.583	0.781	0.008	6
Paid-in equity ('000,000 USD)	85	0.197	0.156	0.209	0.002	1.60
Total assets ('000,000 NOK)	44	1.707	1.225	1.608	0.034	8.28
Leverage	43	0.355	0.375	0.197	0.023	0.772
Debt-equity ratio	45	0.958	0.776	1.043	0.034	5.883
Fixed assets ratio	85	0.501	0.469	0.181	0.130	0.818
Firm age in 1900 (estbl.)	85	20.4	12	19.5	1	85
Firm age in 1900 (inc.)	85	12.6	8	13.0	-5	49
Founder in management	85	0.21	0	0.41	0	1
Vote capping at 2.5%	85	0.13	0	0.34	0	1
Vote capping at 5%	85	0.34	0	0.48	0	1
Vote capping at 7.5%	85	0.44	0	0.50	0	1
Vote capping at 10%	85	0.58	1	0.50	0	1
Votes per share overall	85	0.18	0.03	0.33	0.001	1
Board dummy	85	0.26	0	0.44	0	1
Board authority						
Exclusive	22	1.50	1	1.06	0	3
Exclusive + joint	22	2.23	2	1.34	0	5
Occasional	22	4.27	4	2.12	0	9

The table presents summary statistics for the main variables. Paid-in equity in 1900 Norwegian kroner (NOK) is translated into 1900 US dollars using an average 1900 exchange rate of 3.74 NOK per US dollar, obtained from Norges Banks historical monetary statistics (www.norges-bank.no). For comparison, Hilt (2008, Table 2) reports that for 1826/27 the New York-based manufacturing companies in his sample have an average level of paid-in equity of 57,405 USD.

Table B3: **Summary Statistics: Regional Sample**

	Obs.	Mean	Median	Std.Dev.	Min	Max
Tax-payers per capita	13	0.29	0.28	0.04	0.24	0.40
Wealth per capita	13	1.07	1.11	0.43	0.31	1.86
Civil servants per capita	13	0.013	0.012	0.004	0.008	0.025
Average share denomination	13	1.11	1.09	0.68	0.10	2.58
Fraction of large-denomination firms	13	0.48	0.50	0.37	0.00	1.00
Fraction of small-denomination firms	13	0.45	0.50	0.34	0.00	1.00
Fraction of firms with a board	13	0.23	0.10	0.36	0.00	1.00

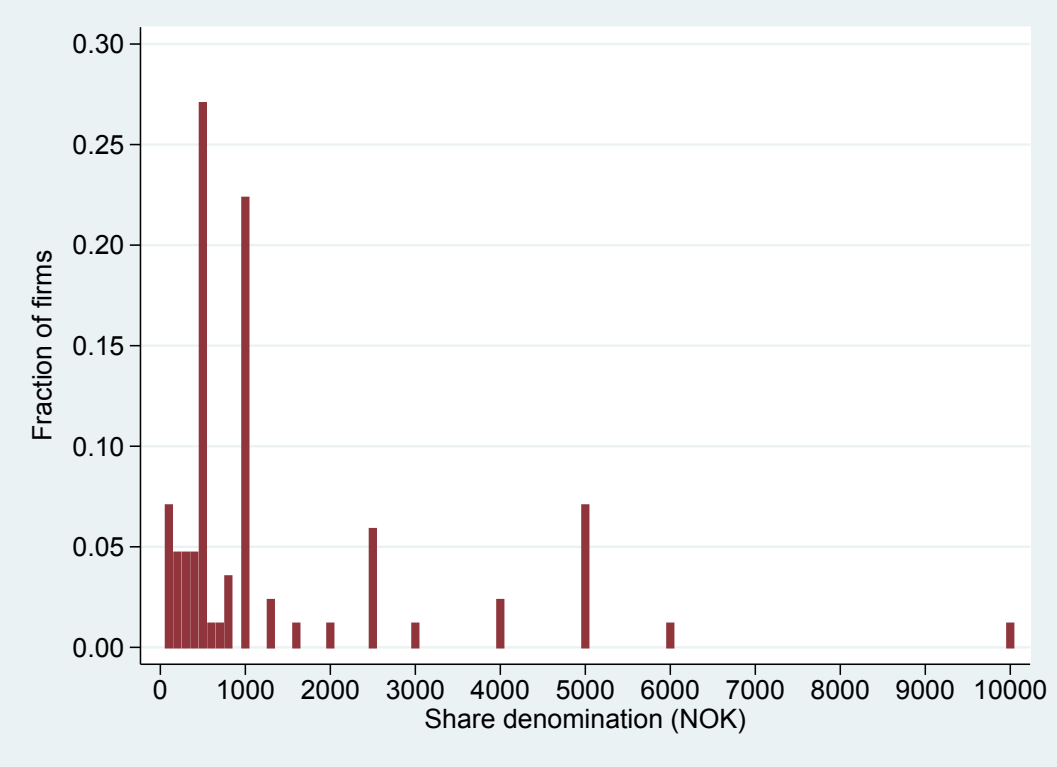
The table presents summary statistics for the variables employed in the regional regressions. Tax-payers, wealth, and civil servants per capita are measured in 1900 and defined in Table B1. Average share denomination is the average denomination of sample firms located in a given region. Fraction of large (small)-denomination firms is the fraction of sample firms located in a given region whose shares are of large (small) denomination. Fraction of firms with a board is the fraction of sample firms located in a given region that have a board.

Table B4: **Sample Firms by Industry**

	Number of firms	Percent of sample	Paid-in equity (million)	Board existence (percent)
Corn mills, food, drink, tobacco	18	21.2	0.530	61.1
Forestry, saw mills, paper	16	18.9	1.159	6.25
Metal products, machinery, equip.	11	12.9	0.618	0
Textile, clothing, shoes	8	9.4	0.718	12.5
Chemical products	7	8.2	0.530	0
Publishing	5	5.9	0.503	20.0
Transportation	4	4.7	0.684	50.0
Real estate	4	4.7	0.445	50.0
Services	4	4.7	0.445	25.0
Ship-building	3	3.5	0.725	33.3
Telecom	2	2.4	1.003	50.0
Utilities	3	3.5	1.783	33.3
Total	85	100.0		

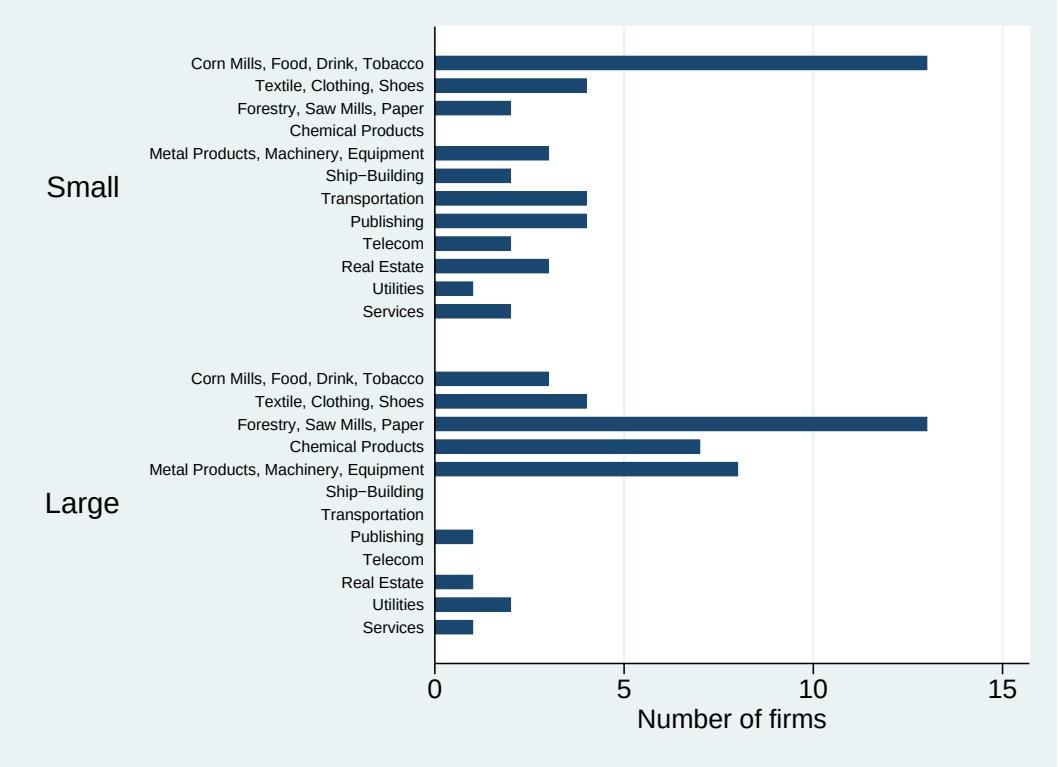
The table presents the industry composition of the sample firms. Firms are classified into 12 different industries based on the NACE classification system. Producers of consumer goods encompass a wide variety of firms, including breweries (mostly beer), corn mills, textile mills, and manufacturers of products as diverse as shoes, tobacco, furniture, locks, matches, sailcloth, and crackers. Industrials encompasses ironworks and shipbuilders, firms involved in commercial maritime transportation, and producers of marble, nails, horseshoe nails, and rifles. Consumer services include hotels, steamship and rail transportation companies in travel and leisure, printing companies, and a public cafeteria. Basic resources comprises mostly forestry and sawmills, and chemicals are dominated by firms converting wood products into paper, including companies using sulphite-based technologies for converting cellulose into paper pulp, as well as a nitroglycerin producer. The telecommunications industry consists of two telephone exchanges, and utilities are producers of hydroelectricity. Firms in the real estate sector earn revenue through rents from land and buildings.

Figure B1: **Distribution of Share Denomination**



The figure shows the frequency distribution of share denominations across the sample firms.

Figure B2: **Industry Composition by Share Denomination**



The figure shows industry composition according to share denomination. Industries are based on the NACE-classification code.

Appendix C Excerpts from statutes

Table C1: **Examples of statute provisions pertaining to boards and management**

Management (board of directors):

La Compania de Maderas, importer of processed wood from Spain (§10):
The board of directors hires and fires the superintendents in the Spanish branches and other required clerks, determines their salaries and assigns the necessary powers of attorney. The board itself carries out purchases and sales of timber and what is otherwise required for the operations of the firm, and carries out in all instances the interests of the company in accordance with its laws.

Boards (board of representatives):

Christiana Joint Stock Beer Brewery (§20):
It is the responsibility of the board of representatives to a) elect directors and determine their salary, cf. §11, b) approbate the board of directors' election of the officers mentioned in §16 and, together with the board of directors, determine their salary, c) make a decision in questionable cases presented [to it] by the board of directors, d) quarterly inform itself of the exact operation and situation of the brewery, e) several times a year and at random times and without warning conduct examinations of the books and cash holdings, f) together with the board of directors make decisions regarding acquisitions of land, building plans and builder, acquisitions of fixed assets, and the brewery's assumption of collateralized debt, g) hire an auditor of the brewery's books and accounts and decide his salary, h) accredit the accounts, i) annually present the GM with a complete summary of the brewery's business, and j) together with the board of directors, decide how much of the year's surplus should be paid out as dividend.

Christiania Swine Slaughterhouse (§11):
The board of representatives must make a decision in cases presented to it by the board of directors, make a decision about the distribution of the year's surplus, make a decision to convene ordinary and extraordinary GMs, the latter also when requested by the board of directors or by shareholders representing a fifth of the equity capital, make a decision about any disposition that involves the use of the company's reserve fund, arrange for auditing of the company's accounts by a paid auditor whom it should hire to accredit sensitive items.

Christiania News and Advertisement Periodical (§6):
The board of representatives decides on the use of surplus from operations. Its opinion should be obtained by the board of directors in important cases.

Table C2: **Examples of mediation of shareholder conflicts from company protocols**

Conflicts between large and small shareholders:

In the 1919 GM of *Trondheim Brewery*, one of the five largest shareholders, Nissen-Dreyer, puts forth a proposal that simplifies the existing voting scheme and removes the voting cap altogether. This prompts the board's deputy chair, Christoffersen, to suggest an alternative amendment of the voting scheme that increases the maximum number of attainable votes but preserves the voting cap. The GM votes over the two proposals in turn, rejecting Nissen-Dreyer's proposal and adopting Christoffersen's proposal. In the subsequent GM, Nissen-Dreyer wins election to the board. The episode is illustrative for two reasons. First, Christoffersen's proposal is a compromise between large shareholders' preferences for more votes and small shareholders' preferences that voting power be capped. Second, Nissen-Dreyer's election to the board is also consistent with boards being representative of the entire shareholder base, a prerequisite for their mediation role. (*Source: Board and General Meeting Protocol 1899-1947, p. 158*).

In *Akers Mechanical Workshop*, a new investor, Fred Olsen and his extended family, accumulate a block of shares over a short period of time. In 1914 he owns more than 25% of the equity and is the largest owner by far. But his votes are capped at 10. In 1916, he writes to the management group, suggesting changes to the statutes, including a removal of the voting cap. Management decides on a response but then Olsen withdraws his proposal only days later and no changes are made. The company protocol records management's response, but the writing has been crossed out. Only the word "representantskab" (board of representables) is legible. While we cannot know exactly what has occurred, the episode illustrates that large owners do not always prevail, in part because of the vote capping.. (*Source: Negotiation Protocol 1900-1916, p. 236*).

Conflicts between shareholders with similar equity stakes:

In 1907, Hansa Brewery undergoes a dispute between a coalition of board members and the executive manager of the brewery, Platou, over the management of the firm.* The conflict pits the two largest shareholders against each other, as the coalition includes the largest shareholder and Platou is the second largest shareholder. After several rounds of allegations, the board ends up supporting the appointment of a committee of three industry experts tasked with scrutinizing Hansa's accounts and reporting its findings to the GM. The example illustrates that board members are willing to take action to resolve disputes and do not live "the quiet life." (*Source: Board Protocol (preserved excerpts) and letters to shareholders*).

*Manager Platou is not to be confused with the law professor Oscar Platou mentioned in the main text.

Appendix D Board compositions

Table D1: **Board Members**

Name	Ownership (percent)	Top 10 owners	Profession
Bergens Mechanical Workshop			
H. Monrad-Krohn (Chair)	11.78	Y	Pharmacist
J. C. Isdahl	20.67	Y	Merchant
H. M. Pihl	1.87	Y	n/a
Ole Johannesen L. P. S.	1.07	–	Consul
Herman Friele B. S.	0.70	–	Zoologist and merchant
Bodø Brewery			
R. M. B. Schjølberg (Chair) (M)	0.32	–	Prosecutor
Chr. Jakhelln jr.	0.96	–	n/a
O. A. Aarnseth (M)	0.32	–	Engineer
J. Thaulow Aubert	0.96	–	Prosecutor
Johan Lund (M)	0.16	–	Bank manager
A. J. Berg (M)	0.64	–	Doctor
Fredrik Moe (M)	0.16	–	Merchant
Oscar Fredriksen	0.96	–	Bookseller
Otto Koch	n/a	n/a	Consul
Th. Wittenberg	0.80	–	n/a
Ragnar Schjølberg	n/a	n/a	n/a
N. Falck*	0.64	–	n/a
A. J. Berg (Deputy)	0.64	–	Doctor
Oscar Fredriksen (Deputy)	0.96	–	Bookseller
Otto Koch (Deputy)	n/a	n/a	n/a
Hansa Brewery			
A. C. Mohr (Chair)	0.05	–	Merchant
O. R. Bonnevie Angel (M)	12.48	Y	Attorney
Amund Arnet	0.20	–	Merchant
Frantz H. Olsen	0.55	–	Merchant
Johan L. von Tangen	0.15	–	Merchant
Einar Blaauw	0.30	–	Merchant
C. Ege	0.05	–	Bank manager
Frantz Isdahl (M)	0.30	–	Entrepreneur
Ole Johannesen L. P. S.	0.15	–	Consul
Dr. Sandberg	0.35	–	Doctor
Platou (M)	7.30	Y	Manager
Bjarne W. Smith (Deputy)	2.00	Y	Inspector
E. Engelsen* (Deputy)	0.20	–	Merchant
Knud Næsgaared (Deputy)	n/a	n/a	Cork-maker
James Hansen (Deputy)	0.05	–	Engineer

The table continues on the next page.

Table D1: **(Continued) Board Members**

Name	Ownership (percent)	Top 10 owners	Profession
Holmenkollen Tramway Co.			
Karl Lous (Chair)	0.50	–	Lawyer
Ole Nielsen	0.05	–	Inspector
Næss*	0.05	–	Merchant
Harbitz	n/a	n/a	Minister
F. G. Gundersen	0.08	–	Master builder
Weidmann	0.03	–	Manager
Holmen	n/a	n/a	Farmer
Harald Bjerke	0.50	–	Engineer
Sætern* (M)	0.20	–	Manager
Boe	0.03	–	Manager
Trondheim Brewery			
Andreas Berg (Chair)	0.62	–	Lawyer
Christian Dreyer (M)	0.12	–	Captain
O. Erichsen (M)	1.19	–	Pastry chef
Henr. Løcke (M)	2.38	Y	Lawyer
A. Pedersen	0.48	–	Bank manager
H. S. Hansen	0.74	–	Consul
L. H. Wilhelmsen (M)	0.24	–	Merchant
Knud Aas	1.19	–	Merchant
Stoppenbrink (M)	0.48	–	Merchant
Lindemann	0.24	–	Pharmacist
Bryn	0.24	–	Lawyer
H. Hanssen	0.09	–	Merchant
Albrigt Knoff	3.62	Y	Inspector
M. Madsen (Deputy)	0.83	–	Inspector
P. Thorsen (Deputy)	0.24	–	Jeweler
Tobias Lund (Deputy)	0.86	–	Merchant
Edw. Wahl (Deputy)	0.12	–	Merchant
Iv. Stau (Deputy)	0.24	–	Merchant

The table presents the identity of individual board members in the subsample of firms where shareholder ownership stakes are available. The table states a member's name, ownership stake, title, and whether he belongs to the 10 largest owners. "(M)" indicates executive board members, i.e., those who are managers and can vote in the board meetings, where applicable. Missing information is indicated by n/a. *Indicates that shareholder protocols do not contain a record of the member's exact name but do contain shareholders with the same last name. In these cases, we indicate the cumulative ownership of the latter, as shares are typically inherited.

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