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Finance Working Paper N° 009/2003
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ECGI Working Paper Series in Finance

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Keywords: Evolution, ownership, investor protection, equity issues, trust

JEL Classification: G32, G34

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We are grateful for helpful suggestions from participants at conferences at the American Finance Association meetings in Washington DC, January 2003, the National Bureau of Economic Research Programme on the Evolution of Family Ownership conference in Boston, INSEAD and Lake Louise, the Political Economy of Financial Markets Conference at Princeton, September 2003, the RIETI Conference on Comparative Corporate Governance: Changing Profiles of National Diversity in Tokyo, January 2003, the NBER Summer Institute Corporate Finance Workshop 2004, the Western Finance Association meetings in Vancouver, June 2004, the European Finance Association meetings in Maastricht, August 2004, and at seminars at the Bank of England, the Bank of Italy, Cambridge University, the London Business School, the London School of Economics, SNS, Stockholm, the Stern School, New York University, Université Libre de Bruxelles, University of Bologna and UCLA. We have received helpful comments from Brian Cheffins, Barry Eichengreen, Nadja Guenster, Charles Hadlock, Leslie Hannah, Oliver Hart, Cliff Holderness, Gregory Jackson, Kose John, Hideaki Miyajima, Randall Morck, Luc Renneboog, Mark Roe, David Scharfstein, Hyun Song Shin, Jeremy Stein, Oren Sussman, Elu von Thadden, Xavier Vives, Ralph Walkling and Yishay Yafeh. Georgy Chabakaury, Shamoon Chaudry, Raju Chinthalapati, Leonardo Cordeiro, and Lisa Lernborg provided excellent research assistance.

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1. Introduction

One of the best-established stylised facts about corporate ownership is that ownership of large listed companies is dispersed in the U.K. and U.S. and concentrated in most other countries. For example, Becht and Mayer (2001) report that in more than 50% of European companies there is a single voting block of shareholders that commands a majority of shares. In contrast, in the U.K. and U.S. it is less than 3%.

There are two prominent theories of regulation and law that have been proposed to explain these differences. The first attributable to Mark Roe (1994) is that U.S. legislators responded to a populist agenda in the 1930's by limiting the power exercised by large financial conglomerates. This was accomplished by introducing legislation that restricted the control rights of large blockholders. The second, associated with La Porta, Lopez-de-Silages, Shleifer and Vishny (1997 and 1998, LLSV henceforth), argues that concentrated ownership is a response to inadequate investor protection. According to their view, in the absence of adequate minority protection, investors seek to protect their investments with the direct exercise of control through large share blocks. Concentrated ownership is therefore a response to deficient investor protection.

In both these law and finance theories dispersed ownership is associated with strong investor protection. The difference in ownership concentrations in the U.K. and the U.S. on the one hand and Continental Europe on the other can be attributed to weak investor protection in Continental Europe and strong investor protection in the U.K. and U.S. LLSV produce data to support this conclusion. They distinguish between the common law systems of the U.K. and U.S. and the civil law systems in Continental Europe. They show that common law systems have strong minority investor protection and civil law systems have weak protection.

According to the law and finance literature, differences in legal structures are deep rooted with a long history. One would therefore expect differences in investor protection also to have a long history, particularly in the U.K. where common law originated. But this is not the case. At the beginning of the century, we find that the U.K. was devoid of anti-director rights provisions and protection of small investors. According to LLSV measure of anti-director rights, the U.K. only scored one out of a maximum of six between 1900 and 1946 - on a par with Germany in the early 1990s. Even on broader based measures of legal enforcement such as disclosure, liability standards for directors and public enforcement proposed by La Porta, Lopez-de-Silanes,

and Shleifer (2006, LLS henceforth), we find that investor protection in the first three decades of the century was very weak.

Common law contributed to this: in 1843 there was a landmark case of unsuccessful litigation by an injured investor in the U.K. (Foss vs. Harbottle) that undermined the rights of minority investors to seek protection through the courts for more than a century. This principle was upheld in subsequent cases, and the leading British company law academic, Leonard Sealy, observed that, "the courts have made it very difficult, and in many cases impossible, for shareholders with grievances – sometimes, shareholders who are the victims of very real injustices – to obtain a legal remedy." (Sealy (1984, p. 53)).

If investor protection at the beginning of the century in the U.K. was on a par with Germany today then this raises the question of whether corporate ownership in the U.K. bore closer resemblance to Germany than the U.K. today. The law and finance literature would predict that, in the first half of the century, the U.K. would have minority investor abuse and relatively high concentrations of ownership. As Cheffins (2002) has noted, unlike in the U.S., there was no legislation in the U.K. during the 20th century discouraging concentrations of shareholdings in the hands of financial institutions or other investors so that, if any law and finance theory is relevant to the U.K., it is the LLSV rather than the Mark Roe version.

A second interesting feature of investor protection in the U.K. is the degree to which it was strengthened during the century. By the end of the century, the LLSV measure of anti-director rights had increased from one to five out of the maximum of six and the LLS measures of legal enforcement had risen to be some of the highest in the world. In addition, there were aspects of investor protection not captured by the LLSV index that were introduced from the middle of the century, for example rules concerning removal of directors. According to the law and finance literature, we would therefore predict a significant increase in the level as well as in the rate of dispersion of ownership in the second half of the century.

We address these questions by looking at the evolution of ownership of 60 U.K. firms over the twentieth century. Several studies (for example, Berle and Means (1932), Florence (1961), Holderness, Kroszner and Sheehan (1999), Larner (1966) and Nyman and Silberston (1978), Franks, Mayer and Renneboog (2001)) report statistics on the ownership of cross-sections of firms in the U.K. and U.S. at different points in time. We choose two years in the U.K., 1920 and 1950, and compare ownership in both

years with that in 1990, as reported in Franks, Mayer and Renneboog (2001). But no study to date has examined how ownership of a panel of firms has evolved over an extended period – a hundred years in the case of this study – and to establish the extent to which law contributed to that evolution.

That is precisely what this paper attempts to do. It has been made possible by the existence of an unusually rich source of data in the U.K. For more than a century, Parliament has required companies to deposit information, including accounts and a register of shareholders, at a central depository open to the public. From this depository, we select three samples of firms, one from companies incorporated around the turn of the century that have been in continuous existence since then, a second from firms incorporated at the same time but which are no longer in existence today and a third from companies incorporated around 1960 and still in existence today. We develop a new methodology to trace their share ownership over time and to analyze the influence of regulation on their evolution.

Ownership of the sample of U.K. firms incorporated around 1900 was rapidly dispersed with the shareholdings of inside directors more than halving over the 40 years to 1940. The differences in ownership concentration between the U.K. and Continental European countries today are not a recent phenomenon - dispersed ownership emerged rapidly in the first half of the 20th century, even in the absence of strong investor protection. The most significant cause of this was acquisitions and mergers. Shares issued in the process of equity exchanges diluted the ownership stakes of existing shareholders.

When investor protection was finally strengthened in the second half of the century, it had little effect on either levels or rates of ownership dispersion. Ownership of well-established companies was already dispersed and rates of dispersion of newly incorporated firms, for example of the sample of firms incorporated around 1960, were similar to those of firms incorporated at the start of the century.

An obvious question that this raises is how ownership dispersion could have occurred in the absence of investor protection. We suggest that trust and informal relations played an important part and we illustrate their role in the process of issuing equity for acquisitions and mergers. In principle, bidding companies could have acquired targets at low cost by making discriminatory offers to selected shareholders and purchasing the minimum shareholding required to secure control. This was commonplace in Germany until recently (see Jenkinson and Ljungqvist (2001) and

Franks and Mayer (2001)). But what was observed in the U.K. in the first half of the century was quite different. Offers were made without discrimination at equal prices to all shareholders. Directors of target firms played an important role in upholding this equal price convention by stating publicly whether they intended to tender their own shareholdings at the offer price and making recommendations to their shareholders to follow their example. We also provide evidence on the importance of proximity of shareholders to boards of directors and the promotion of directors of target firms to the boards of merging firms.

Section 2 of the paper discusses the law and finance hypothesis, the data and the methodology that we employ to test it. Section 3 documents the development of investor protection and securities markets in the U.K. in the 20th century. Section 4 measures concentration of ownership of our samples of firms and the rates at which shareholdings were dispersed and shareholder coalitions changed at different points in the century. Section 5 provides preliminary evidence of the role of trust in U.K. capital markets at the beginning of the 20th century as reflected in the proximity of shareholders to the firms in which they were invested, the absence of price discrimination in takeovers and the promotion of directors and chairmen of target firms to the boards of merged firms. Section 6 concludes the paper.

2 Theory, data and methodology

2.1 Theory

According to LLSV, common law systems are associated with strong investor protection. Investor protection is a necessary condition for flourishing financial markets and is required to encourage a wide group of small investors to participate in stock markets. The law and finance literature links investor protection to the avoidance of abuse of minority investors. There are numerous forms that such abuse might take but one that attracts the attention of regulators is discriminatory pricing between large and small investors in major equity transactions. One of the most significant equity transactions is the acquisition of one company by another. In the absence of strong investor protection, minorities might be abused by being offered lower prices for their shares than large investors. Discriminatory pricing in takeovers is still a feature of many countries' takeover markets today. We might have expected it to feature in the takeover markets of the first half of the twentieth century when investor protection in

the U.K. was weak. In addition, small investors might be expected to suffer in other equity issues if insiders or large outside investors can subscribe at below market prices.

According to LLSV, the threat of abuse discourages minority investors from participating in financial markets with poor investor protection. As a consequence, share ownership is highly concentrated in low investor protection regimes. Faced with weak investor protection at the beginning of the twentieth century, share ownership in the U.K. should therefore have been concentrated. This is clearly important in considering how the U.K. (and the U.S.) developed their distinctive patterns of dispersed share ownership. In the U.K., this should have been a relatively recent phenomenon coinciding with the emergence of strong investor protection in the second half of the 20th century, at least as measured by LLSV. Moreover, given that investor protection in England at least pre-1948 was on a par with Germany in 1990, according to the LLSV index, we might expect to observe similar levels of concentration of ownership and low rates of dispersion.

2.2 Data

There are two approaches that we take to evaluating the patterns of ownership during the 20th century. The first is to take randomly selected samples of companies at particular points in time. We collected data for two random cross-sectional samples, one comprising 53 public companies listed in the London Stock Exchange in 1920, and the other comprising 55 public companies listed in the London Stock Exchange in 1950. 1920 corresponds to a date at which investor protection in the U.K. was weak, while 1950 corresponds to the end of the period of weak investor protection and the transition to stronger protection.

The size distribution of the two samples is similar both in statistical and economic terms and, while the 1920 sample is more tilted towards Tea, Coffee and Rubber companies than the 1950 sample, the difference is not statistically significant. Any differences that do exist probably reflect the changing industry composition of the U.K. economy (e.g. see Hart and Prais 1956).

We compare ownership statistics across the two samples, and then with those reported in Franks, Mayer and Renneboog (2001) for a random sample of 243 U.K. companies in 1990. 1990 corresponds to a date by which all of the legislative changes documented in this paper were fully implemented. To examine in detail the evolution

of ownership, however, we cannot entirely rely on a comparison of cross-sectional samples, and we need a different approach.

The second approach is thus to construct panels of firms and examine how their ownership changed during the course of the century. Since the beginning of the 20th century, all U.K. firms have been required to file information at a central depository called Companies House in Cardiff, Wales. This is a unique long-run source of data on firms. However, it suffers from one deficiency: Companies House retains complete records on all firms that are still in existence today but sends information on dead companies to the Public Records Office in Kew, Richmond (Surrey). In turn, the Public Records Office has kept information on all companies dissolved before 1932, and on a random sample of companies dissolved thereafter. We supplemented data from Companies House with this second source.

We collected data for two time periods: companies incorporated around 1900 and 1960. 1900 is the first date for which records on companies are available. 1960 corresponds to the date by which a regime shift has occurred and many of the legislative changes documented in this paper are in place. There were 20 firms that were incorporated or (re-) incorporated[1] between 1897 and 1903 and still in existence in 2001 and 20 firms that were incorporated between 1958 and 1962 and were still in existence in 2001; we have collected data on all of these. To avoid the obvious bias that might arise from the greater longevity of the 1900 than the 1960 sample, we collected a second sample of firms incorporated around 1900 that are no longer in existence today. We impose a minimum life of 11 years on the non-surviving firms so that we have at least one complete decade of data on each. Panel A of Table A1 records that, of the 20 dead companies in the 1900 sample, three died before 1940, and 17 subsequently.

To establish the representativeness of our 1900 samples we compared them with two benchmarks. The first is the population of firms listed on the London Stock Exchange in 1900, as reported in the January issue of the Investors' Monthly Manual.[2] Table A2 shows the size of the Stock Exchange in that year. It records that there were 1354 firms with a total market capitalization of just over £1 billion. Our sample is restricted to five sectors: breweries and distilleries, iron, coal and steel, steamship and

[1] An important feature of both sub-samples is that many firms were in existence well before their incorporation. For example, Cadbury Schweppes was established in 1783, incorporated in 1886 and reincorporated in 1900; REA incorporated in 1889 as Ceylon Tea Plantations and reincorporated in 1960.

[2] Source of data: http://icf.som.yale.edu/imm/

shipbuilding, mining companies and other commercial and industrial companies. Between them, these account for 43% of market capitalization in 1900. We exclude in particular utilities (railways, banking and financials) and foreign corporations. Since ownership is likely to be more dispersed in relatively safe utilities than in other sectors, their exclusion is likely to lead to an under- rather than an over-statement of dispersion of ownership.

Our sample represents 5% of the number of firms listed on the London Stock Exchange in 1900 in these five sectors and 3% of market capitalization. There is much higher representation in iron, coal and steel (12% by number and 11% by market capitalization) and lower representation in breweries and distilleries (0.7% by number and 0.1% by market capitalization). We also compare our samples with a second benchmark, namely the number of newly listed firms in 1900 as reported in the 12 monthly issues of the Investors' Monthly Manual. Our sample represents just less than 30% of the number of new listings in the five sectors in 1900 with a higher representation of steamship and shipbuilding as well as iron, coal and steel companies and a lower representation of mining companies.

We report results for the 1900 samples of survivors and non-survivors separately and for the two together. There are therefore three bases of comparison with the 1960 sample in the tables reported below: survivors, non-survivors and the combined sample, which provides an average of the two. Which is the most appropriate depends on what proportion of the 1960 firms is expected to survive for at least a hundred years. If all do then the surviving sample is the most relevant; if none do, then the non-surviving sample should be used and if 50% survive then the average is the closest benchmark. Since we are not currently in a position to answer this question we report results for all samples.

Company filings (the "annual returns") include information on names, addresses of shareholders, the size of their stake, and their occupation (e.g. "director of the company", "gentleman", "civil engineer", "spinster"). We collected additional information from: (i) new issue prospectuses in the Guildhall Library in London, (ii) annual issues of the Stock Exchange Year Book, which lists names of directors and the sources of any changes in issued capital, and (iii) official lists of trading of securities from the British Library in London. In addition, we consulted the share registers, which form part of the company's "annual returns", to provide evidence of ownership changes that have taken place on an annual basis.

From these data, we collect names of directors, their shareholdings (including those of their families), the date and amounts of capital issued in acquisitions, new share issues raised through public and private placements, and other changes in share capital, such as capitalization of reserves. We trace the founding family ownership from incorporation until the last family member left the board. We take account of name changes across generations, when for example the daughter of a founder married. We limit the recording of outside shareholdings to stakes greater than 1% of ordinary capital. We use newspaper archives to document evidence of mergers and tender offers, trading in shares on provincial Stock Exchanges, especially in the early 1900s. We collect share prices pre-1955 from the Daily Official List, published by the stock exchanges, and post-1955 from the London Business School share price database. Finally, to establish the proximity of shareholders to directors, we compute measures of distance of ordinary and preference shareholders from their private addresses to the address of the company's headquarters of twenty-six firms in 1910.

Table A1 in the Appendix lists the names of the companies, their city and date of incorporation, the date of their initial public offering (IPO), the stock exchanges on which their shares were traded, and their status as of 2001. Table A1 records that many companies were traded on local stock exchanges prior to a formal IPO. This reflects the absence of listing requirements for companies traded on these exchanges and the London Stock Exchange (LSE) in the first half of the century. Six out of 22 formal IPOs in the 1900 sample occurred in anticipation, or just after the introduction of more rigorous listing requirements by the LSE in 1947.

2.3 Methodology

The approach taken in this paper is to test the above theories against long-run evidence on the evolution of ownership and control of corporations in the U.K. We introduce two new measures of changes in ownership and control based on the work of Grossman and Hart (1986) and Hart and Moore (1990). We assume that when contracts are incomplete the residual control rights are associated with critical ownership thresholds, typically 25, 50 or 75%. We record the minimum size and composition of coalitions required to pass these thresholds at ten yearly intervals. The two new measures are first the rate at which ownership is dispersed, i.e. the change in the minimum number of shareholders required to cross the critical ownership threshold. The second is the change in the composition or membership of this smallest coalition, which we describe

as "mutation" of ownership. It is the inverse of the stability of the membership of the smallest coalition and measures the rate at which the controlling shareholders change. In addition, we report standard measures of concentration of ownership, such as size of directors' shareholdings, C1, C3, C5 and Herfindahl indices and an index of widely held firms (where the largest shareholder owns less than 10% or 20% of a firm). We report these measures for three groups of investors: all shareholders and inside and outside shareholders separately.

The annual rate of *dispersion*, d, from year t to t+T is defined as:

$$d = \{Y_{t+T}/Y_t\}^{1/T} - 1$$

where Y is ownership defined as the minimum number of shareholders required to pass the threshold of 25%, t is the calendar date and T is the length of the measurement interval (10 years in our analysis).[3] We also measure this at a 50% threshold.[4]

Mutation of ownership from year t to t+T is defined as:

$$m = 1 - \{Z_{t+T}/Z_t\}^{1/T}$$

where Z_{t+T}/Z_t is the proportion of members of the ownership coalition in year t+T who were present in year t.[5]

This methodology provides the first measures of ownership based on control. Our measures may change when conventional indices of concentration do not, for example when the number or composition of owners alters but the size distribution of shareholders does not. As an illustration, if a large shareholder with 25% of stock sells to another new shareholder then control alters but concentration does not. Similarly,

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[3] The rate of dispersion, d, for directors and outsiders is 100% if in period t they hold more than 25% and in period t+T their holding declines below this threshold.

[4] At first sight, the fact that there is more than one definition of ownership corresponding to different values of x appears unsatisfactory. In fact, this is an important characteristic of ownership of a corporation as against a personal asset. Different groups have control over different actions – the 25% group has control over those issues that are subject to a blocking minority and the 50% group over those that are conditional on a simple as against a super-majority. Ownership of a corporation cannot be defined independently of the decisions over which control is exercised.

[5] One way to think about the relation between dispersion and mutation of ownership is as follows. Let the control threshold be defined as x. The control group in period t is the smallest number of individuals i = 1 to I_t such that:

$$\sum_{i=1}^{I_t} \alpha_{i,t} = x$$

where $\alpha_{i,t}$ is shareholding of individual i in period t.
Let i = 1 be the founding family then we can define dilution of their ownership between t and t+1 as:

$$\alpha_{1,t+1} - \alpha_{1,t} = -\sum_{i=I_t+1}^{I_{t+1}} \alpha_{i,t+1} - \left(\sum_{i=2}^{I_t} \alpha_{i,t+1} - \sum_{i=2}^{I_t} \alpha_{i,t} \right)$$

The first term is related to dispersion through broadening of the control group and the second to mutation of the existing control group. New issues or sales of shares to new and existing shareholders can therefore dilute the founding family's ownership.

cash takeovers change composition but not necessarily concentration. Existing measures of size distribution (concentration ratios, Herfindahl indices, Gini coefficients etc) cannot capture these changes in composition.

Concentration may change with or without changes in our measure of ownership, depending upon whether size distributions alter around defining ownership thresholds. For example, if two shareholders increase their shareholdings from 25 to 40% they will change conventional measures of concentration but not our measure of ownership. Conversely, if ownership of two shareholders increases from 24 to 26% there will be a negligible effect on conventional measures but a significant effect on our ownership measure given the significance of a 25% threshold.

Mutation is related to conventional measures of liquidity but it is not the same. Share turnover, a conventional measure of liquidity, may occur in the absence of changes in controlling shareholders and mutation. Our paper therefore allows conventional measures of liquidity to be disentangled from those that directly affect the market for corporate control. [6]

We examine how changes in dispersion and mutation of ownership have been affected by investor protection and by equity issued for internal investment and acquisitions. We do so by regressing the dispersion and mutation variables on the LLSV measure of anti-directors rights at the beginning of the decade and on equity issued during the decade. We control for the level of dispersion of ownership at the beginning of each decade and, in light of the potential endogeneity of the equity issuance measure, we instrument it using firm and time effects and company age. We undertake these regressions for the first four decades of our sample of 60 companies.

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[6] We could have taken our analysis further and, instead of defining ownership in relation to control levels of 25, 50 or 75%, considered specific actions, for example powers to replace directors, to veto issues of capital etc. Had we done this then ownership would have altered not merely because the size and nature of shareholdings had changed but also because of new legal rulings concerning the rights of shareholders. For example shareholders had little ownership of the new equity issuing process until the 1980 Companies Act conferred pre-emption rights on them

This is a substantive issue. The endogeneity of laws in relation to ownership documented in this paper is not just an empirical observation but also a conceptual one. Ownership is defined by the law and cannot be measured independently of it and the law adapts where ownership is perceived to be inadequate. Most recently this has been witnessed in relation to the determination of executive remuneration and the rights of shareholders over the appointment and replacement of auditors.

We have, however, chosen not to pursue our definition of ownership to this logical conclusion for pragmatic reasons. We wish to demonstrate that even abstracting from legal changes there was a substantial and rapid evolution of ownership from the beginning of the 20th century. Had we chosen to measure ownership in relation to actions not thresholds we would have observed still more change reflecting evolving legal parameters as well as shareholding structures.

We examine the robustness of the results to survivorship by repeating the regressions on the sub-samples of 1900 survivors and non-survivors.

The approach taken in this paper supplements existing ones that examine cross-sections of firms at a particular point in time or in some cases at various times, by creating a long-run panel of firms. Our approach has the advantage of allowing the evolution of ownership of firms to be traced and the impact of regulatory and firm-level factors to be subject to standard panel econometric and statistical tests. It also differs from comparisons of cross-sections in so far as it abstracts from entry and exit of firms that occur between the dates of cross-sections. This makes the approach particularly well suited to establishing how and when current ownership patterns emerged.

3 Capital markets in the U.K. in the 20th century

In this section, we describe the development of investor protection and the size and structure of stock markets in the U.K. during the 20th century.

3.1 Investor protection

There was a marked change in financial regulation and investor protection over the 20th century. Although limited liability was introduced into the U.K. in the Companies Act of 1856, it was not until the landmark case of Salomon v. Salomon in 1897 that it was made effective. Such was the enhanced protection that it offered shareholders in the event of financial failure that many companies, including several in our sample, reincorporated after the 1897 ruling and the subsequent Companies Act of 1900.

U.K. common law does not provide minorities with an automatic right of protection. A seminal case in the middle of the 19th century (Foss v. Harbottle (1843)) had exactly the opposite effect of seriously restricting minority shareholder rights for the next hundred years. The judge in the case made two important rulings. First, while the plaintiff in the case was an aggrieved shareholder, he found that the proper plaintiff in an action of an alleged wrong to a company was the company itself, i.e. a majority of the shareholders and not a minority. Secondly, he noted that, where a transaction could be made binding by a majority of the shareholders, no individual shareholder could sustain an action against the company. In another case, Harben v. Phillips (1883), the judge found that there was no common law right on the part of a shareholder to vote by proxy.

Lord Justice Hoffman (1999) observed that, "the emancipation of minority shareholders is a recent event in company law. For most of the twentieth century minority shareholders were virtually defenceless, kept in cowed submission by a fire-breathing and possibly multiple-headed dragon called Foss vs. Harbottle. Only in exceptional cases could they claim protection of the court." He goes on to say: "A statutory remedy was provided for the first time in 1948 but this proved relatively ineffectual. It was not until 1980 that Parliament forged the sword which is now section 459 of the Companies Act 1985 and which enables the unfairly treated minority shareholder to slay the dragon."[7] It was legislation that eventually provided minority investors with the protection that common law had for so long denied them.

The lack of minority protection became even more transparent during the 1920s. It has been argued that one of the advantages of common law systems is their ability to adapt to changing economic and social conditions and to promote the emergence of efficient legislation through case law (see Coffee (2001) and Beck, Demirgüç-Kunt and Levine (2003)). Therefore, in addition to recording changes in legislation, we also examined all court cases of directors' liability over the period 1900-1935. We performed a keyword search on LexisNexis Professional TM and using the keywords "directors' liability" and "shareholders" we found a total of 43 cases. As a reality check, we conducted a manual search in the All England Law Reports over the period 1 Jan 1900 to 31 Dec 1917. The All England Law Reports is the most comprehensive source of legal cases in the U.K., comprising approximately 200,000 cases. However, coverage before 1935 is selective, including only cases that were cited at least twice in the All England Law Reports since 1936. All cases found through the keyword search on LexisNexis Professional TM were also found through the manual search and the manual search did not yield any additional cases on directors' liability. To address concerns about completeness, we also searched leading scholarly journals, including the Cambridge Law Journal (over the period 1921-1940) and the Law Quarterly Review (1900-1940). With one exception, we did not find any cases of legal work on the issue of fiduciary responsibility of directors to shareholders.

As a result, we ended up with a sample of 44 cases. Among these, we found one case of corporate crime, Royal Mail (the equivalent of today's Enron and Parmalat cases), and only two cases of liability of directors for breach of fiduciary duty. The

[7] Cited in the foreword to Robin Hollington's *Minority Shareholders' Rights*, 1999, Sweet and Maxwell, London.

other cases refer to potential directors' liability for other reasons, for example the issuance of preference shares and their voting rights, and the priority of preference shareholders in a voluntary winding up.

R v Kylsant Court of Appeal [1931], referred to the appeal by Lord Kylsant in the Royal Mail case for criminal proceedings (larceny) against him for false statements in a prospectus. The court dismissed the appeal on conviction on the grounds that, although no untrue statements were published, true statements were used to conceal the real positions of the firm. Among the two cases of breach of fiduciary duty, *Harris v. A. Harris [1936]* referred to whether directors were breaching their fiduciary duty by unilaterally increasing their own remuneration. The court held that the directors had not breached their fiduciary duty. Finally, *Nash Appellant; and Lynde Respondent [1929]* assessed whether a prospectus not issued by the directors still constituted a basis for liability of directors. The court ruled directors could not be liable for a prospectus not issued by them.

In addition, we have read The Financial Times, published daily, over the period January 1931 to July 1931 to look for financial scandals that have generated press comment and whether those scandals have led to court cases. We chose the year 1931 because it followed a period referred to in the Cohen Committee Report (1945) as one where many IPO's failed and shareholders felt aggrieved: 'The heavy losses which investors, many of whom subscribed for their shares on unsatisfactory prospectuses, suffered in the slump that followed the 1928-9 boom, caused a feeling that the law relating to prospectuses was inadequate' (Section 7). This review revealed 20 cases of shareholder complaints. Of these, three concerned alleged directors' frauds or malfeasances. Only one, Royal Mail, ended up in court, while the other two were settled after a private prosecution, in the case of William Pretty and Sons, and a judge-supervised voluntary liquidation of Variety Theatres. The remainder included petitions for winding up, injunctions to modify the agenda of EGMs, suits for breach of trade contracts, concerns regarding directors' remuneration, and issues regarding the appropriate voting rights of preference shareholders. Most of these cases were settled by an AGM or EGM, without any court proceedings. In sum, our search of the Financial Times confirms that very few cases of breach of fiduciary duty were reported in the U.K. over the period 1900-1935.

These findings suggest that courts by and large did not deal with cases of breach of fiduciary duty. There could be three reasons for this. First, it could mean that there

were no cases of breach of fiduciary duty. Our evidence as well as anecdotal accounts seems to rule out this possibility. Second, it could be that the problems associated with the fiduciary duties of directors towards shareholders were resolved by means other than the courts during that time. Today, U.K. company law requires prior disclosure of cases of self-dealing as well as prior shareholder approval (Djankov, La Porta, Lopez-de-Silanes and Shleifer 2005), but as we document this was not the case in the first half of the century.

Our findings thus suggest a third reason, that the articles of association of companies granted directors virtually unlimited discretion with respect to any transaction they should enter into in the course of their business. Consistent with leading textbooks such as Davies (2002), we find that one clear principle in the courts' rulings stands out, that is freedom of contracting via the articles of association. When it comes to relations between shareholders and directors and among shareholders, courts have nearly always enforced the company's articles of association. In the case of an omission in the relevant company articles, courts have enforced the Companies Acts under which the companies have been incorporated. In the cases of *Re Brazilian Rubber Plantations* [1911] and *City Equitable Fire Insurance Company's* [1925] the courts upheld clauses in the companies' articles of association (i.e. corporate charters) limiting directors' liability even in relation to wilful neglect or dereliction of duties.[8] As a result, as noted by Djankov, La Porta, Lopez-de-Silanes and Shleifer (2006), "during the nineteenth century the rule of equity lost its bite as courts came to accept that shareholder approval for self-interested transactions could be granted in general, rather than for specific transactions, in the articles of association."

The response to these clear deficiencies in investor protection was the 1929 Companies Act that rendered such clauses void. The 1929 Act was relatively ineffectual, being passed in the midst of a bull market. Subsequently, the Cohen Committee on Company Law was set up as a result of a growing concern about "dispersion of capital among an increasing number of small shareholders... who are, in many cases, too numerous and too widely dispersed to be able to organise themselves" (Cohen Committee (1945), para. 7). Its conclusions were the basis for the fundamental reforms enshrined in the 1948 Companies Act. The 1948 Act was a defining piece of legislation: it introduced voting by proxy, provisions for shareholders to force an EGM

[8] In the City Equitable Fire Insurance case the judge went on to say that a director "is not guilty of wilful neglect or default unless he knows that he is committing and intends to commit a breach of his duty, or is recklessly careless in the sense of not caring whether his act or omission is or is not a breach of his duty."

with 10% of the voting equity capital, and special resolutions to make it easier for shareholders to remove directors. Thus our evidence indicates that, to the extent that investor protection was strengthened during the 20th century, it was primarily by statute rather than through the application of common law in the courts, consistent with the arguments in Roe (2002).

Table A3 in the Appendix documents important changes in law and financial markets regulation in the UK in the 20th century.[9] Table 1 uses this information to construct indices of investor protection proposed by LLSV and LLS. Panel A translates minority protection rules into the LLSV score of anti-director rights. Prior to 1948 the score was 1. The Companies Act of 1948 raised the LLSV score to 3 by introducing proxy voting and the right of 10% of shareholders to call an Extraordinary General Meeting (EGM). The score rose to 5 (out of 6) in the 1980s with the addition of pre-emption rights in 1980 and protection for oppressed minorities in 1985.[10]

The LLS measures of private and public enforcement paint a similar picture. Panels B, C and D of Table 1 record the average indices of disclosure, liability standards and public enforcement; the separate components are reported in Table A4 of the Appendix. LLS's preferred composite index of private enforcement, the simple arithmetic average of disclosure and liability standards, is zero in 1900, 0.5 in 1929, 0.67 in 1948 and 0.75 in 1967 and thereafter. On this basis, private enforcement was very weak at the beginning of the century and progressively strengthened from 1929. The public enforcement index is zero until the 1986 Financial Services Act.

Turning to disclosure rules described in detail in Table 1, in the first half of the century, principles of *caveat emptor* were deeply embedded as captured in this statement by the Greene Committee (1925): "The careless speculator who is willing to accept at their face value statements which are obviously insufficient and unsatisfactory cannot justly expect special protection when that would involve a serious and unwarranted interference with the honest person" (sec. 59). In 1929, a Companies

[9] For sources, see for example, Cairncross (1958 and 1953), Code Holland and Werry (1932), Davies (1979), Franks, Mayer and Renneboog (2001), Michie (1999), Morgan and Thomas (1962), Paish (1951), Sargant Florence (1947) and Schwabe and Branson (1913).

[10] Inevitably, LLSV's measure is incomplete as a scorecard of investor rights. For example, in 1967 and thereafter, statutory provisions were introduced for a minority of 25% of shareholders to block particular merger transactions (Table A3) and waive pre-emption rights. Still more significantly, the City Code on Takeovers and Mergers introduced provisions in 1967 for a mandatory bid when an acquirer has 30% or more of the target's shares, and an equal price rule in takeovers that effectively prevented discriminatory pricing and limited the formation of large blocks.

Act required firms to keep both a profit and loss account and balance sheet and both had to be made available to the public at Companies House. In 1939, there was legislation requiring directors to disclose contractual interests in their firms. But accounting disclosure in the first half of the century was guided by such views as those expressed by the Greene Committee in 1925: "We think it most undesirable to lay down hard and fast rules as to the form which a balance sheet should take…The matter of accounts is one in which we are satisfied that within reasonable limits companies should be left a free hand" (sec. 69). The 1948 Companies Act introduced disclosure rules for prospectuses and specific penalties for non-disclosure, detailed provisions regarding the content and form of both balance sheets and profit and loss accounts and a requirement that company accounts be prepared on a basis that gives a "true and fair" view of a company's financial position, a litmus test of company accounts that has been applied to the present day.

Table A3 also includes changes to the LSE's listing rules. LSE registered market makers (called jobbers) frequently dealt in shares of companies that had not passed its listing requirements. This occurred when the shares of a company were issued on a provincial exchange, often without a prospectus, and then traded on the LSE under special rules referred to as 'under a supplementary list'. In 1919 the LSE introduced a provision that new share issues had to be accompanied by either a prospectus or an advertisement. However, this provision was not effective because the information required in the advertisements was limited and securities could be traded on the supplementary list of the LSE without fulfilling its disclosure requirements (see Michie (1999) pp 265-6). From 1947, the distinction between the official and supplementary lists was abolished and all companies were required to satisfy the LSE's listing rules, including an obligation to produce a ten years profit record and to have the support of two registered jobbers (i.e. market makers). The listing rules had an important effect on the equity issuance process and reinforce the view that there was a discrete change in investor protection at the end of the 1940's.

In many respects, 1948 was a defining date for minority investor protection. The anti-directors index rose from 1 to 3, the liability standards index rose from 0.33 to 0.67 and the LSE strengthened listing rules. In choosing 1948 over other years, 1929 or the 1980s when there were other changes in the LLSV and LLS scores, we place considerable importance on the significant tightening of the LSE's listing rules in 1947. Moreover, while many disclosure requirements relating to P&L accounts and balance

sheets had been introduced earlier in the century, it was only with the detailed stipulation of their content and the requirement that they provided a "true and fair" view that they became a reliable source of information. For example, Roberts (1993) notes that until 1948 there was insufficient information on which predators could launch acquisitions without the co-operation of managers of the target firm. It is therefore no coincidence that with the passing of the 1948 Companies Act, Charles Clore was able to bypass the board of Sears Ltd and initiate the first hostile tender offer in the U.K. in 1953.[11]

It is not just relative to the second half of the 20th century that investor protection in the first half was weak. It was also weak relative to what we now regard as weak investor protection systems elsewhere in the world. The U.K.'s score of one on the LLSV measure for anti-director rights in the first half of the century is on a par with Germany's in the 1990s as reported by LLSV.[12] Furthermore, there are several features of investor protection that have been present in Germany throughout the twentieth century that were not and never have been present in the U.K. There has been an extensive system of non-executive oversight of corporate activities in Germany since the company law of 1884 required a separation of supervisory, i.e. non-executive, from management boards. A solution to the collective action problem that minority investors face in voting shares existed for much of the 20th century in Germany through proxy voting by banks[13], and minorities frequently enforce their rights through the courts in Germany (see, for example, Franks and Mayer (1998)), in a way in which they rarely do even today in the U.K.

Common law was not therefore a sufficient condition for strong investor protection in the U.K. by today's standards. The comparison of the U.K. in the first half of the century with Germany today raises the question of how two countries with similarly weak investor protection could produce such different capital markets. It casts doubt on whether formal investor protection can provide an adequate explanation.

[11] Roberts (1992) states that "Clore launched his attack on being informed by a partner in the estates agent Healey & Baker that Sears' balance sheet under-estimated the real estate value of the firm's 900 high street stores by £10 million" (page 186).
[12] The score of 1 for Germany reflects the provision of a 5% threshold for calling an EGM introduced by statute in 1965 (Aktiengesetz, Section 122).
[13] Nibler (1996) reports that in 1991 three German banks controlled almost 30% of the voting rights of 38 of the largest publicly quoted companies through proxy votes.

3.2 Size and structure of U.K. stock markets

Rajan and Zingales (2003) examine the importance of stock markets around the world. They report the ratio of aggregate market value of equity of domestic companies to GDP for 26 countries between 1913 and 1999, at approximately ten-year intervals. Using their criterion, the U.K. has a stock market that ranks in first or second place in six of the nine decades and in the top five for the remaining three decades. The ratio of market capitalization to GDP in the UK was 2.42 in 1900 and 2.25 in 1999.

One striking feature of stock exchanges in the U.K. in the first half of the twentieth century was the importance of regional exchanges. Today there are just two exchanges in the U.K. but in the first half of the century there were 18 provincial stock exchanges, which collectively were as large as the London Stock Exchange.[14] According to *Phillips' Investors Manual* of 1885, 'the provincial exchanges are of almost greater importance in relation to home securities than London'. Thomas (1973) states that: "the number of commercial and industrial companies quoted in the Manchester stock exchange list increased from 70 in 1885 to nearly 220 in 1906. Most of these were small companies with capitals ranging from £50,000 to £200,000" and "by the mid 1880s Sheffield, along with Oldham, was one of the two most important centres of joint stock in the country, with 44 companies, with a paid up capital of £12 million.'' (pages 133 and 124). Table A2 shows that at the end of 1899 only 46.6% of English quoted companies were listed on just the London Stock Exchange.

Provincial stock markets played an important role in promoting new issues. Writing in 1921 on new shares issues, Lavington notes that "local knowledge on the part of the investor both of the business reputation of the vendor and the prospects of his undertaking would do a good deal to eliminate dishonest promotion and ensure that securities were sold at fair prices fairly near their investment values." Concentrating ownership among local investors was recognized as a method of reducing information problems as well as fraud. Lavington (1921) cites the views of one broker: "the securities are rarely sold by means of a prospectus and are not underwritten, they are placed by private negotiation among local people who understand the [cotton] trade" (p. 280).

The Birmingham exchange was important for cycle and rubber tube stocks, Sheffield for iron, coal and steel and Bradford for wool. Securities were traded in the

[14] The four largest in order of size were Manchester, Sheffield, Newcastle and Cardiff. Interestingly, the reopening of the Birmingham Stock Exchange has recently been proposed by a government agency as "a means of stimulating local economic growth" (Financial Times, 26 August 2003, p. 4)

city in which most investors resided. For example, shareholders in Manchester were anxious that the shares of the Patent Nut and Bolt Co. of Birmingham should be listed in Manchester where most of the shareholders lived (see Thomas (1973), p. 118). The reason was that proximity between brokers and directors was thought to create better-informed markets.

Based on these observations, we formulate an alternative to the law and finance hypothesis namely that it was informal relations of trust between investors and firms rather than formal systems of regulation that allowed equity markets to flourish and ownership to become dispersed in the U.K. in the first half of the 20th century.

4 Dynamics of ownership through the century

In this section we examine the evolution of ownership of our samples of firms over the 20th century. We begin in Section 4.1 by looking at concentration and the nature of share ownership, both for our cross–sectional samples and for our panels. In Section 4.2 we examine the rate at which share ownership is dispersed and the rate of mutation of the controlling group of shareholders. In Section 4.3 we report the results of panel regressions on the determinants of dispersion and mutation of ownership.

4.1 Concentration and nature of share ownership

We report two sets of statistics on the concentration and nature of share ownership. The first records the minimum number of shareholders required to reach critical ownership thresholds and the second the (more conventional) total shareholdings owned by the largest shareholders.

We collect ownership data on two cross-sectional samples, 53 companies in 1920 and 55 companies in 1950. The two samples were selected independently and randomly. Interestingly, the two samples turn out to be similar in terms of assets size and industry distribution (data available on request). We compare data from these two samples with ownership in the U.K. in 1990, as documented in Franks, Mayer and Renneboog (2001), who select a random sample of 243 listed companies in 1990. While we cannot compare the size of the 1990 sample perfectly with that of our new 1920 and 1950 samples because the latter two lack data on sales, the independent and random selection of these three large cross-sectional samples makes us more confident that our results are unlikely to be biased one way or the other. Table 2 reports concentration measures for the three cross-sections in 1920, 1950 and 1990. Panel A

reports results for 1920 and 1950, along with statistics about the difference in means, medians and distributions; Panel B compares 1920 and 1950 with 1990. The first two rows relate to the minimum number of shareholders required to reach a total shareholding of 25% and 50%, respectively; the third and fourth rows to W10 and W20, that is, dummy variables that equal 1 if the largest shareholder hold less than 10% and 20%, respectively; the next five to C1, C3 and C5 measures respectively where the C3 index is also divided into insiders and outsiders and the last three columns to the holdings by directors, the Herfindahl indices and the total number of shareholders respectively.

Table 2 reports that ownership concentration in the U.K. in 1990 is very similar to that in 1920 and in 1950 in terms of overall dispersion. For example, if we examine W10, the proportion of firms classified as widely held using the definition that the largest shareholder owns less than 10% of the shares (see La Porta et al. 1999), then we find that the 1990 sample is less dispersed than either the 1920 or the 1950: 40% of the sample firms were dispersed in 1990, as compared with 43% in 1920 and 49% in 1950. Other measures give a more nuanced picture. For example, C1, the fraction of share ownership of the largest shareholder, is 20.8% in 1920 and 15.0% in 1950. These figures compare with 16.3% in 1990, that is, it lies between the two. Other measures such as W20, the holdings of directors and their families, Herfindahl and C5 reinforce these conclusions, namely that the three samples are similar in terms of overall dispersion, with the 1990 sample being slightly more dispersed than the 1920 sample, but slightly more concentrated than the 1950 one. While some of these differences are statistically significant reflecting the large sample sizes, they are all economically small.

These findings suggest that the landscape of ownership in the U.K. is very similar at different moments in time during the century. Of course, whether ownership concentration is overall high or low raises questions about the appropriate benchmark against which to evaluate it. Relative to atomistic ownership, our concentration measures are high. Relative to levels of ownership dispersion observed in supposedly dispersed ownership systems such as the U.K. and the U.S. at the end of the 20th century we find that concentration in the U.K. at the beginning of the century was not high and relative to concentrated ownership systems such as Continental Europe today, concentration was low in the U.K. throughout the century. Ownership concentration

was very similar in 1920 to what it was in 1950, at least in terms of economic significance.

However, cross-sectional comparisons are affected by changes in sample composition and do not establish how ownership of particular firms evolve. For this purpose we construct long-run panels of firms. Table 3 documents the smallest ownership coalition (including both insiders and outsiders) that passes a combined threshold of 25% at different stages during the century. Table A5 reproduces the same statistics for a 50% threshold. It records very similar results to Table 3. The remainder of the discussion will focus on the 25% threshold, since other measures cannot be reproduced for the higher threshold.[15]

Panel A of Table 3 refers to the complete 1900 sample and Panel B to the 1960 sample. The variable "all shareholders" is the size of the smallest coalition of directors and outsiders combined that is required to pass a 25% cash-flow threshold. The mean minimum size of the coalition rises from just above 2 in 1900 to about 7 in 1910 to 10 in 1930, peaking at 58 in 1980. Median dispersion is lower reflecting the skewed nature of the distribution, a small number of firms having high levels of dispersion.

The remaining columns refer to the minimum average size of coalitions of directors and outsiders, respectively, which individually cross the 25% threshold. To illustrate, in 1900 directors could on their own cross the 25% threshold in 39 of the 40 companies and on average it took 1.77 directors to do this. In the same year, in only 10 companies could outsiders on their own cross the 25% threshold and it took on average 15.40 shareholders; in the remaining 30 no such coalition could be formed from outsiders alone. By 1920 this position had been reversed. There were then more companies in which outsiders could cross the 25% threshold than insiders, 27 as against 26. By the end of the century there were just 3 companies in which directors could on their own cross the threshold compared with 19 for outsiders out of the 20 survivors.

We therefore observe steadily increasing dispersion of ownership through the century with outsiders progressively replacing insiders as the dominant shareholders. In 1900 it took 15 outsiders on average to cross the 25% threshold. whereas by 1980 it took over 60. In contrast, while there were progressively fewer companies in which

[15] Our measures of dispersion refer to ownership at the first tier only. Since large blocks of shares are frequently held by institutions on behalf of other investors, ultimate shareholdings will in general be more dispersed. However, measurement of dispersion at the first tier may be justified by the fact that it captures concentration of control rather than cash flow rights better than that at higher tiers.

directors could pass the threshold, the number of directors it took to do so remained fairly constant at between 1 and 3. The sample therefore bifurcates between those firms where insider ownership is being diluted and outsiders are progressively replacing them and a declining minority of companies in which a small number of insiders continue to dominate.

Panel A also reveals another feature and that is a reversal of dispersion in the last two decades of the century. The mean number of shareholders in the 1900 sample required to pass the 25% threshold declined from 57.9 to 48.4 between 1980 and 2000 and the median from 8 to 3. The cause of this was the rise of institutional shareholdings that continued the transfer of ownership from insiders to outsiders and raised the concentration of outside shareholders. For example, the average size of share blocks held by financial institutions in the 1900 sample rose from 6.5% in 1980 to 12.8% in 2000.

In Panel B, the 1960 sample shows a similar pattern to the 1900 sample: the number of companies where directors can form a coalition steadily falls over the 40 years, while the number of companies with outsider coalitions rises sharply. However, the size of the coalition is generally lower for the 1960 than the 1900 sample, implying greater concentration in the 1960 sample.

In 1940 a coalition of about 15 shareholders is required to pass the 25% threshold compared with only about 4 for the 1960 sample in 2000. For directors in 1940, there are 13 cases where a coalition of 25% or more could be formed compared with only 5 cases in 2000. But the main difference is in the number of outside shareholders required to reach the 25% threshold. In 1940 on average 22 shareholders were required whereas in 2000 only just over 5. While there is therefore substitution of outside for director ownership in the 1960 as in the 1900 sample, concentration of outside and overall ownership remains higher in the 1960 sample.

In Panels C, D and E we report t-statistics comparing the size of the coalition in the 1960 sample with the full 1900 sample, the survivors in the 1900 sample only and the non-survivors, respectively. The only year in which there are significant differences is 2000 versus 1940 in the survivors' sample in Panel D. The size of the coalition is then significantly smaller in the 1960 sample at the 5% level.

In Table A5, we repeat the analysis for a 50% instead of a 25% ownership threshold. The overall picture is very similar: a smaller coalition of all and, in particular, outside shareholders is required to cross this higher threshold in the 1960

sample than in the 1900 sample. For example, on average only 15 shareholders are needed to form a coalition in 2000 for the 1960 sample compared with about 37 in 1940 for the 1900 sample.

The main result to emerge thus far is that dispersion of ownership is at least as great in the 1900 as in the 1960 sample and possible slightly higher in some years. The threshold measures provide a particularly informative description of the control that shareholders can exert. However, for completeness, in Table 4 we examine more conventional measures of ownership concentration used in the literature, namely the size of the directors' holdings, the size of the largest three (C3) and five (C5) shareholdings, with the C3 measure broken down between insiders and outsiders, and a Herfindahl index.

As observed above in relation to Table 3, concentration amongst directors is lower in the 1960 than in the 1900 sample (significant at the 5% level overall). Further, C3 is higher in 1940 for the 1900 sample than in 2000 for the 1960 sample, although the difference is statistically insignificant; this largely reflects different patterns of insider ownership (C3i). In contrast, C3o is significantly higher (at the 1% level) over the first 40 years in the 1960 than in the 1900 sample. Panels D and E show that the lower level of concentration of outsiders in the 1960 sample holds in comparison with both the 1900 survivor and non-survivor samples. The higher concentration of outsiders in the second half of the century reflects the rise of institutional investors.

Comparing changes over time in Panels A and B of Tables 3 and 4 illustrates the advantage, referred to above in the methodology section, of the critical threshold measures over conventional concentration indices. The decline in the concentration indices in Table 3 of the 1960 relative to the 1900 sample (Panel B relative to Panel A) is faster than the increase in the minimum number of shareholders in Table 3 of the 1960 relative to the 1900 sample. This is associated with a switch from inside to outside ownership, which became more rapid as the century progressed. As institutional ownership increased, outside ownership became more concentrated. There were therefore differences between the two samples in the change in concentration indices without corresponding differences in the change in the critical number of controlling shareholders.

Table 5 reports the factors contributing to changes in directors' shareholdings. To illustrate our calculations, consider the decade between 1900 and 1910. Table 4

shows that directors' ownership declined by 39.15% from 92.76% in 1900 to 53.61% in 1910 (see Panel A of Table 3). Table 5 records that 39.06% of this decrease, referred to as 'impact', is associated with acquisitions. The 25 stock acquisitions between 1900 and 1910 therefore account for a decrease in directors' ownership of 15.34% (i.e. 39.15 x 39.06%). Similar computations for the 1960 sample show that the 27 acquisitions during the decade 1960-70 account for a decrease of 28.92% in directors' ownership.[16] There are a number of striking features about Table 5. First, the decline of insider ownership is rapid in both the 1900 and the 1960 samples. Within ten years directors' shareholdings in both samples decline very significantly by 39.15% and 53.04% respectively. As described above, the rapidity of the decline is higher in the 1960 than in the 1900 sample. Second, the main reason for the decline is not sales of shares by directors in the secondary market, at least in the first half of the century for the 1900 sample. Instead, over the period 1900 to 1950, issues of shares associated with acquisitions, rights issues and placings account for 56.43% of the decline.[17] Third, of this decline through issues of shares, more than half (35.06% of the 56.43%) is associated with acquisitions. Issue of shares in takeovers is the single most important cause of the decline in director holdings.

Companies in our samples issued three classes of securities: ordinary shares, preference shares and debentures. Ordinary shares accounted for just less than 60% of issued securities in both 1920 and 1930 by face value. There was only one class of ordinary shares and, unlike Continental European companies, a complete absence of dual class shares with differential voting rights.[18] The absence of dual class shares was

[16] Note that the various factors do not sum to 100, the residual being primarily due to sales of shares by directors.

[17] 56.43% is the sum of the reductions in director shareholdings attributable to each of the three types over the total reduction in directors' shareholdings. For example, a reduction in shareholdings due to acquisitions in 1900-1910 is 39.15 x 39.06%. The sum of these reductions over all three classes over all five decades is the numerator of the fraction equalling 56.43%. The denominator is the total reduction in directors' shareholdings over the 5 decades.

[18] Florence (1953) refers to the existence of shares with differential voting rights in his sample of companies. Evidence on capital structure in our sample strongly suggests that these are primarily associated with preference shares, not with dual class shares or pyramids. However, these arguments may raise a concern that, at least for some time periods, we might not have ultimate ownership of shares. While shareholding pyramids and dual class shares have not been a feature of corporate ownership in the U.K. (except briefly during the 1960s, see Franks, Mayer and Rossi (2005)), nominee shareholdings on behalf of beneficiaries have been widespread. If insiders hold shares through (several) different nominees, then we may be under representing the true extent of ownership concentration in the U.K.
We have collected information on non-ultimate owners and nominee shareholdings for the 1900, 1920 and 1950 samples and find that while both were present, they only accounted for a minority of total holdings. For example, when present (in less than 20% of the companies), non-ultimate owners account for 15% or less of total holdings both in 1920 and in 1950. By contrast, nominee shareholdings are almost absent in 1920 and account for a conditional average stake of 3.5% in the 33 cases when they are

by choice rather than by law – the U.K. has never had regulation prohibiting dual class shares. However, widespread use was made of preference shares, around 30% of issued securities in our sample. In fact, several companies had more than one type of preference share. These shares in general do not carry voting rights and in return receive a preferential dividend. The remaining 10% of securities were debentures.

Table 6 describes the growth of issued ordinary equity of the 1900 sample in Panel A and of the 1960 sample in Panel B. The mean annual growth of issued equity was 10.6% over a hundred years for the 1900 sample and 22.1% for the 1960 sample over the remaining 40 years of the century. The mean growth rate in the first forty years of the 1900 sample was 10.8%. In both samples, much of the growth is concentrated in the first decade.

The last four columns of Panel A record the percentage of equity issued for acquisition and internal investment. Acquisitions are broken down into those that used cash and equity as the medium of exchange. In a cash acquisition, equity is issued for cash in advance of the transaction with the stated intention of acquiring another firm while, in an equity offer, the acquiring company's shares are exchanged for those of the target at the time of the transaction.[19] Equity issued for internal investment is disaggregated into issues made to existing and new shareholders.

Panel A shows that in the first decade of the 1900 sample, equity was issued virtually exclusively for acquisitions. There was little or no equity issued for internal investment. During the century as a whole, cash and equity acquisitions together accounted for 71% of equity issued by the 1900 sample and 64% by the 1960 sample.

A majority of the equity issued for acquisitions was associated with equity exchanges rather than cash purchases. This is particularly pronounced in the 1900 sample. A higher percentage of equity was used to finance internal investment in the 1960 than the 1900 sample, particularly in the first decade after incorporation.

Panel C reports the statistical significance of the differences between Panels A and B in the first four decades after incorporation. The first column compares 1960-70 with 1900-10, the second 1970-80 with 1910-20 etc. The rows report t-statistics for differences in total growth, growth attributable to share acquisitions, cash acquisitions,

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present in 1950. If anything, the extent of non-ultimate and nominee shareholdings is larger in 1950 than in 1920 or 1900. These results confirm our conclusions that corporate ownership in the U.K. was similar in the first and half second half of the 20th century.

[19] Cash acquisitions financed from debt and cash reserves are not shown.

and financing of internal investment. In panels D and E, the 1960 sample is compared with the 1900 survivors and non-survivors.

Row 1 of Panel C shows that growth rates of issued equity are significantly higher at the 5% level in the 1960 sample than in the complete 1900 sample. This is particularly pronounced in the first decade after incorporation and is entirely associated with the 1900 non-survivors (Panel E). There is no significant difference in the comparison of the 1960 sample with the 1900 survivors (Panel D). Rows 2 to 4 show that the difference in growth is associated with equity issued for internal investment rather than for acquisitions, particularly in the first and fourth decades after incorporation.[20]

In summary, the overwhelming use to which equity issuance was put in the first and second half of the century was the financing of acquisitions. Most was used in the direct exchange of shares rather than in cash purchases, particularly in the first half of the century. Equity issuance for internal investment was slightly greater in the second than the first half of the century but modest in both. Rates of growth of equity capital are similar in the 1900 and the 1960 sample and differences are restricted to comparisons of the 1960 sample with the sample of non-surviving 1900 firms.

The significance of acquisitions in our samples is consistent with Hannah's (1976) observations of a large amount of takeover activity in the U.K. during the 20th century, particularly in three merger waves during the first half of the century, around 1900, 1920 and 1930, and with Meeks and Whittington (1975) statements on the importance of equity in the takeover process: "in 1964-9, the giant (or mature) corporations …typically financed almost 70% of their growth by new issues; and even the rest of the sector financed more than half (56%) of their growth through the capital market in this period…more than half of these external funds were raised in the course of share for share exchanges on the acquisition of new subsidiaries" (p. 832).

One example of this is GKN, a company that was involved in a particularly large amount of acquisition activity in the 1920s. First, the company acquired John Lysaght Limited of Bristol (quoted in Bristol and London) in one of the largest tender offers of the decade. GKN then undertook two other major tender offers in November 1923, acquiring D Davis and Sons and Consolidated Cambrian of Cardiff. In both cases 96% of the outstanding ordinary shares were exchanged. As a consequence of

[20] These results continue to hold when the three companies in the 1900 sample that died within 40 years of incorporation are excluded.

these acquisitions, there was a huge increase in the number of shareholders: GKN had about 1,000 shareholders before 1920 and more than 20,000 in 1924.

The results provide little support for the importance of investor protection to external financing. There was a great deal of equity issuance in the first as well as the second half of the century in the absence of investor protection. Acquisitions were a primary use of new equity throughout. There is some evidence of more equity issuance to fund internal investment in the second half of the century but only when the 1960 sample of firms is compared with a sample of non-surviving firms in the first half. Furthermore extending the law and finance thesis to takeovers, improved investor protection should have encouraged target shareholders to accept equity as the medium of exchange in acquisitions in the second half of the century (see Rossi and Volpin 2004 for a discussion of this). That is not what is observed here; on the contrary, exchanges of shares accounted for a higher proportion of acquisitions in the first than in the second half of the century.

4.2 Dispersion and mutation

In this section we estimate measures of rates of dispersion and mutation of ownership of the two samples of firms. An analysis of rates of change has the advantage over levels of being less influenced by initial conditions. Panel A of Table 7 reports rates of dispersion of ownership for all shareholders in the 1900 sample, and for inside and outside shareholders separately. The rate of dispersion for all shareholders in the first decade is 5.93% per year. This tells us that the number of shareholders required to form a coalition of at least a 25% shareholding increases at a rate of 5.93% per year over the decade. For example, if the number of shareholders required to meet the 25% threshold had been 5 in 1900 it would have been 8.9 in 1910.[21]

For the 1900 sample, rates of dispersion in the first half of the century are generally higher than in the second half. They are close to zero from 1960 onwards, and actually negative in the eighties, suggesting an increase in concentration arising from the formation of blocks, as reported in previous tables. Dispersion rates for directors are positive for all decades except two and particularly high for the decades 1900 to 1940 and 1970 to 1990.

[21] Note that it is not possible to relate these figures exactly back to those in Table 3, since numbers constructed from averages of growth rates are not the same as those derived from averaging across the firms themselves.

The rates of dispersion for the 1960 sample are shown in Panel B. In Panel C, we compare the dispersion rates of the two samples for the first four decades after incorporation. The evidence suggests that dispersion rates for the two samples are not very different. Focusing initially on the comparison for 'all shareholders', we find that in two of the four decades dispersion rates are higher for the 1960 sample. Only in the second decade, is the difference statistically significant (at the 10% level) and then it is the 1900 sample that has the higher rate of dispersion. Although differences can be economically large in individual decades, averaged over the first four decades they are not, 3.65% for the 1900 sample and 3.63% for the 1960 sample.

For the first four decades after incorporation dispersion rates for 'outsiders' are greater in the 1960 sample, and the difference is statistically significant. This is mainly attributable to the first decade, 1960-1970, and reflects the relatively high number of IPOs in the 1960 sample (10 out of 20 companies). The fact that rates of dispersion do not differ for 'all shareholders' in the first decade for the two samples suggests that sales by directors in IPOs in the 1960 sample were purchased by large outside shareholders, i.e. there were high rates of mutation of ownership.[22]

Panels D and E report t-tests comparing the 1960 sample with the 1900 survivors and non-survivors respectively. The results are very similar to Panel C and suggest that survivorship is not an issue for tests of dispersion of ownership.[23] One of the interesting implications is that, despite the fact that the growth in equity of survivors is greater than that of non-survivors rates of dispersion of ownership were similar. The reason for this is that most of the difference in growth is due to internal investment and, as we will report in the next section, it is equity issuance for acquisition rather than internal investment that accounts for dispersion of ownership.

In Table 8 we describe mutation of ownership and control, a measure of the stability of the membership of the smallest coalition necessary to pass the 25% threshold. High rates of mutation are associated with rapid changes in the control of firms. Panel A reports much higher rates of mutation in the 1900 sample in the second than in the first half of the century. The average rate of mutation or turnover of the coalition is 26.52% per annum in the 1900 sample. The corresponding figure for the

[22] Although the post IPO outside blocks must have been smaller than the pre IPO blocks as indicated by the increase in dispersion of outside shareholdings.

[23] In Table A6, we report results using a threshold of 50%. The picture is very similar with high rates of dispersion at the beginning of the century, and no significant difference of overall dispersion rates between the first four decades of the 1900 and 1960 sample.

1960 sample is 40.10% per annum. Another interpretation of these mutation measures is that the average length of membership of the ruling coalition is about 4 years in the 1900 sample compared with only 2.5 years in the 1960 sample.

Panel C reports results from t-tests comparing rates of mutation for the first four decades for both samples. The levels of significance reported in this table stand in marked contrast to those on dispersion. The 1960 sample has strikingly higher rates of mutation than the 1900 sample, and the differences are statistically significant at the 1% level for all classes of shareholders. The higher rates of mutation are particularly pronounced in the third and fourth decades. Similarly, rates of mutation of the 1900 sample are much higher post-1940 than pre-1940 and particularly so after 1980. The same highly significant results are observed when comparing the 1960 sample with both the 1900 survivors and non-survivors in Panels D and E respectively.[24] As in the case of dispersion, comparisons of mutation rates are not particularly sensitive to survivorship. Intensification of regulation during the century therefore appears to have been associated with steadily higher rates of mutation rather than dispersion of ownership.

In summary, we observe that rates of dispersion of ownership were similar in the two halves of the century but rates of mutation of the coalition of shareholders were appreciably higher in the second half. The implication is that there were more liquid markets in and for corporate control in the second half of the century. Greater liquidity in share stakes potentially made it easier for active investors to gain control of under performing firms exercising control either through the share stake itself or through a subsequent full-scale tender offer.

4.3 Regression results

In this section we report regression analyses of rates of dispersion and mutation to establish whether the results carry over to a multivariate setting. Thus far we have been unable to control for the numerous other factors that might influence dispersion and mutation rates. In this section we control for these by including time and firm effects and we provide a direct test of how dispersion and mutation relate to equity issuance and the LLSV and LLS indices.

[24] The last row of Panels C, D and E of Table 7 records differences in mutation of board representation as well as director ownership. It shows much higher levels of board turnover in the 1960 than the 1900 sample.

The dependent variables in Tables 9 and 10 are rates of dispersion and mutation for "all shareholders" as described in Tables 7 and 8 respectively. The main independent variables are four measures of investor protection and enforcement: anti-director rights, disclosure standards, liability standards, and public enforcement, as described in Table 1. Additional explanatory variables include firm-level variables such as equity issued for internal investment, equity issued for acquisitions, dispersion of equity at the beginning of the decade, size and decade and industry dummies.[25] The results show that none of the proxies for investor protection and enforcement positively affect dispersion; if anything the relationship is negative. Investor protection does not therefore explain dispersion of ownership in the U.K.

The results show a significant negative relation of rates of dispersion during a decade with initial levels of dispersion measured at the beginning of the decade. Thus the higher the initial level, the lower the subsequent rate of dispersion. More interestingly, the results show a positive relation between rates of dispersion and equity growth rates resulting from stock acquisitions but not from equity issued to fund internal investment. Although not shown in the table, this result continues to hold when the equity growth rate variables are instrumented. Also, when we split the samples into the 40 surviving and the 20 non-surviving companies, we find no significant difference in the estimated coefficients on the two sub-samples.

In contrast, there is a consistently significant relation between rates of mutation in Table 10 with LLSV's and LLS's proxies of investor protection and enforcement. Anti-director rights, disclosure standards, liability standards, and public enforcement are all associated with significantly higher rates of mutation, confirming an earlier result that regulation made stock markets more liquid and facilitated the transfer of inside blocks to outside shareholders. As might be expected, mutation during the decade is directly related to dispersion of ownership at the beginning of the decade and there is some evidence that equity issued for internal investment is associated with higher mutation. The latter result is not, however, robust to instrumenting the growth rate variables.

Dispersion of ownership is therefore associated with growth of issued equity, particularly in acquisitions, not with changes in regulation. Regulation, on the other

[25] In additional tests we also include demographic variables such as life expectancy of the male population and fertility rate, collected from the British Office of National Statistics; the results, available on request, are unaltered, and the coefficients on the demographic variables are statistically insignificant and economically small.

hand, is associated with greater liquidity of markets in controlling shareholding blocks. In the absence of investor protection, controlling shareholdings were comparatively stable and relations based on trust allowed firms to issue equity that dispersed ownership rapidly. The strengthening of regulation promoted markets in and for corporate control that undermined relations based on trust, and made it easier for a market in corporate control to develop.

5 Trust

If investor protection does not explain the evolution and dispersion of ownership in the UK, what does? In this section we suggest that informal relations of trust rather than formal systems of regulation promoted the development of capital markets and dispersion of ownership in the UK.

In economics, trust is associated with reputation and commitment between players engaged in repeated games with each other (e.g. Kreps and Wilson (1982), Milgrom and Roberts (1982), Gomes (2000)) and with the emergence of particular institutional arrangements (e.g. North and Weingast (1989), Greif (1993) and Mauro and Yafeh (2003)). In law, a distinction is drawn between contracts where there are reciprocal arrangements between parties and trust law where there are unidirectional agreements between beneficiaries and trustees. Where there is no reciprocity in trusts on the part of the beneficiary there is a greater fiduciary responsibility on the other party, namely the trustee. Trust arrangements carried over to company law because of the analogous relationship between directors and their dispersed shareholders with that of trustees and their beneficiaries.[26]

Our concept of trust in a corporation draws on both economics and law and refers to actions by the director of a firm that are dictated neither by contract nor by regulation. By trust we mean conformity with accepted norms of behaviour in the

[26] Trust and fiduciary duty is a firmly established concept in English law. The fiduciary responsibilities of directors derive under English law from principles of "equity" and not common law. LS Sealy (1967) describes in his classic article "the Director as Trustee", that at first directors and trustees were essentially regarded as one and the same and any difference was semantic: 'the directors had accepted an appointment or "trust"; therefore they were "trustees" and accountable for "breaches of trust"'. However, there are also important distinctions: trustees act by unanimity, directors by majority. Directors can own shares in their own companies, they may rely on the opinions of others, they can plead that their actions were governed by business judgement and they can devote only a modest amount of time to their functions. Having established that a director was in a position of trust in relation to the company, the law then stood back from imposing the strict obligations of a trustee on directors and allowed directors considerable discretion in the exercise of their duties. The Cohen committee (1945) recognized the importance of this distinction when they commented: "the use of the term 'trustee' may well lead the debenture-holder to the belief that he is getting more effective protection than is the fact."

absence of explicit incentives or penalties to do so. It can derive from repeated interactions as described in the economics literature, from moral and ethical codes, or from the social conventions and networks discussed in the extensive sociological literature on the subject (see for example Banfield (1958), Coleman (1990) and Spagnolo (1999)).

We provide evidence of trust based upon shareholder proximity and an equal price rule in mergers. First, following Lavington (1921), in Section 6.1 we argue that the local nature of stock exchanges played an important role in the development of trust between directors and investors. We show that ordinary shareholders lived close to the company's city of incorporation and its board of directors and we argue that relations of trust flourished as a consequence of this close proximity of investors to firms.[27]

Second, in Section 5.2 we examine the way in which firms made offers to shareholders in takeovers and mergers and we provide evidence that the same price was offered to all shareholders even in the absence of a specific regulatory or contractual requirement. We argue that relations of trust created the conditions in which interactions between firms and investors were repeated and where directors therefore had incentives to sustain their reputations amongst local communities.

This thesis suggests that target directors played an important role in validating the terms of acquisitions and that target shareholders placed considerable reliance on their recommendations. Section 5.2 reports qualitative evidence on this and in Section 5.3 we undertake a more formal test by examining the relation between retention of the chairman of the board, the distance between acquiring and target firms, and the medium of exchange. Were trust harder to sustain over long distances then we would expect to observe a higher level of retention of the chairman of the board of the target in mergers between distant firms compared with those in close proximity. We would also expect to observe a greater reliance on the advice of the target directors where the equity rather than the cash of the acquiring firm is on offer.

[27] There is a growing literature on the relevance of distance to banking (Degryse and Ongena (2005) and Petersen and Rajan (1994) and (2002)), securities markets participation (Grinblatt and Keloharju (2001), Hong, Kubik and Stein (2004)), and financial development (Guiso, Sapienza and Zingales (2004), (2005)).

5.1 Distance

We collected comprehensive data on the shareholder records of twenty-six companies in 1910. We recorded the names and addresses of shareholders, and calculated the distance between the shareholder's address and the city of incorporation. Using the data on distance, we compute measures of proximity, including simple and weighted average distances, the median distance, and the proportion living within six miles of the city of incorporation. We collected data on all directors' shareholdings and those of the largest ten outside shareholdings. In addition, we randomly sample every tenth shareholder, with a minimum of 200 shareholders. We also collected the same data for holders of preference shares. We also collect data on distance of all shareholders with shareholdings larger than 1%, distinguishing between insiders and outsiders, for fifty-three companies in 1920 and fifty-five companies in 1950.

In Panel A of Table 11 we report results for the sample of twenty-six companies in 1910, where the average number of shareholders is 320. The mean distance between ordinary shareholders' addresses and firms' cities of incorporation is 52.2 miles and the median is 15.4 miles. The proportion living within six miles of the city of incorporation is 56%.[28] Geographical concentration was therefore remarkably high even where ownership was dispersed. For one company, GKN, we found that geographic dispersion sharply increased over the period 1910 to 1950. Average distance of shareholders to the head office in Birmingham rose from 69.5 to more than 150 miles.

Panel A of Table 11 also records that the distance between shareholders' addresses and cities of incorporation is greater for preference than for ordinary shareholders and the difference is statistically significant. The greater distance of holders of preference shares may reflect the higher priority of their claims and the less discretion of management over the size of their dividends.

We also compute for our 1920 and 1950 cross-sectional samples the median distance by company, the median distance of insiders and the median distance of outsiders. Panel B of Table 11 records that the distance of both inside and outside shareholders increased considerably from 1920 to 1950. While there could be other

[28] There are two reasons why this last figure is if anything an understatement of geographical concentration. First, where the city of incorporation is not in the same city as the local stock exchange, shareholders often cluster around the latter. Second, in the case of companies incorporated in London distances greater than six miles may be recorded for investors living in the Greater London conurbation. Thus, the metric of less than six miles may be inappropriate where the city of incorporation is a large metropolis, like London.

explanations, the greater distance in 1950 may be related to a breakdown in trust that coincided with the strengthening of investor protection with the 1929 and 1948 Companies' Acts.

5.2 Discriminatory pricing in takeovers.

Even today, discriminatory pricing in takeovers is commonplace. Franks and Mayer (2001) document clear evidence in Germany of discriminatory pricing between large block holders and small investors in takeovers during the 1990s.[29] But surprisingly this was not a feature of takeovers in the U.K. in the first half of the 20th century.

During the first half of the century takeovers were negotiated between the boards of directors of the relevant companies. Hannah (1974b) describes the takeover process as follows: "An approach through the directors, followed by controlled stock transfers on the recommendations of the directors (rather than contested takeover raids) remained the norm in these years" (p. 68). For example, in the acquisition of John Lysaght Limited by GKN, the directors agreed the terms of the deal (i.e. an exchange ratio) and then wrote to their shareholders stating that "the offer has been unanimously accepted by the Directors of your company for the whole of their individual shares, and they have no hesitation in recommending its acceptance to the shareholders."[30] The same terms would be offered to outside shareholders as to the directors.

Hannah (1974b) describes how in the first half of the century "the loyalty of shareholders to directors was strong, and the directors of other companies had a natural aversion to challenging it. Even if a direct bid were to be made, the directors of the victim firm remained in a strong position relative to their own shareholders. In practice the shareholders would recognize the superiority of the directors' information and tend to take their advice on the true value of the company in relation to the bid price" (p. 70-71). "Directors felt a responsibility to recommend offers to their shareholders when the bid price was pitched reasonably" (p. 68-69).[31] This may have reflected a concern on

[29] See also Dyck and Zingales (2004) for international evidence of private benefits of control arising from discriminatory pricing in block purchases.

[30] Quoted in *Financial Times*, Monday 19 January 1920.

[31] It was part of a wider role for trust in British financial affairs. In response to a suggestion of tightening regulation of the issuance of prospectuses, the *Economist* asked whether it "might not be wise to devote increased attention to the possibility of reforming public taste rather than the statute law. Many things which are perfectly legal in this country are not the acts of a gentleman" and are "just not cricket" (July 10, 1937, p. 86). Likewise May (1939) noted, "In England good practice is derived chiefly from the individual's strict, unwritten ethical code and self-imposed discipline and from his voluntary restriction of conduct well within the confines of the technical law. Etiquette compensates for the absence of legally accountable trusteeship" (p. 496).

the part of directors to preserve their reputation amongst local investors so as to sustain the value of their equity and thereby their ability to raise equity at low cost in the future.[32]

Table A7 describes some characteristics of the takeover process in the U.K. in the first half of the century. Panel A lists all acquisitions undertaken by our sample of firms where equity was used as the medium of exchange. Twelve of the target companies are private and not listed on any stock exchange, although they frequently had a large number of shareholders.[33] The other six targets are listed companies and in all cases there are no pre-bid toeholds and offers were made to all outside shareholders at the same price as that paid to directors for their holdings. The outcome was that between 96% and 100% of shares were acquired. Panel B lists the 33 large tender offers in Hannah's (1976) sample. It records that in 27 cases the medium of exchange was at least part equity and that in 31 cases the outcome of the bids involved the acquisition of between 92% and 100% of outstanding shares.

We undertook an extensive search of the Financial Times (FT) to find mention of the terms on which acquisitions were made in the first half of the 20th century. We found data on 27 mergers.[34] Panel C of Table A4 quotes the precise public statements by the directors of the target company or the reference to the directors' recommendation reported in the FT. It records that in most cases there is a specific reference to equal terms for directors and outside shareholders, and in other cases equal terms can be inferred from the description. In contrast to this equal price rule for the U.K., there were discriminatory block purchases in the latter part of the century in other countries; for example, Dyck and Zingales (2004) estimate private benefits of 9.5% for Germany using the measure employed by Barclay and Holderness (1989).

Finally, we examined other equity issues by companies in our sample for purposes other than acquisitions. We find that where a company's equity is traded, shares are usually offered to existing shareholders pro rata. In the two exceptions, we compare the issue prices with market prices to determine if insiders received new shares

[32] Titled directors were frequently used as methods of upholding corporate reputations. Florence (1953) reports that there were 654 English peers active in city firms in 1932. "One well-known insurance company in 1937 had among sixteen directors, three knights, one baron, one marquis, one earl and two dukes" (p 245). Likewise, May (1939) reports that of 654 British peers, 189 of them were directors of companies and held 562 directorates between them.

[33] For example, in the case of the acquisition of Lamert by De La Rue, the number of target shareholders exceeded 1000.

[34] Four of the 27 mergers came from the 1900 sample, as reported in Panel A of Table A4, 15 from Hannah's (1976) sample as reported in Panel B of Table A4 and 8 additional acquisitions were found during the course of the exercise.

at preferential prices. We found that in one case, General Electric later Marconi, the insiders purchased shares at a 6% discount but that the issue represented less than 5% of outstanding equity. In the other case, Bleachers Association, later Whitecroft, insiders paid a small premium.

While it is impossible to say whether insiders received benefits not reflected in transaction prices,[35] it appears that the U.K. did not follow the Continental European practice of two-tier equity offerings, purchasing a block of shares at one price and leaving a substantial residual minority on the market at another. An equal price treatment of shareholders prevailed in the first half of the 20th century in the U.K., even in the absence of a formal regulatory rule to that effect.

5.3 Distance, medium of exchange and survivorship of target directors

We conjecture that where equity was the medium of exchange then the directors of the target firm played a particularly important role in sustaining the trust of the target shareholders. Likewise, we argue that their advice was particularly critical where the acquiring and target firms were geographically separated and where reliance could not therefore be placed on the proximity of the directors of the acquiring firm. We would therefore expect that the chairman of the target was more likely to join the board of the bidder as the proportion of equity in the medium of exchange and the distance between the acquiring and target firm increased.

We obtained data on 27 of the mergers reported in Table A7 including the names of board members before and after the merger, the distance between the acquirer's and the target company's address, the means of payment, and the size and industry of acquirer and target. In 16 out of 27 cases, we find that the chairman of the target joins the board of the bidder. In addition, there is an average survivorship of 70% of the directors of the target board. In comparison, a study of 35 successful hostile takeovers in 1985 and 1986 by Franks and Mayer (1996) reports 90% of directors being replaced within two years of the bid. The equivalent figure for 35 accepted bids was

[35] At the company meetings discussing the amalgamation of Alfred Hickman and Stewart and Lloyds, Mr. J.G. Stewart, chairman of Stewart and Lloyds, said: " I have been reminded, only a few hours ago, that I might be asked today at this meeting whether the directors have been given any consideration in any shape or form whatever to enable them to see their way to advise this amalgamation. I can only say this, gentlemen, that not one farthing, directly or indirectly, has been or will be paid to anybody whatever, either on the staff or on the Board of either of these companies, other than one share in Stewarts and Lloyds and 7s 6d in cash per share for whatever shares they hold." FT Monday 30 August 1920.

50%. Board turnover was appreciably lower in the first half of the century than it was in both accepted and hostile bids in the second.

In columns 1 and 2 of Panel C of Table 11, we report the results of a probit regression of chairman survivorship on distance between target and bidder's city of incorporation, the proportion of equity in the transaction, the target bid premium and the ratio of the book value of equity of the target firm to that of the bidder.[36] We find that the likelihood of the target chairman joining the board of the bidder increases in the distance between the target and the bidder. Without the other variables, the coefficient is significant at the 10% level. It becomes significant at the 5% level when we introduce other variables. A 10-percent increase in distance between the merging firms is associated with a 7.7% increase in the probability of survivorship of the target chairman. Equity as a percentage of the value of the transaction is positive and significant: the higher the proportion of equity in the transaction, the more likely is the chairman to sit on the bidder's board, reflecting a greater need to sustain relations of trust. A one percent increase in the share of equity is associated with a 2.2% increase in the probability of survivorship of the target chairman.

In the last two columns we report the results of a tobit regression of the proportion of the target directors who survive the merger on the same set of explanatory variables. We find that the proportion of equity in the transaction is positive and significantly related to board survivorship. A ten percent increase in the share of equity is associated with a 6.6% increase in the proportion of the target directors surviving. Distance is also positively related to survivorship but the coefficient is not significant. This suggests that the promotion of the chairman to the merged board is the mechanism by which trust is upheld at distance, and that the retention of other members of the board is also important where target shareholders retain an equity interest in the merged firm.

6 Conclusions

This paper reports the first long-run analysis of the evolution of law, finance and ownership of corporations. It records that the mother of common law enjoyed a high degree of ownership dispersion from the start of the twentieth century. But the relation between law and finance is not straightforward. Common law did not promote investor protection: by any measure, investor protection was weak until the end of the 1920s and

[36] Data on chairman turnover and bid premia comes from Franks, Mayer and Rossi (2005).

strong only in the second half of the century. Ownership was dispersed in spite of weak investor protection.

How could this be possible? The answer we give is that dispersed ownership developed on the basis of informal relations of trust rather than formal systems of regulation. Shareholders had little recourse in courts but much influence in the communities and local markets of which they and their firms were a part. Even as it became dispersed, ownership remained geographically concentrated and directors were concerned to maintain their reputations amongst local investors. All shareholders including insiders sold their shares to acquiring firms at the same price and directors of target firms were frequently promoted to the boards of merged firms. Eventually, as local relations of trust became harder to sustain then formal investor protection emerged to substitute for them.

Was the U.K. an isolated case? Franks, Mayer and Miyajima (2005) record a surprisingly high level of ownership dispersion in Japan at the start of the twentieth century, with a large number of listed companies and a very large number of shareholders. Again ownership dispersion cannot be attributed to investor protection. It was almost as weak in Japan as it was in the U.K. But there were differences. Takeover waves were less in evidence in Japan and the purpose to which new equity was put was primarily to finance internal rather than external expansion.

Again ownership dispersion appeared to have more to do with informal relations of trust than investor protection. However, the institutional arrangements that fostered trust were not the same. Local stock markets were not prevalent in Japan. Individual promoters of shares took on a more active role in the oversight and management of firms in Japan than in the U.K. Different mechanisms therefore evolved to establish the basis of trust on which ownership could become dispersed. It is to an understanding of these that the study of both development finance and the history of developed capital markets might turn.

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Table 1 – Key developments in the regulation of U.K. capital markets

Panel A of the table reports the evolution over time of the anti–director rights index defined by La Porta, Lopez–de–Silanes, Shleifer and Vishny (1998). "The index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent (the sample median); or (6) shareholders have preemptive rights that can only be waived by a shareholders' vote. The index ranges from 0 to 6." (LLSV (1998) page 1123).

Panels B, C and D report the evolution of the new La Porta, Lopez-de-Silanes and Shleifer (2004) indices of disclosure requirements, liability standards and public enforcement. These indices combine information on whether prospectuses had to be issued, whether specific categories of information had to be disclosed in the prospectus (i.e. director compensation, share ownership, inside ownership, irregular contracts, transactions between related parties), liability standards (for the issuer and directors, distributors and accountants), and public enforcement (the characteristics of the supervisors of the securities markets, their investigative powers and sanctions).

Panel A – Index of anti–director rights over time using La Porta, Lopez-de-Silanes, Shleifer and Vishny's (1998) classification

Score	Period	Description of anti director rights provisions
1	1843 – 1947	Shares cannot be blocked before meeting (always been in place).
3	1948 – 1979	Proxy by mail allowed and percentage of share capital to call an extraordinary shareholders meeting <= 10%, *Companies Act 1948, Sections 136 and 132, respectively*.
4	1980 – 1984	Preemptive Rights to new issues, *Companies Act 1980 Section 17.*
5	1985 – today	Oppressed minorities, *Section 459 of Companies Act 1985*.

Panel B – Index of disclosure requirements over time using La Porta, Lopez-de-Silanes and Shleifer (2004) classification

Score	Period	Description of disclosure requirements
0	1843 – 1928	A prospectus is not required, by law, by the London Stock Exchange or Provincial Stock Exchanges. Shares can be traded and capital can be raised informally (i.e. without a prospectus), provided the issuer files a statement with the registrar. *Section 1 of Companies Act 1907, and Section 4 of Companies Act 1900.*
0.667	1929 – 1966	A prospectus is required by Section 35 of the Companies Act 1929. In the prospectus, the issuer has to disclose the compensation, inside ownership of each director, as well as all material contracts made by the issuer outside the course of the business, and all transactions in which related parties have, or will have, an interest. *4th Schedule of the Companies Act 1929.*
0.833	1967 – today	Requirement of disclosure of the name and ownership stake of each shareholder who, directly or indirectly, controls ten percent or more of the issuer's voting securities. *Section 33 of Companies Act 1967*.

Panel C – Index of liability standards over time using La Porta, Lopez-de-Silanes and Shleifer's (2004) classification

Score	Period	Description of liability standards
0	1889 – 1928	Rule in Derry vs. Peek 188 stated that fraud had to be demonstrated. Section 3 of the Directors' Liability Act 1890 shifted the burden of proof onto directors. Directors' Liability Act of 1907 and the Companies Act did not require issue of prospectus if registration of some prospectus information occurred. Also directors were immune from a lawsuit for practical purposes if the articles of association included provisions excusing negligence- LQR, January 1935: "The 1929 Act also stopped or rendered useless another practice which for some years rendered the directors of a company practically immune from liability to compensate their shareholders for losses caused or contributed to by the negligence of the directors."
0.333	1929 – 1947	Section 35(3) of the 1929 Companies Act required a prospectus and demonstration that the investor relied on the prospectus but made negligence sufficient for director liability. Directors could no longer exclude negligence from the articles of association.
0.667	1948 – today	Section 44 of the 1948 Companies Act made directors liable for untrue statements even if they were not negligent.

Panel D – Index of public enforcement over time using La Porta, Lopez-de-Silanes and Shleifer's (2004) classification

Score	Period	Description of public enforcement provisions
0	1843 – 1985	No public enforcement body exists. Financial frauds handled by the police fraud department.
0.745	1986 – today	Financial Services Act creates Self Regulatory Organizations, later centralized into the Financial Services Authority.

Table 2 – Cross-Sections of Ownership in 1920, 1950 and 1990

The table reports measures of ownership concentration. Panel A reports measures for two cross-sectional samples, one in 1920 and the other in 1950, and statistical tests of differences in means, medians and distributions. The measures include ownership 25 and 50, defined as the number of shareholders required to pass the thresholds of 25% and 50% of voting rights, respectively; total directors' shareholdings and their families; and alternative measures. Alternative measures are C1, the holdings of the largest shareholder; W10 and W20, a dummy that equals one if the largest shareholder owns more than 10% and 20% of the shares, respectively, and zero otherwise; C3, the aggregate holdings of the three largest shareholders, C3i, the aggregate holdings of the three largest inside shareholders (directors), C3o, the aggregate holdings of the three largest outside shareholders, C5, the aggregate holdings of the five largest shareholders, and the Herfindahl index. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively. Panel B describes C1, W10, W20 and C5 statistics in Franks, Mayer and Renneboog (2001), together with statistics of differences in means, medians and distributions across the three samples (1990 minus 1920 and 1990 minus 1920). Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Ownership concentration in U.K. in 1920 and in 1950

		1920	1950	Tests of differences 1950–1920	
Ownership25	Mean	5.32	5.18	t-test	–0.18
	Median	4.00	4.00	z-test	0.50
	[10th%, 90th%]	[1.00, 11.80]	[1.00, 10.60]	χ^2 test	0.04
	Std Dev.	4.44	3.63		
Ownership50	Mean	9.06	8.96	t-test	–0.08
	Median	9.00	8.00	z-test	–0.03
	[10th%, 90th%]	[2.00, 17.80]	[3.00, 17.00]	χ^2 test	0.58
	Std Dev.	6.07	6.00		
W10	Mean	43.40	49.09	t-test	0.59
W20	Mean	62.26	74.55	t-test	1.37
C1	Mean	20.86	15.00	t-test	–1.65
	Median	13.02	10.55	z-test	–1.34
	[10th%, 90th%]	[2.91, 46.57]	[2.99, 28.02]	χ^2 test	0.00
	Std Dev.	20.06	16.46		
C3	Mean	33.82	25.19	t-test	–1.80[c]
	Median	23.61	19.56	z-test	–1.17
	[10th%, 90th%]	[6.86, 81.25	[6.49, 53.36]	χ^2 test	0.59
	Std Dev.	28.44	21.05		
C3i	Mean	18.30	8.86	t-test	–2.48[b]
	Median	4.53	2.14	z-test	–2.06[b]
	[10th%, 90th%]	[0.30, 50.38]	[0.26, 20.06	χ^2 test	1.33
	Std Dev.	23.51	15.32		
C3o	Mean	19.70	19.78	t-test	0.03
	Median	13.91	14.15	z-test	0.44
	[10th%, 90th%]	[4.90, 44.77]	[5.71, 37.33]	χ^2 test	0.00
	Std Dev.	17.72	16.68		
C5	Mean	38.70	30.25	t-test	–1.66[c]
	Median	30.05	24.32	z-test	–1.07
	[10th%, 90th%]	[8.89, 90.39]	[8.83, 63.43]	χ^2 test	0.59
	Std Dev.	29.63	22.79		
Directors	Mean	16.56	9.23	t-test	–2.57[b]
	Median	3.53	2.16	z-test	–2.22[b]
	[10th%, 90th%]	[0.25, 49.98]	[0.26, 21.29]	χ^2 test	1.33
	Std Dev.	22.85	15.56		
Herfindahl	Mean	0.106	0.063	t-test	–1.53
	Median	0.028	0.020	z-test	–1.16
	[10th%, 90th%]	[0.003, 0.329]	[0.002, 0.129]	χ^2 test	0.59
	Std Dev.	0.162	0.134		
No Shareholders	Mean	942.9	842.0	t-test	–0.57
	Median	754.0	511.0	z-test	–0.58
	[10th%, 90th%]	[35.6, 1760.8]	[149.9, 2064.4]	χ^2 test	1.58
	Std Dev.	952.2	864.4		
No Obs.		53	55		

Panel B: Ownership in U.K. in 1990 (from Franks, Mayer, Renneboog 2001) and tests '90-'20 and '90-'50

		1990	1990–1920		1990–1950	
W10	Mean	40.74	t-test	–0.35	t-test	–1.13
W20	Mean	70.37	t-test	1.15	t-test	–0.62
C1	Mean	16.33	t-test	–2.03[b]	t-test	0.64
	Median	12.07	z-test	0.29	z-test	1.81[c]
	[10th%, 90th%]	[4.38, 29.89]	χ^2 test	0.00	χ^2 test	0.00
	Std Dev.	13.27				
C5	Mean	36.40				
Directors	Mean	12.96	t-test	–2.03[b]	t-test	1.35
	Median	2.71	z-test	–2.89[a]	z-test	0.51
	[10th%, 90th%]	[0.00, 43.78]	χ^2 test	2.30	χ^2 test	0.36
	Std Dev.	19.07				
Herfindahl	Mean	0.063	t-test	–2.69[a]	t-test	0.04
	Median	0.033	z-test	0.09	z-test	2.01[b]
	[10th%, 90th%]	[0.003, 0.143]	χ^2 test	0.09	χ^2 test	1.43
	Std Dev.	0.089				
No Obs.		243				

Table 3 – Evolution of ownership

This table reports the evolution of ownership over time for our sample. Ownership is defined as the minimum number of shareholders necessary to pass a threshold of 25% of cash flow rights, and is computed for all shareholders, for directors alone, and for outsiders, respectively. Frequency is the number of companies in which directors and outsiders pass the 25% threshold alone. Panel A refers to the complete 1900 sample, Panel B to the 1960 sample and Panel C to t-statistics of differences in means between the two samples (1960 minus 1900). Panels D and E report t-statistics of differences of the 1960 sample from the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Evolution of ownership – complete 1900 sample

	All shareholders		Directors		Outsiders		
	Mean	Median	Mean	Frequency	Mean	Frequency	N. Obs.
1900	2.35	1.00	1.77	39	15.40	10	40
1910	6.93	1.50	2.80	30	19.15	26	40
1920	9.92	2.00	1.96	26	23.93	27	37
1930	14.78	3.50	2.24	21	28.93	28	36
1940	14.84	5.00	2.00	13	22.00	23	32
1950	21.13	7.00	3.17	12	27.25	24	30
1960	24.83	10.00	4.00	8	31.65	20	24
1970	51.95	11.00	3.00	8	57.57	21	23
1980	57.86	8.00	1.80	5	61.24	21	22
1990	45.76	4.00	2.00	2	48.33	21	21
2000	48.45	3.00	1.67	3	53.58	19	20
Mean	22.49		2.33		35.12		

Panel B: Evolution of ownership – 1960 sample

	All shareholders		Directors		Outsiders		
	Mean	Median	Mean	Frequency	Mean	Frequency	N. Obs.
1960	1.10	1.00	1.10	20	0.00	0	20
1970	23.55	2.00	1.23	13	23.25	16	20
1980	15.05	1.00	2.08	13	20.12	17	20
1990	10.10	4.50	1.50	8	10.90	20	20
2000	3.85	3.00	1.40	5	5.25	20	20
Mean	9.09		1.42		14.40		

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	–1.29	0.95	0.50	–0.60	–1.59	–0.10

Panel D: 1960 vs. 1900 (survivors only) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	–1.53	0.55	0.23	–0.55	–2.04[b]	–0.23

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	–1.64	0.83	0.52	–0.50	–1.29	0.08

Table 4 – Alternative measures of ownership concentration

This table reports directors' shareholdings, and alternative measures of ownership concentration. The measures are C3, the aggregate holdings of the three largest shareholders, C3i, the aggregate holdings of the three largest inside shareholders (directors), C3o, the aggregate holdings of the three largest outside shareholders, C5, the aggregate holdings of the five largest shareholders, and the Herfindahl index. Panel A refers to the complete 1900 sample, Panel B refers to the 1960 sample and Panel C reports t-statistics of differences in means across the two samples (1960 minus 1900). Panels D and E report t-statistics of differences of the 1960 sample with the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Complete 1900 sample

	Directors	C3			C5	Herfindahl	N. Obs.
		C3	C3i	C3o			
1900	92.76	64.39	62.87	2.81	72.96	0.30827	40
1910	53.61	52.86	47.85	9.00	60.15	0.24839	40
1920	49.02	46.30	44.01	6.04	51.33	0.21858	37
1930	37.42	39.55	34.85	7.77	43.85	0.18591	36
1940	37.69	40.58	35.13	8.20	44.13	0.22584	32
1950	27.60	33.83	27.35	9.29	37.88	0.16831	30
1960	29.85	27.44	21.89	8.68	32.92	0.09678	24
1970	21.40	26.05	18.90	11.64	30.56	0.08344	23
1980	18.53	25.95	17.55	11.07	30.04	0.08649	22
1990	13.23	31.37	11.19	21.49	36.83	0.09853	21
1900	10.45	30.36	10.39	23.80	35.35	0.06684	20
Mean	42.40	40.72	33.99	9.73	46.11	0.18115	

Panel B: 1960 sample

	Directors	C3			C5	Herfindahl	N. Obs.
		C3	C3i	C3o			
1960	100.00	92.29	91.97	0.00	93.54	0.53588	20
1970	46.96	51.84	46.60	10.56	56.72	0.28105	20
1980	35.27	40.74	30.83	13.42	45.01	0.12425	20
1990	20.49	33.28	18.78	19.39	39.84	0.07155	20
2000	14.94	32.64	13.54	24.03	39.94	0.06734	20
Mean	43.53	50.16	40.34	13.56	55.01	0.21601	

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
Directors	1.46	–0.66	–1.42	–1.93[c]	–2.51[b]	–2.01[b]
C3	3.47[a]	–0.11	–0.64	–0.76	–0.94	0.20
C3i	3.52[a]	–0.13	–1.44	–1.86[c]	–2.38[b]	–1.15
C3o	–2.07[b]	0.42	2.96[a]	4.29[a]	5.20[a]	5.01[a]
C5	2.70[a]	–0.37	–0.71	–0.48	–0.49	–0.05
Herfindahl	2.83[a]	0.36	–1.29	–1.65	–1.97[c]	–0.62

Panel D: 1960 vs. 1900 (survivors only) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
Directors	1.44	–0.67	–1.32	–1.71[c]	–1.88[c]	–1.79[c]
C3	2.84[a]	–0.19	–0.80	–0.55	–0.18	0.33
C3i	3.33[a]	–0.28	–1.38	–1.55	–1.71[c]	–0.63
C3o	–2.96[a]	2.52[b]	2.85[a]	4.65[a]	4.60[a]	5.50[a]
C5	2.70[a]	–0.14	–0.61	–0.15	0.22	0.66
Herfindahl	1.88[c]	0.10	–1.25	–1.43	–1.27	–0.24

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
Directors	1.50	–0.46	–1.19	–1.92[c]	–3.28[a]	–2.41[b]
C3	3.44[a]	0.00	–0.30	–0.90	–1.96[c]	–0.01
C3i	3.07[a]	0.07	–1.17	–2.01[c]	–3.17[a]	–1.38
C3o	–0.92	–0.62	1.68	2.93[a]	3.65[a]	2.99[a]
C5	2.15[b]	–0.52	–0.67	–0.86	–1.53	–0.87
Herfindahl	3.28[a]	0.52	–1.18	–1.85[c]	–2.88[a]	–0.88

Table 5 – Factors contributing to changes in directors' shareholdings

This table reports the reduction of directors' shareholdings (computed from Table 4) at 10 yearly intervals in column 1 and the factors contributing to the reduction. Frequency is the number of occurrences of the event in question in the decade and impact is the percentage of the reduction attributable to each factor - IPOs, acquisitions, rights issues, and placings. Panel A refers to the complete 1900 sample, while Panel B considers the 1960 sample.

Panel A: Factors contributing to reduction in directors' shareholdings, complete 1900 sample

	Reduction in directors' shareholdings (%)	Factors influencing reduction in directors' shareholdings							
		IPOs		Acquisitions		Rights issues		Placings	
	Mean	Freq.	Impact	Freq.	Impact	Freq.	Impact	Freq.	Impact
1900-1910	39.15	0	0.00	25	39.06	17	0.52	10	28.02
1910-1920	4.59	0	0.00	5	77.97	9	0.00	1	2.34
1920-1930	11.60	0	0.00	7	25.95	9	0.00	2	3.37
1930-1940	-0.27	3	0.00	3	0.00	11	0.00	0	0.00
1940-1950	10.09	6	0.24	1	0.00	4	1.24	0	0.00
1950-1960	-2.25	4	0.00	10	0.00	15	0.00	0	0.00
1960-1970	8.45	4	31.99	24	11.16	8	13.09	0	0.00
1970-1980	2.87	1	0.00	9	3.23	19	25.51	0	0.00
1980-1990	5.30	1	5.73	4	19.85	14	15.23	2	0.00
1990-2000	2.78	3	65.27	3	2.75	14	47.01	10	26.03
Mean	9.40	2.20	4.20	9.10	32.51	12.00	5.62	2.50	16.57

Panel B: Factors contributing to reduction in directors' shareholdings, 1960 sample

	Reduction in directors' shareholdings (%)	Factors influencing reduction in directors' shareholdings							
		IPOs		Acquisitions		Rights issues		Placings	
	Mean	Freq.	Impact	Freq.	Impact	Freq.	Impact	Freq.	Impact
1960-1970	53.04	10	11.42	27	54.52	17	4.61	6	21.35
1970-1980	11.69	3	17.42	23	6.32	6	4.97	1	6.74
1980-1990	14.78	2	34.22	4	12.99	10	4.85	2	9.93
1990-2000	5.55	4	4.28	4	12.73	4	22.49	4	78.34
Mean	21.27	5.00	16.84	14.50	21.64	9.25	9.23	3.25	29.09

Table 6 – Annual growth in total equity capital

This table reports annual growth in total ordinary equity capital in the sample firms, and its use in financing acquisitions and internal investment. Total ordinary equity is the number of issued ordinary shares. Growth in total ordinary equity is normalized to exclude the influence of capitalization of reserves. Acquisitions are classified as being purchased with shares or cash raised from equity issues based upon the public announcement or prospectus. Equity issued for purposes other than acquisition is disaggregated into equity offerings to existing shareholders and offers to new subscribers, including IPOs. Panel A refers to the complete 1900 sample, Panel B to the 1960 sample and Panel C reports t-statistics of differences in means between the two samples (1960 sample minus 1900 sample); the comparison is with the first four decades of each sample. Panels D and E report t-statistics of differences of the 1960 sample with the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Annual growth in total ordinary capital and the factors contributing to this, complete 1900 sample

	Annual growth in total ordinary capital (%)			Use of equity issues (%)			
				Acquisitions made with:		Internal investment:	
	Mean	Median	N. Obs.	Shares	Cash	From existing shareholders	From new shareholders
1900-1910	35.57	2.17	40	97.73	0.00	0.17	2.10
1910-1920	2.31	0.00	38	25.86	11.21	62.93	0.00
1920-1930	1.56	0.00	37	44.87	8.33	38.46	8.33
1930-1940	1.00	0.00	33	16.00	20.00	64.00	0.00
1940-1950	0.95	0.00	31	1.02	0.00	78.57	20.41
1950-1960	3.07	0.00	25	22.80	16.61	60.59	0.00
1960-1970	4.99	1.83	23	31.08	0.00	34.36	34.56
1970-1980	2.23	2.60	22	16.14	14.80	69.06	0.00
1980-1990	3.61	1.84	22	24.31	0.00	57.46	18.23
1990-2000	3.56	2.27	20	12.92	4.78	69.66	12.64
Mean	10.60			68.27	2.72	22.38	6.64

Panel B: Annual growth in total ordinary capital and the factors contributing to this, 1960 sample

	Annual growth in total ordinary capital (%)			Use of equity issues (%)			
				Acquisitions made with:		Internal investment:	
	Mean	Median	N. Obs.	Shares	Cash	From existing shareholders	From new shareholders
1960-1970	85.67	44.47	20	43.23	23.27	12.51	20.99
1970-1980	3.31	1.63	20	43.66	5.14	22.09	29.11
1980-1990	4.08	0.00	20	53.04	7.48	29.47	10.01
1990-2000	2.87	0.00	20	12.34	4.60	18.87	64.19
Mean	22.14			42.83	21.22	13.91	22.04

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
Growth	2.29[b]	0.63	1.33	1.65	1.99[b]
Shares Acquisitions	0.48	1.69[c]	1.18	0.73	0.46
Cash Acquisitions	1.61	–0.15	0.08	–0.25	1.52
Internal Investment	1.74[c]	–0.06	1.31	1.75[c]	1.75[c]

Panel D: 1960 vs. 1900 (survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
Growth	1.36	–0.36	0.66	0.84	1.22
Shares Acquisitions	–0.38	0.87	0.62	0.26	–0.26
Cash Acquisitions	1.13	–0.56	1.00	–0.57	1.10
Internal Investment	1.93[c]	–0.71	0.41	1.04	1.85[c]

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
Growth	2.36[b]	2.80[a]	1.31	1.98[c]	2.00[b]
Shares Acquisitions	1.48	2.30[b]	1.16	1.04	1.36
Cash Acquisitions	1.13	1.24	–0.45	0.80	1.05
Internal Investment	0.93	1.64	1.91[c]	1.94[c]	0.97

Table 7 – Dispersion of ownership

This table reports the annual rates of dispersion of ownership over time. Ownership is defined as the minimum number of shareholders necessary to pass the threshold of 25% of cash flow rights, as reported in Table 2. Dispersion is defined as the change in ownership over the decade. The rates of dispersion are computed for all shareholders, directors alone, and outsiders alone using the formula described in the text. Panel A refers to the 1900 sample, Panel B to the 1960 sample and Panel C reports t-statistics of differences in means across the two samples (1960 minus 1900) for the first four decades of each sample. Panels D and E report t-statistics of differences of the 1960 sample with the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Annual rates of dispersion of ownership (%) – complete 1900 sample

	All shareholders	Directors	Outsiders	N. Obs.
1900-1910	5.93	21.12	36.66	40
1910-1920	3.49	12.38	11.65	38
1920-1930	4.07	14.83	4.69	37
1930-1940	0.52	15.80	–6.24	33
1940-1950	3.03	–2.90	8.81	31
1950-1960	1.79	4.29	1.37	25
1960-1970	0.42	–7.47	10.03	23
1970-1980	0.07	8.81	–0.02	22
1980-1990	–5.64	13.82	–6.57	22
1990-2000	0.24	5.00	3.99	20
Mean	1.97	10.29	1.22	

Panel B: Annual rates of dispersion of ownership – 1960 sample

	All shareholders	Directors	Outsiders	N. Obs.
1960-1970	12.36	36.08	70.21	20
1970-1980	-1.70	6.77	11.40	20
1980-1990	6.08	31.41	10.47	20
1990-2000	-2.22	14.67	-1.13	20
Mean	3.63	22.23	22.74	

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.45	–1.99[c]	0.73	–1.09	–0.01
Directors	1.27	–0.46	1.49	–0.11	1.06
Outsiders	2.48[b]	–0.03	0.62	1.14	1.72[c]

Panel D: 1960 vs. 1900 (survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	0.55	–1.67	0.38	–1.49	–0.39
Directors	1.06	0.01	0.78	–0.43	0.77
Outsiders	4.79[a]	0.08	–0.38	1.02	2.59[b]

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.79[c]	–1.93[c]	1.25	–0.10	0.46
Directors	1.06	–0.72	1.79[c]	0.47	0.99
Outsiders	0.32	–0.14	1.81[c]	1.30	0.39

Table 8 – Mutation of ownership

This table reports the annual rates of mutation of ownership over time. The ruling coalition is defined as the set of shareholders necessary to pass the threshold of 25% of cash flow rights, as reported in Table 2. Mutation is defined as the change in the composition of ownership or turnover of the ruling coalition. The rates of mutation are computed for all shareholders, for directors alone (both in terms of cash flows rights and of simple board majority), and for outsiders, respectively, using the formula described in the text. Panel A refers to the 1900 sample, Panel B to the 1960 sample and Panel C reports t-statistics of differences in means across the two samples (1960 minus 1900) for the first four decades of each sample. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Annual rates of mutation of ownership – 1900 sample

	All shareholders	Directors	Outsiders	N. Obs.
1900-1910	3.25	3.33	41.97	40
1910-1920	10.45	7.10	20.15	38
1920-1930	16.79	13.19	23.27	37
1930-1940	20.67	19.75	22.92	33
1940-1950	25.03	26.78	21.01	31
1950-1960	23.56	7.78	24.24	25
1960-1970	21.86	23.17	40.57	23
1970-1980	33.97	26.56	24.13	22
1980-1990	55.03	26.84	60.04	22
1990-2000	42.03	30.74	42.09	20
Mean	26.52	21.45	37.92	

Panel B: Annual rates of mutation of ownership – 1960 sample

	All shareholders	Directors	Outsiders	N. Obs.
1960-1970	16.19	21.19	65.00	20
1970-1980	33.12	32.60	55.24	20
1980-1990	57.81	52.43	70.33	20
1990-2000	52.94	43.45	55.86	20
Mean	40.10	37.48	61.69	

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.93[b]	2.29[b]	3.70[a]	2.64[b]	5.35[a]
Directors	2.45[b]	2.74[a]	3.65[a]	1.95[c]	5.39[a]
Outsiders	1.74[c]	3.06[a]	4.22[a]	2.79[a]	5.66[a]
Directors (board)	2.88[a]	2.23[b]	1.71[c]	0.71	3.77[a]

Panel D: 1960 vs. 1900 (survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.06	1.60	2.40[b]	2.14[b]	3.60[a]
Directors	2.26[b]	1.61	2.55[b]	1.22	3.65[a]
Outsiders	2.95[a]	2.15[b]	3.04[a]	1.83[c]	5.05[a]
Directors (board)	2.54[b]	1.22	1.41[c]	0.53	2.82[a]

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of means (t-statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.95[c]	2.03[b]	3.81[a]	2.17[b]	5.11[a]
Directors	1.47	2.74[a]	3.33[a]	2.21[b]	5.05[a]
Outsiders	0.29	2.92[a]	4.26[a]	3.06[a]	4.48[a]
Directors (board)	1.79[c]	2.39[b]	1.25	0.65	3.09[a]

Table 9 – Determinants of dispersion of ownership

The dependent variable is the annual rate of dispersion of ownership by decade for the first four decades of the two samples. Independent variables are anti-director rights, the anti-director rights score described in Panel A of Table 1; Disclosure Standards, the disclosure score described in Panel B of Table 1; Liability Standards the directors' liability score described in Panel C of Table 1; Public Enforcement, the public enforcement score described in Panel D of Table 1; equity growth rate for stock acquisitions and equity growth rate for internal investment; size, the log of the sum of all liabilities; initial dispersion, the size of the smallest coalition necessary to pass the 25% ownership threshold at the beginning of the decade in question; a dummy that equals one for the 1900 sample, life expectancy of the male population, and fertility rate. The last two variables come from the British Office for National Statistics. All regressions include industry dummies. The standard errors reported in parenthesis are adjusted for heteroskedasticity using White's (1980) correction. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

	(1)	(2)	(3)	(4)
Anti director rights	–0.020 (.024)			
Disclosure Standards		–0.042 (.065)		
Liability Standards			0.043 (.150)	
Public Enforcement				–0.135[a] (.050)
Equity growth rate from stock acquisitions	0.102[a] (.037)	0.108[a] (.038)	0.103[a] (.036)	0.100[a] (.037)
Equity growth rate used for internal investment	–0.004 (.019)	0.002 (.019)	–0.002 (.020)	–0.006 (.019)
Size	0.009[c] (.005)	0.007[c] (.004)	0.008[c] (.005)	0.011[b] (.005)
Initial dispersion	–0.092[a] (.033)	–0.085[a] (.032)	–0.088[a] (.032)	–0.101[a] (.030)
Sample 1900 dummy	–0.083 (.108)	–0.025 (.076)	0.029 (.113)	0.006 (.056)
Life expectancy	–0.001 (.004)	0.000 (.005)	0.001 (.005)	0.003 (.005)
Fertility rate	0.000 (.001)	0.000 (.002)	0.001 (.002)	0.001 (.001)
Constant	0.088 (.435)	–0.048 (.600)	–0.304 (.660)	–0.368 (.480)
R^2	0.173	0.169	0.167	0.205
N observations	223	223	223	223

Table 10 – Determinants of mutation of ownership

The dependent variable is the annual rate of mutation of ownership by decade for the first four decades of the two samples. Independent variables are anti-director rights, the anti-director rights score described in Panel A of Table 1; Disclosure Standards, the disclosure score described in Panel B of Table 1; Liability Standards the directors' liability score described in Panel C of Table 1; Public Enforcement, the public enforcement score described in Panel D of Table 1; equity growth rate for stock acquisitions and equity growth rate for internal investment; size, the log of the sum of all liabilities; initial dispersion, the size of the smallest coalition necessary to pass the 25% ownership threshold at the beginning of the decade in question, and a dummy that equals one for the 1900 sample. All regressions include industry dummies (not reported). The standard errors reported in parenthesis are adjusted for heteroskedasticity using White's (1980) correction. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

	(1)	(2)	(3)	(4)
Anti director rights	0.171[a]			
	(.053)			
Disclosure Standards		0.173		
		(.111)		
Liability Standards			0.230	
			(.131)	
Public Enforcement				0.379[b]
				(.166)
Equity growth rate from stock acquisitions	–0.001	–0.033	0.082	0.010
	(.048)	(.054)	(.049)	(.054)
Equity growth rate used for internal investment	0.184[b]	0.139	0.257[b]	0.204[c]
	(.100)	(.088)	(.101)	(.116)
Size	–0.008	–0.012	–0.012	–0.002
	(.010)	(.010)	(.010)	(.010)
Initial dispersion	0.288[a]	0.229[a]	0.263[a]	0.281[a]
	(.071)	(.068)	(.069)	(.072)
Sample 1900 dummy	0.306[b]	–0.093		
	(.156)	(.097)		
Constant	–0.142	0.219	0.277[c]	0.385[b]
	(.213)	(.167)	(.144)	(.156)
R^2	0.233	0.191	0.263	0.182
N observations	223	223	223	223

Table 11 – Geographic concentration of ownership and mergers

Panel A provides descriptive statistics of distance in miles between shareholders' addresses and the company's city of incorporation of both ordinary shareholders and preference shareholders in 1910 for our 1900 sample. The third column tests the significance of the difference between the two. Panel B provides descriptive statistics of distance in miles between shareholders' addresses and the company's city of incorporation of both inside and outside shareholders for our 1920 and 1950 sample. The third column tests the significance of the difference between the two. Panel C reports probit regressions of the probability that the chairman of the target company joins the board of directors of the acquiring firm after the merger, and tobit regressions of the proportion of directors of the target company that are retained on the board after the merger. For the probit regressions, the reported coefficients are estimates of the effect of a marginal change in the corresponding regressor on the probability of survival of the chairman of the target board, computed at the average of the dependent variable. Distance is one plus the log of the distance in miles between the city of incorporation of the acquiring and target firms. Equity share is the book value of the ordinary shares issued in the acquisition, scaled by the total value of the deal. Bid premium is the one-month returns, unadjusted for a market index, around the announcement of the merger. Relative size is the ratio of the book value of ordinary equity of the target and acquiring firms. The standard errors reported in parenthesis are adjusted for heteroskedasticity using White's (1980) correction. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A – Distance of shareholders from company headquarters, 1900 sample

Variable	Description	Ordinary	Preference	Difference (z-test)
AD	Average distance of shareholders from companies' headquarters	52.20	84.33	3.39***
WAD	Average weighted distance of shareholders from companies' headquarters	53.62	77.89	2.05**
MD	Median distance of shareholders from companies' headquarters	15.44	29.69	2.06**
MDL	Median distance, 10 largest shareholders	26.57	44.71	0.39
Locality	Percentage of shareholders living within 6 miles from the companies' headquarters	56.16		
NOS	Number of shareholders	319.35	498.31	2.10**
No. Obs.		26	16	16

Panel B – Distance of shareholders from company headquarters, 1920 and 1950 samples

		1920	1950	Tests of differences 1950–1920	
Total Distance	Mean	33.72	308.99	t-test	1.34
	Median	3.50	22.50	z-test	1.47
Distance Insiders	Mean	30.39	313.90	t-test	1.71*
	Median	10.50	30.50	z-test	2.80***
Distance Outsiders	Mean	59.94	195.54	t-test	1.24
	Median	9.00	16.00	z-test	0.22
No Observations		53	55		

Panel C – Determinants of target chairman and target directors' survivorship

Dependent variable:	Probability of target chairman surviving		Proportion of target directors surviving	
	(1)	(2)	(3)	(4)
Distance	0.401[c] (.237)	0.768[b] (.352)		0.118 (.083)
Equity Share		2.23[a] (.734)	0.524[b] (.238)	0.663[b] (.246)
Bid Premium		3.81 (2.62)		–0.310 (.743)
Relative Size (Target/Bidder)		0.764[b] (.381)		0.002 (.003)
Constant	–0.262 (.377)	–2.95[a] (1.01)	0.475[b] (.191)	0.287 (.240)
Industry Dummies?	No	Yes	No	Yes
Pseudo R^2	0.089	0.356	0.130	0.230
χ^2	2.860	12.600	4.640	8.230
No observations	27	23	23	23

Table A1 – Sample description

The table lists the companies in our sample, their cities of incorporation, incorporation date, IPO date, the earliest years for which we have evidence of the ordinary shares being traded at the London Stock Exchange and/or Provincial Exchanges, and their status (alive, liquidated or taken over) as of 2001. Panel A refers to the 1900 sample and Panel B to the 1960 sample.

Panel A: Incorporated between 1897 and 1903

Company Name	*City of Inc.*	*Inc. date*	*IPO date*	*Traded (LSE)*	*Traded (provincial)*	*Status*
Albert E. Reed and Co.	London	28/05/1903	21/04/1948	1930	-	Alive
Balkis	London	14/12/1898	-	1899	-	Liq. 1954
Bleachers Association	Manchester	07/06/1900	1927-1930	1907	1900 (Manchester, et al)	Liq. 1997
Broomhill Collieries	Newcastle on Tyne	01/11/1900	-	-	1903 (Newcastle)	Liq. 1955
Cadbury Brothers	Birmingham	13/06/1899	-	1968	1961 (Birmingham)	T.O. 1969
C and W Walker Ltd	Donnington, Newport	03/05/1899	17/08/1998	1899	1899 (Birmingham)	Alive
Chamberlin and Hill	Walsall	03/04/1903	25/03/1973	1973	1956 (Birmingham)	Alive
Charles Cammell and Co.	Sheffield	04/01/1898	23/06/1949	1904	1905 (Sheffield et al)	Alive
Dickson and Benson	Middlesbrough	06/03/1900	-	1920	-	Liq. 1964
General Electric Co.	London	27/09/1900	30/11/1999	1919	1921 (Birm., Manch.)	Alive
Gillard and Co.	Walthamstow, London	26/07/1898	-	-	-	Liq. 1977
Guest, Keen, and Co., Ltd	Birmingham	09/07/1900	14/06/1946	1900	1900 (Birmingham)	Alive
Henry Tate and Sons	London	27/02/1903	09/12/1938	1929	1928 (Liverpool)	Alive
Higgs and Hill	New Malden, Surrey	07/02/1898	11/07/1960	1960	-	Alive
Horace Cory, Ltd	London	18/04/1900	05/08/1956	1900	-	Alive
Johnson Brothers (Dyers)	Dewsbury, Yorkshire	08/12/1898	-	1937	-	Liq. 1957
John Williams and Sons	Cardiff, Wales	28/11/1899	Around 1950	1950	1950 (Midlands&West)	Liq.
Klanang Produce	London	01/05/1899	-	1923	-	Liq. 1961
Leeds and District Worsted Dyers	Leeds	21/11/1900	24/08/1965	1965	1921 (Leeds)	Alive
Manganese Bronze and Brass Co.	London	10/03/1899	24/04/1940	1899	1920 (Leeds, Manch.)	Alive
Midland Rubber	Birmingham	1900	-	-	1901 (Birmingham)	Liq. 1912
Mining and Industrial Corp.	London	1900	-	-	-	Liq. 1912
New Hucknall Collieries	Huthwark, Notthingham	28/12/1900	-	-	1930 (Notthingham, Sheff.)	Liq. 1957
Ocean Steam Ship Co.	Liverpool	06/06/1902	12/03/1965	1965	1963 (Northern)	Alive
Pease and Partners	Darlington, Durham	11/10/1898	-	1928	1920 (Birm., Bristol, et al.)	Liq. 1958
Queen Mill Dukinfield	Stalybridge	23/07/1900	-	-	1938 (Oldham)	Liq. 1963
Reckitt and Sons	Hull	04/07/1899	-	1929	1911 (Leeds)	Liq. 1956
Rock Brewery	Brighton	03/04/1901	-	-	-	T.O. 1926
Schweppes, Ltd	London	06/05/1897	19/12/1942	1897	1897 (Manchester)	Alive
South Australian Dredging	London	19/04/1902	-	-	-	T.O. 1950
South Hetton Coal Co.	Sunderland	07/05/1898	-	1920	1899 (Newcastle)	Liq. 1956
Stewart and Wight	London	29/04/1898	25/03/1960	1921	-	Alive
Thomas De La Rue	London	01/07/1898	27/07/1947	1926	-	Alive
Thomas, Evans & John Dyer	Swansea, Wales	03/07/1900	-	-	1930 (Cardiff, Swansea)	Liq. 1964
Tilbury Contracting and Dredging	London	16/08/1902	12/10/1966	1928	-	Alive
Tuttle and Sons	London	22/01/1902	26/04/1996	1996	-	Alive
Weardale, Steel Coal & Coke	West Hartlepool, Durham	29/09/1899	-	1930	1926 (Newcastle, Sh., et al)	Liq. 1957
West Bromwich Spring	West Bromwich	14/11/1903	06/11/1989	1989	1967 (Midland&West)	Alive
Yang–Tse Corporation	London	14/09/1898	24/03/1958	1921	1898	Alive
Yorkshire Dye ware and Chemical	Huddersfield, Yorkshire	19/05/1900	08/09/1947	1921	1900 (Leeds)	Alive

Panel B: Incorporated between 1958 and 1962

Company Name	*City of Inc.*	*Inc. date*	*IPO date*	*Traded (LSE)*	*Traded (provincial)*	*Status*
Albert Fisher Group	Nelson, Lancashire	06/02/1961	21/09/1973	1973	1965 (Liverpool)	Alive
Blanes	London	01/05/1959	25/03/1974	1974	-	Alive
Block Holdings, Ltd	London	15/12/1959	09/07/1985	1985	-	Alive
Central Properties (Kensington)	London	20/06/1961	10/12/1985	1985	-	Alive
Ceylon Tea Plantation Holdings	London	27/09/1960	05/10/1960	1909	-	Alive
Countryside Properties	London	14/11/1958	15/11/1972	1972	-	Alive
Dalkeith (Ceylon) Holdings	Dalkeith	17/11/1960	05/01/1999	1999	-	Alive
Hill & Smith Holdings	Brierley Hill, Staffordshire	30/09/1960	26/03/1969	1969	-	Alive
Ind Coope Tetley Ansell	London	13/04/1961	13/05/1961	1961	1961 (Birmingham et al)	Alive
J H Haynes and Co.	Yeovil, Somerset	18/05/1960	07/11/1996	1996	-	Alive
Lowland Investment	London	20/09/1960	05/04/1966	1966	-	Alive
Mining Supplies	Doncaster, Yorkshire	24/03/1960	24/03/1965	1965	-	Alive
Nasmo Machinery	Wolverhampton	02/07/1959	11/11/1968	1968	1968 (Midlands & West)	Alive
Oldeani Developments Ltd	Birmingham	18/11/1960	29/11/1996	1996	-	Alive
Provident Clothing	Bradford, West Yorkshire	31/08/1960	16/03/1962	1962	-	Alive
Rankin Dyson	London	15/12/1958	27/09/2000	2000	-	Alive
Reeve Angel International	London	23/06/1959	17/11/1960	1960	-	Alive
Rem Products (Electrical)	Leigh-on-Sea, Essex	14/03/1961	29/02/1996	1996	-	Alive
Serapsoidar	London	22/01/1960	14/06/1967	1967	-	Alive
Town Centre Securities	Leeds	17/03/1959	21/09/1960	1960	-	Alive

Table A2 – The Size of the London Stock Exchange and Provincial Stock Exchanges at the end of 1899

The table provides the total number of firms, securities traded and market capitalization of the London Stock exchange and provincial stock exchanges at the end of 1899, broken down by industry. It includes the percentage of securities only quoted in London and those quoted only on provincial exchanges.

Industry	No of firms	No of Securities	Total Mkt. Cap	Percent Mkt. Cap	Quoted Only in London		Outside London Only	
			(GBP)		No	Percent	No	Percent
Breweries and Distilleries	149	326	86,068,140.20	7.79	87	58.39	23	15.44
Canals	13	25	13,114,302.50	1.19	1	7.69	10	76.92
British Corporations and Counties	107	157	143,583,879.00	13.00	57	53.27	25	23.36
Colonial and Foreign Corporations	53	85	187,376,295.00	16.97	58	109.43	0	0.00
Docks	13	19	7,350,587.00	0.67	5	38.46	8	61.54
Gas and Lighting	58	104	67,236,800.80	6.09	44	75.86	9	15.52
Iron, Coal and Steel	80	126	40,279,692.60	3.65	10	12.50	51	63.75
Land, Mortgage, Financial	103	168	76,325,272.80	6.91	55	53.40	27	26.21
Spinning and Weaving	23	24	552,446.40	0.05	0	0.00	22	95.65
Steamship and Shipbuilding	43	63	11,284,660.80	1.02	12	27.91	16	37.21
Tea and Coffee	41	65	1,919,938.15	0.17	24	58.54	2	4.88
Telegraph	21	40	37,697,568.00	3.41	14	66.67	0	0.00
Tramway and Omnibus	37	57	13,687,415.70	1.24	15	40.54	6	16.22
Trusts	52	139	58,019,725.90	5.25	34	65.38	8	15.38
Wagon and Railway Carriage	13	18	695,382.30	0.06	1	7.69	12	92.31
Waterworks	23	47	26,447,459.30	2.39	15	65.22	5	21.74
Other Companies	365	639	164,564,546.00	14.90	154	42.19	63	17.26
Mining Companies - excluding Iron, Ore and Coal	160	156	168,164,880.00	15.23	45	28.13	5	3.13
Total	1354	2258	1,104,368,992.00	100.00	631	46.60	292	21.57

Table A3: Chronology of Company Law and Financial Market Regulation

Year	Rule	Description	Source
1843	Absolute majority (50%+)	Majority of votes prevails in company law.	Rule in Foss v. Harbottle
1883	Proxy voting not permitted	No common law right on the part of a shareholder to vote by proxy.	Rule in Harben v. Phillips
1889	Liability standard for prospectus statements is intent	Liability standards for directors, distributors and accountants is intent that is, plaintiffs have to prove affirmatively that the statements were made fraudulently.	Rule in Derry v. Peek
1890	Liability standard for prospectus statements is negligence	Liability standards for directors, distributors and accountants is negligence that is, investors must prove that directors acted with negligence and that their losses were caused by the misleading statements.	Directors' Liability Act, S 3
1900	Prospectus filing	Required to be filed at Companies House. Must contain specific material.	Company law
1900	Statement in lieu of prospectus	Shares can be traded without a prospectus (as before), provided the issuer files a statement with the registrar.	Companies Act, S 1 (confirmed in 1907, S 4)
1915	Recording rule	All trades to be recorded in Stock Exchange's Official List or Supplementary List. Former is for quoted companies on LSE, and latter is for companies without a quotation but where dealing is allowed.	Companies Act
1921	Non listed companies' rules	Stock exchange published stricter rules covering permission to deal in unquoted companies.	London Stock Exchange
1929	Prospectus is required, and must contain specific information	A prospectus is required both by Corporate Law and the London Stock Exchange. In the prospectus, the issuer has to disclose the compensation, inside ownership of each director, as well as contracts made by the issuer outside the course of the business, and all transactions in which related parties have, or will have, an interest.	Companies Act, S 35
1929	Liability standard for prospectus statements is reliance	Liability standards for directors, distributors and accountants is reliance that is, investors must only prove that the statement is untrue, and that they relied on such statements.	Companies Act, S 37
1929	Notice of accounts	Balance sheets and P&L accounts must be sent out at least 7 days before AGM.	London Stock Exchange
1929	Book keeping and filing accounts	Company must keep proper books including a P&L account and Balance Sheet. Public companies must file a balance sheet with Registrar of Companies.	Companies Act, S 122-124.
1929	New listing rules	Followed collapse of 1928 new issue boom, stricter rules introduced for admission to both Lists, including permission to deal.	London Stock Exchange
1939	Directors' disclosure	Disclosure of contracts with directors.	Company law
1947	New listing rules	Differences between Official List and Supplementary Lists (see above) are abolished. Conditions for granting an Official Quotation significantly tightened: 10 years profits record required compared with 5 under 1948 Companies Act and support of 2 exchange dealers. Also, if permission to deal is refused all funds raised in the issue must be returned to subscribers, making it impossible to raise money without permission to deal.	London Stock Exchange
1948	Squeeze out rule (90%)	Squeeze out rule: 90% shareholder can buy out minority at original bid price.	Companies Act, S 209
1948	Proxy voting introduced	Notice of meetings with minimum of 21 days. Allows voting by proxy (Anti director rule).	Companies Act, [S 136]
1948	Removal of directors	Made easier by special resolution.	Companies Act, S 184
1948	Min votes to force EGM	10% of shares can force an EGM (Anti director rule).	Company law, S 132
1948	Penalties for non disclosure	Disclosure requirements in prospectus and penalties for non disclosure. Detailed provisions regarding the form and content of balance sheets and P&L accounts. Requirement that company accounts provide a "true and fair" view of a company's financial position.	Companies Act, S 38 & Fourth Schedule
1967	Mandatory bid (30%)	Compulsory tender offer for remaining shares.	Takeover Code
1967	Supra majority (75%)	Min. votes required to approve a merger via a scheme of arrangement, and waive pre-emption rights for equity issues to new shareholders.	Company law
1967	Block disclosure (10%)	Holders of blocks of 10% or more must be disclosed.	Companies Act, S 33.
1967	Disclosure of intention to bid	Holders of blocks of 15% or more must express intentions to bid.	City Code on Takeover & Mergers
1976	Block disclosure (5%)	Holders of blocks of 5% or more must be disclosed.	Companies Act, S 26.
1980	Pre-emption rights	New share issues must be offered to existing shareholders first.	Companies Act, S 17
1985	Block disclosure (3%)	Holders of blocks of 3% or more must be disclosed.	Companies Act, S 198.9
1985	Oppressed minorities	It allows court review of decisions 'on the grounds that the company's affairs are being or have been conducted in a manner which is unfairly prejudicial to the interests of its members generally or of some part of its members'.	Companies Act, S 459
1986	FSA is created	Self-Regulatory Organizations (SROs) of the London Stock Exchange are introduced. Later, all Stock Exchange regulation and enforcement was centralized under the Financial Services Authority.	Financial Services Act

Table A4 – Definitions of various indices of investor protection and enforcement

This table reports the evolution of various indices of investor protection and enforcement. Panel A reports the evolution over time of the anti–director index over time, as defined by La Porta, Lopez–de–Silanes, Shleifer and Vishny (1998, p. 1123): "An index aggregating the shareholder rights which we labeled as 'anti-director rights.' The index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent (the sample median); or (6) shareholders have preemptive rights that can only be waived by a shareholders' vote. The index ranges from 0 to 6."
Panel B reports the evolution over time of two indices of private enforcement, disclosure requirements and liability standards, as defined by La Porta, Lopez-de-Silanes, and Shleifer (2004), and Panel C reports the evolution over time of the public enforcement index, as defined by La Porta, Lopez-de-Silanes, and Shleifer (2004).

Panel A – Description of the anti-director rights index

Shareholder Right	Description	Year of introduction
Proxy by mail allowed	Equals one if the Company Law or Commercial Code allows shareholders to mail their proxy vote to the firm, and zero otherwise.	1948 Companies Act (S. 136)
Shares not blocked before meeting	Equals one if the Company Law or Commercial Code does not allow firms to require that shareholders deposit their shares prior to a General Shareholders Meeting thus preventing them from selling those shares for a number of days, and zero otherwise.	Always been in place.
Cumulative voting or proportional representation	Equals one if the Company Law or Commercial Code allows shareholders to cast all of their votes for one candidate standing for election to the board of directors (cumulative voting) or if the Company Law or Commercial Code allows a mechanism of proportional representation in the board by which minority interests may name a proportional number of directors to the board, and zero otherwise.	Never been in place.
Oppressed minorities mechanism	Equals one if the Company Law or Commercial Code grants minority shareholders either a judicial venue to challenge the decisions of management or of the assembly or the right to step out of the company by requiring the company to purchase their shares when they object to certain fundamental changes, such as mergers, assets dispositions and changes in the articles of incorporation. The variable equals zero otherwise. Minority shareholders are defined as those shareholders who own 10 percent of share capital or less.	Section 459 of 1985 Companies Act which allows court review of decisions 'on the grounds that the company's affairs are being or have been conducted in a manner which is unfairly prejudicial to the interests of its members generally or of some part of its members'.
Percentage of share capital to call an extraordinary shareholders meeting	It is the minimum percentage of ownership of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting.	1948 Companies Act (Section 132) 10% of shares can force an EGM.
Preemptive Rights to new issues	Equals one when the Company Law or Commercial Code grants shareholders the first opportunity to buy new issues of stock and this right can only be waved by a shareholders' vote, and zero otherwise.	1980 Companies Act (Section 17) provides that new share issues must be offered to existing shareholders or a vote taken each and every time to suspend the provision.

Panel B – Description of the two private enforcement indices

Variable	***Description***	***U.K. today***	***U.K 1900***	***When did it switch?***
	Panel B.1 Disclosure Requirements Index			
(1) Prospectus	Equals one if the law prohibits selling securities that are going to be listed on the largest stock exchange of the country without delivering a prospectus to potential investors; equals zero otherwise.	0	0	Never
(2) Compensation	An index of prospectus disclosure requirements regarding the compensation of directors and key officers. Equals one if the law or the listing rules require that the compensation of each director and key officer be reported in the prospectus of a newly-listed firm; equals one-half if only the aggregate compensation of directors and key officers must be reported in the prospectus of a newly-listed firm; equals zero when there is no requirement to disclose the compensation of directors and key officers in the prospectus for a newly-listed firm.	1	0	1929
(3) Shareholders	An index of disclosure requirements regarding the *Issuer*'s equity ownership structure. Equals one if the law or the listing rules require disclosing the name and ownership stake of each shareholder who, directly or indirectly, controls ten percent or more of the *Issuer*'s voting securities; equals one-half if reporting requirements for the *Issuer*'s 10% shareholders do not include indirect ownership or if only their aggregate ownership needs to be disclosed; equals zero when the law does not require disclosing the name and ownership stake of the *Issuer*'s 10% shareholders. No distinction is drawn between large-shareholder reporting requirements imposed on firms and those imposed on large shareholders themselves.	1	0	1967
(4) Inside Ownership	An index of prospectus disclosure requirements regarding the equity ownership of the *Issuer*'s shares by its directors and key officers. Equals one if the law or the listing rules require that the ownership of the *Issuer's* shares by each of its director and key officers be disclosed in the prospectus; equals one-half if only the aggregate number of the *Issuer*'s shares owned by its directors and key officers must be disclosed in the prospectus; equals zero when the ownership of *Issuer*'s shares by its directors and key officers need not be disclosed in the prospectus.	1	0	1929
(5) Irregular Contracts	An index of prospectus disclosure requirements regarding the *Issuer*'s contracts outside the ordinary course of business. Equals one if the law or the listing rules require that the terms of material contracts made by the *Issuer* outside the ordinary course of its business be disclosed in the prospectus; equals one-half if the terms of only some material contracts made outside the ordinary course of business must be disclosed; equals zero otherwise.	1	0	1929
(6) Transactions	An index of the prospectus disclosure requirements regarding transaction between the *Issuer* and its directors, officers, and/or large shareholders (i.e., "related parties"). Equals one if the law or the listing rules require that all transactions in which related parties have, or will have, an interest be disclosed in the prospectus; equals one-half if only some transactions between the *Issuer* and related parties must be disclosed in the prospectus; equals zero if transactions between the *Issuer* and related parties need not be disclosed in the prospectus.	1	0	1929
Disclosure Index	*The index of disclosure equals the arithmetic mean of: (1) Prospect; (2) Compensation; (3) Shareholders; (4) Inside ownership; (5) Contracts Irregular; (6) and Transactions.*	0.83333	0	1929
	Panel B.2 Liability Standard Index			
(1) Liability standard for the issuer and its directors	Index of the procedural difficulty in recovering losses from the *Issuer's* directors in a civil liability case for losses due to misleading statements in the prospectus. Equals one when investors are only required to prove that the prospectus contains a misleading statement. Equals two-thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement. Equals one-third when investors prove that the director acted with negligence and that they either relied on the prospectus or that their loss was caused by the misleading statement or both. Equals zero if restitution from directors is unavailable or the liability standard is intent or gross negligence.	0.66667	*0*	1929, 1948
(2) Liability standard for distributors	Index of the procedural difficulty in recovering losses from the *Distributor* in a civil liability case for losses due to misleading statements in the prospectus. Equals one when investors are only required to prove that the prospectus contains a misleading statement. Equals two-thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement. Equals one-third when investors prove that the *Distributor* acted with negligence and that they either relied on the prospectus or that their loss was caused by the misleading statement or both. Equals zero if restitution from the *Distributor* is unavailable or the liability standard is intent or gross negligence.	0.66667	0	1929, 1948
(3) Liability standard for accountants	Index of the procedural difficulty in recovering losses from the *Accountant* in a civil liability case for losses due to misleading statements in the audited financial information accompanying the prospectus. Equals one when investors are only required to prove that the audited financial information accompanying the prospectus contains a misleading statement. Equals two-thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading accounting information. Equals one-third when investors prove that the *Accountant* acted with negligence and that they either relied on the prospectus or that their loss was caused by the misleading statement or both. Equals zero if restitution from the *Accountant* is unavailable or the liability standard is intent or gross negligence.	0.66667	0	1929, 1948
Liability standard index	*The index of liability standard equals the arithmetic mean of: (1) Liability standard for the issuer and its directors; (2) Liability standard for distributors; and (3) Liability standard for accountants.*	0.66667	0	1929, 1948

Panel C – Description of the public enforcement index

Variable	***Description***	***U.K. today***	***U.K. 1900***	***When did it switch?***
	2.1 Characteristics of the Supervisor of Securities Markets			
(1) Appointment	Equals one if a majority of the members of the *Supervisor* are unilaterally appointed by the Executive branch of government*;* equals zero otherwise.	0	0	Never
(2) Tenure	Equals one if members of the *Supervisor* cannot be dismissed at the will of the appointing authority; equals zero otherwise.	0	0	Never
(3) Focus	Equals one if separate government agencies or official authorities are in charge of supervising commercial banks and stock exchanges; equals zero otherwise.	0	0	Never
(4) Rules	Equals one if the *Supervisor* can generally issue regulations regarding primary offerings and/or listing rules on stock exchanges without prior approval of other governmental authorities. Equals one-half if the *Supervisor* can generally issue regulations regarding primary offerings and/or listing rules on stock exchanges only with the prior approval of other governmental authorities. Equals zero otherwise.	1	1	1986
Supervisor Index	*The index of characteristics of the Supervisor equals the arithmetic mean of: (1) Appointment; (2) Tenure; (3) Focus; and (4) Rules.*	*0.25*	*0.25*	*1986*
	2.2 Investigative Powers of the Supervisor of Securities Markets			
(1) Document	An index of the power of the *Supervisor* to command documents when investigating a violation of securities laws. Equals one if the *Supervisor* can generally issue an administrative order commanding all persons to turn over documents; equals one-half if the *Supervisor* can generally issue an administrative order commanding publicly traded corporations and/or their directors to turn over documents; equals zero otherwise.	1	0	1986
(2) Witness	An index of the power of the *Supervisor* to subpoena the testimony of witnesses when investigating a violation of securities laws. Equals one if the *Supervisor* can generally subpoena all persons to give testimony; equals one-half if the *Supervisor* can generally subpoena the directors of publicly-traded corporations to give testimony; equals zero otherwise.	1	0	1986
Investigative Powers Index	*The index of investigative powers equals the arithmetic mean of: (1) Documents; and (2) Witness.*	*1*	*0*	*1986*
	2.3 Sanctions			
(1) Orders issuer	An index aggregating stop and do orders that may be directed at the Issuer in case of a defective prospectus. The index is formed by averaging the sub-indexes of orders to stop and to do. The sub-index of orders to stop equals one if the *Issuer* may be ordered to refrain from a broad range of actions; equals one-half if the *Issuer* may only be ordered to desist from limited actions; equals zero otherwise. The sub-index of orders to do equals one if the *Issuer* may be ordered to perform a broad range of actions to rectify the violation; equals one-half if the *Issuer* may only be ordered to perform limited actions; equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.	1	*0*	*1986*
(2) Order distributor	An index aggregating stop and do orders that may be directed at the *Distributor* in case of a defective prospectus. The index is formed by averaging the sub-indexes of orders to stop and to do. The sub-index of orders to stop equals one if the *Distributor* may be ordered to refrain from a broad range of actions; equals one-half if the *Distributor* may only be ordered to desist from limited actions; equals zero otherwise. The sub-index of orders to do equals one if the *Distributor* may be ordered to perform a broad range of actions to rectify the violation; equals one-half if the *Distributor* may only be ordered to perform limited actions; equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.	1	*0*	*1986*
(3) Orders accountant	An index aggregating stop and do orders that may be directed at the *Accountant* in case of a defective prospectus. The index is formed by averaging the sub-indexes of orders to stop and to do. The sub-index of orders to stop equals one if the *Accountant* may be ordered to refrain from a broad range of actions; equals one-half if the *Accountant* may only be ordered to desist from limited actions; equals zero otherwise. The sub-index of orders to do equals one if the *Accountant* may be ordered to perform a broad range of actions to rectify the violation; equals one-half if the *Accountant* may only be ordered to perform limited actions; equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.	1	*0*	*1986*
Orders Index	*The index of orders equals the arithmetic mean of: (1) Orders issuer; (2) Orders distributor; and (3) Orders accountant.*	*1*	*0*[*]	*1986*
(1) Criminal director/officer	An index of criminal sanctions applicable to the *Issuer's* directors and key officers when the prospectus omits material information. We create separate sub-indexes for directors and key officers and average their scores. The sub-index for directors equals zero when directors cannot be held criminally liable when the prospectus is misleading. Equals one-half if directors can be held criminally liable when **aware** that the prospectus is misleading. Equals one if directors can **also** be held criminally liable when negligently **unaware** that the prospectus is misleading. The sub-index for key officers is constructed analogously.	0.25	*0*	*1986*
(2) Criminal distributor	An index of criminal sanctions applicable to the *Distributor* (or its officers) when the prospectus omits material information. Equals zero if the *Distributor* cannot be held criminally liable when the prospectus is misleading. Equals one-half if the *Distributor* can be held criminally liable when **aware** that the prospectus is misleading. Equals one if the *Distributor* can **also** be held criminally liable when **negligently** unaware that the prospectus is misleading.	0.5	*0*	*1986*
(3) Criminal accountant	An index of criminal sanctions applicable to the *Accountant* (or its officers) when the financial statements accompanying the prospectus omit material information. Equals zero if the *Accountant* cannot be held criminally liable when the financial statements accompanying the prospectus are misleading. Equals one-half if the *Accountant* can be held criminally liable when **aware** that the financial statement accompanying the prospectus are misleading. Equals one if the *Accountant* can **also** be held criminally liable when **negligently** unaware that the financial statements accompanying the prospectus are misleading.	0.5	*0*	*1986*
Criminal Index	*The index of criminal sanctions equals the arithmetic mean of: (1) Criminal director; (2) Criminal distributor; and (3) Criminal accountant.*	*0.41667*	*0*	*1986*
Public enforcement Index	*The index of public enforcement equals the arithmetic mean of:* (1) Supervisor characteristics index; (2) Investigative powers index; (3) Orders index; and (4) Criminal index.	*0.74667*	*0*	*1986*

Table A5 – Evolution of ownership – 50% threshold

This table reports evolution of ownership. Ownership is defined as the minimum number of shareholders necessary to pass a threshold of 50% of cash flow rights, and is computed for all shareholders, for directors alone, and for outsiders. Frequency is the number of companies in which directors and outsiders pass the 50% threshold alone. Panel A refers to the complete 1900 sample, Panel B to the 1960 sample and Panel C to t-statistics of differences in means between the two samples (1960 minus 1900). Panels D and E report t-statistics of differences of the 1960 sample from the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Evolution of ownership, 50% threshold – complete1900 sample

	All shareholders		Directors		Outsiders		
	Mean	Median	Mean	Frequency	Mean	Frequency	N. Obs.
1900	7.02	2.50	3.15	33	45.43	7	40
1910	14.05	5.00	2.15	20	41.58	19	40
1920	19.81	10.00	2.38	16	47.35	20	37
1930	24.46	21.00	2.92	12	43.74	23	36
1940	36.84	16.50	3.40	10	60.95	22	32
1950	51.63	28.00	3.86	7	71.57	23	30
1960	31.67	34.00	4.80	5	43.37	19	24
1970	83.68	33.00	4.00	2	99.55	20	23
1980	87.00	29.00	2.00	1	97.85	20	22
1990	69.14	16.00	2.00	1	73.65	20	21
2000	71.75	16.50	1.50	2	79.61	18	20
mean	38.87		2.94		65.05		

Panel B: Evolution of ownership, 50% threshold – 1960 sample

	All shareholders		Directors		Outsiders		
	Mean	Median	Mean	Frequency	Mean	Frequency	N. Obs.
1960	15.85	1.00	1.28	18	0.00	0	20
1970	23.55	5.50	1.33	9	52.36	11	20
1980	23.11	8.00	1.83	6	46.62	13	20
1990	18.25	15.00	1.00	2	25.15	18	20
2000	15.35	10.00	0.00	0	20.25	20	20
Mean	19.18		1.37		32.90		

Panel C: 1960 vs. 1900 (complete sample) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	0.96	0.99	0.31	–1.06	–1.07	–0.09

Panel D: 1960 vs. 1900 (survivors alone) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	0.59	0.13	0.31	–1.51	–1.44	–0.80

Panel E: 1960 vs. 1900 (non-survivors alone) – Tests of means (t-statistics)

	1960 vs. 1900	1970 vs. 1910	1980 vs. 1920	1990 vs. 1930	2000 vs. 1940	Overall
All shareholders	0.68	0.85	0.34	–0.28	0.45	1.07

Table A6 – Dispersion of ownership – 50% threshold

This table reports the annual rates of dispersion of ownership over time. Ownership is defined as the minimum number of shareholders necessary to pass the threshold of 50% of cash flow rights. Dispersion is defined as the change in ownership over the decade. The rates of dispersion are computed for all shareholders, directors alone, and outsiders alone using the formula described in the text. Panel A refers to the 1900 sample, Panel B to the 1960 sample and Panel C reports t-statistics of differences in means across the two samples (1960 minus 1900) for the first four decades of each. Panels D and E report t-statistics of differences of the 1960 sample from the surviving and non-surviving companies in the 1900 sample, respectively. Superscript letters a, b, c indicate significance at 1, 5 and 10 percent levels, respectively.

Panel A: Annual rates of dispersion of ownership, 50% threshold – complete1900 sample

	All shareholders	Directors	Outsiders	N. Obs.
1900-1910	5.24	31.27	30.91	40
1910-1920	4.81	9.25	8.70	38
1920-1930	3.99	11.73	11.12	37
1930-1940	2.08	4.22	4.33	33
1940-1950	1.45	6.60	7.00	31
1950-1960	0.34	0.30	–0.25	25
1960-1970	3.58	5.07	8.11	23
1970-1980	–2.03	1.61	–1.03	22
1980-1990	–4.27	0.00	–6.72	22
1990-2000	1.50	0.00	0.77	20
Mean	2.19	8.79	8.19	

Panel B: Annual rates of dispersion of ownership, 50% threshold – 1960 sample

	All shareholders	Directors	Outsiders	N. Obs.
1960-1970	12.84	45.94	45.00	20
1970-1980	4.47	17.08	8.38	20
1980-1990	5.50	21.05	21.73	20
1990-2000	–0.07	0.10	6.96	20
Mean	5.70	23.63	20.66	

Panel C: 1960 vs. 1900 (full sample) – Tests of Means (t-Statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	2.42[b]	–0.11	0.46	–0.85	1.02
Directors	1.12	0.75	0.91	0.65	1.56
Outsiders	1.06	–0.03	1.03	0.28	1.08

Panel D: 1960 vs. 1900 (survivors only) – Tests of Means (t-Statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	1.55	0.11	0.08	–1.47	0.39
Directors	1.27	0.92	0.40	0.41	1.56
Outsiders	1.21	0.22	0.50	–0.07	1.06

Panel E: 1960 vs. 1900 (non-survivors only) – Tests of Means (t-Statistics)

	First decade	Second decade	Third decade	Fourth decade	Overall
All shareholders	2.26[b]	–0.31	0.89	0.44	1.37
Directors	0.65	0.25	1.19	0.71	1.01
Outsiders	0.62	–0.27	1.29	0.59	0.72

Table A7 – The takeover process in the U.K., 1900–1950

The table describes the takeover process in the U.K. in the first half of the twentieth century. Panel A refers to stock acquisitions by companies in the 1900 sample over the period 1900 – 1950, the toehold, the percentage of the target owned after the acquisition and whether the acquisition was a tender offer or a merger. Panel B reports large tender offers from the sample in Hannah (1976), the toehold, the percentage of the target owned after the acquisition, and the means of payment. Panel C reproduces references in the Financial Times to the terms on which offers were made in 22 acquisitions in the first half of the century. This includes four cases from Panel A, 13 from Panel B, and 8 from other acquisitions.

Panel A: Stock acquisitions by companies in the 1900 sample, 1900 – 1950

Year	Acquirer	Target	Toehold	% after	Tender or Merger
1901	GKN Holdings	Nettlefolds	0.0	100.0	Merger
1902	Laird Group	The Mulliner Wigley Co. Ltd	0.0	100.0	Merger (Private)
1903	Laird Group	Laird	0.0	100.0	Merger (Private)
1909	Reed International	London Paper Mills Co.	0.0	99.9	Tender
1918	Marconi (G.E.)	Osram Lamp Works	0.0	100.0	Merger (Private)
1919	Laird Group	Midland Railway Carriage and Wagon Co. Ld	0.0	100.0	Merger (Private)
1919	Marconi (G.E.)	Peel Conner Telephone Works	0.0	100.0	Tender
1920	GKN Holdings	John Lysaght Ltd	0.0	99.8	Tender
1921	Tate & Lyle	Abram Lyle & Sons	0.0	100.0	Merger (Private)
1923	GKN Holdings	Consolidated Cambrian	0.0	96.0	Tender
1923	GKN Holdings	D Davis & Sons	0.0	96.0	Tender
1923	Laird Group	Leeds Forge Co. Ld	0.0	99.0	Tender
1925	De La Rue	Lamert	0.0	100.0	(Private)
1929	Tate & Lyle	Fairrie & Co.	0.0	100.0	Merger (Private)
1930	GKN Holdings	James Mills Ltd	0.0	100.0	Merger (Private)
1938	De La Rue	Davy Gravure	0.0	100.0	Merger (Private)
1938	Tate & Lyle	Macfie & Sons	0.0	100.0	Merger (Private)
1947	GKN Holdings	49% of Guest, Keen Williams (+ 51%)	0.0	100.0	Merger (Private)

Panel B: Large tender offers (Hannah's sample) 1919 – 1939

Year	Acquirer	Target	Toehold	% after	Means of payment
1919	Dorman Long	Carlton Iron and Mainsforth Colliery	N. A.	N. A.	
1919	Guest Keen and Nettlefolds	John Lysaght	0.0	99.8	Shares
1919	Lever Bros	Price's Patent Candle Co.	N. A.	N. A.	
1919	Vickers	Metropolitan Carriage Wagon and Finance	0.0	100.0	Shares
1920	Armstrong-Whitworth	Pearson and Knowles Coal and Iron	N. A.	N. A.	
1920	A. Darracq (S.T.D. Motors after deal)	Sunbeam Motor Car Company	0.0	100.0	Shares
1920	Stewarts and Lloyds	Alfred Hickman	0.0	99.9	Shares
1920	John Summers	Shelton Iron Steel and Coal Co.	0.0	100.0	Shares
1923	Guest Keen and Nettlefolds	D. Davis and Sons	0.0	96.0	Shares
		Consolidated Cambrian	0.0	96.0	Shares
1923	Richard Thomas	Grovesend Steel & Tinplate	0.0	100.0	Shares
1924	Amalgamated Dental Co.	De Trey	N. A.	N. A.	
1925	Distillers	Buchanan-Dewar	0.0	99.9	Shares
		John Walker & Sons	0.0	100.0	Shares
1925	Lever Bros	British Oil & Cake Mills	0.0	100.0	All Cash
1927	British Match Corporation	Bryant & May	0.0	99.0	Shares
1928	Associated Electrical Industries	British Thomson-Houston	0.0	100.0	Shares
	(International General Electric)	Metropolitan Vickers Electrical			
		Ferguson Pailin Ltd	0.0	100.0	All Cash
		Edison Swan Electric	0.0	92.7	All Cash
1928	Inveresk Paper	United Newspapers (Daily Chronicle Invt. Corp.)	N. A.	N. A.	
1928	J. Sears & Co (Trueform Boot Co)	Freeman Hardy & Willis	0.0	99.0	All Cash
1928	Turner & Newall	Bells United Asbestos	0.0	100.0	Shares
1928	Watney Combe Reid	Huggins & Co.	0.0	99.0	All Cash
1929	Barclay, Perkins and Co.	Style & Winch	0.0	99.0	Shares
1929	Unilever	Lever Bros	0.0	100.0	Shares
		Margarine Union			
1930	Barry & Staines Linoleum	Barry Ostlere & Shepherd	0.0	100.0	Shares
		Linoleum Manufacturing	0.0	100.0	Shares
1930	Taylor Walker	Cannon Brewery	0.0	98.0	Shares
1933	Charrington	Hoare & Co	0.0	100.0	Shares
1934	Ind Coope & Allsopp	Ind Coope			
		Allsopp & Co	0.0	100.0	Shares
1935	Hawker Siddeley	Hawker Aircraft	0.0	51.1	Shares
		Armstrong Whitworth Developments	0.0	100.0	Shares
1936	Stewarts and Lloyds (United Tube Holdings)	British Mannesmann Tube Co.	0.0	99.0	Shares
1937	Distillers	Booth's Distilleries	0.0	97.8	All Cash
1937	Imperial Chemical Industries	Salt Union	0.0	90.0	Shares
1938	Associated Portland Cement Manufacturers	Alpha Cement	0.0	74.0	Shares
1938	Beechams Pills	Eno Proprietaries	0.0	97.0	Shares
1939	Stewarts & Lloyds	Stanton Ironworks Co	0.0	100.0	Shares

Panel C: References in the Financial Times (FT) to acquisitions in the first half of the 20th century

Year	Acquirer	Target	Quote
1919	Vickers	W. T. Glover	"Shareholders of W. T. Glover and Company, Ltd., the electric wire and cable manufacturers, of Trafford Park, Manchester, have received a circular from the Chairman, accompanying the annual report, published in another column, in which an offer from Vickers, Ltd., to acquire the shares of Glover and Company is set out. The circular is as follows: 'The directors have recently been approached on behalf of Vickers, Ltd., with a view to that company acquiring the controlling interest in this company by means of an exchange of shares. As the result of negotiations, Vickers, Ltd., have now agreed with myself (as Chairman of the Board acting as trustee for the shareholders) to purchase the shares of this company from the respective holders such of them as think fit to adopt the agreement, at the following prices: For every Preference £1 share the sum of 17s 6d in cash; For every four £1 Ordinary shares five fully-paid £1 Ordinary shares of Vickers, Ltd. … Your directors (among whom are substantial holders of the company's Preference and Ordinary shares) are of the opinion that the terms of the sale are favourable to the shareholders, and will agree to sell their own shares accordingly. If you propose to take advantage of this offer it is necessary that you should sign … Yours faithfully, A. L. Ormrod, Chairman, W. T. Glover and Co., Ltd." FT Friday 2 May 1919
1920	GKN Holdings	John Lysaght Ltd	"To the ordinary shareholders of John Lysaght, Ltd. Dear Sir (or Madam), As you will have seen from the preliminary announcement published in the Press by the authority of your Directors, an offer has been received from Guest, Keen and Nettlefolds, Limited, for the purchase of the Ordinary shares in John Lysaght, Limited. The offer to the shareholders of your Company is of three Ordinary shares and four 5% Cumulative Second Preference shares (free of income tax) ranking *pari passu* with the present issue of this class of shares in Guest, Keen and Nettlefolds, Limited. … The offer has been unanimously accepted by the Directors of your company for the whole of their individual shares, and they have no hesitation in recommending its acceptance to the shareholders." FT Monday 19 January 1920.
1920	Lever Brothers	Niger Company	"The Directors of the Niger Company have received an offer from Lever Brothers, Port Sunlight, to purchase all the issued Ordinary shares in the Company at £6 10s each, payable in cash on or before 1st July next, together with interest on the price at the rate of 7% per annum from 1st January, 1920. … The Niger Directors recommend the Ordinary shareholders to take advantage of this offer. It is subject to the following conditions … Lever Brothers has the right to take any shares in respect of which its offer may be accepted, but reserves the right to cancel the agreement altogether if acceptances for at least 75% of the issued Ordinary shares are not received within the stipulated time." FT Monday 26 January 1920
1920	John Summers and Sons	Shelton Iron Steel and Coal Company	"The Shelton Iron Steel and Coal Company intimates that negotiations have taken place between some of the large shareholders and John Summers and Sons, Ltd., which have resulted in the acquisition by the latter of the majority of the Shelton shares. The price is £1 5s per share, payable as to £1 in Seven and a half per cent. Cumulative Preference shares of John Summers and Sons and 5s in cash. Arrangements have been made by which similar terms will be offered in due course to the whole of the Shelton shareholders." FT Tuesday 24 February 1920
1920	A. Darracq (S.T.D. Motors after deal)	Sunbeam Motor Car Company	"The official announcement that the Directors of A. Darraq and Company (1903) and the Sunbeam Motor Car Company have concluded an agreement, subject to ratification by the respective shareholders, for an amalgamation of their extensive interests is of more than ordinary importance as presaging the materialisation of the greatest combine that has been negotiated in the motor industry in this country. … The proposed amalgamation will take the form of an exchange of shares on an equal basis – namely, that the Sunbeam shareholders will, in exchange for their present holding, receive an equal number of shares in the Darraq Company…" FT Wednesday 9 June 1920
1920	Stewart and Lloyds	Alfred Hickman	"The Directors of Alfred Hickman, the well-known Midland firm of steel and iron manufacturers, yesterday issued to their shareholders particulars of the offer for the Ordinary and Cumulative Participating Preference shares which they have received from Stewarts and Lloyds, together with a form of acceptance. The circular sets forth that the directors have themselves accepted the offer, and they strongly recommend its acceptance by the shareholders. It is embodied in a provisional agreement of the 21st August, 1920, which is conditional on its approval by holders of at least 80 per cent of the shares mentioned on or before 15th September "FT Tuesday 24 August 1920
1923	GKN Holdings	Consolidated Cambrian Collieries D Davis & Sons	"An important deal is involved in the offer of Guest Keen and Nettlefolds to the shareholders of D Davis and Sons and of the Consolidated Cambrian Collieries, both of which own extensive colliery undertakings in South Wales. For each five Ordinary £1 shares of the Consolidated Cambrian Guest Keen offer two Ordinary, and for every five 5s Ordinary shares in D Davis and Sons Guest Keen offer one Ordinary. … Acceptance of the offer is strongly recommended by both directorates, who have decided to accept it as regards their own individual holdings. 90% of the Ordinary shares of each company must accept the offer by 30th November or it may be withdrawn. If the deal should go through, as no doubt it will, Guest Keens will have a coal output of at least 7,000,000 tons per annum. The attraction to Davis and Cambrian shareholders is that they will secure an interest in an undertaking which by reason of its varied interests has achieved uniformly good results and has weathered the trade depression with conspicuous success." FT Thursday 15 November 1923
1923	London and Lancashire Insurance Co.	British Fire Insurance Company	"The directors of the British Fire Insurance Co. have issued a circular giving details of the offer made by the London and Lancashire Insurance Co. for the purchase of British Fire shares…. Payment to be made as follows … All the directors of the British Fire have decided to accept the offer as concerns their own holdings, and they recommend the offer to the acceptance of all other shareholders. … the offer is conditional upon acceptance by the holders of at least 85 % of the issued share capital of British Fire" FT Friday 23 March 1923
1923	Laird Group	Leeds Forge Co. Ld	"An official intimation is made that a circular is about to be issued by the directors to the shareholders in the Leeds Forge Company recommending the acceptance of an offer which has been made by Cammell Laird and Co. to exchange one £1 Ordinary share of Cammell Laird for every two £` Ordinary in the Leeds Forge and one Ordinary of Cammell Laird for one £1 Seven % Cum. Preference of the Leeds Forge" FT Saturday 23 June 1923 p. 5

1923	Richard Thomas	Grovesend Steel & Tinplate	"Further particulars of the amalgamation in the tinplate trade, which was confirmed by our Swansea correspondent in yesterday's FT, show that Richard Thomas and Co. have offered to take over (a) 80% of the shares of the Grovesend Company, or (b) the whole of the shares of the Company. So far as the 80% is concerned it is certain that the deal will be completed. With regard to the other 20% it is regarded as a practical certainty that the holders will agree. Meanwhile, a circular has been issued to the 20% stating that the holders of 80% of the shares have accepted and recommending holders of the other 20% to accept. The terms are that the Ordinary shares of the Grovesend Company shall be exchanged for the Ordinary shares of Richard Thomas and Co., in part payment, plus a very substantial cash payment to the holders of Grovesend Company." FT Monday 15 October 1923
1925	Distillers	Buchanan-Dewar John Walker & Sons	"The Chairman (*of Distillers*) in proposing the special resolution, said: …. Before we can carry out the terms of the provisional agreements with the other two companies shareholders it will be necessary to amend our present articles of association Unfortunately, this cannot be done without obtaining the sanction of the court" … "If the necessary number of shareholders accept the offer, and we are asking for 90% of the shareholders of the other two companies to accept, but with power to accept a smaller number, not however less than 75%…" FT Monday 9 March 1923
1928	Union Cold Storage Company	London Central Markets Cold Storage Company	"Shareholders of London Central Markets Cold Storage Company are notified that a provisional agreement has been made for amalgamation… In a circular the directors … point out that they have agreed to take 6% Cumulative Preference shares in respect of their holdings in preference to the cash offer … and recommend shareholders to accept the offer" FT Friday 21 September 1928
1928	Amherst Estates	St. Ives Rubber Estates	"The directors of the St. Ives Rubber Estates announce that … after negotiations with the directors of the Amherst Estates (Selangor) Rubber Company, they have entered into a draft agreement with that company. The terms of the amalgamation, which is subject to the approval of the shareholders of both companies, are the issue of 250,000 fully paid 2s Amherst shares to the St. Ives shareholders. They have been mutually agreed upon by the directors of both companies as fair and equitable to all parties." FT Monday 24 September 1928
1928	Watney Combe Reid	Huggins & Co.	"Shareholders of Huggins and Co., the West End brewers, have been informed than an offer has been made by a well-known brewery company to purchase their holdings at £5 8s 6d per share. The offer is conditional upon acceptance by 76% of the holders… The directors intimate that they have accepted the offer and strongly recommend shareholders to accept" FT Saturday 13 October 1928
1928	J. Sears & Co	Freeman Hardy and Willis	"The Financial Times is officially informed that an offer for the purchase of Freeman Hardy and Willis Preferred Ordinary shares at the price of £3 6s and for the Deferred Ordinary at £7 7s 6d net per share has been received. The directors, who have themselves accepted the offer, recommend same to shareholders." FT Monday 15 October 1928
1928	Manchester Collieries	Andrew Knowles and Sons	"The terms are now available… In exchange for the issued share capital of 750,000 fully-paid £1 shares, Andrew Knowles and Sons will receive£706,500 in shares of the new company… The circular adds that in view of the satisfactory financial position and earning capacity… the directors are of opinion that the amalgamation will prove of advantage to all the parties concerned, and recommend the proposals which will be submitted at a meeting…" FT Tuesday 20 November 1928
1928	Scottish Drapery Corporation	J. R. Allan	"An offer has been made by the Scottish Drapery Corporation to purchase the Ordinary shares of J. and R. Allan, drapers and silk members of Edinburgh, at 27s per share… The offer is conditional upon acceptance by 90% of the holders… The Ordinary shares (*of J. R. Allan*) are quoted on Edinburgh at 25s." FT Saturday 24 November 1928
1928	Turner & Newall	Bells United Asbestos	"For each Bell's Ordinary held shareholders will receive in exchange one Turner and Newall Ordinary of £1…" FT Tuesday 27 November 1928 "Your directors are of the unanimous opinion that the offer made by Turner and Newall, Ltd., is equitable, and your Board have no hesitation in recommending it for acceptance… Your Board have been gratified by the receipt of an exceptionally large number of proxies, representing approximately 75% of the issued shares of the company, in support of the present recommendations." FT Friday 7 December 1928
1935	Allied Ironfounders	Aga Heat	"An offer has been made by the directors of Allied Ironfounders, of which Mr. A. W. Steven is chairman, for the whole of the issued share capital of Aga Heat, manufacturers of heat and cooking appliances. The terms offered are one fully paid £1 Ordinary of Allied Ironfounders for every five fully-paid 5s shares in Aga Heat… The offer, which is recommended by the directors, , is conditional upon acceptance by holders of not less than 90 %… Mr. J. E. V. Jobson, the chairman, has accepted a seat on the Board of Allied Ironfounders." FT Thursday 11 July 1935
1935	Hawker Siddeley	Hawker Aircraft Armstrong Whitworth Developments	"The subscription list will open and close on Tuesday next for the issue of Hawker Siddeley Aircraft Company of 1,000,000 Five % Cumulative Preference shares of £1 each at par and 1,000,000 Ordinary shares of 5s each at 15s per share. As previously reported in The Financial Times, the company is acquiring the whole of the issued Ordinary share capital of Armstrong Whitworth Developments and 50% of the issued share capital of Hawker Aircraft … The issue will be advertised at the coming weekend and prospectuses will be available after 3.30 today from the company's bankers" FT Friday 12 July 1935
1938	Beechams Pills	Eno Proprietaries	"Formal offer is now made by Beecham Pills to acquire the Ordinary shares of Eno Proprietaries. As announced bin The Financial Times last Wednesday, holders of Eno Ordinary are invited to exchange their shares on the basis of five 2s 6d Deferred of Beechams for every eight 5s shares held. The offer, which is unanimously recommended by the directors of Eno Proprietaries, is conditional upon acceptance by at least 90 %, or such lower percentage as Beechams may agree to accept." FT Saturday 8 October 1938

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