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*Extreme Divorce: the Managerial Revolution in UK
Companies before 1914*

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Extreme Divorce: the Managerial Revolution in UK Companies before 1914.*

by James Foreman-Peck, Cardiff Business School

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Abstract

We present the first broadly representative study for any early twentieth century economy of the extent to which quoted company ownership was already divorced from managerial control. In the 337 largest, independent, UK companies in the *Investor's Year Book* (those with £1m or more share capital in 1911) the two million outside shareholders were fewer than today's shareholding population, but they held 97.5% of the shares in the median company and their directors only 2.5%. This indicates a *lower* level of personal ownership by boards, and of director voting control, in the largest securities market of the early twentieth century than in *any* of the world's major securities markets toward the *end* of that century. Berle, Means, Gordon and others later quantified the USA's delayed (and on this dimension less advanced) managerial "revolution." Their evidence has been widely misinterpreted: some erroneously concluded that America pioneered this aspect of "modernity" and that the "divorce" of ownership from control, globally, was a new and continuing trend.

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The debate on whether managerial control was divorced from share ownership in early twentieth century Britain exhibits an extreme lack of consensus, compromised as it is by inconsistent definitions and unrepresentative samples.¹ Here we substantially resolve these issues, relying on a source, the *Investor's Year Book*, which, after brief contemporary exposure, endured decades of oblivion.² This directory itemises shareholder numbers and the amount directors held: fuller information than is available in the UK for the next eight decades, providing historical data approaching in quality and coverage that published for major markets today. The results are striking: the level of board ownership in British companies was *lower* before World War One than observed anywhere toward the *end* of the twentieth century. The conventional wisdom that the century experienced a revolutionary “divorce” of ownership from control and the rise of a new “managerial” capitalism is an urban myth. The evolution of managerial control in the UK was substantially complete *before* 1914.

This will be less of a surprise to those familiar with historical work on the drivers of these developments than to minds misdirected by Whiggish elaborations of the *locus classicus*, Berle and Means.³ The growth of professional managerial hierarchies with internal labour markets - the largest ones employing more than a thousand clerks in one headquarters building - is well documented for London, the world's largest “head-office city.”⁴ Pessimistic evaluations of securities market development before 1914 have also faded: the UK, the world's third largest economy,

¹ At one extreme Alfred D. Chandler (*Scale*) famously saw Britain's exceptionally *high* levels of personal ownership as driving poor business performance; at the other, Hannah (“Divorce”) contrasts *low* levels in the UK with high US and German personal ownership. Cheffins and Bank (“Is Berle and Means”) are judiciously moderate.

² This annual directory was edited by Herbert Bassett, of the Investment Registry's *Financial Review of Reviews*. Early issues were published in-house and occasionally surface in antiquarian booksellers. From 1909, when it was published by Letts and widely noticed in periodicals, rare library copies survive until the 1915 issue, after which it apparently ceased publication.

³ *Modern Corporation*.

⁴ Heller, *London Clerical Workers*; Seltzer and Frank, “Promotion tournaments.”

had the world's largest stock market so it requires some obtuseness to present British finance as uniquely constrained.⁵ Recent studies have clarified aspects of trust relationships, contractual protections, and information signalling which fostered widespread shareholding.⁶ Even sceptics have recognised that the separation of ownership from control was exceptionally advanced in UK banks and railways.⁷ In whichever sector, the common thread was a shift (albeit never complete) from firms substantially owned and managed by individuals or local syndicates to companies with shares freely traded on organised stock exchanges, owned by thousands of shareholders, in which most directors held office by virtue of their skills, knowledge and networks, and promotion or recruitment to the board, not because they held preponderant ownership stakes. The next section explains the coverage of our data and the expanding domain of public companies; sections 2 and 3 consider the numbers of shareholders and the extent of board shareholdings and voting power; section 4 calibrates comparisons across time and space; section 5 sketches some implications.

I

The *Investor's Year Book* was compiled by the Investment Registry, founded in 1880 by a group of wealthy London investors. Their securities guide - sold at a shilling initially and four shillings from 1912 - was likely a loss-leader inducement to investor clients: market professionals used directories like the London

⁵ Hannah, "J P Morgan" and "London;" Michie, "Finance."

⁶ Franks et al., "Ownership;" Campbell and Turner, "Substitutes;" Hannah, "Pioneering Corporate Governance;" Musacchio, "Laws."

⁷ Cheffins, *Corporate Governance*, pp.230-8.

Stock Exchange's (LSE's) *Official Intelligence*.⁸ Its content was abbreviated but also qualitatively different, including (from the 1910 edition) shareholder numbers and (from 1911) the amount held by directors. This required their staff to make labour-intensive searches of full lists of shareholdings, which registered companies had to make available to any enquirer and update annually at Somerset House in London (or at two smaller provincial registries).⁹ One clue to their motivation for collating and publishing this esoteric information is a staff member's suggestion that "If it is found that the Directors are but small shareholders, there is the risk that the management may not display active intelligence. If there are large blocks of shares held in a few hands, then the price of shares is uncertain, as an avalanche of stock may descend on the market at any time. In an ideal list of shareholders the Directors should have large personal stakes of old standing and the rest of the shares should be distributed in the smallest possible lots among *bona-fide* Investors who have no City address."¹⁰

The Appendix lists the largest, independent, British-owned companies in the directory with shares quoted on a UK stock exchange: those having at least £1m nominal value of issued share capital. Thousands of merely medium-sized companies were also then traded on London and more than twenty UK provincial exchanges, but we chose this cut-off to confine our study to the larger size range of firms listed on the pre-1914 NYSE (where initial public offerings (IPOs) of less than \$5m - about £1m - were rare) or on today's LSE (£1m is equivalent to £76m today, adjusted by the

⁸ The 1912 *Yearbook* cost £0.20, the *Stock Exchange Official Intelligence* £2.50 and Skinner's *Stock Exchange Year Book* £1.40 (Pitman, *Where*, p. xvii), with, respectively, 532, 1,742, and 2,098 pages.

⁹ Apart from this window of published data for 1911-1915, levels of UK board ownership cannot be measured as fully and representatively for the nineteenth century, nor most of the twentieth, except for returns made to Edinburgh. Dublin returns were apparently victims of the troubles of 1916-22 and for the overwhelming majority choosing London registry only the returns of the minority of continuing companies are retained by Companies House (now in Cardiff); the rest have been extensively and non-randomly weeded by the National Archives, or (for most chartered and statutory companies) were never filed.

¹⁰ Lowenfeld, *All about Investment*, p. 183.

RPI).¹¹ Most data are drawn from the 1912 edition, generally reflecting the late 1911 position, and appear to be broadly reliable on board shares¹² and a little out-of-date on shareholder numbers and capital.¹³

The LSE before 1914 was *the* global stock market: it traded a third of the world's securities and 71 of the world's hundred largest quoted corporations had at least one of their securities listed there.¹⁴ Including all 43 of them headquartered overseas would frustrate our objective of covering business enterprises principally owned and controlled in the UK. Companies operating overseas were included if they met the following criteria, also applied to domestic firms:

- the businesses were registered as UK companies,
- with sterling share capital,
- largely British-owned,
- and wholly or partly British-managed.

Also in our population are a small number of companies registered overseas in which British shareholdings were probably dominant and there was a large minority or a majority of British directors. Foreign and colonial companies listed on London, but with negligible British management, and companies, wherever registered, in which UK holders constituted a minority or mainly held bonds have generally been excluded.¹⁵ Finally, even where companies maintained a separate British corporate

¹¹ In 2010, firms valued at £100m or below accounted for less than 1% of the LSE's Main Market capitalisation (www.londonstockexchange.com/statistics). Today the external financing of medium-sized firms is the preserve of venture capitalists, banks, private equity, business angels and markets like AIM, not of major stock exchanges.

¹² The directory reports high board ownership figures in cases where the literature or surviving Companies Registry returns signal this and low figures where we know that to be appropriate.

¹³ The *Railway Year Book 1912* and the *Banker's Almanac 1912* also report shareholder numbers, generally giving higher figures.

¹⁴ Authors' calculation from a list of the largest global companies by market capitalisation in 1912 (Wardley, "Top 100").

¹⁵ The Suez Canal and Hongkong & Shanghai Bank were included, Borax Consolidated and Royal Dutch Shell excluded; but we may have misclassified these and other companies with large British shareholdings because of deficient information on fluctuating ownership of constantly traded shares in

identity, stock exchange listing and/or board, we excluded them if they were subsidiaries of other companies, since their ultimate control may be presumed to lie with the parent.¹⁶

The coverage of the *Investor's Year Book* appears to be comprehensive, comparing favourably with lists of large firms compiled for dates between 1904 and 1919 in fourteen, very diversely-focused, research studies.¹⁷ Most of the firms in their lists (and some they omit) are included, if they were in 1911 quoted, British-owned, independent and had £1m+ nominal share capital. The only major gap is non-ferrous, non-coal, mining enterprises operating abroad. There were around 60 such £1m+ companies not appearing in the *Investor's Year Book*: all traded in London (and many also in Paris) and owned by British, American or continental investors (in uncertain proportions). Some (like Consolidated Goldfields) were possibly widely held, while in others (like Burmah Oil) board members were large shareholders. This variability means that any guess at the level at which these companies could be incorporated into our analysis would be arbitrary.¹⁸ Otherwise, we have been able to identify from the available lists of large companies only two British-registered, listed companies operating overseas and meeting the admission criteria that were excluded (both Asian

this globalised pre-1914 world. We are not suppressing much information by omitting overseas-registered corporations, since shareholder registers were less easily accessible in other jurisdictions.

¹⁶ Among the subsidiaries thus excluded, some (e.g. Pacific Steam Navigation) were controlled by British companies in our population; others (e.g. British Westinghouse), though the subsidiaries may have been majority-British-owned, had voting structures that left control with overseas entities.

¹⁷ Boughey, "British overseas railways," p. 489; Boyce, "64thers," pp. 184, 195; Chandler, *Scale*, pp. 666-72; Church, *History*, p. 400; Gourvish and Wilson, *British Brewing*, p. 380; Hannah, *Rise*, pp. 187-90; Hausman et al., *Global Electrification*, pp. 106-7; Jeremy, *Capitalists*, pp. 420-25; Jones, *British Multinational Banking*, pp. 396-7; Marchildon, *Promotion*, pp. 253-4; Payne, "Emergence" pp. 539-40; Schmitz, *Growth*, pp. 23-5; Scott and Hughes, *Anatomy*, pp. 56-65; Shaw, "Large Manufacturing Employers," pp. 52-3; Wardley, "Top 100." We also checked all firms in the LSE's *Daily Official List* for 2 January 1912.

¹⁸ This sector was omitted from the *Investors' Year Book* from 1909 onwards, for reasons not stated, and accounted for 4.5% of the profits of all British firms assessed for income tax (Worswick and Tipping, *Profits*, pp. 87, 89).

plantation companies, with recent IPOs on the LSE),¹⁹ and only three similar domestic companies (only thinly traded on northern exchanges).²⁰ So, with a total of £1,926m share capital in 337 £1m+ companies, the directory appears to cover around 98% of targeted firms.

In the majority of cases, the *Investor's Year Book* provided data on shareholdings, but for nearly a third of large companies omitted data on board holdings and/or shareholder numbers (while including both for almost all smaller companies). No reason is given, but many railways were so big and their shareholdings so obviously widely dispersed that publishing precise information was probably considered superfluous.²¹ An overseas, parliamentary or royal charter (common among large companies but often allowing access only to shareholder names and addresses - not holdings - and at company headquarters not Somerset House) appears to have inhibited reporting, as did occasional bearer shares. For more than a tenth of the companies, we have used company histories, known voting caps, archives and other sources, opting for the highest level in the event of conflicting estimates, to bias the results against our conclusion.²² As a last resort, for around one-fifth of the companies (mainly railways), we have estimated board shareholdings econometrically from their known correlates (company size, sector, corporate age, numbers of directors and of shareholders and main places of listing and of

¹⁹ Grand Central (Ceylon) Rubber Estates and Anglo-Dutch Plantations of Java. There were doubtless other unlisted (but LSE-traded) companies omitted.

²⁰ Reckitt & Son was listed on the Leeds exchange, many of its non-family shares being owned by trade customers and employees (Reckitt, *History*, pp. 47, 91). Boots and Tootal Broadhurst Lee were quoted on the Sheffield and Manchester exchanges, respectively, but only a portion of their share capital was actually listed.

²¹ The LNWR was exceptionally transparent, disclosing directors' stock-holdings in its annual reports, yet the *Investor's Year Book* does not report this.

²² A search for missing data was made in Hannah ("Divorce"), Cheffins (*Corporate Ownership*), the *Railway Year Book 1912*, *Banker's Almanac 1912*, company histories, Google Books, Guildhall Library listing files (MS18000) and company archives.

Table 1. Inauguration Dates of UK Companies in our Population (col. 1) and more generally (cols 2-6).

Date	1911 £1m+ Companies (numbers)	All Life Insurance Companies (numbers)	<u>All 1911 UK</u> Railways Banks (numbers) (numbers)		<u>All Companies</u> <u>Acts Registrations</u> (Paid-up Cap £m)	
Pre-1800	10	48	na	7	na	na
1800-29	15	68	5	7	na	na
1830-39	31	57	14	29	na	na
1840-49	20	119	24	2	500 [†]	na
1850-59	18	129	22	4	1,316	na
1860-69	42	108	34	14	6,362	926*
1870-79	27	19	15	10	10,155	844
1880-89	61	9	30	8	18,583	1,971
1890-99	80	11	22	15	37,682	2,042
1900-11	28	16	13	9	59,719	1,753

* no values available for 1860-61.

[†] The 1844 Companies Act took effect on 1 November. In September 1844, 947 English and 47 Irish companies were already known, under various dispensations such as common law deeds-of-settlement, the 1821-26 Banking Acts or the 1837 Trading Companies Act (but excluding many companies with royal charters or private acts of parliament); their earlier inauguration dates are not recorded. The 1844-56 figures in this column also exclude Scottish companies, and are arbitrarily allocated between the 1840s (500) and 1850s (456).

Source: col. 1: authors' calculations; col. 2: Andras, *Historical Review*, pp. 101-18 (this encompasses an eclectic range of chartered, statutory, mutual and deed-of- settlement insurers and Companies Act registrations and many which were defunct or no longer independent by 1911); col. 3: authors' calculations based on all 179 extant domestic railways in the *Stock Exchange Official Intelligence 1912* (excluding tramways, light railways and joint committees; note also that most post-1870 new UK statutory rail companies were modest branch lines and urban undergrounds); col. 4: authors' calculations based on all 105 extant UK-headquartered banks and discount companies in the *SEOI 1912* (excluding private banks; note that most post-1870 new UK bank incorporations operated primarily overseas); cols. 5 and 6: Shannon, "First Five Thousand," pp. 420-24; *SEOI 1912*, p.1626 (note that these columns exclude many large companies such as domestic railways and other statutory and chartered corporations and that most of those included did not survive to 1911).

operation).²³

Table 1 charts the timing of the processes generating this upper tail of the UK company size distribution, showing in column 1 the inauguration dates - when they were established in their modern form - for all 337 companies. This is not always the date of foundation, for some of these companies had earlier origins as sole proprietorships, partnerships or deed-of-settlement companies. Even if it was a second incorporation, the inauguration date highlighted in directories often marked a strategic decision to operate on a larger scale (merger or a major new capital-raising) or slightly pre-dated the IPO of the shares of one-time family-owned firms or of new concessions established by venture capitalists.

Half had been established in their modern corporate form in the last four decades, but several were pre-industrial: the oldest was Hudson's Bay, originally chartered in London in 1670 (though reconstructed in 1863). Many statutory, chartered and deed-of-settlement companies had begun to separate ownership from control well before general joint-stock registration in 1844 and general limited liability in 1855, as columns 1-4 collectively suggest.²⁴ Columns 5 and 6 show the rise of the simplified new incorporations under the 1844 and subsequent Companies Acts: mostly smaller and including increasing numbers of private, unquoted companies. Columns 1 and 6 together suggest that incorporations trended upwards in the long nineteenth century,

²³ Board ownership data was published for *all* brewery companies (generally recognised as having persistent family ownership), but was available for only a *minority* of railways (a sector generally accepted as managerially -controlled). Estimation of missing data was therefore critical to avoiding selection bias.

²⁴ Cols 1 and 3-4 understate this because they sometimes register a secondary re-incorporation. The suggestion that the USA (liberated after 1783 from the thrall of Britain's "Bubble Act") was faster off the mark in chartering corporations is occasionally encountered, and that is true in terms of *numbers* of early nineteenth century corporate charters (if we assiduously count the numerous small, private, unquoted and defunct American corporations), but extant, quoted companies constitute a quite different story. It took the NYSE eight decades *following* its local "early" 1811 incorporation law to attain the same corporate capitalisation/national income ratio (around 50%) achieved by the LSE *before* Britain's "late" 1855 limited liability law. General incorporation laws have been overemphasised in the literature: initially, specific charters granted by legislatures exceeded those under liberalised general provisions (in *both* jurisdictions) and a higher proportion of early UK companies were large and publicly traded.

with a notable surge in larger formations in the 1880s and 1890s, and a lull after 1900.²⁵ The UK managerial “revolution” is thus most plausibly located in the closing decades of the nineteenth century, when most large manufacturing and distribution firms and many new utilities and British ventures overseas went public. But “evolution” is perhaps the more appropriate term: for example, the change was already well-advanced for many railways, other utilities and financial companies by the mid-Victorian period. Moreover, in the decades after their IPO, insiders typically released more shares to the general public, as they gradually diversified their own wealth portfolios, while expanding their firms.

Accompanying this evolutionary separation of ownership from control were changes in top managerial personnel, in their selection and training, and in their functions. Company secretaries were a classic profession, with examined qualifications in corporate law, investor relations and boardroom procedure.²⁶ By contrast, directors (like managers in general) - with the exception of some formally-qualified actuaries, bankers, chemists, doctors, engineers and lawyers - were largely qualified by practical experience or reputation, so were as ambiguously and diversely professional as they remain today. Some, like Henry Overton Wills, were large owners who had long retired from the family business and delegated management to others. He was the largest (13%) holder of Imperial Tobacco shares, with nearly £2m, perhaps half his fortune, invested, but, when he died in 1911, the family patriarch’s attendance at board meetings had long been delinquent.²⁷

²⁵ On the other hand, Essex-Crosby’s (“Joint Stock Companies”) analysis of 5,337 *quoted* companies registered under the British Companies Acts (most with below £1m capital) shows continually rising decadal rates of foundation up to 1914.

²⁶ By 1911 the Institute of Secretaries had 3,544 members and there was a similar Secretaries’ Association offering professional examinations; the two merged in 1937 (Anon, *Chartered Institute*, pp.1-47, 145, 187-92). On the other hand, members qualified for the Institute of Directors (founded in 1903) by holding the office, not by examination.

²⁷ Alford, *Wills*, pp. 242, 263, 282, 328.

In railways, and many banks and insurance companies, millionaire owners were rarer and the majority of the board were typically outside (non-executive)²⁸ directors (akin to a German *Aufsichtsrat*, or supervisory board), including businessmen from other sectors, financiers and national or local worthies (peers, MPs, JPs). Professional railwaymen, bankers or actuaries promoted to directorships from within these companies' own management hierarchies (inside directors) were usually a minority. On the other hand, some owner-entrepreneurs used directorships to reward their senior managers and/or prepare them for succession and had no non-executives on their boards: they resembled a German *Vorstand* (management board) more than an *Aufsichtsrat*. Many other UK boards were also working committees of senior managers, though it was common to appoint one or more non-executives, who could be helpful to the business or re-assure outside shareholders: they included major shareholders, financiers, lawyers, engineers, consultants, non-competing businessmen, politicians and non-practising accountants (many accountants in private practice were reluctant to become directors, since, from 1900, this barred them from auditing the company). Some company chairmen (especially those combining the post with that of managing director) were dictators (albeit elected), like some US CEOs;²⁹ but on other boards there was more of a balance of power, chairmen being chosen by their colleagues as *primi inter pares*.³⁰

II

²⁸ As with non-executives today, some devoted multiple days each month to the job, while others did little more than attend meetings.

²⁹ These included both dominant founding entrepreneurs (Lord Leverhulme in Lever Brothers) and professional managers with negligible shareholdings (Sir Edwin Holden in London City & Midland Bank).

³⁰ Balance could be dysfunctional, as in multi-firm mergers whose constituents used board membership to block post-merger rationalization, but, as the case of CPA showed, such errors in governance could quickly be rectified by a shareholders' investigation committee (Pitt, "Strategic and Structural Change").

The numbers of shareholders in these companies ranged widely, from a low of only 170 (in Martin's Bank, one of the last of the family-owned clearers to go public³¹) up to 79,400 (in the Midland Railway, a reliably dividend-paying mainstay of the proverbial widows and orphans). The mean was 6,177 shareholders and the median 3,000: levels which made it difficult, but - unlike today - still possible, for non-negligible proportions of them to participate in AGMs at venues such as London's Cannon Street Hotel, which could accommodate up to 2,000. The US experience of large companies reporting zero AGM attendances was unknown in a compact, urbanized nation, with fast trains, a tradition of shareholder activism and extensive national reporting of their proceedings.³² Most holders were passive but others still felt a financial compulsion to attend: the mean shareholding was as much as £925 (equivalent to about £70,000 today). The range around this average was wide, with small shareholders especially attracted by well-known brands like Lipton (the chain grocer famed for its teas): its mean shareholding - only £68 - was less than the £100 block that London stockbrokers normally traded.³³ The highest mean shareholding was 184 times that, in Underground Electric Railway, whose chairman, the banker Sir Edgar Speyer, had coordinated this pyramided merger of London tubes and tramways, acting for a group of wealthy American investors.³⁴

³¹ Chandler, *Four Centuries*, pp. 336-7, 411-4.

³² Rutterford, "The Shareholder Voice."

³³ Lipton was one of the rare companies to show a marked decline in shareholder numbers: from 74,000 at its 1898 IPO (Green et al, *Men*, p. 196) to 33,000 by 1911.

³⁴ The Underground's shareholder numbers (400) are misleadingly low, since there remained thousands more shareholders in pyramided group subsidiaries, unrecorded in this parent-only figure. We have left this company (and the probably Belgian-controlled Anglo-Argentine Tramways) in a population confined to British-owned companies, because of their large subsidiary shareholdings and uncertainty on the nationality of the majority.

All these figures relate to the nominal (par) value of issued (not merely authorised) and subscribed (not necessarily paid-up) share capital.³⁵ Of course, the market prices sometimes varied markedly from par. The *Bankers' Magazine* index indicates that the market for similar securities was about 34% above par at this time, so the average shareholding was probably worth about £1,240.³⁶ That was many times a manual worker's annual wage (£50), the annual income threshold at which British income tax became payable (£160), or the maximum deposit permitted in the (government-subsidised) Post Office Savings Bank (£200). But, in a skewed distribution, many small shareholders had modest holdings at similar levels.

The numbers of shareholders had escalated rapidly, economy-wide. In 1849 there were only 36,271 shareholdings in quoted domestic banks, in 1875 81,577, while by 1911 there were in excess of a quarter of a million.³⁷ Shareholder numbers grew a little more slowly in railways (from around 170,000 in 1855 to 620,000 in 1902), but probably grew faster in other sectors. This diffusion process continued over the next century. Lloyd's, the largest bank of 1911, then had 22,500 shareholders, while today (when it is again the leading domestic retail bank after acquiring many competitors) it has 2.8 million.³⁸ Remarkably, the total number of shareholdings in *all* our 337 large companies (2,081,790) was less than in this *one* bank today, though

³⁵ Issued, subscribed and paid-up capital were by 1911 normally identical, but in a large number of banks and insurance companies, and a few other companies, there remained some uncalled liabilities (shares subscribed but not paid-up).

³⁶ Estimated from the appropriate sub-indexes for 19 December 1911 (*Banker's Magazine*, January 1912).

³⁷ Acheson et al, "Does limited liability matter?" p. 260. In 1911, there were 251,649 shareholdings in our 39 £1m+ domestic banks alone, and additionally there were around two dozen smaller retail banking companies plus several dozen banks mainly operating overseas.

³⁸ *Ibid.*, p.270. The expanding UK shareholding population was dramatically reduced by nationalisation, then increased by privatisation and demutualisation. Lloyd's large modern shareholder base derives partly from its acquisitions of demutualised building societies, insurance companies and savings banks, whose quasi-owners were excluded from earlier shareholder data.

there were also approaching three million shareholdings in other UK public companies in 1911.³⁹

Sixteen of the 337 companies were investment trusts, twenty-two insurance companies and more than a hundred were already offering their employees funded pensions, all three of these institutional investment vehicles spreading beneficial interests in securities more widely; and a few (notably gas companies) encouraged employee shareholding. Yet small samples of shareholder registers in the first two decades of the twentieth century suggest that no more than 5-7% of shareholders with identifiable occupations were working class, so this is not the “democratic” capital market over-enthusiastically claimed by contemporary boosters of capitalism.⁴⁰ Our figures simply confirm that direct share ownership was widely disseminated among the comfortably-off bourgeoisie.

III

The *Investor's Year Book* data on board shareholdings enable us to calibrate control more precisely. 101 sterling millionaires were recorded as dying in 1900-19 and, if this generation of plutocrats (or their heirs) had each fully funded one of our smaller companies, most of them would have substantially exhausted their resources.⁴¹ Plutocratic undiversified investment in the formal capital markets simply did not happen on this scale: in fact, in only nine of our companies did the whole board *collectively* hold shares with a nominal value of £1m+. By that yardstick, only six branded goods manufacturers, two banks and one railway were personally owned

³⁹ Green et al., *Men*, pp. 163-4, with an allowance for the 1901-11 increase and a further 1m shareholders in the British-owned (statutory and chartered) companies not registered under the Companies Acts.

⁴⁰ Green et al., *Men*, p. 203. Compare Quail, “Investment.”

⁴¹ Rubinstein, *Men*, p. 63.

by the super-rich.⁴² Many giant firms of 1911 simply could not have existed in the society of personal capitalism that had been the norm a century earlier. If, as the literature suggests, economies of scale and scope, widening markets, managerial and technological innovations and network effects had driven firm growth, that had clearly in part been facilitated by the aggregation through stock exchanges of the wealth of hundreds of thousands of more modest capitalists, delegating management to thousands of entrepreneurs and professional administrators.

Nonetheless, directors had more wealth committed to their firms than the average shareholder. The LSE's listing rules required that directors be shareholders, so the US phenomenon of professional directors holding no corporate stock was rare in Britain.⁴³ The mean requirement was £2,113 nominal, but the amount varied from £1 (in Rhodesia Railways) up to £20,000 (in Ellerman Lines). The lower requirements were well within reach of the average shareholder in these companies (who held £925), but the higher ones were not trivial, when even a well-paid clerk might earn only £200 pa. Nonetheless they were a feasibly negotiable hurdle for most successful career managers earning £1,000+ annual salaries in their forties: the professionals who could most realistically aspire to directorships in large public companies.⁴⁴ For smaller companies an above-average requirement could mean the board collectively

⁴² The holdings of 136 directors (mainly members of the founding families) in Guinness, Peter Walker, Whitbread, Coats, Imperial Tobacco, Lever Brothers, Barclays and the Union of London & Smith's Bank averaged £144,118 per director. The Cardiff Railway board's holdings are not reported, but the Marquis of Bute personally developed this railway (linking his coal mines and port); we have estimated board holdings at £2.2m.

⁴³ 500 of the 3,000 directors of the USA's 200 largest corporations had no stockholdings in 1939 (TNEC, *Distribution*, p. 59). The much rarer cases of this in Britain were in unlisted companies or unquoted subsidiaries. The *Stock Exchange Official Intelligence* reports each company's director shareholding requirement.

⁴⁴ A good house on Wimbledon Common, which such directors might have bought (and could, if necessary, mortgage), then cost £1,000; its Kensington equivalent perhaps three times that. Generous directors' fees helped ease the pain for new appointees and some companies allowed an interval after appointment for purchase, issued directors' shares at par rather than market, or were suspected of tolerating non-compliance.

needed to own a significant tranche of their capital, but in one large railway requiring only £100 the effective floor on board shareholding was well under 0.01%.

The mean director's personal stake - at £19,986 - was well above the modal requirement and more than 21 times that of the average shareholder, though, unsurprisingly, many directors held only the minimum and others an order of magnitude more.⁴⁵ With an average of 9.6 directors, these British boards were generally smaller than their German and American counterparts.⁴⁶ Fewer than three thousand⁴⁷ men thus *controlled* these commanding heights of the British corporate economy, but they collectively *owned* only 3.4% (£65m) of the total share capital (£1,926m). This is a very low figure for a rich *rentier* society with massive inherited wealth, increasingly tinged, it is true, with meritocracy, but one whose novelists understood that choosing one's right father and wife secured worldly wealth more effectively than choosing one's right education and job.⁴⁸ Moreover, these directors' share in the ownership of all these companies' securities was even smaller since debentures (of which the general public probably held an even higher portion) are not included in these figures.⁴⁹ On the other hand, board ownership of the equity capital itself (as is common in such studies before the more rigorous disclosure laws of recent years) will be understated, if nominee accounts, holdings of close family members

⁴⁵ Forty years' later (when we have fuller data on individual directors) two members of the average board of large companies owned the minimum (usually less than the mean shareholding), while a wealthier group had massive personal stakes (Florence, *Ownership*, pp. 99, 223-65).

⁴⁶ German boards averaged 12.7 directors and US ones 14.4 in 1914 (Fear and Kobrak, "Banks on Board," p. 713).

⁴⁷ The appendix shows 3,252 *directorships*, but, allowing for those serving on two or more boards, there were perhaps 2,761 *directors* (applying the 1904 ratio in Scott and Griff, *Directors*, p.42)

⁴⁸ Novelists like Galsworthy were right if the UK resembled France, for which we have more reliable data on such matters (Piketty, "Long-run Evolution," p. 71). Three decades later a society conventionally considered more meritocratic felt able to congratulate itself that the officers and directors of the 200 largest US non-financial corporations owned a mere 5.5% (Scoville and Sargent, *Facts*, pp. 473-83).

⁴⁹ Most of these companies' capital was in shares (£1,250m ordinaries, £676m preferences and similar, quasi-fixed-interest, shares) with an additional £723m in (fixed-interest) debentures.

and of directors acting as trustees or as representatives of large block-holders who were not themselves directors were not included.⁵⁰

It is difficult to gauge the extent of this issue in 1911, but there were certainly some non-director block-holders and some of the modest measured level of directorial wealth may reflect the diversion of Britain's leisured business elite to cultural, charitable, political, sporting or social pursuits, while delegating the direction of their firms to loyal minions. Some did give up the reins of power in pursuit of pleasure, but many more seem to have led multi-dimensional lives: it was not difficult (given a capacious and venturesome mind, wifely support, a dozen domestic servants and a competent amanuensis) for an Edwardian plutocrat to chair his own business, sit in the House of Lords or Commons, endow a hospital or university *and* acquire a private art collection; indeed in some circles it was rather expected. Women's options were more constrained: they accounted for a third of shareholders, but almost never served as directors of public companies.⁵¹ The widow and daughters of Sir Donald Currie had inherited his 32% shareholding in Union Castle Mail Steamship when he died in 1909, and essentially called the shots, but the ir all-male board of 1911 registered only 2.5% ownership in our data.⁵² Charities, foreigners, or the self-indulgent wealthy and retired not wishing to serve as directors might also have had substantial, unreported block-holdings. For example, George Herring, a successful professional gambler who had invested his winnings in electrical enterprises, had been chairman of one of our companies (City of London Electric) and a major investor in

⁵⁰ Family members with the same name and directors acting as trustees - if they were the first named trustee - would be readily identifiable from the registers and shares held in trust normally counted as directors' qualifying shares (Palmer, *Company Law*, p.184), though it would not be so readily apparent if directors used nominee accounts or represented block-holders. The directory is silent on how it treated any of these cases.

⁵¹ Rutterford et al., "Who comprised," p. 169.

⁵² Porter, *Victorian Shipping*, pp. 260, 290. Their control was short-lived: in April 1912 they agreed a sale to Royal Mail. Meux's Brewery was another case of female ownership with control delegated to minions.

another (British Electric Traction). When he died in 1906 he left £750,000 of his £1,371,000 fortune to a hospital charity which possibly retained extensive holdings in these companies in 1911.⁵³ As far as shareholdings registered by nominees are concerned, this likely resulted in some director shareholdings being missed in 1911 and even more in later years.⁵⁴ The tell-tale sign of undisclosed block-holders is the combination of suspiciously low numbers of shareholders with low director voting powers, a test implying there were relatively few cases.⁵⁵

The separation of securities ownership from managerial control involves further ambiguities. In all periods fixed-interest bondholders are not owners, but technically, like bankers, merely *lenders* (with privileged recourse in the event of non-payment of interest, which may unhappily convert them into owners). Such conditional ownership of capital does not equate to control in normal times: debentures and bonds only rarely conferred voting rights, unless the company defaulted on interest payments. About a third of the capital of our 337 companies was in the form of debentures and preference shares which carried no, or very limited, voting rights. Also, many quasi-public undertakings - like water boards and (colonial) state-guaranteed railways (none of which are included here) - issued *only* bonds and loans: there was no equity.⁵⁶ In such organisations, the directors routinely had control

⁵³ Fulford, *Five Decades*, p. 20. However charities (or other trustees) lacking broader investment powers than laid down in the Trustee Investments Acts were still legally barred from holding almost all ordinary and most voting preference shares considered here. Another later source of high block-holding (by parent companies) co-existing with low board holdings (of their appointed directors) is also absent from our population, since we exclude such subsidiaries.

⁵⁴ For the low initial use of nominee accounts and their later rise see Church (*History*, p. 434); Franks et al ("Ownership," p. 4030, n.14); and Florence (*Ownership*).

⁵⁵ However, it is not fool-proof: it fails to detect the British government's 44% shareholding in the Suez Canal (represented by 3 of 32 directors). The significance of block-holding depends not only on its incidence, but on its (also unclear) role. Chandler (*Scale*, pp. 248-9) believed that block-holders who were not directors did not compromise management professionalism: the owner-directors measured here were, for him, the fundamental British problem.

⁵⁶ We excluded many such widely-held entities: public boards (e.g. the Port of London), entirely state-guaranteed entities (e.g. many Indian railways), as well as *de facto* colonial governments (e.g. the British South Africa Company). We found one company, Lima Light Power & Tramways, with share capital of £1.35m, whose 1910 Peruvian charter gave its (British) £1.2m debenture holders majority

without ownership: management was even more independent of security owners than in the more conventional capitalist enterprises on which the present study is focused. UK investors also had large overseas portfolio investments, amounting to £1.8 billion by 1911,⁵⁷ in which control lay in hands remote from their owners, and many British holders did not exercise votes. Together such factors meant that the *majority* of the corporate securities owned by UK investors were *substantially* divorced from managerial control.

However, modern studies of separated ownership typically focus on the narrower class of *controlling* securities. From this mainstream viewpoint, control-light funding from bondholders or vote-less preference holders simply strengthens whatever controlling hand dominant capitalist interests wield. In this perspective, it is essential to take account of differential voting rights. Equal voting rights for all shares - the modern corporate norm in some countries, including the UK and USA - were then the exception rather than the rule: 58% of our 337 companies restricted *some* shareholders' votes. Sometimes large holders' voting powers were limited (a practice earlier believed to protect small shareholders⁵⁸), while a minority of preference and similar shares conferred no voting rights, or only fractional votes (a newer development which enabled insiders to cede cash-flow rights while retaining more control). One extreme case, Maple & Co, issued not only vote-less preferences but also special management shares, each with 500 times the votes of an ordinary share, so directors of this furniture company could exercise 40% of the votes while owning only 3% of the capital. The *Stock Exchange Official Intelligence* itemises these

board control. We excluded this anomaly, but included the few companies in which debenture holders had some votes or in which a receiver had taken control on behalf of the trustees for the debenture holders.

⁵⁷ Corley, "Britain's Overseas Investments," p. 80.

⁵⁸ Hilt ("When did ownership separate") finds such mechanisms effective in 1820s New York; Campbell and Turner ("Substitutes," pp. 589-92) are sceptical for 1880s Britain.

diverse voting rights, so, if we assume that boards deployed their holdings to maximise their votes, we can calculate the board's share of the total votes. It is this figure - measuring, for most firms, *the maximum possible degree of board voting control* - which forms the basis of the following analysis. It is quite clear that many directors wanted to reduce their financial risks and stabilise their cash flows by also holding some fixed-interest, non-voting shares, so this will *overestimate* their degree of voting control, but it has the merit of establishing an upper bound.⁵⁹ This percentage is often higher than the board's portion of the share capital (for the mean company about half as high again⁶⁰), but, where the voting rights of large shareholders were capped (as in many banks), the directors' voting power could be less than their ownership of capital.

Only sixteen (5%) of the 337 large British quoted companies were indisputably personally-controlled in the sense that the directors had more than 50% of the votes (and in five of these their share was 100%: no outsider had voting rights). Apart from six breweries⁶¹ (a sector universally acknowledged as personally-owned), these companies were very diverse: Imperial Tobacco, Ellerman Lines (shipping), the Harmsworth newspaper empire, the Cardiff Railway, Linen Thread, Lister (silk), Edward Lloyd (paper/pulp), Debenhams (department stores), Steel Brothers (India merchants) and Alliance Assurance.⁶² Of course, in practice not all

⁵⁹ Macrosty, *Trust Movement*, pp. 110, 130, 137, 309 for indications this may be a particular problem in manufacturing. A French investment analyst visiting Swan Hunter in 1905 was informed that 41% of directors' holdings were in preferences, which carried only half the votes we allocated to them (Crédit Agricole archives, Paris, file DEEF13596/2). Similar considerations probably account for our board share for GKN being higher than that calculated by Franks et al ("Spending less time with the family," p. 598).

⁶⁰ This suggests a stronger tendency to retain control using differential voting shares than in the UK today, when differential voting rights are discouraged by the stock exchange. Faccio and Lang ("Ultimate Ownership," p. 392) report control rights averaging 89% of cash flow rights in the 1990s. Compare also the last two columns of Table 2 below.

⁶¹ Watney, Whitbread, Worthington, Cannon, Walker and Mann.

⁶² This raises the question of how they evaded London's "two-thirds" listing rule, which *required* vendors to sell a higher portion of shares to the public. Inspection of their LSE listing files in Guildhall

insiders were as assiduous in retaining an absolute majority of votes: *de facto* one can retain control of a company with considerably less. On Alfred Marshall's view that 33% were sufficient to confer control, the proportion of owner-controlled companies was 11%⁶³ and with a 20% hurdle (adopted by many later researchers) 16%. Even with a 5% hurdle (favoured by those desperate to diagnose continuing owner control), it was still only a minority (36%) of these large quoted firms of 1911 that were owner-controlled. At the other extreme, many UK boards had negligible voting power: in 28% of them the directors had 1% or less of the votes. The mean level of board voting control was 10.1%, the company-size-weighted mean 5.5% (giant firms naturally being less owner-controlled than merely large ones) and the median (a better measure of central tendency for this skewed distribution) only 2.8%.⁶⁴ Table 2 confirms that it was quite normal for £1m+ companies to have thousands of shareholders, holdings in railways and manufacturers being the most widely spread (column 3). Voting control by directors (column 5) shows greater variance: railways (the largest contemporary companies) having the least (a median of 0.9%) and breweries the most (44.1%). The extraordinarily strong board control of Britain's "beerocracy" was contrived by quoted brewers' exceptionally high retained personal ownership stakes, magnified by their unmatched enthusiasm for issuing non-voting shares (compare columns 4 and 5).

Library MS 18000 suggests by listing before the (1850s) rule, listing on a less fussy provincial exchange, post-issue buyback, post-IPO acquisition bringing more owners onto an expanded board, but mainly by issuing non-voting shares.

⁶³ Marshall, *Industry and Trade*, p. 317.

⁶⁴ Size-weighting measures the portion of business resources controlled; the median better indicates the representative type of business control.

Table 2. The Sectoral Distribution of Shareholdings and Board Votes 1911.

Sector	<u>Companies</u>		Median Number of Shareholders	<u>Median Board Share of</u>	
	(number)	(mean share Capital £m)		Ownership (%)	Votes (%)
Railways	78	14.8	4,750	1.0	0.9
Other Utilities	44	3.0	2,700	1.8	2.0
Banks	55	5.1	3,353	2.7	2.5
Insurance	22	2.3	2,200	5.5	5.6
Other Finance	23	1.8	2,450	2.2	2.8
Distribution*	24	1.7	2,500	6.6	8.8
Primary †	15	2.4	2,000	2.7	5.3
Breweries ‡	18	2.3	1,600	20.3	44.1
Manufacturing	58	2.5	4,300	8.1	12.0
Totals	337	5.7	3,000	2.5	2.8

Source: Appendix Table 4. (Board voting shares are perhaps overestimated for railways and manufacturing and underestimated for banking and insurance, see nn.59, 104.)

*includes shipping, wholesalers, retail chains, hotels, theatres, real estate

†includes plantations, stock-raising and coal, iron ore and chemical mining. Note that data were unavailable for most British-owned overseas mining enterprises (see p.6, above)

‡Most of the breweries by 1911 had more of their assets in distribution than in manufacturing.

IV

Are these figures high or low? They are certainly lower than some have suggested.⁶⁵ Yet the literature is plagued by vague priors: to some investigators board ownership of 5% decisively connotes strong residual personal control, while for others (or even for the same investigator with a different axe to grind) it is evidence of the contrary.⁶⁶ Clearly the question can only be answered comparatively: across time or space. Though statistics on other markets are sparse, it has been suggested that France was nearest to the UK in divorcing ownership from control.⁶⁷ In Germany bearer shares remained ubiquitous, so evidence relates only to shareholders registering

⁶⁵ In all sectors, except insurance, these figures lie below the levels guesstimated by Hannah (“Divorce”); and *a fortiori* below the levels advocated by his critics.

⁶⁶ In 1935 Alfred Sloan’s General Motors - the world’s largest company and Chandler’s classic “managerial” firm - had board stockholdings of 6% (or 29% including indirect Du Pont holdings); but Chandler classified *British* companies with lower board shareholdings and fewer than GM’s seven family directors as “personally-owned.”

⁶⁷ Hannah, “Divorce.”

for AGMs; the 29 meetings so far analysed may not be representative but show levels of board control many times higher.⁶⁸ US corporations maintained full nominative registers, but disclosure was not legally required at the federal level until the 1934 Securities and Exchange Act, so comparable research would require labour-intensive (and inevitably partial) research in surviving corporate and state archives.

There is scattered evidence that in 1900 US corporate boards had higher personal ownership than their UK counterparts, in all three major quoted sectors: railroads, financials and industrials.⁶⁹ The economist Frank W. Taussig, in a questionnaire survey of 100 US corporations with between \$1.5m and \$150m capital in 1904-1914, reported that their executives owned 18% of their capital overall (with a median of 18.4% and a wide range from less than 1.7% in the lowest one-fifth to more than 50% in the highest one-fifth of cases).⁷⁰ He does not specify how representative his sample was of quoted companies or all sectors, but his figures are much higher than ours.⁷¹ Moreover, a significant number of Americans then had family fortunes above \$100m and are known to have had larger corporate shareholdings than their British counterparts (no Briton even approached such extremes of plutocratic wealth).⁷²

More comparisons are available for stockholder numbers. Lough's analysis of 327 US corporations of 1913 showed a lower mean number of shareholders (3,828)

⁶⁸ Franks et al ("Origins," p. 567) report a median of 26.7% director ownership in 1910 on Frankfurt and Munich, without adjustments for shareholders not registering or directors' *Tantiemen*; Professor Carsten Burhop is currently examining a wider Berlin sample.

⁶⁹ Hannah, "Divorce."

⁷⁰ Taussig and Barker, "American Corporations," pp. 12-13.

⁷¹ FTC, *National Wealth*, reported a lower mean of 10.7% insider ownership for 1922, and is also uncertainly representative.

⁷² Rubinstein, *Men*, pp. 41, 44-6; Rubinstein, ed., *Wealth*, pp. 18-21, 54. John D Rockefeller's wealth alone has been estimated at \$1b (more than the holdings of *all* directors in *all* our 337 companies!) and he alone held 25% of Standard Oil (worth about \$160m in 1911). The largest non-landed estate proved in Britain before 1914 - £10.9m (\$53m) in 1909, with real estate holdings perhaps adding £1m - was that of Charles Morrison, private financier and director of North British & Mercantile Insurance. The Duke of Westminster and four other landed aristocrats each had aggregate wealth of similar magnitude.

than recorded here (6,177) for 337 UK companies.⁷³ Warshow, the corporate treasurer of National Lead, after interrogating his peers in other US companies, provided more detail for larger companies.⁷⁴ If we extract comparably-sized firms from our population - the largest 130 firms with an average of £12.4m issued capital - the mean UK shareholding (£1,053 or \$5,126) is smaller than his averages for the USA (\$8,630 for 78 companies in 1910, \$8,700 for 123 companies in 1913). These statistics are too uncertainly representative to be conclusive, but leave any proposition that stocks were more widely dispersed among small shareholders in the US before 1914 distinctly lacking empirical support.

Berle and Means later showed that shareholding dispersed very rapidly in the USA between 1900 and 1930 (a plausible proposition from which it is hard to detect any dissent), and they and other New Deal researchers produced the first comparably reliable evidence on officers' and directors' holdings for a clearly-defined US population in the 1930s, later extended to a fuller range of firms by Holderness *et al.*⁷⁵ If the UK already had a higher level of separation of ownership from control in 1911 than the US in the 1930s, we can securely confirm that the US was substantially "behind" the UK. However, in such comparisons, we need to consider the varying propensity of companies to be listed. There were still in 1911 many unquoted firms (which, of course, often had levels of board voting control approaching 100%), and if a higher proportion of such business assets were in publicly quoted companies in a later period and/or different country, comparisons need to take account of this.

Yet the coverage of UK stock exchanges before 1914 was surprisingly extensive, even compared to the *late* twentieth century US or UK. Our 337 companies

⁷³ Lough, *Corporation Finance*, p. 37.

⁷⁴ Warshow, "Distribution," p. 23.

⁷⁵ Means, "Diffusion;" Berle and Means, *Modern Corporation*; Gordon, "Stockholdings;" Gordon, "Ownership;" TNEC, *Distribution*; Holderness et al, "Were the good old days."

alone probably accounted for a quarter of the UK's total domestic and overseas capital stock of perhaps £13b (which, of course, also includes the housing stock, overseas portfolio investments, government assets, unquoted firms and smaller quoted companies).⁷⁶ In view of the non-comparability of capital stock estimates, financial economists routinely measure the *stock* of securities markets relative to (more reliably-measured) national income accounting *flows*. The market capitalisation of these 337 companies alone amounted to 167% of UK GNP in 1911 and adding smaller UK quoted companies would give an overall ratio higher than recorded for the LSE or NYSE at the *end* of the twentieth century.⁷⁷

Holderness *et al* suggest a related method of resolving the problems of inter-temporal comparisons for the USA in 1935 and 1995. Because the ratio of the market values of their populations to GDP (row 2 in Table 3) is in the same ballpark in 1935 and 1995, they argue that their populations are comparable: the change in managerial ownership that they measure over that period was *not* the result of increasing proportions being quoted, masking underlying changes in the separation of ownership from control among onetime unquoted firms. In Table 3, we have extended their methodology to include a comparison with the UK in 1911. Of course the US economy was much larger in 1995 than in 1935, and, *a fortiori*, than the UK in 1911: this is reflected in the increasing numbers of firms (row 2).⁷⁸ The firms also grew larger over time even after correcting for inflation.⁷⁹ Since in cross-section larger firms exhibit less owner-control, we might expect lower levels of owner-control as the

⁷⁶ The market value of our companies' shares was about £2.58b (n. 36, above), and their debentures would perhaps add another £0.72b; compare Feinstein, *National Income*, pp. T104, T110; Stamp, *British Incomes*, p. 404.

⁷⁷ Hannah, "London." The slightly declining UK ratio in the twentieth century contrasts with an initially low but fast-rising US ratio.

⁷⁸ In 1935 the USA's real GDP was 3.75 times the UK's in 1911 and by 1995 nearly 30 times higher. (Maddison, *World Economy*, pp. 427-9, 466-7).

⁷⁹ Holderness *et al*, "Were the good old days," p. 440.

Table 3. The Separation of Ownership from Control in the World's Largest Securities Market (UK in 1911, then USA).

Date	1911 (UK)	1935 (USA)	1995 (USA)
N	337	1,419	4,202
MV of N /GDP %	182*	102	95
Share of Board/Officers in votes (%):			
Mean	10.1	12.9	21.1
Size-weighted Mean	5.5	4.2	5.9
Median	2.8	6.5	14.4

Sources: cols 1: appendix 4; cols 2 and 3, Holderness et al., "Were the good old days," pp. 440, 450-1 (we have added 20% of common stock values to their 1935 figures to allow for their omission of preferred stock from their market capitalisation figure; though not in 1995 when the volume of preferred stock was negligible). Bonds are included in the market capitalisation figures for both countries at par; but similar relationships are found for equity capitalisation alone.

* We standardise on the ratio chosen by Holderness et al, though arguably GNP is a more appropriate denominator for cross-country comparisons: there was little difference between GDP and GNP for the US, but there was for (more multinationally-invested) Britain. Substituting GNP for GDP, the UK ratio in row 3, col 1, falls from 182% to 167%.

average quoted firm became bigger. However, as comparison of cols 2 and 3 shows, the separation of ownership from control, at some point between 1935 and 1995, declined in the USA.

Pursuing further Holderness *et al's* logic, we need a UK population with a market-value-to-GDP ratio in 1911 comparable to theirs. In order to achieve that (see col 1, row 2), we would have to omit many lower-ranked firms from our population (which, given that the board's voting share was inversely related to firm

size, would reduce all the UK figures in the lower half of col. 1).⁸⁰ However, that additional step is hardly necessary to make our point, since, even without it, by two measures of central tendency in the lower half of Table 3 there was already greater divorce of ownership from control in the UK in 1911 than in the USA in either 1935 or 1995.⁸¹

If we restrict the analysis to manufacturing - a sector generally considered the most personally-controlled (other than brewing) in both countries - directors' ownership in the UK in 1911 *was* higher than in equivalent US firms a quarter-century later.⁸² But by the mid-1930s, the largest US manufacturing firms about equalled the board ownership levels of equivalent UK manufacturers.⁸³ Both British and American manufacturers rapidly reduced board ownership in the previous quarter century. If, as seems likely, the US was on a faster downward trajectory between

⁸⁰ Contrary to the implicit assumption, national income accounts show that these economies were less capital-intensive at the end of the twentieth century than at the beginning, so a declining market capitalisation/GDP ratio is compatible with a higher *portion* of capital assets being quoted over time. Nonetheless, the margins in Table 3 for whatever adjustment is appropriate are rather large. It may seem implausible that the UK's capital stock in 1911 was substantially more securitised, in the corporate sense, than the US's decades later, but note the different nature of their economies. The UK in 1911 had much smaller agricultural and government sectors (whose capital stocks were rarely in corporate securities) than the US in 1935/1995 and was also a *proportionately* larger international corporate investor. In 1913/4 the UK accounted for 45% of foreign direct investment (FDI) but only 8% of world real GDP; by 1993 the US share of FDI was still only 26%, much nearer to its ca 21% share of world GDP (Maddison, *World Economy*, p. 641; Jones, *Evolution*, pp. 30, 53). In 1911, the median shareholder numbers (3,000) in our 100 multinationals and free-standing companies mainly operating abroad were identical to those for all companies, and their median board voting shares only a little lower, so confining the analysis to the 237 largely domestic firms in our population would raise the median board ownership only from 2.8 to 3.1.

⁸¹ The third (size-weighted) UK measure (see n. 63, above) is also below the 1995 US level and, if we appropriately reduce the number of firms, also falls below the 1935 level.

⁸² Compare Gordon ("Stockholdings") with our figures in Table 2, with or without breweries (an extensively personally-owned sector, absent from the US data).

⁸³ Florence (*Ownership*, pp. 196-217), examining 58 of the largest domestic British manufacturing companies (defined more restrictively than our population, as having £3m+ share capital in 1936 and excluding steel and Scottish and Irish companies) found lower levels (mean 8.5%, median 1.9%) of board ownership than our figures in Table 3. This is compatible with a decline in UK personal ownership in manufacturing, though some of the measured decline could derive from omissions in Florence's study or increasing use of nominee accounts. Taking Gordon's largest 54 sampled (but uncertainly representative) US manufacturers of 1935 (those with assets of \$25m+) as roughly analogous to Florence's companies with £3m+ capital, their average directors' and officers' stock holding had a similar mean of 8.1% (Gordon does not, in his Table IV, report the median). Jeremy (A *Business History*, p. 186) reviews evidence that "family ownership," variously defined, was not higher in Britain than in the USA in the 1930s.

1911 and 1935, British managers led the USA in separating ownership from control before 1914 in manufacturing as well (if not as markedly as in other sectors).

The levels both of stock market development and of the divorce of ownership from control shown in Table 3 are higher in the USA than in most other economies. Toward the end of the twentieth century, both Japan and the UK (then the second and third largest equities markets) registered similarly dispersed ownership patterns to the USA's, but in many other national markets high levels of personal ownership were the norm.⁸⁴ Further detailed comparisons across time are, then, superfluous. The UK had, already by 1911, more extensively separated ownership from control not only than the US then or later, but than the UK (and, *a fortiori*, than the world as a whole) at the end of the twentieth century.⁸⁵ There was at least stability and more probably an *increase* in board ownership over the twentieth century in the UK and, in some later decades of the century, also in the English-speaking world more generally, though whether that was replicated worldwide remains an open question.⁸⁶

The populations and methods of measurement that lead to these conclusions have some defects in common. Neither the US nor the UK data, for example, capture the influence of all large block-holders who are not directors.⁸⁷

Modern disclosure rules require fuller information on nominee, trustee or close

⁸⁴ La Porta et al., "Corporate Ownership;" Shleifer and Vishny, "Large Shareholders;" Faccio and Lang, "Ultimate Ownership," Morck, ed., *History*; Rajan and Zingales, "Great Reversals."

⁸⁵ Faccio and Lang ("Ultimate Ownership"), examining 1,953 publicly-traded UK firms in 1994, find 37% of companies with a 20+% controlling shareholder, compared with only 16% of whole boards with a 20+% share in 1911. With variously limited samples, Franks et al ("Ownership," pp. 4025-6) show little change in median UK holdings by directors and their families in the twentieth century (3.5% in 1920, 2.2% in 1950, 2.7% in 1990), all in the same ballpark as our median of 2.8% in 1911.

⁸⁶ Hannah, ("Divorce," pp. 421-22) summarises (not clearly representative) evidence of widespread shareholding before 1914 in markets where personal ownership is now more common; see also Musacchio, "Laws."

⁸⁷ Compare Shleifer and Vishny ("Large Shareholders," p. 462) and pp.16-17, above. In their limited UK sample, Franks et al ("Ownership," p. 4024-7) note that the proportion of firms in which no shareholder owned 10% or more was 43% in 1920, 49% in 1950 and 40% in 1990, and also that block-holders changed over the century from insider directors to outsider institutional investors.

relatives' holdings.⁸⁸ The US figures are also for “directors and officers”, while the British figures are for board members alone (some of whom were also officers but who collectively numbered one fewer per company).⁸⁹ On the other hand, Holderness et al took no account of preferred stock or differential voting, while our method registers higher percentages on both counts.⁹⁰ Such discrepancies could net out either way, though probably not sufficiently to subvert our broad conclusions. Certainly, in the light of our evidence for the largest stock market of 1911, and the modern evidence of the widespread global persistence (and, in some countries, increase) of personal ownership, the onus is on anyone claiming that ownership of quoted companies became markedly more divorced from control during the twentieth century clearly to define and support that view.

Otherwise well-informed commentators, even in Britain, nonetheless for many years accepted what became a stylised fact for many social scientists. The later twentieth century managerial “revolution” in which ownership was newly “divorced” from control was thus widely described as a pervasive and cumulative global phenomenon. Such consensus rarely emerges without some corroborating facts and unguardedly receptive audiences. For example, Florence reported increasing separation of ownership from control among large *English industrial and commercial* companies in 1936-51 (when family firms were heavily taxed),⁹¹ while Scott noted that the proportion of large *UK industrial and financial* companies that were family-controlled declined in 1976-1988 (a period including the “Big Bang” in the finance

⁸⁸ *Per contra*, some later incentives to non-disclosure (for example, tax avoidance or takeover concealment) were less significant in 1911.

⁸⁹ Few of the “officers” in either country with large shareholdings would not also be directors and Holderness et al (p. 458, n.20) report “almost identical” results whether officers are included or not.

⁹⁰ In the case of the omitted preferences, applying our method to the US data might add 1.2% for the average board (Holderness et al, “Were the good old days,” p. 450)

⁹¹ Florence, *Ownership*. His omission of steel, utilities and railways (which were nationalised in 1945-51) was necessary, given his objective of measuring change between 1936 and 1951, but excluded precisely the firms which already had substantial levels of separation.

sector).⁹² Franks *et al* found declining board shareholdings over the twentieth century as a whole, though their small sample explicitly excluded sectors where they thought ownership was initially widely dispersed.⁹³ The rise of non-owning professional managers was a staple of Labour Party modernisers, arguing that capitalism was no longer the same as in the “bad old days,” though they were, necessarily, highly selective of their exemplars (coal-owners were whipping-boys of choice for historical personal ownership, ICI a favourite “modern” corporation).⁹⁴

None of these partial and biased observations is incompatible with the *general* twentieth century *increase* in board voting control among UK quoted companies, suggested by our data. It was thus not difficult for the myth of constantly increasing separation to take centre stage, even in a precociously managerial national economy where no less an authority than Keynes had clearly recognised that such separation was already firmly established.⁹⁵ The main intellectual currents arguing otherwise appeared prone to tendentious special pleading, which many economists instinctively ignored.⁹⁶ Recently evidence has emerged of increases in personal ownership in a wide range of societies, including the USA, Sweden, Italy, France and, of course, in ex-communist societies.⁹⁷ Personal capitalism appears alive and well everywhere.

Erroneous generalisations rarely achieve the status of the conventional wisdom without some assistance also from false perspectives of hindsight driven by the tides of history. One of the reasons why the, precociously advanced, British

⁹² Scott. “Corporate Control.”

⁹³ “Ownership,” p. 4020; see also Cheffins (*Corporate Ownership*, p. 13-17) for many more, partial studies.

⁹⁴ Crosland, *Future of Socialism*, pp. 1-42.

⁹⁵ Keynes, *End*.

⁹⁶ The theme of much left-leaning sociology was that statistics on increasing divorce, though superficially correct, were misleading, because the ruling class still really owned and controlled corporate business. This critical tradition experienced surprising difficulty in connecting with the reality that the separation was of long-standing and perhaps being reversed.

⁹⁷ Aganin and Volpin, “History;” Hogfeldt, “History;”

capitalist experience before 1914 entered oblivion was that its manifestations largely disappeared in a half century of de-globalisation driven by the compound disasters of European wars, tariff escalations and corporate nostrifications and by nationalization programmes at home and abroad driven by an exotic mixture of socialism, de-colonization and technocratic dynamics (the latter promoting a different strain of managerialism). The *majority* of the companies in our 1911 population were, in fact, nationalized by British or foreign governments in the following century and were conventionally eliminated from later, retrospective studies of trends in the divorce of ownership and control in surviving stock market firms.⁹⁸

V

The historical puzzle addressed in much of the existing literature is why British businessmen failed to appreciate the advantages of scale and scope, and the disadvantages of personal ownership, while the USA pioneered the managerial revolution with impressively “modern” dynamism. We have shown that the question that requires an answer is closer to the reverse. We will therefore generally seek the causes of these changes in vain in the existing business history literature, so it is important that the real issues now be addressed. Why have some historians not understood that the British had already massively reduced barriers to acceptance of stock exchange securitisation, thus promoting the exceptional development of UK managerially-controlled enterprises in the half century before 1914? What was it about the London capital market that both gave entrepreneurs the confidence to

⁹⁸ The finance, transport and utilities sectors (accounting for most of market capitalisation on typical pre-1914 exchanges) were often omitted from long-run studies of trends in owner control. Most of these companies that were not nationalised still survive, if not independently at least as subsidiaries or branches of larger companies.

reduce personal ownership so early and led investors to believe that directors would take reasonable account of outside shareholders' interests? What did New York correspondingly lack in the nineteenth century, but impressively develop later?

There is also a range of views about the consequences of the UK's precocious managerial revolution. It is logically possible - though Whigs and Weberians alike experience difficulties with the notion - that the British economy was *disadvantaged* by being more "modern" (having less personal ownership) than Germany or the USA. Many of **our** companies in the decades before 1914 were in network monopolies or oligopolistic industries in which the pressures of product market competition were muted and takeover bids posed little threat to incumbent directors. Lacking both the stick of competition *and* the carrot of personal ownership, they have plausibly been suspected of tolerating inefficiency.⁹⁹

Other scholars have emphasised the positive aspects (social, political and economic) of professional management separated from ownership. Yet the later *increase* in UK personal ownership was presumably driven by factors such as the growth of new entrepreneurial firms, private equity and executive options, which, some might argue, have improved business performance. Greater personal ownership stimulated by Mrs Thatcher's ill-conceived tax breaks for family firms, on the other hand, has recently encouraged nepotistic succession and measurably weakened performance.¹⁰⁰ So, for those seeking an explanation of Britain's mild twentieth century relative economic decline, our findings might be interpreted as consistent with long-run negative agency problems dominating the positive professionalization advantages. However, many early generalisations about industrial systems and varieties of capitalism have foundered because casually-diagnosed international

⁹⁹ Dodgson, "British railway;" Foreman-Peck and Millward, *Public and Private Ownership*; Crafts, "British," p.6; Hannah, "Shareholders' Dog."

¹⁰⁰ Bloom & van Reenan, "Inherited family firms."

differences have proved illusory or transitory.¹⁰¹ Alternative micro-economic models of governance/performance interactions, acknowledging that there is great variety *within* nations, may offer a better way forward for understanding the chequered evolution of managerial capitalism.¹⁰²

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¹⁰¹ Langlois, "Business Groups;" Hannah, "Strategic Games."

¹⁰² Campbell and Turner, "Substitutes;" Foreman-Peck and Hannah, "Corporate Governance;" Bayer and Burhop, "Corporate Governance;" Bloom and Van Reenan, "Measuring and Explaining."

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Appendix. The Largest Quoted Companies of 1911.

Table 4 lists mainly British-owned, entirely or partly British-managed, independent companies in the *Investor's Year Book* that had £1m or more share capital listed on a UK stock exchange (87% of them on the LSE) at the end of 1911. The companies are ordered alphabetically to facilitate consultation, but their rank by nominal value of issued share capital is also shown to the left of the company name.

Table 4. Shareholding and Voting in 337 Independent, UK-owned, Quoted¹⁰³ Companies with £1m+ Share¹⁰⁴ Capital in 1911.

¹⁰³ We estimate that there were around 33 private firms that would have qualified for entry if their capital had been publicly quoted: 9 manufacturers (like Platt Brothers and Pilkingtons), 7 financiers (Prudential Insurance and several private bankers), 12 distributors (W H Smith and some international trading companies) and perhaps 5 coal mining firms. Probably few of these (e.g. the Rothschild bank) would have been large enough to rank among the largest 100 companies; similarly, from the beginning of the FTSE100 index, only three private firms (the latest, Glencore, in 2011) directly entered the index on their IPO.

¹⁰⁴ We excluded companies which had only debentures listed. These were mainly overseas railways and utilities (in which local controlling stockholders often topped up their own resources by issuing bond capital in London), but also three large, closely-held, domestic companies: Charrington, London and Burton brewers (with £2.925m privately-held share capital and £1.053m publicly-quoted debentures), W & A Gilbey, gin distillers and wine and spirit merchants (£1.440m/£0.930m), and S Pearson & Son, public works contractors (£1m/£0.378m). The latter was part of a complex, only partly-quoted, giant oil group, a category otherwise excluded by the directory (Bud-Frierman et al., "Weetman Pearson"). See also pp. 5-8, above, for subsidiaries, mainly overseas-owned firms, overseas mines and other quoted omissions.

Rank	Company Name (and, where not implicit, main activity)	No. of Directors	Issued Share Capital (£million)	Board's shareholding (£)	No. of Share-Holders	Board Voting, Control (max%) ¹⁰⁵
305	A.J. White (patent medicines)	5	1.000	32,228	2,200	4.3
92	Alabama, NO, T & Pacific Junction Railway	4	4.000	38,850	1,000	1.0
130	Alexandra (Newport) Docks & Railway	8	2.620	*26,200	*2,000	2.6
205	Alliance & Dublin Consumers Gas	6	1.552	*77,600	*2,000	5.0
66	Alliance Assurance	26	5.450	408,583	9,000	58.4
267	Alliance Trust	5	1.200	7,770	2,800	2.6
180	Allsopp (beer)	5	1.870	4,710	8,300	0.3
305	American Investment Trust	8	1.000	27,200	1,400	2.7

¹⁰⁵ Just under a third of the 337 companies issued only one class of share. Within the other 68% issuing more than one class, most (38%) did not differentiate their voting power, though 21% deprived some of the vote, while 9% gave only fractional votes. However, even where preference shareholders did not have equal votes, they normally retained the right to attend shareholder meetings and vote in exceptional, variously defined, circumstances: when their dividends were in arrear, when it was proposed to issue new capital with prior rights, and/or on liquidation. Moreover, many companies limited the votes of *large* holders: 14% of the 334 companies (mainly in finance) had capped voting (limiting the number of shares any individual could hold, or depriving those held above the cap of the vote), while 21% (mainly domestic railways) had tiered voting (progressively reduced voting power as the number held increased). Percentages do not sum to 100 because some companies had mixed systems (e.g. non-voting preferences and tiered-voting ordinaries). In the case of capped or tiered voting rights, the total number of votes is indeterminate, since it depends not on the (known) amount of voting capital but on its (unknown) distribution. Taking our objective of calculating the maximum possible voting power of directors to its logical extreme in such circumstances would require the assumption that there was only *one* non-director shareholder, holding all the remaining shares (since that would minimise the voting power of outsiders). Such an assumption is clearly unrealistic (that large a holder would likely have been a director) and demonstrably untrue (non-director shareholders are known to exceed one and the average shareholding is well below the cap). In such firms, where directors' collective holdings exceeded the cap, we have taken the cap times the number of directors as the board's votes and expressed it as a percentage of the total voting capital (less the deducible quantity of directors' vote-less capital). This will *underestimate* the board's voting power, if no director held less than the cap and any other holders were capped. In the more common case of tiered voting rules, we have simply ignored the problem: that is, we have implicitly assumed that the distribution of shareholdings among the tiers was identical for directors and non-directors. If these companies' directors owned more than the average shareholder (as the data suggest), this simplification will *overestimate* the board's votes.

252	Anglo South American Bank	10	1.250	66,530	2,250	5.3
50	Anglo-American Telegraph	3	6.990	24,890	8,000	0.4
43	Anglo-Argentine Tramways	14	8.200	66,890	6,600	1.3
62	Antofagasta & Bolivia Railway	6	5.650	11,039	5,500	0.2
138	Apollinaris & Johannis (spring water)	7	2.380	91,450	4,000	3.8
85	Argentine Great Western Railway	8	4.250	101,600	5,500	2.4
185	Argentine Navigation (steamships)	6	1.800	803,585	600	40.2
123	Argentine North Eastern Railway	7	2.769	113,694	1,000	4.1
87	Armstrong-Whitworth (ships/arms)	10	4.210	403,516	12,000	12.6
120	Artizans Labourers & General Dwellings	9	2.939	49,481	5,400	1.7
209	Assam Bengal Railway	6	1.500	6,230	1,200	0.4
294	Assam Railways & Trading (coal/timber)	6	1.079	30,690	2,000	5.3
128	Associated News/Amalgamated Press ¹⁰⁶	16	2.649	768,678	26,500	61.5
90	Associated Portland Cement	21	4.082	463,170	7,000	24.1
146	Atlas Assurance	12	2.200	69,300	3,000	3.2
305	Bank of Africa	7	1.000	76,600	3,200	7.7
28	Bank of England	25	14.553	†64,000	†11,000	0.5
123	Bank of Ireland	15	2.769	†27,690	†3,000	1.0
225	Bank of Liverpool	18	1.411	594,800	5,440	42.2
131	Bank of New Zealand	10	2.500	†13,333	†2,000	1.3
237	Bank of Scotland	26	1.325	†45,050	3,742	3.4
185	Bankers Investment Trust	6	1.800	33,280	850	1.8
44	Barclay (banking)	25	8.000	1,797,180	6,570	22.4

¹⁰⁶ The Harmsworth newspaper empire was technically two independent companies, but Lord Northcliffe chaired both and he and his brother dominated the shareholdings, so we have treated them as a unitary firm.

121	Barclay Perkins (beer)	8	2.820	572,900	1,750	48.5
95	Barry Railway	14	3.884	†38,840	4,600	1.0
125	Bass Ratcliff & Gretton (beer)	9	2.720	674,900	2,200	49.6
57	Bengal & North Western Railway	8	6.000	26,793	5,000	0.4
110	Bengal Nagpur Railway	7	3.000	7,000	2,500	0.2
79	Bleachers (textile finishing)	37	4.570	†950,000	7,300	41.5
107	Bolckow Vaughan (steel/coal)	6	3.218	78,129	8,100	2.8
157	Bombay Baroda & Central India Railway	7	2.000	*20,000	*2,000	1.0
267	Bombay Electric Supply & Tramways	7	1.200	46,240	5,500	3.8
157	Bovril (food processing/farming)	6	2.000	36,665	*5,000	3.0
96	Bradford Dyers (textile finishing)	36	3.856	†300,000	16,000	22.1
247	Brecon & Merthyr Tydfil Railway	7	1.263	*12,630	*1,500	1.0
250	Bristol Gas	6	1.258	*37,740	*1,900	3.0
305	Bristol Tramways & Carriage	10	1.000	68,180	1,800	6.8
235	Bristol Waterworks	7	1.348	‡31,150	*2,000	2.8
185	British Columbia Electric (power, trams)	7	1.800	18,163	4,000	1.5
245	British Cotton & Wool Dyers	23	1.272	103,030	4,500	8.1
118	British Electric Traction (tramways)	8	2.947	25,040	6,500	0.8
196	British India Steam Navigation	6	1.657	175,580	900	10.6
305	British Insulated & Helsby Cables	6	1.000	76,910	3,000	15.4
209	British Investment Trust	7	1.500	25,331	2,400	2.8
252	British Linen Bank	19	1.250	‡19,000	3,405	1.5
267	British Oil & Cake Mills (seed-crushing)	11	1.200	67,877	5,000	5.7
305	British Wagon (hire purchase)	6	1.000	192,860	500	19.3
122	Brunner Mond (chemicals)	16	2.790	†767,250	9,000	27.5
31	Buenos Ayres & Pacific Railway	6	12.200	24,717	14,000	0.2

13	Buenos Ayres Great Southern Railway	6	34.500	55,900	27,500	0.3
24	Buenos Ayres Western Railway	5	16.600	83,730	16,000	0.6
110	Burma Railways	6	3.000	11,970	2,500	0.4
9	Caledonian Railway	12	45.045	*150,150	35,950	0.5
70	Calico Printers (textile finishing)	9	5.027	†350,000	16,000	17.4
103	Cambrian Railways	7	3.341	†33,410	†1,559	1.0
139	Cammell Laird (ships/steel)	11	2.373	63,480	4,500	5.5
182	Canadian Car & Foundry (railcars)	8	1.824	†162,569	†1,439	8.4
5	Canadian Pacific Railway	15	53.168	†975,000	†41,000	1.8
141	Cannon Brewery	7	2.350	126,492	1,100	72.3
40	Capital & Counties Bank	11	8.750	214,550	10,000	2.5
84	Cardiff Railway	6	4.300	†2,200,000	†2,000	51.2
305	Cargo Fleet Iron	8	1.000	26,730	7,000	2.6
226	Catalinas Warehouses & Mole	5	1.405	4,500	500	0.3
15	Central Argentine Railway	7	30.002	166,796	30,000	0.6
100	Central London Railway	8	3.480	*34,800	*3,000	1.0
56	Central Uruguay Railway & Extensions	5	6.083	47,580	4,970	0.9
206	Charing X, West End & City Electricity	5	1.550	141,230	5,700	9.1
305	Charter Trust & Agency	5	1.000	9,700	10,000	1.0
267	Chartered Bank	8	1.200	‡48,000	2,010	4.0
305	Chinese Engineering & Mining (coal)	12	1.000	9,257	800	0.9
135	City & South London Railway	5	2.480	*24,800	*3,000	1.0
252	City of Chicago Brewing & Malting	4	1.250	9,050	1,300	0.7
208	City of London Brewery	4	1.501	20,361	1,600	1.4
282	City of London Electric Lighting	5	1.106	18,150	2,700	1.6
284	City of London Real Property (offices)	7	1.100	32,250	770	4.9

305	Clydesdale Bank	9	1.000	95,150	2,914	9.5
305	Commercial Bank of Scotland	25	1.000	93,500	4,600	9.4
152	Commercial Gas	7	2.073	*82,920	*3,000	4.0
117	Commercial Union Assurance	21	2.950	120,900	2,500	4.1
252	Consett Iron	7	1.250	22,055	3,200	1.8
157	Consolidated Tea & Lands (plantations)	8	2.000	228,280	3,100	29.3
305	Continental Union Gas	6	1.000	18,250	1,700	1.8
276	Cordoba Central Railways	7	1.160	*11,600	1,100	1.0
209	Courage (beer)	7	1.500	455,500	600	30.4
252	Crompton & Evans' Union Bank	9	1.250	80,260	1,750	6.4
143	Cuban Central Railways	4	2.300	5,200	2,000	0.2
199	Cunard Steamship	8	1.600	85,880	1,500	5.4
81	Dalgety (merchants/finance)	8	4.500	295,900	1,980	6.6
305	Debenhams (warehouses, stores)	5	1.000	208,500	1,350	52.9
157	Debenture Corporation (trustees/insurer)	6	2.000	70,405	3,000	4.5
263	Direct United States Cable	6	1.214	11,120	1,500	0.9
202	Distillers (whisky)	12	1.587	136,850	3,400	10.5
249	Dorman Long (engineering/ships)	14	1.259	302,654	2,700	24.0
222	Dublin & South Eastern Railway	8	1.460	*14,600	*1,500	1.2
248	Dublin United Tramways	4	1.260	4,590	5,600	0.7
157	Dunderland Iron Ore	5	2.000	5,680	3,200	0.3
149	Dunlop Pneumatic Tyre	6	2.119	168,440	14,000	11.3
194	Eagle Insurance	10	1.679	48,785	850	2.9
110	Eastern Extension Telegraph	6	3.000	148,840	6,000	5.0
57	Eastern Telegraph	7	6.000	16,783	10,000	0.4
280	Eastmans (cold stores, chain butchers)	5	1.126	27,580	2,500	2.4

244	Edward Lloyd (paper/pulp)	6	1.275	378,675	2,600	63.1
278	Egyptian Delta Light Railways	8	1.151	3,060	300	0.3
227	Ellerman Lines (ships)	3	1.400	659,690	190	70.7
305	Employers' Liability Insurance	10	1.000	72,860	1,200	7.3
294	English Scottish & Australian Bank	6	1.079	24,775	1,330	2.3
157	English Sewing Cotton	7	2.000	†120,000	13,000	12.0
80	Entre Rios Railways	5	4.517	11,335	3,000	0.3
305	Equity & Law Life Assurance	22	1.000	150,800	180	15.1
304	European Gas	6	1.002	34,870	1,600	4.6
260	Fife Coal	5	1.234	98,117	2,000	8.0
81	Fine Cotton Spinners & Doublers	22	4.500	421,834	21,000	21.1
140	Foreign & Colonial Investment Trust	10	2.357	20,067	4,000	0.9
209	Foreign American & General Investments	11	1.500	43,580	2,200	2.9
209	Forestal Land Timber & Railways	6	1.500	44,063	1,300	2.9
63	Furness Railway	7	5.522	*55,220	†5,904	2.1
99	Furness Withy (shipping/shipbuilding)	12	3.500	817,263	8,250	40.9
23	Gas Light & Coke	7	18.223	‡70,000	*15,000	0.4
281	General Accident Fire & Life Assurance	13	1.107	16,101	3,600	1.6
305	General Life Assurance	9	1.000	*100,000	*1,000	10.0
30	Glasgow & South Western Railway	10	13.136	*43,787	11,500	0.6
264	Glasgow District Subway (cable rail)	5	1.213	*12,130	*1,500	1.0
98	Globe Telegraph (investment trust)	4	3.622	10,450	9,000	0.3
178	Gordon Hotels	6	1.930	19,870	6,000	1.0
262	Grand Junction Canal	9	1.224	‡9,000	*1,500	0.8
8	Grand Trunk Railway of Canada	10	47.435	*948,700	†40,000	1.6
12	Great Central Railway	12	35.433	*118,110	19,800	0.3

11	Great Eastern Railway	11	37.689	*126,630	31,950	0.5
75	Great North of Scotland Railway	12	4.979	*49,790	4,750	3.2
204	Great Northern & City Railway	5	1.560	*15,600	*1,500	1.0
10	Great Northern Railway	12	44.375	*147,917	38,500	0.7
53	Great Northern Railway (Ireland)	13	6.425	*64,250	†8,998	1.6
37	Great Southern & Western Railway	12	9.646	*94,460	†12,012	1.8
157	Great Western of Brazil Railway	5	2.000	9,060	2,000	0.5
3	Great Western Railway	20	73.604	*400,297	55,450	0.5
157	Guardian Assurance	18	2.000	77,600	2,200	7.8
127	Guest Keen & Nettlefold (steel/coal)	8	2.685	280,855	5,000	29.1
49	Guinness (stout)	12	7.000	2,206,410	12,000	44.1
157	Hibernian Bank	7	2.000	43,920	2,000	2.2
78	Highland Railway	14	4.653	*46,653	†6,079	1.0
274	Home & Colonial Stores (grocery chain)	6	1.185	19,320	4,400	12.1
209	Hongkong & Shanghai Banking	16	1.500	*60,000	4,788	4.0
305	Howard & Bullough (textile machinery)	6	1.000	278,213	2,300	37.1
305	Hudson's Bay (real estate)	9	1.000	*40,000	†7,250	4.0
77	Hull & Barnsley Railway	10	4.675	*46,750	†6,531	1.0
76	Imperial Continental Gas	10	4.940	*177,840	*5,500	3.6
27	Imperial Tobacco	28	15.500	5,247,256	16,000	100.0
223	Ind Coope (beer)	8	1.448	*57,920	1,600	4.0
209	Industrial & General Trust	8	1.500	18,362	3,000	1.2
305	International Investment Trust	5	1.000	40,322	1,300	4.0
284	International Tea (chain grocery)	9	1.100	304,430	1,800	27.7
89	Interoceanic Railway of Mexico	7	4.100	23,768	1,300	0.8
157	Investment Trust Corporation	4	2.000	30,845	1,900	1.5

34	J & P Coats (sewing thread)	16	10.000	†2,250,000	23,700	50.0
251	J. Lyons (restaurants, bakery)	10	1.256	11,500	9,000	3.2
101	John Brown (ships/arms/steel)	8	3.423	116,453	6,789	6.4
265	Kellner-Partington Paper Pulp	6	1.210	279,208	1,600	28.8
284	Lagunas Syndicate (nitrate)	7	1.100	71,740	1,164	6.5
193	Lancashire & Yorkshire Bank	10	1.725	73,980	4,087	4.3
6	Lancashire & Yorkshire Railway	14	50.091	*166,970	24,600	0.3
203	Law Union and Rock Insurance	28	1.575	108,153	1,900	34.8
236	Leeds & Liverpool Canal	9	1.338	*53,520	*2,000	4.0
305	Leeds Fireclay	5	1.000	36,250	2,200	3.6
305	Legal & General Life Assurance	18	1.000	†68,000	†900	6.8
41	Leopoldina Railway	4	8.536	19,000	9,500	0.2
67	Lever Bros (soap/chemical)	10	5.370	2,115,180	8,000	39.4
284	Liebig's Extract of Meat	5	1.100	18,745	1,000	3.1
146	Linen Thread	18	2.200	639,210	1,700	58.1
144	Lipton (grocery chain/tea plantations)	5	2.250	†400,000	33,000	17.8
297	Lisbon Electric Tramways	9	1.060	166,383	500	15.7
206	Lister (silk)	6	1.550	512,820	2,200	54.0
136	Liverpool & London & Globe Insurance	13	2.456	16,354	2,700	0.7
241	Liverpool United Gas Light	12	1.279	‡18,000	†1,500	1.4
16	Lloyd's Bank	18	26.201	758,100	22,500	1.7
157	London & Brazilian Bank	8	2.000	37,360	2,300	1.9
129	London & Lancashire Fire Insurance	22	2.641	13,000	2,000	0.5
2	London & North Western Railway	20	85.863	†205,310	70,600	0.5
199	London & Provincial Bank	8	1.600	30,630	6,000	1.9
305	London & Provincial Marine & General	8	1.000	129,500	450	13.0

Insurance

157	London & River Plate Bank	8	2.000	47,125	2,700	2.4
131	London & South Western Bank	7	2.500	45,150	5,000	1.8
14	London & South Western Railway	12	33.238	*110,793	32,700	0.4
242	London Bank of Australia	7	1.277	16,672	2,000	1.3
19	London Brighton & South Coast Railway	10	21.726	*112,979	11,000	0.7
21	London Chatham & Dover Railway	6	19.260	*64,200	16,850	0.2
22	London City and Midland Bank	17	19.148	208,500	19,500	0.2
29	London County & Westminster Bank	27	14.000	85,600	27,000	0.6
221	London General Omnibus	10	1.488	10,470	3,000	1.0
20	London Joint Stock Bank	19	19.800	519,400	11,000	2.6
94	London Tilbury & Southend Railway	7	3.916	*39,160	3,970	1.9
131	London United Tramways	4	2.500	21,890	2,000	1.0
71	Madras & Southern Mahratta Railway	10	5.000	9,070	6,000	0.2
238	Magadi Soda (natural chemicals)	9	1.313	17,028	1,400	1.3
38	Manchester & Liverpool District Banking	14	9.480	403,020	6,300	21.3
65	Manchester and County Bank	9	5.460	339,600	2,000	6.2
39	Manchester Ship Canal	21	9.058	*181,160	34,000	2.0
137	Manila Railway	5	2.399	11,070	950	0.5
157	Mann Crossman & Paulin (beer)	8	2.000	968,060	1,000	100.0
179	Maple (furniture)	15	1.875	57,660	10,000	40.5
305	Marconi's Wireless Telegraph (radio)	9	1.000	26,121	3,500	2.6
305	Martin's Bank	6	1.000	321,740	170	32.2
305	Mather & Platt (engineering)	8	1.000	327,365	1,000	48.1
144	Mercantile Investment & General Trust	5	2.250	39,130	2,800	1.7
252	Merchants Trust	6	1.250	30,770	1,600	2.5

153	Mersey Railway	6	2.061	*20,610	*2,000	1.0
224	Metropolitan Amalgamated (railcars)	12	1.433	68,345	4,500	7.2
64	Metropolitan Bank	11	5.500	137,250	3,000	2.3
36	Metropolitan District Railway	8	9.757	*95,570	1,600	1.6
230	Metropolitan Electric Supply	6	1.381	83,770	3,500	7.8
32	Metropolitan Railway	8	11.749	*117,490	8,950	0.8
305	Meux's Brewery	3	1.000	1,600	400	0.2
60	Mexican Railway	11	5.821	14,000	5,000	0.2
88	Midland Great Western Railway (Ireland)	6	4.197	*41,970	*5,766	1.8
1	Midland Railway	15	152.094	*506,980	79,400	0.7
229	Millar's Karri & Jarrah (timber)	8	1.390	24,819	4,500	1.7
252	Mortgage Company of Egypt	11	1.250	57,500	900	4.6
299	Moss Empires (variety theatres)	4	1.039	22,100	3,600	2.1
192	Natal Bank	3	1.741	86,900	1,400	5.0
47	National Bank (Ireland)	13	7.500	80,400	7,880	1.1
110	National Bank of Egypt	16	3.000	†400,000	†3,000	13.3
199	National Bank of India	8	1.600	90,560	933	5.7
209	National Bank of New Zealand	6	1.500	26,812	1,320	1.8
71	National Bank of Scotland	14	5.000	15,150	3,200	0.3
284	National Bank of South Africa	11	1.100	*44,000	*1,000	4.0
86	National Discount	9	4.233	93,800	3,394	2.2
26	National Provincial Bank of England	12	15.900	‡360,000	17,545	2.3
47	National Telephone	9	7.500	90,550	13,500	1.3
157	New Zealand & Australian Land (sheep)	8	2.000	51,819	1,800	5.2
148	Newcastle & Gateshead Water	7	2.147	*21,470	*2,000	10.0
154	Newcastle-upon-Tyne & G Gas	9	2.026	‡54,000	*2,000	2.7

231	Newcastle-upon-Tyne Electric Supply	9	1.376	51,130	3,500	3.7
181	Nitrate Railways	9	1.856	22,700	1,500	1.2
157	Nizam's Railways	5	2.000	5,950	*2,000	0.3
105	Nobel Dynamite	14	3.285	41,410	4,500	1.8
81	North British & Mercantile Insurance	25	4.500	*450,000	*5,000	16.4
190	North British Locomotive	9	1.750	495,770	1,600	49.6
7	North British Railway	15	49.155	*163,850	34,550	0.5
240	North Eastern Banking	9	1.286	148,720	1,560	11.6
4	North Eastern Railway	19	56.497	*188,323	43,450	0.3
116	North London Railway	10	2.984	*29,840	2,650	1.5
106	North of Scotland & Town & Country Bank	12	3.260	71,620	5,250	2.2
45	North Staffordshire Railway	9	7.847	*78,470	†7,400	1.7
110	Northern Assurance	12	3.000	95,000	3,300	3.2
131	Northern Banking	4	2.500	25,500	4,500	1.2
284	Norwich Union Fire Insurance	22	1.100	61,726	1,100	5.6
239	Ottoman Imperial Railway	6	1.294	*12,940	*1,500	1.0
33	Parr's Bank	18	11.024	347,250	10,300	3.1
305	Pearson & Knowles Coal & Iron	6	1.000	88,420	1,161	8.8
265	Pease & Partners (coal mines)	7	1.210	143,140	3,000	15.2
259	Pekin Syndicate (coal mines, railway)	7	1.243	7,012	3,000	20.4
142	Peninsular & Oriental Steam Navigation	10	2.320	‡20,000	4,500	0.9
25	Peruvian Corporation (natural chemicals)	8	16.500	6,550	4,000	0.0
157	Peter Walker & Son (beer)	5	2.000	1,258,610	1,200	100.0
108	Phoenix Assurance	10	3.211	143,560	3,889	4.5
305	Pillsbury-Washburn Flour Mills	3	1.000	30,920	500	4.1
261	Port Talbot Railway & Docks	8	1.230	*12,300	*1,500	1.0

300	Powell Duffryn Steam Coal	8	1.033	177,092	1,100	20.2
97	Primitiva Gas of Buenos Aires	9	3.700	*25,000	1,400	1.0
91	Provincial Bank of Ireland	10	4.080	54,660	3,300	0.4
305	Railway Debenture & General Trust	5	1.000	39,760	1,500	4.0
102	Railway Investment (investment trust)	3	3.400	3,000	2,500	0.1
233	Regent's Canal & Dock	9	1.358	*40,740	*1,500	3.0
156	Rhodesia Railways Trust	4	2.006	2,480	900	0.1
305	Rhymney Iron	5	1.000	34,160	1,160	3.4
176	Rhymney Railway	7	1.981	*19,810	*1,800	1.0
272	Rio de Janeiro City Improvements	5	1.193	17,725	1,500	1.5
209	Royal Bank of Ireland	6	1.500	19,350	2,180	1.3
157	Royal Bank of Scotland	11	2.000	†80,000	†3,519	4.0
119	Royal Insurance	17	2.945	69,760	4,000	2.4
209	Royal Mail Steam Packet	9	1.500	†500,000	†3,000	33.3
209	Rylands & Sons (cotton warehouses)	9	1.500	150,620	2,500	10.0
227	Salt Union	6	1.400	13,160	4,300	1.1
92	San Paulo Railway	6	4.000	14,300	6,500	0.5
185	Scottish American Investment	6	1.800	28,439	3,550	3.9
245	Scottish American Mortgage	5	1.272	28,439	2,400	3.6
284	Scottish Australian Investment	6	1.100	*150,000	*1,000	30.0
69	Scottish Union and National Insurance	12	5.087	*508,700	*5,000	10.0
267	Sheffield & Hallamshire Bank	5	1.200	34,360	700	2.9
273	Sheffield & South Yorkshire Navigation	10	1.190	*47,600	600	4.0
277	Sheffield Banking	5	1.154	72,850	1,000	2.5
177	South African Breweries	7	1.965	128,095	4,000	6.5
17	South Eastern Railway	12	23.821	*79,403	15,350	0.5

305	South Indian Railway	6	1.000	12,400	1,000	1.2
52	South Metropolitan Gas	10	6.430	*128,600	†9,000	2.0
301	South Staffordshire Waterworks	7	1.030	*41,200	*1,200	4.0
104	Southern Punjab Railway	4	3.300	7,000	2,500	0.2
305	Spillers & Bakers (flour mills)	8	1.000	137,560	1,850	13.8
185	St Louis Breweries	6	1.800	24,760	2,200	1.4
55	Standard Bank of South Africa	8	6.194	31,683	6,000	0.5
284	Staveley Coal & Iron	5	1.100	76,619	1,750	7.1
283	Steel Bros (India merchants)	4	1.101	406,600	500	100.0
198	Stewarts & Lloyds (steel)	11	1.612	200,019	3,350	12.4
34	Suez Canal	32	10.000	‡160,000	†40,000	2.0
275	Swan Hunter & WR (engineering/ships)	12	1.174	341,209	1,400	37.7
42	Taff Vale Railway	11	8.296	*82,960	8,050	1.0
155	Thames & Mersey Marine Insurance	16	2.010	110,880	1,720	5.5
293	Tredegar Iron & Coal	9	1.088	89,996	1,800	8.3
190	Trust & Agency of Australasia	6	1.750	79,890	2,500	9.1
298	Trustees Executors & Securities Insurance	5	1.050	29,193	2,200	2.8
110	Ulster Bank	4	3.000	46,500	7,139	1.6
71	Underground Electric Railway	14	5.000	88,000	400	1.8
209	Union Bank of Australia	12	1.500	107,700	3,500	1.6
71	Union Bank of Scotland	14	5.000	98,000	3,118	2.0
195	Union Castle Mail Steamship	9	1.658	32,590	2,500	2.3
18	Union of London & Smith's Bank	30	22.934	2,087,200	9,500	2.9
61	United Alkali	12	5.818	431,860	8,000	7.4
184	United Collieries	4	1.801	10,039	2,185	0.6
59	United Counties Bank	11	5.967	155,780	6,380	2.6

51	United Railways of the Havana & R W	6	6.470	4,700	2,700	0.0
279	United River Plate Telephone	5	1.150	7,275	1,600	0.6
197	Van den Bergh (margarine)	6	1.655	201,859	8,000	32.3
68	Vickers (ships/arms/steel/engineering)	15	5.200	†555,000	22,000	13.9
126	Victoria Falls & Transvaal Power	13	2.702	*108,080	*2,000	7.6
109	Wall Paper Manufacturers	16	3.189	875,513	5,000	39.9
303	Waring & Gillow (furniture)	7	1.005	67,947	2,500	10.8
234	Waterlow & Sons (stationers/printers)	9	1.350	*50,000	1,500	3.7
54	Watney Combe Reid (beer)	8	6.322	877,232	5,000	51.3
243	West India & Panama Telegraph	5	1.276	6,320	1,800	0.5
284	Western Railway of Havana	6	1.100	25,180	1,100	2.3
151	Western Telegraph	8	2.079	13,500	4,500	0.6
296	Westminster Electric Supply	7	1.068	15,800	2,700	1.5
175	Whitbread (beer)	10	1.989	1,006,300	900	100.0
232	White Pass & Yukon Railway	5	1.375	74,470	700	5.4
183	Wigan Coal & Iron (+steel)	5	1.810	640,450	800	35.4
157	William Cory & Son (coal factors)	8	2.000	175,695	6,000	8.8
305	William McEwan (beer)	4	1.000	500,000	1,450	50.0
46	Williams Deacon's Bank	13	7.813	402,860	3,000	5.2
150	Workington Iron & Steel	14	2.097	125,713	*2,500	11.5
302	Worthington (beer)	7	1.028	231,650	1,500	86.4

Sources: authors' calculations from data in *Investor's Year Book 1912*; *Stock Exchange Official Intelligence 1912* and other sources as detailed in the text. Note that column 3 x 100 divided by column 2 x 1m defines the percentage of shares owned by each board: column 5 sometimes differs from this because of differential voting rules.

* Estimated (see n. 23, above). Data for individual companies should thus not be considered definitive, though the aggregates are unlikely to be misleading.

† data estimated from other sources than the *Investor's Year Book* (see n.22, above).

‡ The voting power is calculated from voting caps (see n.106, above) and accurately represents the likely voting maximum, but directors' ownership (similarly derived in column 3) is likely to be mis-estimated.