Private Contracting, Law and Finance

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Abstract

In the late nineteenth century Britain had almost no mandatory shareholder protections, but had very developed financial markets. We argue that private contracting between shareholders and corporations meant that the absence of statutory protections was immaterial. Using circa 500 articles of association from before 1900, we code the protections offered to shareholders in these private contracts. We find that firms voluntarily offered shareholders many of the protections which were subsequently included in statutory corporate law. We also find that companies offering better protection to shareholders had less concentrated ownership.

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JEL codes: G32, G34, G38, K22, N23, N43, N83

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1. Introduction

The Law and Finance hypothesis remains one of the most controversial theories in financial economics. In its original form, it argued that countries with higher legal protections for shareholders had wider share ownership dispersion and larger stock markets (La Porta et al., 1997, 1998). The initial theory has been extended to consider not only protections against director self-dealing (Djankov et al., 2008), but also the role that a myriad of other laws may have on financial outcomes (e.g., Agrawal, 2013, Atanasov, 2010, Brown et al., 2013, Burkart et al., 2014). However, there has also been substantial criticism, with many researchers questioning whether law actually does matter (see Acemoglu and Johnson, 2005; Armour et al., 2009; Berkowitz et al., 2003; Dam, 2006; Graff, 2008; Klerman and Mahoney, 2007; Licht et al., 2005; Mahoney, 2001; Pagano and Volpin, 2005; Roe and Siegel, 2011; Spamann, 2010; Stulz and Williamson, 2003; Holderness, 2016a; Holderness, 2016b).

Much of the debate has focused almost exclusively on recent data. This is surprising, given that law has evolved over such a long period of time, and the emphasis placed on legal origins (La Porta et al., 1998). There has been little systematic study looking at when and how company law originated, nor at how it evolved to create the modern system. The only research that has begun to look at this area has argued that the historical case of Britain undermines the law and finance hypothesis. For example, Cheffins (2001) has argued that strong securities markets and wide ownership dispersion existed before investor protections were introduced. Similarly, Franks et al. (2009) find that the introduction of corporate laws in the latter half of the twentieth century had little impact on ownership dispersion. La Porta et al. (2008, p.321) have acknowledged that this represents a challenge to their theory.

In this paper, we take the Law and Finance hypothesis back to its origins, by conducting an extensive quantitative analysis of shareholder protections in Victorian Britain. This is not just an isolated case study. Britain is the parent of the entire common law legal system, and of

the 21 common law countries examined by Djankov et al. (2008), 16 were part of the British Empire during the late nineteenth century when corporations first became widespread. Instead of looking at the protections afforded by statutory corporate law, we examine the protections provided to shareholders by nearly 500 companies in their charters or articles of association. We argue that the experience of Victorian Britain was, in some respects, largely consistent with the Law and Finance hypothesis. Shareholders did enjoy substantial rights, there were highly developed capital markets, and there was wide dispersion of ownership.

However, we argue that it was not mandatory law that mattered. In its inaugural Companies Act in 1862, Britain codified only very basic investor protections into statutes. The approach that was taken in this era was to suggest a template of rules, but to ultimately leave the matter between the corporation and its shareholders. The protections which shareholders enjoyed were driven by firms contracting with investors, embedding protections within their articles of association. It was the existence of these protections, not their codification in statute, which mattered. This was very much a departure from the Company Clauses Consolidation Act (1845), which applied to railways and other companies which required Parliamentary approval to incorporate and gain power of eminent domain. This 1845 Act mandated relatively strong protections for shareholders as can be seen in Table 1.

We find that all companies offered substantially more protections than was required of them by law, and the majority voluntarily adopted as many provisions as is recommended in modern corporate law. Furthermore, we show that the focus on private contracting allowed protections to evolve and it gave companies the flexibility to offer different protections. Time and experience demonstrated which provisions were useful, and which were not. During our sample period, between 1862 and 1899, we find a significant increase in shareholder protections which could be regarded as modern-day practice, and a significant reduction in archaic protections which may be regarded as being obsolete. Only when a consensus had

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emerged about good practice did these governance standards get encoded into company law and security-market listing requirements.

This system was sustainable because corporations had incentives to offer worthwhile protections. We find that companies with better protections enjoyed wider share ownership dispersion, demonstrating that minority investors were more willing to invest in them. This is consistent with a Darwinian process, whereby firms competed with one another for capital by choosing the optimal level of protection appropriate for their own situation (Alchian, 1950; Easterbrook and Fischel, 1991, pp. 5, 15, 17).

Our results may be seen as supporting the Legal Origins Theory. In particular, we agree with La Porta et al. (2008, p.305) when they suggest that common-law countries tend to place a greater emphasis on private contracting, and less on government regulation, and that this has produced beneficial economic outcomes. Our work helps to clarify and re-enforce this, because although La Porta et al. (1998, 2006, 2008) and Djankov et al. (2008) generally emphasise the benefits of private contracting and enforcement, and also acknowledge that firms can opt in and out of rules in their charters, they have tended to focus their empirical analysis around laws and default rules. This means their results tend to give a greater role to government, and may understate the benefits of private contracting which allows for different firms to have different arrangements.

Our findings run counter to Roe (2006) who argues that politics has played the critical role in developing investor protections. We find that the government during this era consciously resisted imposing any mandatory conditions, but high levels of protections were offered by companies voluntarily. The provisions which the government did suggest as a template were often ignored, and companies were able to avoid practices which would have been burdensome. In subsequent decades, the government did begin to introduce mandatory provisions, but these were generally enshrining protections which had already become common

in practice. The most important role for government was to give the articles of association legal force, in the 1862 Companies Act, which may have made private contracting easier, similar to how La Porta et al. (2006) find that securities laws which facilitate private contracts may be beneficial.

Rajan and Zingales (2003) have also questioned whether common law countries were more developed than civil law countries historically. However, even from their own data it is notable that in 1913 the UK had the highest market capitalisation to GDP ratio of any major country, as La Porta et al. (2008, p.318-319) have highlighted. This suggests that the UK's focus on private contracting had been very successful in fostering stock market development.

This paper also contributes to the literature on the relationship between statutory shareholder protections and ownership concentration. La Porta et al. (1998, 1999, 2006, 2008) suggest that countries with stronger shareholder protections also had less concentrated ownership. However, the findings of Holderness (2009, 2016a, b) and Franks et al. (2009) challenge this view. Indeed, there may be no theoretical reason to expect a relationship between statutory investor protections and ownership concentration (Burkart and Panunzi, 2006; Holderness, 2016b). We take a different tack from the extant literature by examining the relationship between ownership concentration and the protections which individual firms granted their shareholders.

We also contribute to some debates in economic history. The findings are of relevance to the view that the permissive nature of UK company law was a major weakness at the time (Cottrell, 1980, p.54; Kennedy, 1987, p.127). Furthermore, we contribute to the literature which has looked at the role played by corporate by-laws in the evolution of early public and private corporations (Hilt, 2008; Musacchio, 2008, 2009; Bodenhorn, 2012; Freeman et al., 2012; Foremen-Peck and Hannah, 2015; Guinnane et al., 2017).

The rest of the paper proceeds as follows. Section 2 examines investor protection mechanisms in the UK historically. Section 3 presents our sample of companies. Section 4 explains the principles behind our shareholder protection index and section 5 examines how the shareholder protection offered in articles evolved after 1862. Section 6 discusses how articles were enforced. Section 7 examines the relationship between shareholder protection and ownership concentration. Section 8 discusses whether variation in modern articles has ceased. Section 9 summarises our findings and makes some policy recommendations.

2. Investor protection law in the UK

Before the mid-nineteenth century, in the UK, corporate charters with limited liability were only granted by Parliament or the Crown. Rather than scrutinise hundreds of different clauses in the individual Act of each proposed company, Parliament typically required that standardised clauses be inserted in statutory incorporation bills. This was then formalised in the 1845 Companies Clauses Consolidation Act (CCCA).[1] However, this approach to standardisation was applied only to statutory companies, and should be seen within the context of the demands which scrutinising individual special Acts for new companies imposed on Parliament.

Around the same time, a more liberal approach to incorporation was emerging. Freedom to incorporate with limited liability became available with the passing of the 1855 Limited Liability Act,[2] although banks and insurance companies were excluded. The 1862 Companies Act was a consolidation of existing corporate legislation, and all enterprises had the freedom to incorporate as limited liability companies.[3] The 1862 Companies Act was the

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[1] Company Clauses Consolidation Act, 1845 - 8&9 Vict. c.16.
[2] 18&19 Vict., c.113. This Act was repealed, but re-enacted in 1856 (19&20 Vict., c.47).
[3] Companies Act, 1862 - 25&26 Vict. c.89.

first in a long line of such acts in the UK – 1900, 1948, 1985 and 2006 marking the major changes to corporate law.[4]

The 1862 Companies Act did not give shareholders many rights. Table 1 shows the mandatory protections that shareholders in the UK enjoy in 2016, and the mandatory protections afforded to shareholders of companies formed in the last four decades of the nineteenth century as well as the protections afforded under the 1845 Companies Clauses Consolidation Act. The first six protections in Table 1 are the components of the La Porta et al. (1998) anti-directors rights index (ADRI). The definitions are based on Djankov et al. (2008), but we look only at whether the provisions are mandatory. We will discuss default rules extensively later. Modern UK regulations have a score of 5 out of 6 on these ADRI criteria. We have also included other provisions which likely protect minority investors and which are mandatory in the 2006 Companies Act in the UK, namely the disclosure of self-dealing by directors, the right to vote by proxy, and the requirement to have accounts audited and distributed to shareholders.

<<INSERT TABLE 1>>

The clear message which emerges from Table 1 is that the 1862 Companies Act offered shareholders little protection from a modern-day perspective and from the perspective of the 1845 Companies Clauses Consolidation Act. The only provision which is coded as 1 is 'Shares not deposited', and this arose only because of a lack of legislation in this area, with the consequence that shareholders were not required to deposit their shares, rather than due to any positive rights being written down in law.

Given the limited statutory protection afforded to shareholders in this era, common-law courts could potentially have played a role in setting precedents that would protect minority

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[4] Although the historical origins of the Scottish legal system were closer to those of the civil law, English common law and jurisprudence had completely infiltrated Scottish commercial law following the Act of Union in 1707. As a result, the Companies Act (1862) was applied evenly across the UK.

shareholders. Whilst the courts were rigorous in upholding contracts, they did not tend to introduce new protections. Common law judges, influenced by laissez-faire theory and the practice of partnerships, did not believe that the courts should interfere in internal company matters (Emden, 1884, pp.77-80; Jefferys, 1977, p.394). This philosophy was demonstrated in the precedent set in the 1843 case of *Foss vs. Harbottle*, where minority shareholders brought a case against company directors for purported wrongdoing and misuse of corporate assets.[5] The judgement in this case ruled that when a company is purportedly wronged by its directors, shareholders do not have a right to sue, but the company does. *Foss vs. Harbottle* was thus effective in limiting the possibility of a derivative suit, and as a result made it very difficult for an individual shareholder to sue over a grievance (Davies and Worthington, 2012, pp.648-9). The 1897 case of *Salomon vs Salomon & Co.* further enshrined the principle that British courts were reluctant to pierce the corporate veil. [6]

Another possible source of protection for shareholders might have been the fiduciary obligations of directors. In the Chancery or equity court, the concept of "no conflict" had been developed whereby a fiduciary, such as a trustee or partner, was not entitled to make a profit from their position and they were not allowed to have conflicts of interest. However, this "no conflict" rule was weakened with the submergence of the equity courts into the common-law courts in the mid-1870s and several cases which accepted that self-interested transactions could take place if general shareholder approval was granted (Christie, 1992). More generally, ex-post private control of self-dealing was very low (Cheffins, 2008, p.38).

During this era, the London and various regional stock exchanges did not impose many requirements for those companies wanting to list their shares (Franks et al., 2009, p. 4014; Cheffins, 2008, p.39). According to the first editions of *The Law and Customs of the Stock Exchange*, the only official requirements that affected shareholder protection were that two-

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[5] *Foss vs Harbottle* (1843) 2 Hare 461 (Chancery Division) Wigram V-C.
[6] *Salomon vs Salomon & Co.* (1897) AC 22.

thirds of the nominal capital had to be allotted to the public and that the company's articles restrain directors from employing company funds in the purchase of its own shares (Melsheimer and Laurence, 1879, 1884; Melsheimer and Gardner, 1905). These requirements were focused almost entirely on ensuring liquid markets. Some additional guidelines were introduced towards the end of the century (Jordan and Gore-Brown, 1896, Gore-Brown, 1902, and see Cheffins, 2008, p.197), as will be discussed later, but for almost of all of our sample period, there were few restrictions imposed.

There were, therefore, very limited mandatory protections during the period from 1862 to 1899. However, critically, companies could offer their own protections if they wanted to. Each company was required to have Articles of Association which would provide the constitution under which the company would be governed. The spirit of this approach had existed previously, stretching back to the 1690s (Freeman et al., 2013).

The framers of the 1862 Act provided a blueprint set of articles for companies (referred to as Table A). According to Robert Lowe, the Vice President of the Board of Trade and one of the framers of the Companies Act, the Table A blueprint articles were at least partly based upon the Companies Clauses Consolidation Act of 1845.[7] He said "we have prepared and appended, in the schedule of the Act, the by-laws of a company, which we call the 'articles of association'. We have taken them from the ordinary rules adopted in Joint-stock companies, and have applied to them the principles of the Railway Consolidation Act".[8] He went on to state that the rationale behind Table A was that if the blueprint articles provided by the Act were suitable to promoters, they can easily adopt it without expense. However, critically, it was up to the companies as to whether they would adopt these provisions. Lowe noted that "the

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[7] Appendix Table A1 shows the ADRI and the SPI (which we create for this paper) for both the 1845 Companies Clauses Consolidation Act, and Table A of the 1862 Companies Act. There seems to be considerable overlap between the two, illustrating that the 1845 CCCA did provide some inspiration for the 1862 Table A. However, there were also differences. Of the 18 SPI provisions, there was disagreement on 4.

[8] Hansard, Commons Sitting of Friday, February 1, 1856, pp.111-135.

management we leave to the companies themselves. Having given them a pattern the State leaves them to manage their own affairs and has no desire to force on these little republics any particular constitution…There is no compulsion, therefore, in the matter".[9]

Notably, 99% of companies established under the 1862 Act chose to ignore the default guidelines (Edwards and Webb, 1985; Campbell and Turner, 2011, p. 574). In the remainder of this paper, we examine what protections companies did offer, and whether they mattered.

3. Sample companies

In order to assess the level of investor protection in this laissez-faire era, we collected articles of association for companies which incorporated under the 1862 Companies Act between 1862 and 1899. We sourced articles of association from the Companies Registration Office files at the National Archives at Kew and the National Archives of Scotland. We searched the catalogues of these two archives for the 2,765 public companies which were listed either in the *Course of the Exchange* in 1862-70 or in the *Investor's Monthly Manual* in 1870, 1885, or 1899. The former reported prices of securities on the London market, whereas the latter also reported prices from the numerous provincial stock markets. A search of the archive catalogues showed some corporate records for circa 900 companies. However, for a large proportion of these, the articles of association had not been archived, or in some cases they were illegible or incomplete. In total, we found 483 articles which were clearly typed, and within our sample window. Each article represents a different company and we have no instances of multiple articles over time for our firms.

For some of our regressions, we needed market capitalisation data which we obtained from the *Course of the Exchange (COE)* or the *Investor's Monthly Manual (IMM)*. We base our market capitalisation data on the first time that a company was listed in either of these

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[9] Hansard, Commons Sitting of Friday, February 1, 1856, pp.111-135.

sources after it was established. From the *IMM*, we also obtain data on which stock markets each company traded on, as there were numerous regional markets as well as London. We are interested in firms around when their articles were first agreed, so we only include those firms which first appeared within 10 years of being established. The *IMM* was not comprehensive in its coverage of companies listed on stock exchanges, with the result that market data was only available for 317 of our 483 companies, which reduces the observations included in our regressions somewhat.

We also collected ownership data, where available, for these same companies, with a focus on the records closest to the date of incorporation. Companies registered under the 1862 Companies Acts were required annually to return a hand-written standardised form to the Registrar of Companies, which was a list of their ordinary and preference shareholders and the number of shares that they owned. The archives have not preserved the records of all companies, and those firms with ownership data often differed from the companies for which we could get market data from the *COE* and *IMM*, which means that we have 238 observations available for regression analysis when combining ownership and market variables.

Calculating ownership concentration for each company was generally straightforward as during this era shares were held almost exclusively by individual investors, so there were no pyramid structures which needed to be considered. We do not focus on voting concentration because, as will be discussed later, some companies had graduated voting schemes or an upper limit on votes which dramatically reduced voting concentration (this is very different from the modern era where dual-class shares are more commonly used to increase voting concentration for blockholders). For each company, we also used the ownership records to calculate the proportion of shareholders who lived in the same city as its headquarters, to create a *Local* variable, as Franks et al. (2009) have found that local shareholdings had an impact on ownership concentration historically.

Definitions of each variable used in our analysis are shown in Table 2. The correlations between the explanatory variables are shown in Appendix Table A2, with none of them being high enough to cause any concerns about multicollinearity.

<<INSERT TABLE 2>>

Our sample is evenly spread across the period, and it contains a range of companies from different industries which broadly aligns with the industrial composition of the British capital market in this era (see Appendix Table A3 and Grossman, 2002, pp.129-30). However, we do not have any railways as they still required individual Acts of Parliament to be authorised.

Table 3 reports the means of several variables which illustrate some of the key characteristics of our companies. We show results for various sub-samples as the data availability issues mentioned above meant that sample size varies depending on what analysis is being conducted. The average establishment date is about mid-way through our sample period. About half of the firms are new start-ups, whilst the others had existed in some previous form such as a partnership which was now incorporating.

<<INSERT TABLE 3>>

We compare our samples to the general population of non-railway companies when they first listed in the *IMM*. Companies could be headquartered in the UK, but operate mainly overseas. Our sample has slightly fewer companies in overseas countries which were majority English speaking, but a comparable proportion in countries where a foreign language was predominant. We also have slightly more Scottish companies. Our samples also have a slightly higher proportion of companies from two of the dominant sectors of the stock market in this era, namely finance and industrial/commercial firms.

The UK had over 20 stock exchanges in this era, based in major towns and cities, and some companies were traded on multiple markets simultaneously. *MarketsTotal* is a measure

of how many markets a company's shares were traded on. For example, if the company was traded on London, Manchester, Liverpool and Glasgow, it would have a value of 4 for *MarketsTotal*. If one of those markets was London the *MarketsLondon* variable has a value of 1. The average number of markets on which our firms are listed is comparable to the broader population, although we have slightly fewer that had a London listing.

Our sample of companies is on average smaller than the population, but this is mainly driven by the absence of really large companies in our sample, with the distribution across different quartiles being broadly comparable.

We also analysed the ultimate fate of our companies, obtaining data on what happened to public companies from the *Register of Defunct Companies*. The ultimate fate of 38% of our sample companies occurred before 1899, with 51% occurring between 1900 and 1939 and 11% occurring between 1940 and 1980. We found that about 34% went on to merge or be acquired by other firms, the same percentage as for other listed firms. About 44% either went through voluntary liquidation or a court winding up order, compared to about 41% in the wider population. The remainder were either reconstructed or removed from the registrar of companies. These comparisons suggest that our sample is generally representative of the wider population.

4. Shareholder protection provisions

To assess the extent of shareholder rights offered by our companies, we analyse a range of shareholder protection provisions which were included in the Articles of Associations of our 483 sample companies. The provisions which we focus on were selected after a survey of a sample of articles, with our aim being to include all rights which could possibly have been perceived as being beneficial to minority investors during this era, even if they would now be

viewed differently. More specifically, to be included in our SPI, a provision had to offer protection to minority shareholders against expropriation by managers or large shareholders.

In constructing our Shareholder Protection Index (SPI), we follow the leximetric approach of La Porta et al. (1998) and score each individual component in a binary manner (i.e., 1 if it exists, 0 otherwise) depending on whether their Articles of Association included such a provision. When coding variables there will inevitably be some interpretation needed with regards small differences in wording. However, we have tried to use a rule that if something was 'functionally equivalent', giving the core of the right, then it was accepted as being present.

The definitions of the provisions in our SPI, shown in Table 4, use the wording of Table A of the 1862 Companies Act where available, or from the articles of some of the sample companies. A longer discussion about each provision is included in the Appendix.

<<INSERT TABLE 4>>

Our SPI, as with the ADRI, is additive. It could be argued that individual components may not necessarily be independent of one another i.e., they could be complements or substitutes (Guinnane et al., 2017). However, we find that the highest correlation between any of the components is just 0.33 (Appendix Table A4), and this is driven by the evolution of different rights over time, rather any fundamental interdependence between the protections.

We attempted to include all of the protections previously discussed in Table 1, but on the three provisions (cumulative voting, oppressed minority, and vote by mail) all companies score 0 and they are therefore not reported. There has never been any law in the UK with regards 'shares not deposited', so all companies score 1 and this is also not reported.

For 'self-dealing by director must be disclosed', this was not usually stated separately in the articles but is implied from two other provisions which we include, namely that directors could not vote if there was any conflict of interest, or that they could not profit directly from

contracts. The requirement to disclose the conflict is also one of the variables in the ex-ante control of self-dealing sub-index of Djankov et al. (2008). The other variables in this sub-index score 0 for all companies during this era, so they are not reported separately. There was no requirement for approval by disinterested shareholders (although there is an implication that there must be approval from disinterested directors). The company itself did not seem to have to disclose the details of the transaction to shareholders, and there was no need for an independent review.[10]

We also include provisions which are now default in the modern era, and a range of provisions which would now be regarded as archaic. To place these rights in context, in Table 5 we show if a provision was mandatory in the Companies Acts of 1862 or 1900, or under the current regulations of 2016, which are driven by the Companies Act of 2006. We also show which rules were included in the templates for Articles of Associations which were suggested by the UK government in 1862 and 1906, which were known as Table A, and under the current situation in 2016, based on the Model Articles for Public Companies of 2013.

<<INSERT TABLE 5>>

We also show which rules were required by the London Stock Exchange for new listings in 1879, 1896 and 1902, according to Melsheimer and Laurence (1879), Jordan and Gore-Brown (1896), and Gore-Brown (1902). It is possible that the dates when the LSE began requiring the 1896 and 1902 provisions may have been slightly earlier, as the authors of these sources were making conclusions based on LSE practice, rather than formally announced policy.

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[10] With regards the other Djankov et al. (2008) sub-indices, the UK has always scored 0 in terms of public enforcement, with no fines or prison terms possible if the director has disclosed the conflict. Cheffins (2008, p.38) discusses the ex-post private control variables, suggesting that in the UK before 1967 there was no requirement to disclose a conflict in a public filing, and scores the ease of proving wrong doing as 0.27, giving an overall score for ex-post private control of self-dealing at 0.14, which is very low compared to levels in most modern countries.

Each investor protection clause came with a cost, which varied by firm. There may have been direct administrative costs associated with implementing them, or they could have restricted managerial discretion preventing firms from exploiting profitable investment opportunities. The costs associated with each provision explains why they were not all made mandatory, and why we do not observe all firms voluntarily adopting them. Where they were adopted, it implies that the perceived benefits of offering the protection outweighed the costs.

Our Shareholder Protection Index covers a wide range of provisions, across several areas, some of which are still core protections whilst others are regarded as archaic. As shown in Table 5, of the 18 provisions we consider, none were mandatory in company law from 1862-99, but four became mandatory in 1900, and there are now five which are legally required. Of the 18 provisions, 11 were suggested by the government in Table A in 1862, and also 11 in Table A in 1906, but notably not the same ones, with two old ones being dropped and two new ones included. Three of these have now been dropped, and another included, so that 9 of the provisions are still suggested by the government in the model articles for public companies in the modern era. It is also interesting to note how security market regulations progressed over the period, with the London Stock Exchange requiring virtually nothing in 1879, but then asking for 6 provisions in 1902, just after our sample period ends.

5. The evolution of shareholder protection

We begin this section by calculating the overall SPI score for all 483 companies included in our sample, and report the distribution of scores in Figure 1. This shows that, despite all of the provisions being optional, none of the companies avoided them entirely, with the minimum score of any company being 3. Most of the firms went much further, with the most common choice being to include 9 provisions, and some went as far as including 13. To place this in context, in the modern era, mandatory law in the UK requires 5 of the provisions, and the model

articles for public companies include 9. The first key result of this analysis is therefore that, despite the very weak mandatory protections historically, there were considerable protections available to shareholders due to voluntary contracting between them and the firm.

<<INSERT FIGURE 1>>

To examine the evolution of provisions over time, Table 6 reports the means of the various components of our SPI by establishment date. These results show that two of the components which are now mandatory in modern company law (having accounts audited and the right to vote by proxy) were almost universal throughout our sample period. Other modern mandatory requirements (having accounts distributed before the AGM, requiring 10% or less of capital to call an EGM, and having pre-emptive rights on share issues) were each offered by over half of firms at the start of our sample period, and became considerably more common over time.

<<INSERT TABLE 6>>

In contrast, some of the more archaic components (e.g., shareholders having access to company books, requiring that an auditor was a shareholder, requiring two general meetings per year, graduated voting, and an upper limit on votes) became much less popular over time. This evidence is consistent with an evolutionary view, with companies which formed later in our sample period imitating the better protections of early firms, whilst avoiding more archaic protections.

To give a more comprehensive insight into the evolution of standards, we create a range of sub-indices, which could be regarded as measures of good governance, and report on average how many of their provisions were implemented by companies in each decade, in Table 7. We begin by looking at how closely firms embraced the suggested template of guidelines in Table A of 1862. Of these 11 provisions, companies only implemented an average of 6.37 of them across the sample period. There is also a slight decline in the number of these provisions which

were adopted over time. This indicates that the approach taken, of giving flexibility to companies to determine their own rules, was very popular with the firms. It meant that new companies avoided many regulations, suggested by the government, which they may have perceived as being burdensome.

<<INSERT TABLE 7>>

We then look at scores based on the subset of rules which are now mandatory or recommended for modern firms. Of the five modern mandatory provisions, firms adopted an average of 3.67 in the 1860s, and the number of these provisions being adopted over time increased significantly, to 4.13 in the 1890s. Of the nine provisions recommended for modern firms, an average of 5.30 were adopted in the 1860s, and this again increased significantly over time, to 6.30 in the 1890s. There were therefore quite high levels of protections according to modern standards and, most interestingly, a significant move towards these standards as time progressed.

As well as looking at modern governance guidelines, it is also instructive to look at the standards recommended by the government just after our sample period ends. Some of the provisions may have been relevant in that particular era, and their inclusion could also be a measure of good governance. The UK government introduced a new Companies Act in 1900, which made four of the provisions mandatory. Firms which were incorporated in the 1860s had included an average of 2.20 of these, but those firms incorporated in the 1890s included an average of 3.51. The new regulations were therefore making mandatory the provisions which had already been widely implemented. There was also an updated Table A published in 1906, which recommended 11 of our provisions. A similar pattern emerges for them, with a substantial and significant increase in these provisions over time, from an average of 6.29 in

the 1860s, to 7.91 in the 1890s. Companies had been moving in a particular direction, and the updates to Table A reflected these shifts.[11]

To press this further, we break down the provisions according to their status in 1862 vs 1900 and 1906. Of the three provisions which were in Table A in 1862 and became mandatory in the Companies Act of 1900, companies included an average of 2.03 in the 1860s, and there was an increase over time, to 2.51 in the 1890s. Of the 9 provisions which were in Table A in both 1862 and 1906, companies had an average of 5.61 in the 1860s, rising to 6.09 in the 1890s. Similarly, the two provisions which were not in Table A in 1862, but were included in 1906, became much more common over time, rising from an average of 0.68 in the 1860s, to 1.82 in the 1890s.

In contrast, the two provisions which were in Table A in 1862, but which were dropped in 1906, declined from an average of 0.90 in the 1860s to just 0.17 in the 1890s. Those provisions which were not in Table A at any time also showed a considerable decline, falling from 0.93 to 0.32. The evidence in Table 7 also suggests that the ad hoc standards introduced by the London Stock Exchange (LSE) were following common business practice.

These results suggest that the government regulations of 1900, and the guidelines of 1906, as well as the stock exchange requirements, were all heavily influenced by company practice. Those provisions which had been voluntarily adopted by firms, and which had become more common over time, were included in the recommended guidelines, whilst the provisions that were archaic (i.e., belonging to an earlier era and increasingly redundant) were avoided.

To ensure that our results are not being driven by a cohort effect, we conduct several robustness tests. Untabulated results show that the trends shown in Table 7 are observed for both new start-ups, and for firms which had previously existed but were now incorporating.

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[11] Discussions about revisions to Table A in 1895 noted that it would be desirable to amend Table A to make it conform more closely to modern practise and business requirements. See *Report of the Departmental Committee: To Inquire what Amendments are Necessary in the Acts Relating to Joint Stock Companies with Limited Liability*, p.xvii.

Furthermore, we find an evolution towards better governance standards as judged by 1906 guidelines for all broad industry groups, and towards 2016 standards for the financials and industrial and commercial companies.

We also use multivariate regressions in Table 8 to examine whether there was a significant improvement in governance standards over time. We look at the score of each company in terms of the SPI and the other measures of good governance. We then regress these scores against the establishment date of each company. It should be noted, however, that our results do not necessarily imply causality.

Consistent with the averages shown in Table 7, there was not a significant relationship between when a company was established and its overall SPI score, or the number of 1862 Table A provisions which were adopted. This suggests that the absolute number of protections did not change much over time. However, Table 6 reveals that the types of provisions which were included did shift significantly over time. Over time, there was the dropping of archaic provisions and increased adoption of what we would recognise as modern-day practices. Archaic provisions were those which experience revealed played a limited role in protecting shareholders. The increased usage of modern-day provisions was driven by a similar evolutionary process, whereby investors learned that some provisions provided more protection than others.

The regression results show that those companies which were established later in the century were adopting more modern principles, revealing an evolution towards good practice. These results hold when good governance standards are judged according to the most modern principles of 2016, and also for the subsequent standards which would be introduced in 1900 and 1906, and the requirements of the LSE in 1902. As time progressed, governance standards were evolving in a direction of superior protection for shareholders.

<<INSERT TABLE 8>>

These results are robust to a range of control variables: (a) whether or not it was a company created from scratch or an existing business which was incorporating; (b) whether or not its operations were overseas; (c) the company's market capitalization; (d) whether the company's shares were traded in London and/or regional markets; and (e) industrial sector. A binary variable for whether a company was Scottish, as opposed to English, was also included. This is particularly interesting because Scotland had a different legal system which had been influenced by both common law and civil law.

It is interesting to note that most of these variables were not significantly related to the level of shareholder protections being offered by firms. For example, the size of a firm as measured by its market capitalisation did not have a significant impact. The results suggest that LSE firms had lower provisions in terms of SPI Total and Table A 1862, both of which include a range of archaic provisions, but higher protections when measured against those provisions which became mandatory in 1900. This would suggest that the LSE firms had fewer archaic provisions, but were more likely to adopt the important core provisions which would then become embedded in law in the Companies Act of 1900. There were no significant differences in protections for Scottish firms, despite the differences in the origins of their legal systems.

The only variable, apart from establishment date, which seemed to matter was whether the company had their operations overseas. We find that shareholder protection provisions for companies operating in overseas countries which were majority English speaking were higher, but not significantly so, than for those companies operating in the UK. Companies operating in countries where a foreign language was predominant had shareholder protections which were higher, and significantly so, compared to those focused on the UK. This may have reflected a desire amongst shareholders for more protections, given the greater difficulty which British shareholders would have in attaining information about business operations in those other regions.

As a robustness test, we re-run the regressions excluding the variables on market data, (namely market capitalisation, whether the company was traded on the London Stock Exchanges, and how many stock markets the company traded on in total) as data was not available on these variables for some firms. Appendix Table A5 includes all 483 observations, (because market data is not included) and shows very similar results to Table 8, with a significant relationship between Establishment Date and our indices of shareholder protections.

This section has demonstrated that although companies did not have to offer many shareholder protections by law, they chose to do so voluntarily. Furthermore, the flexibility which they were given allowed them to learn from experience, and they increasingly adopted superior governance provisions as time progressed. This evolution in company practice appears to have informed the later policies of the government and the stock exchange. The origin of strong shareholder protections in the UK was not the implementation of stringent mandatory regulations, but rather the exact opposite. Good shareholder protections emerged by giving firms almost complete freedom as to how they would govern themselves.

6. Enforcement of articles of association

Shareholders likely expected management to respect the articles of association, and implement the provisions contained in them, based on trust. Franks et al. (2009) have found that historically many shareholders lived close to company headquarters, which may have meant there was often extensive local knowledge and connections. They also find that there were very few discriminatory price offers in acquisitions, even though there were no laws to prevent them, suggesting a culture of fairness. In the normal run of events, therefore, the articles were likely to be followed.

Disputes were almost always settled internally within the company, rather than going to court, as is still the situation in the modern era. When a majority of shareholders agree that

the articles have not been followed, it is usually easier for them to take internal actions such as passing resolutions to ensure that the policy is implemented, or by replacing the current directors.

However, as a last resort, it was possible to pursue actions through the courts. Although the 1862 Companies Act provided almost no specific shareholder protections, it ensured that all the provisions which were included in the Articles of Association of each firm were legally binding (Nolan, 2006, p.99). The ability to enforce the articles is important and from the inception of free incorporation, the courts were armed with sufficient powers to check "extravagance or roguery in the management of companies, and to save people from the wreck in which they may be involved".[12]

If there was a debate as to who was the majority, the case could go to court, as in *Harben vs Phillips* (1882). In this ruling, the judge strictly upheld the articles of association, specifically with regards proxy voting (*The Times*, December 4, 1882, p.4, Nolan, 2006, p.99). In the case of *Pender vs Lushington* (1887), the refusal to recognise the votes of some nominee shareholders was regarded as infringing on their personal rights (Davies and Worthington, 2012, p.75). In 1889, there was an important exception to the general principle of majority rule, the case of *Wood vs. Odessa Waterworks Co.* (1889), where an individual shareholder was able to bring a suit to enforce an article which had been breached (*The Times*, June 2, 1889, p.12).

For those cases which were pursued, it was widely accepted that courts would rigorously enforce the articles of association (Davies, 2010, p.245). For example, *The Times* (August 25, 1873, p.5) responded to a complaint from a reader about the proceedings of the North Metropolitan Tramway Company that "each company is bound by its articles of association, and if these are infringed there is an immediate remedy at law."

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[12] See Hansard, Commons Sitting of Friday, Feb.1, 1856, p.132.

The clauses in the articles which restrained dominant shareholders or managers may have been the equivalent of bright line rules or laundry lists of constraints on insider expropriation (Hay et al., 1996, p.556; La Porta et al., 1998, p.1126). As many of the clauses were already present in statutory companies through the Companies Clauses Consolidation Act of 1845, the courts could understand and enforce them. Thus, the UK in this era is an example of where private action backed by strong courts facilitated entrepreneurs in developing their own means of making credible commitments to outside shareholders (Coffee, 2001). The effectiveness of private enforcement is also emphasised by La Porta et al. (2006) and Djankov et al. (2008), who find that it is associated with larger stock markets, whereas having a public regulator or criminal sanctions is not.

Although courts vigorously enforced articles, there remains a question as to whether articles were binding if they could be changed. The Companies Acts 1862, s. 50-51 permitted articles to be changed by a special resolution which required 75 per cent of shareholders present at a general meeting to agree to the modification. This was a very high barrier, which effectively made it very difficult for insiders such as directors and large shareholders to change articles in a direction which was detrimental to minority shareholders. Changes to articles occurred, but appear to have been infrequent events. From our data, we do not have any evidence of articles changing. A search of the *Financial Times* for 1890 found only six cases of articles being changed (none of these are in our sample) and four of these changes were simply to do with operational matters or business expansion. There was also one instance of shareholders rejecting a proposed business-expansion change to the articles. The frequency and reasons for changing articles is a topic worthy of further study.

7. Ownership concentration and shareholder protection

One of the key findings of La Porta et al. (1998, 1999) was that countries with stronger shareholder protections also had less concentrated ownership. In this section, we examine whether a similar pattern emerged when companies in Victorian Britain offered different levels of protections to shareholders. We hypothesise that firms with weaker investor protection will have more concentrated ownership. There are two main reasons why we might expect to find this. First, with weak protection, there might be low demand from small investors for shares, with the indirect result that ownership is more concentrated. Second, with weak shareholder protection, large shareholders may need to own more capital to exercise their control rights and have influence over managers and directors (Shleifer and Vishny, 1986).

Following La Porta et al. (1999), we focus on a binary measure of ownership concentration, which equals 1 if at least one shareholder owns more than 10% of capital, and 0 otherwise, but also consider other measures for robustness. For the companies included in the regressions in Tables 9 to 12, we find that about 40% of our sample companies had a blockholder who owned at least 10% of capital, and 74% had a blockholder who owned at least 5% of capital. The aggregate holdings of these blockholders was 12% and 20% respectively, with firms with no blockholders entering as zero. The largest shareholder owned an average of 12%, the three largest owned 23%, and the five largest owned 29%. Insiders (directors plus blockholders at the 10% level) owned an average of 21%.

One of the most comprehensive analysis of modern ownership concentration has been performed by Holderness (2009), who bases his analysis on blockholders who control more than 5% of votes. To compare with his study, we calculate voting rights for each shareholder in our sample companies, and look at blockholders according to this definition. The provisions on graduated voting and upper limits tended to make voting concentration much more dispersed than capital concentration. For the companies included in our regressions, we find that 57%

had a blockholder who controlled more than 5% of votes, and these blockholders had aggregate holdings of 17%. Holderness (2009) finds that 96% of US firms, 93% of non-US firms, and about 83% of UK firms in the modern era have a blockholder at this level. The aggregate holdings of these blockholders is 39% for the US, 36% outside the US, and about 25% for the UK.

Judged against modern standards, ownership in Victorian Britain was very diffuse. Small shareholders were clearly willing to invest in companies, despite the lack of mandatory protections. This is consistent with evidence that ownership has tended to become more concentrated over time, as noted by Holderness (2016b, p.65), who shows this pattern emerging for a range of countries, even though legal protections have tended to increase. From the data we have for the UK, this pattern is evident in terms of increasing capital concentration, and even more so in terms of increasing voting concentration as provisions which limited the voting rights of large shareholders historically are now uncommon.

Table 9 presents logit regressions which attempt to explain why some companies had a large blockholder, meaning that at least one shareholder owns more than 10% of capital, whilst others did not. In addition to the control variables that were included in Table 8, we also include ownership controls, on the age of the company when ownership was observed, and the proportion of shareholders who lived in the same city as the company headquarters.

<<INSERT TABLE 9>>

We find that the higher the number of provisions of the entire SPI which a company implemented, the less likely it was that a blockholder would exist in that company. This implies that companies with high shareholder protections were able to attract capital from a wider base of small shareholders.

We find very similar results when the scores on the sub-indices, using alternative definitions of good governance, are included instead of the score on the entire SPI. Those

companies which adopted more of the provisions which could be regarded as modern-day practice were also less likely to have a blockholder. Similarly, those companies which implemented more of the provisions which were made mandatory in 1900, or which were recommended in the new Table A of 1906, or on the requirements of the London Stock Exchange of 1902, were all less likely to have a blockholder.

As a robustness check, in Appendix Table A6 we re-run the regressions, excluding the variables on market data, which allows more observations to be included. The results continue to show a significant and negative relationship between shareholder protection provisions and ownership concentration.

The results are also robust to using an alternative regression specification. Rather than using a logit regression with a dummy variable to measure ownership concentration, we also run a Tobit regression with the log of the percentage of capital owned by the five largest shareholders as a dependent variable, shown in Table 10. We use logged values to reduce the skewness of the variable, and bring it closer to a normal distribution. The conclusions are very similar to the blockholder model, with each of the measures of shareholder protection having a significant and negative relationship with ownership concentration.

<<INSERT TABLE 10 >>

Table 11 shows various other robustness tests. We use a Probit regression to analyse the blockholder dummy variable. We also run Tobit regressions on other continuous measures of ownership concentration, namely the log of the percentage of capital owned by the largest shareholder, or the three largest shareholders, or insiders (defined as blockholders and/or directors). In each case, we find a negative and significant relationship between shareholder protections and ownership concentration. We obtain broadly similar results to those in Tables 9 and 10 for the *Table A 1862*, *Mandatory 2016*, *Mandatory 1900*, *Table A 1906* and *LSE 1902* variables, but for reasons of space these are not reported. For each of these regressions, we

have also run them as OLS, but have not reported them separately as the results are very similar to the Tobit regressions.

<<INSERT TABLE 11 >>

In columns 9 and 10 of Table 11, we show the relationship between our measures of investor protection and the concentration of voting rights, specifically the log of the percentage of votes held by the five largest shareholders. The voting concentration measure is mechanistically connected with two measures of shareholder protection (namely graduated voting and an upper limit on votes). Any company which has either of these provisions are likely to have dramatically lower voting concentrations than any company which has one share one vote.

Column 9 uses as the independent variable *SPI Total*, which aggregates all of the 18 components of our Shareholder Protection Index. It has a negative and significant relationship with the concentration of voting rights. This is consistent with the expectation that having either, or both, of the two voting provisions will increase SPI and simultaneously reduce voting concentration. Column 10 uses as the independent variable *Model Articles 2016*, which aggregates the nine components which are default in the modern era. It is now not the default to have either graduated voting or an upper limit of votes, so these components are not included in this variable. The results show that *Model Articles 2016* does not have a significant relationship with voting concentration. This is consistent with the expectation that voting concentration is largely determined by the two voting provisions which are not included in this variable.

It should be noted that these results do not reveal much about the ability of companies to attract capital from a wide range of investors based on their shareholder protection provisions, but they do illustrate how important voting provisions are on voting concentration.

To address any concerns that adding provisions together may not be the best means of devising an index, we also perform a principal component analysis. The first approach we use is similar to La Porta et al. (2006, pp.26-27). They create indices for (1) anti-director rights; (2) disclosure requirements; and (3) liability standards, and then take the first principal component of these three indices to create an investor protection variable. Following a similar technique, we take the indices we have created, namely *SPI Total*, *Table A 1862*, *Mandatory 2016*, *Model Articles 2016*, *Mandatory 1900*, *Table A 1906*, and *LSE 1902*, and take the first principal component of these indices to create *PC Indices*. This principal component explains 74.7% of the variance in the indices. From Appendix Table A7, it can be seen that this *PC Indices* component is highly correlated with each of the indices, showing that there is a strong common component between them, which the principal component is representing. We then regress this variable against ownership concentration, shown in Column 1 of Table 12, and find a highly significant negative relationship, consistent with our other findings.

The second approach is to take all 18 provisions and allow the Principal Components to pick out common factors. A scree plot suggests that the 18 provisions can be reduced to 4 principal components, which account for 40.8% of the variation in the 18 shareholder provisions. To get some insights into what each component reflects, we examine their correlation with our existing sub-indices in Appendix Table A7. The first, third and fourth principal components were most correlated with the various archaic provisions which are no longer widely used. In contrast, the second principal component is highly correlated with the indices of subsequent and modern-day practice. It has a correlation of 0.73 with provisions which are included in the model articles in 2016, a correlation of 0.81 with provisions in Table A in 1906, and a correlation of 0.83 with the provisions of the LSE in 1902. Interestingly, the results of regressing the four main principal components upon ownership structure in Table 12 reveal that the second principal component of our shareholder protections has a negative and

statistically significant coefficient. This is consistent with our previous results, that those companies which implemented more of the modern provisions were those which were less likely to have a blockholder.

<<INSERT TABLE 12>>

A note of caution would be that the explanatory power of the regressions is quite low, and other variables had a significant impact on ownership structure. The age of the firm when we observe ownership, and its industry, were particularly strong predictors, with older firms and those involved in the financial sector being less likely to have a blockholder.

It should also be noted that the results do not confirm the direction of causality. It could be that higher protections attracted more small shareholders. However, there could be joint causality, with some other factors simultaneously affecting both ownership and shareholder protections. Regardless of the exact direction of causality, there seems to be some correlation between the shareholder protections offered by firms and the concentration of ownership.

Our findings are largely consistent with the original hypothesis of La Porta et al (1998), who find that countries with higher shareholder protections tended to have less concentrated ownership. However, the key difference is that in our analysis, it is not the law which is creating the protections, it is the voluntary adoption by companies of shareholder protections into their articles of association.

8. Modern Era

In our historical analysis, we find that there was considerable variation across firms and time in the protection afforded to shareholders. This leads on to the question as to whether variation in modern articles, sometimes referred to as company charters, has stopped. Klausner (2013, p.1337-8) has noted that IPO companies rarely include additional shareholder protections in

their corporate charters beyond the default, even though this could make them more attractive to investors.

However, other research has found that there is substantial variation amongst listed firms. Gompers et al. (2003) find a wide distribution in terms of the adoption of 24 different governance provisions. Cremers and Ferrell (2014) extend this index back to the 1970s, and also find considerable differences between firms and over time. Bebchuk et al. (2009) take a similar approach, focusing on six of the provisions which may be most beneficial to management, to create an Entrenchment Index. They also find considerable variation.

Chhaochharia and Laeven (2009) examine a range of corporate provisions across an international sample of firms. They create an index with a maximum value of 17, which includes scores for provisions such as whether a supermajority is required to amend bylaws, the absence of dual class shares, and the independence of audit, compensating and nominating committees. They find that the United States displays a large variation between companies. More generally, they find that companies across a wide range of countries do not simply follow the default rules, they set their own.

The provisions considered in these indices would not be exact substitutes for the provisions that we consider, but they are sometimes in the same types of area. For example, from Gompers et al. (2003), the provision on Unequal Voting would relate to our variables on Graduated Voting and an Upper Limit on Votes. Their variable on Special Meeting is related to our variable on the amount of capital required to call an Extraordinary General Meeting. The modern indices also include numerous variables on executive pay, mergers and indemnification from lawsuits, which would not be included in our data, reflecting the increased importance of these areas in the modern era.

Our findings, demonstrating their important role historically, combined with the evidence that variation is continuing, suggests that more emphasis should be placed on corporate charters in the modern era, by both academics and policy makers.

Indeed, the question could even be asked that if protections can be obtained without being specifically included in mandatory law, and burdensome regulations can be avoided, is statutory investor protection law useful at all? One justification might be that some statutes could make private contracting easier, by standardising the framework, potentially reducing the uncertainty and cost of private litigation (La Porta et al., 2006; Djankov et al., 2008). The 1862 Companies Act gave legal force to the articles of association, meaning that there was a statutory foundation to them, which ensured that the courts would enforce the provisions which had been agreed.

Another justification would be if a contract is not feasible. The Oppressed Minority right which is included in the ADRI would be difficult to implement effectively via contracting, but the Companies Act of 2006, and some previous versions, include the right for shareholders to apply for a court order if the company's affairs are being conducted in a manner which is unfairly prejudicial to some shareholders. Law can also be useful in other specific situations. For example, Holderness and Pontiff (2016) find that there is often weak uptake of rights offerings, and some countries provide mechanisms by which non-participating shareholders are given protections which would be difficult to provide through contract. Therefore, although encouraging private contracting between firms and shareholders can be extremely beneficial, there is likely to still be some role for mandatory corporate law.

9. Conclusions

How could the home of the common law have very weak statutory shareholder protection law in the pre-1900 era and yet have a thriving stock market and financial system? The evidence

produced in this paper suggests that private contracts were used to provide shareholders with adequate protection in this period. Company founders and their lawyers wrote articles of association which bound the firm to certain rules and types of behaviour. Notably, the protection levels afforded by the average company in the second half of the nineteenth century was in some respects on a par with that provided by modern-day corporate law.

Our findings also reveal the flexibility of the system to adapt to new business environments. Indeed, our evidence supports the view that subsequent changes in company law simply reflected widespread business practice. In other words, the law slowly followed corporate practice, lending some support to the La Porta et al. (1998, 2008) view that statutory corporate law in common law countries reflects the existing ways of doing things.

In Victorian Britain, corporations were given freedom to choose how they should be run, rather than by passing laws from the beginning which would later turn out to be counter-productive. In this environment, shareholder protections were high, they evolved towards higher standards, and they helped to ensure that Britain had highly developed financial markets during the Victorian era.

Many developed nations still give a lot of flexibility to companies in terms of what shareholder protections should be offered. For example, the mandatory ADRI for the USA is 1, but can rise to 6 (the maximum possible) by private contracting. In contrast, the mandatory ADRI for Pakistan is 5 (Spamann, 2010, Data Appendix). The lessons on the benefits of private contracting may therefore be most applicable to developing nations.

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Figure 1: Distribution showing the percentage of companies in our sample, established between 1862 and 1899, that adopted a specific number of shareholder protection provisions
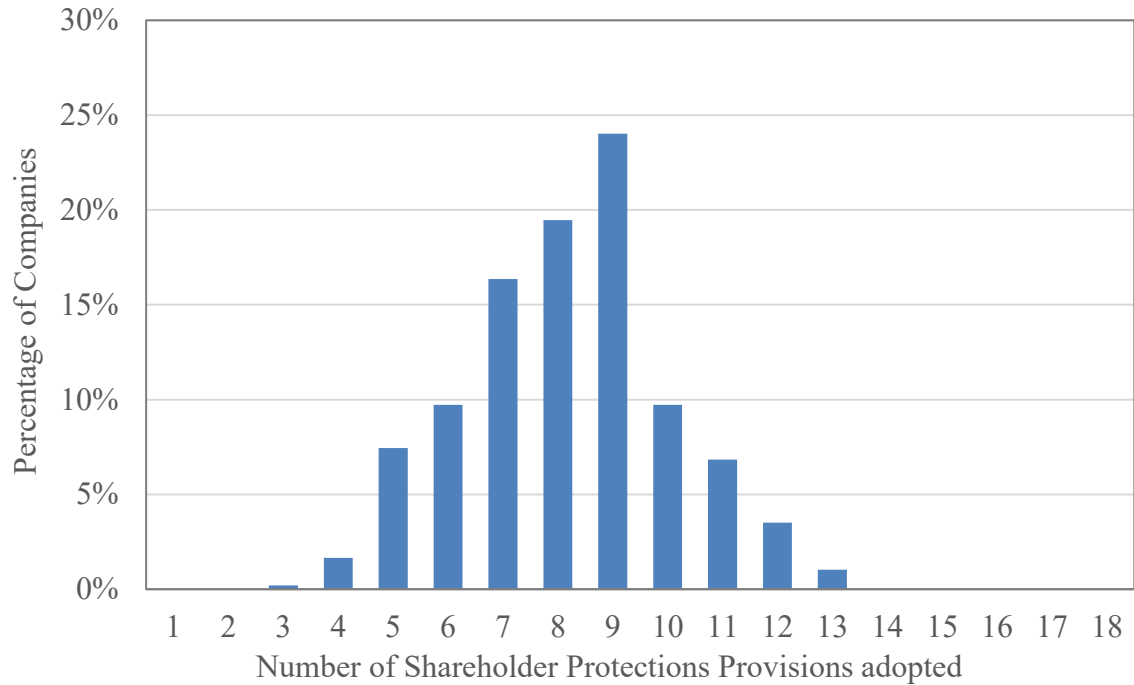
Notes to Figure 1: Each of the articles of association of the 483 companies in our sample, consisting of companies established between 1862 and 1899, is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present a score of 1 is given, otherwise 0. The theoretical maximum is 18 and the minimum is 0. The total number of these provisions which were adopted is then calculated for each company. The distribution of scores across companies is shown, with 0.2% of companies scoring 3 out of 18, 1.7% of companies scoring 4, 7.5% of companies scoring 5 etc.

Table 1: Mandatory protections for shareholders in public companies in the UK in 2016 vs 1862 Act vs 1845 Act

	Mandatory 2016	Mandatory under 1862 Act	Mandatory under 1845 Act
Components of the Anti-Director Rights Index			
Cumulative voting: Equals 1 if the law explicitly mandates that shareholders owning 10% or less of the capital can cast all their votes for one board of directors or supervisory board candidate (cumulative voting) or if the law explicitly mandates a mechanism of proportional representation in the board of directors or supervisory board by which shareholders owning 10% or less of the capital stock can name a proportional number of directors to the board, and 0 otherwise.	0	0	0
Shares not deposited: Equals 1 if the law does not require or permit companies to require shareholders to deposit with the company or another firm any of their shares prior to a general shareholders meeting; and 0 otherwise.	1	1	1
Capital to call a meeting: The minimum percentage of share capital [or voting power] that the law mandates entitling a single shareholder to call a shareholders' meeting (directly or through the court). Equals 1 when capital to call a meeting is less than or equal to 10% and 0 otherwise.	1	0	1
Pre-emptive rights: Equals 1 when the law or listing rules explicitly mandate that shareholders hold the first opportunity to buy new issues of stock; equals 0 otherwise.	1	0	1
Oppressed minority: Index of the difficulty faced by (minority) shareholders owning 10% or less of the capital stock in challenging (i.e., by either seeking damages or having the transaction rescinded) resolutions that benefit controlling shareholders and damage the company. Equals 1 if minority shareholders can challenge a resolution of both the shareholders and the board (of directors or, if available, of supervisors) if it is unfair, prejudicial, oppressive, or abusive; equals one-half if shareholders are able to challenge either a resolution of the shareholders or of the board (of directors or, if available, of supervisors) if it is unfair, prejudicial, or oppressive; equals 0 otherwise.	1	0	0
Vote by mail: Equals 1 if the law explicitly mandates that: (a) proxy solicitations paid by the company include a proxy form allowing shareholders to vote on the items on the agenda; or (b) a proxy form to vote on the items on the agenda accompanies the notice to the meeting; or (c) shareholders vote by mail on the items on the agenda (i.e., postal ballot); and 0 otherwise.	1	0	0
Other Important Shareholder Rights			
Self-dealing by director must be disclosed: Index of disclosures that director must make before the transaction can be approved. Ranges from 0 to 1. Equals 0 if no disclosure is required. Equals 1/2 if only the existence of a conflict of interest must be disclosed, without details. Equals 1 if all material facts must be disclosed.	1	0	1
Proxy voting must be allowed: Equals 1 if the law mandates that on a poll taken at a meeting of a company all or any of the voting rights of a member may be exercised by one or more duly appointed proxies; 0 otherwise.	1	0	1
Audit required: Equals 1 if the law mandates that a company's annual accounts for a financial year must be audited; 0 otherwise.	1	0	1
Accounts must be circulated: Equals 1 if the law mandates that a company must send a copy of its annual accounts and reports for each financial year to every member of the company; 0 otherwise.	1	0	0

Notes to Table 1: This table shows which shareholder protections are mandatory in the UK in 2016 and which were mandatory during the period from 1869 to 1899 under the 1862 Companies Act. It also shows the shareholder protections available under the Companies Clauses Consolidation Act (1845). The first six provisions are usually referred to as the Anti-Director Rights Index (ADRI). A version of them was first introduced in La Porta et al. (1998), but their definitions were revised in Djankov et al. (2008, p.455) and we use the modified definitions. However, as we want to focus only on mandatory laws, we adjust the words in each of the definitions from 'equals one if the law mandates or sets as a default rule that …' to 'equals one if the law mandates that …'. 'Self-dealing by director must be disclosed' is based on the definition of Djankov et al. (2008, p.434). The remaining definitions are based on the phrasing of the regulations in the Companies Act of 2006 in the UK, sections 285, 475 and 423. The coding of the ADRI variables for 2016 was informed by La Porta et al. (1998), Djankov et al. (2008), Franks et al. (2009) and Spamann (2010). Cumulative voting is coded as 0 as it is not possible without a unanimous vote (Spamann, 2010, Data Appendix, p.180). Shares not deposited is coded as 1 because there is no law requiring that shares should be deposited. The vote by mail variable is 1 for public companies due to LR9.3 in the *FCA Handbook*. The other ADRI variables scoring 1 can be confirmed by the Companies Act of 2006, sections 303, 561 and 994. The coding for 2016 of the self-dealing variables follows Djankov et al. (2008, Data Appendix) and can be confirmed by the Companies Act of 2006, section 182. The coding for 2016 of the remaining variables are based on their inclusion in the Companies Act of 2006, sections 285, 475 and 423. For the coding of the period 1862-99, we use the Companies Act of 1862 supported by other sources. Franks et al. (2009) code the ADRI variables for 1900 in the same way as reported here. Cheffins (2001, p. 470) notes that a law requiring a director to disclose self-interest was first introduced in the Companies Act of 1929. Nolan (2006, p.99) discusses that there was no right in the 1862 Companies Act to appoint a proxy. Maltby (1998) notes that an audit or publication of accounts was not required under the Companies Act of 1862.

Table 2: Definitions of variables

Variable	Definition
Panel A: Explanatory Variables	
AgeOwn	Age of the company when ownership census occurs
Est	Year in which the company was established
New	Equals 1 if the company is a start-up from scratch, 0 if the business existed in some previous form, e.g., as a partnership
OverseasEnglish	Equals 1 if the company has most of its operations overseas in a country which was English speaking, 0 otherwise. The location of operations was determined by examining the name of the company, which often included references to geographical locations outside the UK.
OverseasForeign	Equals 1 if the company has most of its operations overseas in a country which was not English speaking, 0 otherwise. The location of operations was determined by examining the name of the company which often included references to geographical locations outside the UK.
lnMarketCap	Market capitalisation of the company, which was calculated as the number of shares multiplied by the share price for ordinary equity when the company first appeared in the Course of the Exchange or Investor's Monthly Manual (IMM) after its establishment date, as long as the gap between the establishment date and the first appearance was less than 10 years. Logs of this variable are used to allow an interpretation of the impact of increasing size by 1%, rather than £1, which is more intuitive given the highly skewed distribution of company sizes.
MarketsLondon	Equals 1 if the company was traded on the London Stock Exchange according to the IMM, 0 otherwise.
MarketsTotal	Total number of stock markets which a company was traded on according to the IMM, e.g., a company traded on the London, Manchester and Glasgow stock exchanges would have a value of 3.
Scottish	Equals 1 if the company had its headquarters in Scotland, 0 if it was in England
Local	Proportion of shareholders who lived in the same city as the company headquarters
IndustryFinancial	Equals 1 if the company was involved in banking, insurance, or land and mortgages, 0 otherwise
IndustryCommercial	Equals 1 if the company was defined as an industrial and commercial firm, which was a general term used during this era for companies which were involved in manufacturing or retailing.
Panel B: Ownership Variables	
Blockholder	Equals 1 if the company had at least one shareholder that owned 10% or more of capital, 0 otherwise.
Ownership1Largest	Proportion of capital owned by the single largest shareholder, in logs
Ownership3Largest	Proportion of capital owned by the three largest shareholders, in logs
Ownership5Largest	Proportion of capital owned by the five largest shareholders, in logs
OwnershipInsiders	Proportion of capital owned by Insiders, defined as Blockholders who owned at least 10% of capital, and/or individuals who were on the Board of Directors, in logs
Votes5Largest	Proportion of votes controlled by the five largest voteholders, in logs
Panel C: Shareholder protection indices	
SPI Total	Of the 18 provisions in the Shareholder Protection Index (SPI), the total number of these provisions which were adopted by a company
Table A 1862	Of the 11 SPI provisions in Table A 1862, the total number of these provisions which were adopted by a company
Mandatory 2016	Of the 5 SPI provisions which were Mandatory in 2016, the total number of these provisions which were adopted by a company
Model Articles 2016	Of the 9 SPI provisions which were in the Model Articles of Public Companies as of 2016, the total number of these provisions which were adopted by a company
Mandatory 1900	Of the 4 SPI provisions which were Mandatory in 1900, the total number of these provisions which were adopted by a company
Table A 1906	Of the 11 SPI provisions in Table A 1906, the total number of these provisions which were adopted by a company
LSE 1902	Of the 6 SPI provisions required by the London Stock Exchange in 1902, the total number of these provisions which were adopted by a company
Panel D: Principal Components of shareholder protections	
PC Indices	The first Principal Component of the Indices, namely 'SPI Total', 'Table A 1862', 'Mandatory 2016', 'Model Articles 2016', 'Mandatory 1900', 'Table A 1906', and 'LSE 1902'
PC Provisions 1	The first Principal Component of the 18 shareholder protection provisions in the Shareholder Protection Index
PC Provisions 2	The second Principal Component of the 18 shareholder protection provisions in the Shareholder Protection Index
PC Provisions 3	The third Principal Component of the 18 shareholder protection provisions in the Shareholder Protection Index
PC Provisions 4	The fourth Principal Component of the 18 shareholder protection provisions in the Shareholder Protection Index

Table 3: Representativeness of sample companies

| | Comparison Group | Samples | | | | | |
	IMM Non-Railway New Lists	Full Sample	Diff	Covariates	Diff	Ownership	Diff
Observations	1,771	483		317		238	
Panel A: Average of Key Variables							
Est		1877		1878		1877	
New		0.49		0.46		0.48	
OverseasEnglish	0.09	0.07	-0.02	0.09	-0.01	0.08	-0.01
OverseasForeign	0.21	0.21	0.00	0.21	-0.01	0.20	-0.01
Scottish	0.09	0.12	0.03	0.14	0.05[b]	0.16	0.07[a]
IndustryFinancial	0.22	0.27	0.05[b]	0.25	0.03	0.29	0.07[b]
IndustryCommercial	0.21	0.33	0.12[a]	0.32	0.11[a]	0.30	0.09[a]
MarketsLondon	0.71			0.64	-0.07[b]	0.58	-0.13[a]
MarketsTotal	1.19			1.20	0.01	1.21	0.02
MarketCap	326,717			232,067	-94,650[b]	208,922	-117,795[b]
Panel B: Size Distribution (£)							
Minimum	1,500			4,500	3,000	4,500	3,000
Pct 25th	64,500			60,000	-4,500	54,749	-9,751
Median	126,000			115,000	-11,000	110,800	-15,200
Pct 75th	285,000			260,000	-25,000	232,300	-52,700
Maximum	11,400,000			3,735,000	-7,665,000	3,735,000	-7,665,000

Notes to Table 3: There are 483 companies in our main sample. Due to data availability, the sample size falls to 317 for regressions including control variables on which markets a company was traded on, and the market capitalisation of the company. The sample size is reduced to 238 when we conduct regressions related to the ownership concentration of companies. To compare our samples to the wider population, we have collected data on all 1,771 non-railway companies which were newly listed in the *Investor's Monthly Manual* (IMM) between 1869, the earliest edition which is available electronically, and 1899. As headquarters and where companies were listed was not available for every firm in the IMM, the observations on *Scottish* drops to 1,459, and on *MarketsLondon* and *MarketsTotal* to 1,501. The diff variable in columns 4, 6 and 8 shows how our sample differs from the non-railway companies new lists in the IMM. [a] denotes significance at 1% level, [b] at 5% level and [c] at 10% level. For variable definitions, see Table 2. *MarketCap* is the market capitalisation (£) of the company.

To analyse the distribution of company sizes in more detail, we also report the size of the smallest and largest companies, and at each quartile of the distribution. The descriptive statistics in this table show the untransformed values of market capitalisation, to give intuitive information on the size of companies. In the regressions, the log of this variable is used to allow an interpretation of the effect of increasing size by 1%, rather than £1, which is more intuitive given the highly skewed distribution of company sizes.

Table 4: Definitions of provisions in Shareholder Protection Index

1. *Information rights* (Max = 4) are based on the ability of shareholders to access credible information on company

- *Accounts audited*: At least once in every year the accounts of the company shall be examined, and the correctness of the balance sheet ascertained, by one or more auditor or auditors. 1 if yes, 0 if no
- *Accounts mailed before AGM*: A printed copy of such balance sheet shall, seven days previously to such meeting, be served on every member. 1 if yes, 0 if no
- *Access to company books*: The books of account shall be kept at the registered office of the company, and, subject to any reasonable restrictions as to the time and manner of inspecting the same that may be imposed by the company in general meeting, shall be open to the inspection of the members during the hours of business. 1 if yes, 0 if no
- *Auditor is a shareholder*: An auditor must own shares in the company. 1 if yes, 0 if no

2. *Voice rights* (Max = 6) are based on the ability of minority shareholders to influence and vote on corporate decisions

- *10%, or less, of capital needed for EGM*: The directors shall upon a requisition made in writing by 20% in number of the members of the company, or by shareholders holding 10% of capital, convene an extraordinary general meeting. 1 if either of these limits or less, 0 otherwise
- *Proxy voting*: Votes may be given either personally or by proxy. 1 if yes, 0 if no
- *5, or less, shareholders to force poll*: The number of shareholders required to force a poll or ballot at general meeting is 5, and there is no requirement in terms of how much capital those shareholders own. 1 if limit is 5 or less, 0 if no.
- *Graduated voting*: Non-linear voting scale which weights voting in favour of minority shareholders, e.g., every member shall have one vote for every share up to ten: he shall have an additional vote for every five shares beyond the first ten shares up to one hundred, and an additional vote for every ten shares beyond the first hundred shares. 1 if exists, 0 otherwise
- *Upper limit on votes*: An upper limit on the number of votes for any one shareholder. 1 if exists, 0 otherwise
- *More than one AGM*: If there is a requirement to hold for more than one general meeting each year. 1 if >1, 0 if =1

3. *Dilution protection rights* (Max = 2) are based on the protection afforded shareholders with regards to dilution of their rights

- *Shareholders have pre-emptive rights on new share issues*: all new shares shall be offered to the members in proportion to the existing shares held by them, and such offer shall be made by notice specifying the number of shares to which the member is entitled. 1 if yes, 0 if no.
- *Limits on directors' borrowing powers*: The amount remaining undischarged of moneys borrowed or raised by the directors for the purposes of the company (otherwise than by the issue of share capital) shall not at any time exceed a certain limit without the sanction of the company in general meeting. 1 if yes, 0 if no

4. *Self-dealing prevention rights* (Max = 3) are based on checks upon the ability of directors to self deal

- *Director cannot vote if any conflict*: If a directors' meeting, or part of a directors' meeting, is concerned with an actual or proposed transaction or arrangement with the company in which a director is interested, that director is not to be counted as participating in that meeting, or part of a meeting, for quorum or voting purposes. 1 if exists, 0 otherwise
- *Director cannot profit directly from contracts*: The office of director shall be vacated if he is concerned in or participates in the profits of any contract with the company. 1 if exists, 0 otherwise
- *Ban on repurchases*: No part of the funds of the company shall be employed in the purchase of, or in loans upon the security of, the company's shares. 1 if it exists, 0 otherwise (after 1887 this was illegal so every company is scored as a 1 after that date)

5. *Liquidity rights* (Max = 3) are based on the ability of shareholders to liquidate their holding during normal operations and when firm is in financial distress

- *No approval of transfer*: The directors may not decline transfers of fully paid shares, but may decline to register any transfer of shares not being fully-paid shares, to a person of whom they do not approve, and may also decline to register any transfer of shares on which the company has a lien. 1 if yes, 0 if no
- *Transfer books not closed*: The transfer books shall not be closed during the days immediately preceding the ordinary general meeting in each year. 1 if yes, 0 if no
- *Capital loss triggers AGM to liquidate*: If the losses of the firm have exhausted the reserve fund and a specified amount of paid up capital, there shall be an Extraordinary General Meeting to decide whether to liquidate firm. 1 if exists, 0 if not

Notes to Table 4: The Shareholder Protection Index measures the protection afforded to shareholders from company insiders such as managers and dominant shareholders. Any provisions which were included in articles of associations and could have been perceived as being pro-investor during the Victorian era are included. The definitions of the provisions use the wording of Table A of 1862 where available. For other provisions not included in Table A, we use the wording from some of the sample companies. Each company was given a score of 1 or 0 for each provision depending on whether their Articles of Association included such a provision.

Table 5: Shareholder protection provisions included in company law, model articles, and security market regulations

		Sample Period Standards		Modern Standards		Subsequent Standards		Stock Market Standards		
		Mandatory 1862	Table A 1862	Mandatory 2016	Model Articles 2016	Mandatory 1900	Table A 1906	LSE 1879	LSE 1896	LSE 1902
INFORMATION	Accounts audited	0	1	1	1	1	1	0	0	0
	Accounts mailed before AGM	0	1	1	1	1	1	0	0	1
	Access to company books	0	1	0	0	0	0	0	0	0
	Auditor is a shareholder	0	0	0	0	0	0	0	0	0
VOICE	10%, or less, of capital needed for EGM	0	1	1	1	1	1	0	0	1
	Proxy voting	0	1	1	1	0	1	0	0	0
	5, or less, shareholders to force poll	0	1	0	1	0	1	0	0	0
	Graduated voting	0	1	0	0	0	0	0	0	0
	Upper limit on votes	0	0	0	0	0	0	0	0	0
	More than one AGM	0	0	0	0	0	0	0	0	0
DILUTION	Pre-emptive rights on new share issues	0	1	1	1	0	1	0	0	0
	Limits on Directors' borrowing powers	0	0	0	0	0	1	0	1	1
SELF DEALING	Director cannot vote if any conflict	0	1	0	1	0	1	0	0	1
	Director cannot profit directly from contracts	0	1	0	0	0	1	0	0	0
	Ban on repurchases	0	0	0	0	1	1	1	1	1
LIQUIDITY	No approval of transfer	0	1	0	1	0	1	0	1	1
	Transfer books not closed	0	0	0	1	0	0	0	0	0
	Capital loss triggers AGM to liquidate	0	0	0	0	0	0	0	0	0
	OVERALL	0	11	5	9	4	11	1	3	6

Notes to Table 5: Mandatory law, templates of recommended articles of association, and stock-market listing requirements at various time periods are scored according to the definitions of shareholder protection provisions shown in Table 4. *Overall* is obtained by adding the score for each individual protection. If a provision is present, a score of 1 is given, otherwise 0. *Mandatory 1862* refers to the Companies Act of 1862, which included none of the provisions. *Table A 1862* refers to the optional template of provisions included as an appendix to the Companies Act of 1862, and scores of 1 are given based on paragraphs 83, 82, 78, 32, 48, 43, 44, 27, 57 and 10. The '10%, or less, of capital needed for EGM' is scored as 1 although the definition in Table A states that 20% of shareholders are required, because it would have been very common that 20% of shareholders would hold less than 10% of capital. *Mandatory 2016* refers to the current requirements of company law, embodied in the Companies Act of 2006, and scores of 1 are given based on sections 423, 303, 423, 285 and 561. *Model Articles 2016* refers to the current suggested template of articles for public companies, embodied in the Model Articles for Public Companies of 2013, and scores of 1 are given based on sections 36.2, 16.1, 63.5, and there is no mention of closing transfer books in 63, with all of the mandatory requirements also scored as 1. *Mandatory 1900* refers to the Companies Act of 1900, and scores of 1 are given based on sections 13, 21 and 12, with a score of 1 also being given for a ban on repurchases due to the legal decision in the 1887 case of Trevor vs. Whitworth. *Table A 1906* refers to the updated version, with scores of 1 given based on paragraphs 109, 108, 48, 64, 56, 42, 73, 77, 8 and 20. Provisions dropped since 1862 were that company books would now only be open to directors, paragraph 104, and voting would be one share one vote, paragraph 60. *LSE 1879* refers to provisions required by the London Stock Exchange according to Melsheimer and Laurence (1879). *LSE 1896* refers to provisions which would normally be expected of companies listing on the London Stock Exchange according to Jordan and Gore-Brown, (1896). *LSE 1902* refers to provisions which would normally be expected of companies listing on the London Stock Exchange according to Gore-Brown (1902).

Table 6: Average scores showing how many shareholder protection provisions were adopted by companies, by the establishment date of those companies

	Average	1860s	1870s	1880s	1890s	Difference 1890s-1860s	
INFORMATION							
Accounts audited	0.97	0.98	0.94	0.97	1.00	0.02	
Accounts mailed before AGM	0.54	0.50	0.53	0.47	0.74	0.24	***
Access to company books	0.25	0.37	0.33	0.16	0.03	-0.34	***
Auditor is a shareholder	0.07	0.13	0.07	0.04	0.01	-0.12	***
VOICE							
10%, or less, of capital needed for EGM	0.60	0.55	0.59	0.56	0.77	0.22	***
Proxy voting	0.97	0.99	0.91	0.99	1.00	0.01	
5, or less, shareholders to force poll	0.54	0.58	0.67	0.58	0.26	-0.32	***
Graduated voting	0.35	0.52	0.37	0.24	0.14	-0.39	***
Upper limit on votes	0.17	0.25	0.19	0.15	0.03	-0.22	***
More than one AGM	0.10	0.17	0.11	0.03	0.03	-0.14	***
DILUTION							
Pre-emptive rights on new share issues	0.63	0.65	0.64	0.59	0.61	-0.04	
Limits on directors' borrowing powers	0.65	0.51	0.63	0.72	0.82	0.31	***
SELF DEALING							
Director cannot vote if any conflict	0.71	0.61	0.71	0.70	0.90	0.29	***
Director cannot profit directly from contracts	0.27	0.45	0.34	0.15	0.03	-0.41	***
Ban on repurchases	0.49	0.17	0.35	0.68	1.00	0.83	***
LIQUIDITY							
No approval of transfer	0.53	0.30	0.56	0.62	0.77	0.47	***
Transfer books not closed	0.19	0.14	0.23	0.18	0.24	0.10	*
Capital loss triggers AGM to liquidate	0.14	0.24	0.11	0.12	0.00	-0.24	***
Number of Companies	483	164	115	116	88		

Notes to Table 6: Each of the articles of association of the 483 companies in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present a score of 1 is given, otherwise 0. Each article represents a different company, and we do not have any instances of multiple articles over time for our firms. The average score across all companies for each provision is shown in the first column. This reveals the proportion of companies that adopted each provision, e.g., 97% of companies had a provision that their accounts should be audited. Companies are then grouped according to their establishment date, and the average score across companies established in a particular decade for each provision is shown, e.g., 98% of companies which had been established in the 1860s had a provision to have their accounts audited. The difference in average scores between companies established in the 1890s compared to those established in the 1860s is then shown. The significance from a t-test on the difference in the mean scores of companies established in the 1890s compared to those established in the 1860s is reported in the final column, with *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Average scores showing how many provisions were adopted by companies, by the establishment date of those companies

Shareholder Protection Standards	Max	Average	1860s	1870s	1880s	1890s	Difference	
SPI Total	18	8.17	8.12	8.30	7.95	8.40	0.28	
Table A 1862	11	6.37	6.51	6.60	6.03	6.26	-0.24	
MODERN STANDARDS								
Mandatory 2016	5	3.72	3.67	3.62	3.58	4.13	0.45	***
Model Articles 2016	9	5.69	5.30	5.79	5.66	6.30	0.99	***
SUBSEQUENT STANDARDS								
Mandatory 1900	4	2.60	2.20	2.41	2.67	3.51	1.31	***
Table A 1906	11	6.90	6.29	6.88	7.03	7.91	1.62	***
Included in subsequent standards								
Table A 1862, Mandatory 1900	3	2.12	2.03	2.06	1.99	2.51	0.48	***
Table A 1862, Table A 1906	9	5.77	5.61	5.90	5.62	6.09	0.48	**
Not Table A 1862, Table A 1906	2	1.13	0.68	0.98	1.41	1.82	1.14	***
Not included in subsequent standards								
Table A 1862, Not Table A 1906	2	0.60	0.90	0.70	0.41	0.17	-0.73	***
Not Table A 1862, Not Table A 1906	5	0.67	0.93	0.72	0.52	0.32	-0.61	***
STOCK MARKET STANDARDS								
LSE 1902	6	3.51	2.65	3.37	3.75	5.00	2.35	***

Notes to Table 7: Each of the articles of association of the 483 companies in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present, a score of 1 is given, otherwise 0. The total number of these provisions which were adopted by companies is reported in 'SPI Total'. Out of the maximum of 18 provisions, companies on average included 8.17 provisions. Companies are then grouped according to their establishment date, and the average score across companies established in a particular decade is shown, e.g., companies established in the 1860s included an average of 8.12 provisions. The difference in average scores between companies established in the 1890s compared to those established in the 1860s is then shown. The significance from a t-test on the difference in the mean scores of companies established in the 1890s compared to those established in the 1860s is reported in the final column, with *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

This process is then repeated, but instead of considering all 18 provisions, only a subset of provisions which were included in other codes are then considered. For example, as shown in Table 5, the 'Table A 1862' included 11 of the provisions. Using our data, we find that of these specific 11 provisions, companies adopted an average of 6.37 of them. Companies established in the 1860s adopted an average of 6.51 of them etc. Alternative definitions of best practice are then used, defined as those provisions which are included in modern standards, subsequent standards or stock market standards.

We also analyse in detail those provisions which changed status between 1862 and 1900 or 1906. Three provisions were in Table A in 1862 and became mandatory in 1900. Nine provisions were in Table A in 1862 and 1906. Two provisions were not in Table A in 1862, but were included in Table A in 1906. Two standards were included in Table A in 1862, but were dropped from Table A 1906. Five provisions were not in Table A in either 1862 or 1906. Using our data, we analyse how many of these specific provisions were on average adopted by companies, for the entire sample and for companies established in a particular decade.

Table 8: Tobit regressions explaining
how many provisions were adopted by each company

	SPI Total Provisions	Table A 1862 Provisions	Mandatory 2016 Provisions	Model Articles 2016 Provisions	Mandatory 1900 Provisions	Table A 1906 Provisions	LSE 1902 Provisions
	(1)	(2)	(3)	(4)	(5)	(7)	(8)
Est	0.009	-0.003	0.020***	0.033***	0.057***	0.049***	0.084***
	(0.011)	(0.010)	(0.007)	(0.007)	(0.007)	(0.009)	(0.008)
New	0.067	0.107	0.172	0.130	0.246	-0.071	0.097
	(0.220)	(0.210)	(0.157)	(0.163)	(0.152)	(0.201)	(0.176)
OverseasEnglish	0.549	0.402	0.278	0.111	0.087	0.592*	0.067
	(0.467)	(0.356)	(0.278)	(0.272)	(0.269)	(0.313)	(0.280)
OverseasForeign	0.510*	0.495**	0.516***	0.661***	0.410**	0.656**	0.557**
	(0.268)	(0.251)	(0.196)	(0.217)	(0.191)	(0.263)	(0.240)
lnMarketCap	0.157	0.046	-0.010	0.079	-0.016	0.085	0.008
	(0.100)	(0.091)	(0.071)	(0.068)	(0.061)	(0.090)	(0.072)
MarketsLondon	-0.676**	-0.812***	-0.244	-0.240	0.309*	-0.275	0.164
	(0.281)	(0.266)	(0.181)	(0.198)	(0.159)	(0.239)	(0.187)
MarketsTotal	0.453	0.415	0.358*	0.079	0.188	0.366	0.275
	(0.283)	(0.265)	(0.197)	(0.174)	(0.150)	(0.223)	(0.192)
Scottish	-0.430	-0.258	0.085	0.149	0.171	0.401	0.183
	(0.380)	(0.324)	(0.256)	(0.241)	(0.221)	(0.295)	(0.260)
IndustryFinancial	-0.076	-0.608**	-0.131	-0.620***	-0.004	-0.717**	-0.375*
	(0.294)	(0.277)	(0.207)	(0.219)	(0.183)	(0.277)	(0.199)
IndustryCommercial	0.123	0.033	-0.013	-0.177	-0.238	-0.028	-0.158
	(0.243)	(0.227)	(0.170)	(0.173)	(0.155)	(0.208)	(0.193)
Constant	-10.286	11.340	-33.703***	-56.468***	-104.228***	-86.390***	-154.259***
	(20.070)	(18.551)	(12.768)	(13.782)	(12.285)	(16.713)	(15.033)
Observations	317	317	317	317	317	317	317
Pseudo-R2	0.010	0.015	0.023	0.040	0.102	0.046	0.113

Notes to Table 8: Each of the articles of association in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present, a score of 1 is given, otherwise 0. The total number of these provisions which were adopted by a company is calculated for the variable *'SPI Total Provisions'*. Of the subset of 11 provisions which were included in 'Table A 1862', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1862 Provisions'*. Of the subset of 5 provisions which are mandatory in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 2016 Provisions'*. Of the subset of 9 provisions which are in the model articles of public companies in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Model Articles 2016 Provisions'*. Of the subset of 4 provisions which were mandatory in 1900, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 1900 Provisions'*. Of the subset of 11 provisions which were included in 'Table A 1906', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1906 Provisions'*. Of the subset of 6 provisions which were required by the London Stock Exchange in 1902, the number of these provisions which were adopted by a company is calculated for the variable *'LSE 1902 Provisions'*. For each company we therefore have a score of how many shareholder protection provisions they adopted in total, and how many provisions they adopted using various definitions. These are the dependent variables in our regressions. For the definitions of our dependent variables, see Table 2.

The number of observations is 317, as data was not available for all companies for the independent variables. A Tobit Regression is used, assuming that the values of the dependent variable could potentially have been censored at the minimum and maximum values which are observed in the data. A Tobit regression was performed using the following specification:

$$\text{Number of Provisions} = \alpha + \beta_1(Est) + \beta_2(New) + \beta_3(OverseasEnglish) + \beta_4(OverseasForeign) + \beta_5(lnMarketCap) +$$
$$B_6(MarketsLondon) + \beta_7(MarketsTotal) + \beta_8(Scottish) + \beta_9(IndustryFinancial) + \beta_{10}(IndustryCommerical)$$

Robust standard errors are in parentheses. Significance is shown by *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 9: Logit regressions explaining the presence in a company of a blockholder who owned 10% or more of capital against how many provisions the company had adopted

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SPI Total	-0.260***						
	(0.079)						
Table A 1862		-0.222**					
		(0.086)					
Mandatory 2016			-0.340**				
			(0.152)				
Model Articles 2016				-0.299***			
				(0.114)			
Mandatory 1900					-0.355**		
					(0.169)		
Table A 1906						-0.247**	
						(0.097)	
LSE 1902							-0.314**
							(0.123)
AgeOwn	-0.075***	-0.066**	-0.066***	-0.067**	-0.065**	-0.067**	-0.070***
	(0.027)	(0.026)	(0.026)	(0.026)	(0.025)	(0.026)	(0.027)
Est	-0.001	-0.004	0.002	0.007	0.013	0.008	0.020
	(0.016)	(0.016)	(0.016)	(0.016)	(0.018)	(0.016)	(0.018)
New	-0.775**	-0.764**	-0.700**	-0.732**	-0.663*	-0.800**	-0.748**
	(0.342)	(0.341)	(0.339)	(0.339)	(0.343)	(0.339)	(0.338)
OverseasEnglish	-0.988	-1.077	-1.188*	-1.157*	-1.239*	-1.041	-1.210*
	(0.713)	(0.694)	(0.695)	(0.681)	(0.701)	(0.692)	(0.701)
OverseasForeign	-0.371	-0.351	-0.362	-0.316	-0.396	-0.360	-0.378
	(0.440)	(0.437)	(0.435)	(0.442)	(0.430)	(0.438)	(0.436)
lnMarketCap	0.056	0.022	0.002	0.040	0.007	0.031	0.020
	(0.160)	(0.160)	(0.164)	(0.160)	(0.162)	(0.159)	(0.160)
MarketsLondon	0.149	0.127	0.231	0.239	0.393	0.241	0.356
	(0.366)	(0.373)	(0.369)	(0.364)	(0.361)	(0.363)	(0.362)
MarketsTotal	0.090	0.055	0.052	-0.005	0.061	0.041	0.092
	(0.374)	(0.372)	(0.373)	(0.368)	(0.374)	(0.371)	(0.373)
Scottish	0.606	0.681	0.778	0.803	0.796	0.859*	0.785
	(0.501)	(0.492)	(0.492)	(0.489)	(0.500)	(0.499)	(0.497)
Local	-0.904	-0.852	-0.811	-0.824	-0.751	-0.926	-0.837
	(0.831)	(0.815)	(0.826)	(0.818)	(0.826)	(0.818)	(0.827)
IndustryFinancial	-1.194***	-1.314***	-1.211***	-1.372***	-1.173***	-1.372***	-1.287***
	(0.428)	(0.443)	(0.431)	(0.451)	(0.422)	(0.459)	(0.431)
IndustryCommercial	0.016	-0.023	0.007	-0.051	-0.041	0.003	-0.040
	(0.341)	(0.338)	(0.341)	(0.340)	(0.342)	(0.340)	(0.343)
Constant	4.674	9.645	-2.316	-10.841	-23.604	-13.736	-35.313
	(28.882)	(28.886)	(29.044)	(29.896)	(32.613)	(29.590)	(33.199)
Observations	238	238	238	238	238	238	238
Pseudo-R2	0.147	0.135	0.130	0.137	0.129	0.137	0.137

Notes to Table 9: The dependent variable was created as follows. For each company for which we have ownership data, we calculated the proportion of capital owned by each shareholder. The *Blockholder* variable was then created which equals 1 if the company had at least one shareholder that owned 10% or more of capital, 0 otherwise.

The independent variables were calculated for each company as follows. Each of the articles of association in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present a score of 1 is given, otherwise 0. The total number of these provisions which were adopted by a company is calculated for the variable *'SPI Total'*. Of the subset of 11 provisions which were included in 'Table A 1862', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1862'*. Of the subset of 5 provisions which are mandatory in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 2016'*. Of the subset of 9 provisions which are in the model articles of public companies in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Model Articles 2016'*. Of the subset of 4 provisions which were mandatory in 1900, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 1900'*. Of the subset of 11 provisions which were included in 'Table A 1906', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1906'*. Of the subset of 6 provisions which were required by the London Stock Exchange in 1902, the number of these provisions which were adopted by a company is calculated for the variable *'LSE 1902'*. For the definitions of our dependent variables, see Table 2.

The number of observations is 238, as data was not available for all companies for ownership or for the independent variables. A Logit Regression was performed using the following specification:

$$Blockholder = \alpha + \beta_1(Number\ of\ Provisions) + \beta_2(AgeOwn) + \beta_3(Est) + \beta_4(New) + \beta_5(OverseasEnglish) +$$
$$\beta_6(OverseasForeign) + \beta_7(lnMarketCap) + B_8(MarketsLondon) + \beta_9(MarketsTotal) +$$
$$\beta_{10}(Scottish) + \beta_{11}(Local) + \beta_{12}(IndustryFinancial) + \beta_{13}(IndustryCommerical)$$

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

Table 10: Tobit regressions explaining the percentage of capital owned by the five largest shareholders, against how many best practice provisions the company had adopted

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SPI Total	-0.057***						
	(0.018)						
Table A 1862		-0.042**					
		(0.020)					
Mandatory 2016			-0.084**				
			(0.035)				
Model Articles 2016				-0.061**			
				(0.025)			
Mandatory 1900					-0.113***		
					(0.038)		
Table A 1906						-0.043**	
						(0.021)	
LSE 1902							-0.074***
							(0.027)
AgeOwn	-0.018***	-0.017***	-0.017***	-0.017***	-0.017***	-0.017***	-0.017***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)
Est	-0.002	-0.003	-0.001	-0.001	0.003	-0.001	0.003
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
New	-0.152*	-0.154*	-0.139	-0.151*	-0.117	-0.161*	-0.147*
	(0.086)	(0.088)	(0.087)	(0.086)	(0.087)	(0.086)	(0.085)
OverseasEnglish	-0.238*	-0.271**	-0.289**	-0.291**	-0.296**	-0.272**	-0.292**
	(0.134)	(0.133)	(0.131)	(0.131)	(0.132)	(0.136)	(0.137)
OverseasForeign	0.011	0.007	0.013	0.022	0.008	0.007	0.011
	(0.109)	(0.110)	(0.110)	(0.112)	(0.108)	(0.109)	(0.108)
lnMarketCap	0.035	0.026	0.022	0.030	0.025	0.027	0.027
	(0.037)	(0.038)	(0.039)	(0.038)	(0.040)	(0.038)	(0.039)
MarketsLondon	-0.011	-0.003	0.012	0.017	0.054	0.020	0.039
	(0.086)	(0.090)	(0.087)	(0.086)	(0.083)	(0.087)	(0.083)
MarketsTotal	-0.076	-0.086	-0.083	-0.098	-0.078	-0.089	-0.075
	(0.098)	(0.099)	(0.099)	(0.099)	(0.099)	(0.099)	(0.097)
Scottish	-0.011	0.011	0.030	0.034	0.037	0.042	0.031
	(0.105)	(0.107)	(0.106)	(0.105)	(0.105)	(0.106)	(0.104)
Local	-0.061	-0.045	-0.038	-0.037	-0.026	-0.052	-0.043
	(0.201)	(0.199)	(0.199)	(0.201)	(0.196)	(0.201)	(0.197)
IndustryFinancial	-0.356***	-0.375***	-0.357***	-0.385***	-0.350***	-0.378***	-0.376***
	(0.090)	(0.093)	(0.090)	(0.092)	(0.088)	(0.092)	(0.090)
IndustryCommercial	-0.020	-0.027	-0.020	-0.033	-0.033	-0.021	-0.031
	(0.083)	(0.084)	(0.084)	(0.083)	(0.084)	(0.084)	(0.083)
Constant	3.177	3.915	1.211	0.033	-5.990	-0.054	-6.244
	(7.468)	(7.453)	(7.467)	(7.579)	(7.847)	(7.507)	(7.923)
Observations	238	238	238	238	238	238	238
Pseudo-R2	0.120	0.108	0.110	0.111	0.116	0.107	0.114

Notes to Table 10: The dependent variable was created as follows. For each company for which we have ownership data, we calculated the proportion of capital owned by each shareholder. From this data we then calculated the proportion of capital owned by the five largest shareholders in each company. We use the log of this value as our dependent variable, to reduce the skewness of the distribution, and bring the variable closer to a normal distribution.

The independent variables were calculated for each company as follows. Each of the articles of association in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present a score of 1 is given, otherwise 0. The total number of these provisions which were adopted by a company is calculated for the variable *'SPI Total'*. Of the subset of 11 provisions which were included in 'Table A 1862', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1862'*. Of the subset of 5 provisions which are

mandatory in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 2016'*. Of the subset of 9 provisions which are in the model articles of public companies in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Model Articles 2016'*. Of the subset of 4 provisions which were mandatory in 1900, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 1900'*. Of the subset of 11 provisions which were included in 'Table A 1906', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1906'*. Of the subset of 6 provisions which were required by the London Stock Exchange in 1902, the number of these provisions which were adopted by a company is calculated for the variable *'LSE 1902'*. For the definitions of our dependent variables, see Table 2.

The number of observations is 238, as data was not available for all companies for ownership or for the independent variables. A Tobit Regression is used, assuming that the values of the dependent variable could potentially have been censored at the minimum and maximum values which are observed in the data. A Tobit regression was performed using the following specification:

$$Ownership5Largest = \alpha + \beta_1(Number\ of\ Provisions) + \beta_2(AgeOwn) + \beta_3(Est) + \beta_4(New) + \beta_5(OverseasEnglish) +$$
$$\beta_6(OverseasForeign) + \beta_7(lnMarketCap) + B_8(MarketsLondon) + \beta_9(MarketsTotal) +$$
$$\beta_{10}(Scottish) + \beta_{11}(Local) + \beta_{12}(IndustryFinancial) + \beta_{13}(IndustryCommerical)$$

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

Table 11: Robustness tests showing the relationship between shareholder provisions and various measures of ownership concentration

Regression Type	Probit	Probit	Tobit	Tobit	Tobit	Tobit	Tobit	Tobit	Tobit	Tobit
Dependent Variable	Blockholder	Blockholder	Ownership 1 Largest	Ownership 1 Largest	Ownership 3 Largest	Ownership 3 Largest	Ownership Insiders	Ownership Insiders	Votes 5 Largest	Votes 5 Largest
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
SPI Total	-0.153***		-0.060**		-0.063***		-0.106**		-0.139***	
	(0.046)		(0.024)		(0.020)		(0.041)		(0.026)	
Model Articles 2016		-0.176***		-0.065*		-0.065**		-0.131**		-0.052
		(0.067)		(0.036)		(0.029)		(0.058)		(0.036)
AgeOwn	-0.045***	-0.041***	-0.022***	-0.020***	-0.019***	-0.017***	-0.031***	-0.028***	-0.012*	-0.008
	(0.016)	(0.016)	(0.007)	(0.007)	(0.006)	(0.006)	(0.011)	(0.010)	(0.007)	(0.007)
Est	-0.001	0.004	-0.000	0.002	-0.001	0.001	-0.014*	-0.009	0.015**	0.016***
	(0.009)	(0.010)	(0.005)	(0.005)	(0.004)	(0.005)	(0.008)	(0.008)	(0.006)	(0.006)
New	-0.457**	-0.442**	-0.246**	-0.245**	-0.179*	-0.178*	-0.311*	-0.317*	-0.051	-0.066
	(0.203)	(0.202)	(0.114)	(0.115)	(0.095)	(0.095)	(0.177)	(0.176)	(0.115)	(0.120)
OverseasEnglish	-0.564	-0.685*	-0.377**	-0.432**	-0.288*	-0.346**	-0.808***	-0.894***	-0.398**	-0.562**
	(0.398)	(0.385)	(0.172)	(0.167)	(0.148)	(0.144)	(0.304)	(0.281)	(0.197)	(0.224)
OverseasForeign	-0.211	-0.172	-0.034	-0.022	-0.005	0.006	0.045	0.075	-0.055	-0.097
	(0.255)	(0.257)	(0.150)	(0.152)	(0.122)	(0.124)	(0.233)	(0.238)	(0.147)	(0.150)
lnMarketCap	0.032	0.021	0.037	0.031	0.041	0.035	0.009	-0.002	0.017	-0.004
	(0.094)	(0.094)	(0.050)	(0.051)	(0.040)	(0.042)	(0.078)	(0.078)	(0.062)	(0.070)
MarketsLondon	0.077	0.141	0.116	0.145	0.020	0.050	-0.408**	-0.404**	0.153	0.250*
	(0.218)	(0.217)	(0.118)	(0.118)	(0.096)	(0.097)	(0.182)	(0.188)	(0.126)	(0.133)
MarketsTotal	0.030	-0.029	-0.084	-0.107	-0.070	-0.094	-0.083	-0.114	-0.191	-0.243*
	(0.226)	(0.223)	(0.125)	(0.126)	(0.107)	(0.108)	(0.213)	(0.214)	(0.136)	(0.144)
Scottish	0.365	0.480*	0.096	0.143	0.002	0.050	0.002	0.062	0.224	0.328**
	(0.296)	(0.290)	(0.147)	(0.146)	(0.119)	(0.119)	(0.196)	(0.192)	(0.142)	(0.153)
Local	-0.602	-0.566	-0.198	-0.173	-0.099	-0.073	0.213	0.269	0.022	0.127
	(0.504)	(0.499)	(0.267)	(0.269)	(0.225)	(0.226)	(0.460)	(0.467)	(0.278)	(0.285)
IndustryFinancial	-0.703***	-0.800***	-0.542***	-0.572***	-0.419***	-0.449***	-0.055	-0.134	-0.563***	-0.578***
	(0.247)	(0.256)	(0.120)	(0.121)	(0.101)	(0.103)	(0.185)	(0.188)	(0.134)	(0.139)
IndustryCommercial	0.012	-0.024	-0.106	-0.120	-0.041	-0.055	0.088	0.052	-0.142	-0.158
	(0.209)	(0.209)	(0.117)	(0.117)	(0.093)	(0.094)	(0.184)	(0.185)	(0.113)	(0.119)
Constant	2.841	-5.963	-1.543	-4.888	0.831	-2.534	25.308*	15.597	-27.595***	-30.210***
	(17.217)	(17.767)	(9.919)	(10.170)	(8.266)	(8.421)	(14.722)	(15.498)	(10.296)	(10.522)
Observations	238	238	238	238	238	238	183	183	238	238
Pseudo-R2	0.146	0.136	0.091	0.087	0.110	0.102	0.074	0.072	0.117	0.077

Notes to Table 11: The dependent variables were created as follows. For each company for which we have ownership data, we calculated the proportion of capital owned by each shareholder. For Columns 1 and 2 the *Blockholder* variable was then created which equals 1 if the company had at least one shareholder that owned 10% or more of capital, 0 otherwise. For Columns 3 and 4, the proportion of capital owned by the single largest shareholder is used. For Columns 5 and 6, the proportion of capital owned by the three largest shareholders is used. For Columns 7 and 8, the proportion of capital owned by Insiders, defined as Blockholders who owned at least 10% of capital, and/or individuals who were on the Board of Directors, is used. For Columns 9 and 10, for each company we calculated the number of votes which each shareholder was entitled to. From this data we then calculated the proportion of votes controlled by the five largest voteholders in each company. For Columns 3-10 we use the logged values as our dependent variable, to reduce the skewness of the distributions, and bring the variables closer to a normal distribution.

The independent variables were calculated for each company as follows. Each of the articles of association in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present a score of 1 is given, otherwise 0. The total number of these provisions which were adopted by a company is calculated for the variable *'SPI Total'*. Of the subset of 11 provisions which were included in 'Table A 1862', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1862'*. Of the subset of 5 provisions which are mandatory in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 2016'*. Of the subset of 9 provisions which are in the model articles of public companies in 2016, the number of these provisions which were adopted by a company is calculated for the variable *'Model Articles 2016'*. Of the subset of 4 provisions which were mandatory in 1900, the number of these provisions which were adopted by a company is calculated for the variable *'Mandatory 1900'*. Of the subset of 11 provisions which were included in 'Table A 1906', the number of these provisions which were adopted by a company is calculated for the variable *'Table A 1906'*. Of the subset of 6 provisions which were required by the London Stock Exchange in 1902, the number of these provisions which were adopted by a company is calculated for the variable *'LSE 1902'*. For the definitions of our dependent variables, see Table 2.

The number of observations varies, as data was not available for all companies for ownership or for the independent variables. For Columns 1-2 we use a probit regression as the dependent variable is binary. For Columns 3-10, a Tobit Regression is used, assuming that the values of the dependent variable could potentially have been censored at the minimum and maximum values which are observed in the data. A Tobit regression was performed using the following specification:

$$OwnershipMeasure = \alpha + \beta_1(Number\ of\ Provisions) + \beta_2(AgeOwn) + \beta_3(Est) + \beta_4(New) + \beta_5(OverseasEnglish) + \beta_6(OverseasForeign) + \beta_7(lnMarketCap) + B_8(MarketsLondon) + \beta_9(MarketsTotal) + \beta_{10}(Scottish) + \beta_{11}(Local) + \beta_{12}(IndustryFinancial) + \beta_{13}(IndustryCommerical)$$

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

Table 12: Logit regressions explaining the presence in a company of a blockholder who owned 10% or more of capital against the principal components of shareholder protection provisions

	(1)	(2)	(3)	(4)	(5)	(6)
PC Indices	-0.200***					
	(0.070)					
PC Provisions 1		-0.101				-0.036
		(0.120)				(0.123)
PC Provisions 2			-0.359***			-0.370***
			(0.123)			(0.127)
PC Provisions 3				0.180		0.173
				(0.122)		(0.135)
PC Provisions 4					-0.100	-0.081
					(0.125)	(0.133)
AgeOwn	-0.069***	-0.064**	-0.065**	-0.067**	-0.066**	-0.069***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.027)
Est	0.009	-0.010	0.014	-0.006	-0.002	0.008
	(0.016)	(0.017)	(0.016)	(0.015)	(0.015)	(0.019)
New	-0.722**	-0.811**	-0.704**	-0.787**	-0.819**	-0.735**
	(0.339)	(0.335)	(0.339)	(0.336)	(0.338)	(0.348)
OverseasEnglish	-1.080	-1.237*	-1.141	-1.319*	-1.320*	-1.137
	(0.697)	(0.691)	(0.708)	(0.699)	(0.687)	(0.728)
OverseasForeign	-0.339	-0.469	-0.405	-0.520	-0.458	-0.469
	(0.444)	(0.417)	(0.440)	(0.408)	(0.410)	(0.429)
lnMarketCap	0.027	0.005	-0.032	-0.014	0.025	-0.048
	(0.161)	(0.161)	(0.163)	(0.163)	(0.163)	(0.167)
MarketsLondon	0.222	0.229	0.203	0.325	0.334	0.177
	(0.366)	(0.385)	(0.364)	(0.367)	(0.366)	(0.382)
MarketsTotal	0.074	0.035	0.214	0.011	0.005	0.260
	(0.374)	(0.368)	(0.379)	(0.364)	(0.364)	(0.390)
Scottish	0.758	0.706	0.579	0.596	0.714	0.319
	(0.492)	(0.513)	(0.494)	(0.530)	(0.511)	(0.533)
Local	-0.888	-0.645	-0.909	-0.675	-0.540	-0.821
	(0.819)	(0.829)	(0.817)	(0.839)	(0.857)	(0.859)
IndustryFinancial	-1.311***	-1.113***	-1.398***	-0.945**	-1.052**	-1.103**
	(0.442)	(0.414)	(0.454)	(0.431)	(0.428)	(0.480)
IndustryCommercial	-0.019	0.004	-0.057	-0.034	-0.015	-0.071
	(0.340)	(0.342)	(0.339)	(0.345)	(0.343)	(0.344)
Constant	-16.365	19.586	-24.454	12.035	4.284	-14.576
	(30.218)	(32.198)	(30.306)	(28.656)	(28.538)	(36.135)
Observations	238	238	238	238	238	238
Pseudo-R2	0.142	0.116	0.143	0.120	0.116	0.152

Notes to Table 12: The dependent variable was created as follows. For each company for which we have ownership data, we calculated the proportion of capital owned by each shareholder. The *Blockholder* variable was then created which equals 1 if the company had at least one shareholder that owned 10% or more of capital, 0 otherwise.

The independent variables were calculated for each company as follows. For Column 1, we take the Indices we have created, namely 'SPI Total', 'Table A 1862', 'Mandatory 2016', 'Model Articles 2016', 'Mandatory 1900', 'Table A 1906', and 'LSE 1902', and take the first principal component of these indices to create *PC Indices*. For the definitions of our dependent variables, see Table 2.

For Columns 2-6, each of the articles of association in our sample is scored according to the definitions of shareholder protection provisions shown in Table 4. If a provision is present, a score of 1 is given, otherwise 0. Principal Component Analysis was then conducted on the 18 provisions. A scree plot suggests that there are 4 principal components. The principal components are rotated, and their scores are calculated for each of the companies. The scores for the four principal components are then included in these regressions as *PC Provisions 1, PC Provisions 2, PC Provisions 3* and *PC Provisions 4*.

The number of observations is 238, as data was not available for all companies for ownership or for the independent variables. A Logit Regression was performed using the following specification:

$$Blockholder = \alpha + \beta_1(Principal\ Components) + \beta_2(AgeOwn) + \beta_3(Est) + \beta_4(New) +$$
$$\beta_5(OverseasEnglish) + \beta_6(OverseasForeign) + \beta_7(lnMarketCap) + \beta_8(MarketsLondon) +$$
$$\beta_9(MarketsTotal) + \beta_{10}(Scottish) + \beta_{11}(Local) + \beta_{12}(IndustryFinancial) + \beta_{13}(IndustryCommerical)$$

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