Ownership, Financial Strategy and Performance: The Lancashire Cotton Textile Industry, 1918-1938[1]

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ABSTRACT

This article assesses the validity of John Maynard Keynes' claim that the Lancashire cotton industry failed to restructure because the banks as debt holders prevented firms exiting the industry, creating persistent over-capacity. Using case studies from a substantial sample of Lancashire firms, the paper explores archival evidence to establish their financial characteristics, to examine their equity and debt finance and the governance roles of directors and outside ownerhip groups. On the basis of this review the paper develops hypotheses to suggest alternatives to the view that bank debt was the dominant explantion of firm level behaviour and industry failure. Applying these to a statsitical dataset, results show that syndicates of local shareholders, *not* banks, were an important impediment to the exit of firms. Moreover, syndicates milked firms of any profits through dividends, thereby limiting reinvestment and re-equipment possibilities. Our results show that where laissez-faire fails in response to a crisis, incumbent investors, particularly block-holders, can be an important impediment to corporate restructuring.

Keywords: Keynes, Cotton, Banks, Syndicates, Corporate Restructuring

JEL classification: G32; G35; L14; L67; N84.

1. Introduction

There has been a substantial debate about the benefits rationalisation might have conferred on British manufacturing during the interwar. period[2] One industry which has featured prominently is the Lancashire cotton-textile industry. In the *End of Laissez-Faire*, writing against the backdrop of the inter-war economic crisis, Keynes argued that the role of the government is not to try to do what is being done better, but to do what is not being done.[3] For Keynes, there was no better illustration of this point than the Lancashire cotton textile industry. As demand in overseas export markets collapsed, creating a serious problem of over-capacity, the industry's large number of relatively small firms competed intensely on the basis of marginal cost pricing. For Keynes the solution was the reorganisation of the industry. An important obstacle was the intractability of the incumbent management and financial stakeholders. The banks might have promoted reorganisation, but were 'professional paralytics', and it was 'against their tradition to do anything whatsoever in any conceivable circumstances'. He also called for the dismissal of the vast majority of cotton Company directors, However, Keynes was careful in his choice of scapegoats. In particular he sought to avoid implicating those responsible for the re-financing of the industry already carried out in the boom of 1919-20. Contemporary commentators who stressed the problems resulting from these events, were criticised by Keynes for finding easy solace and standing in the way of educating opinion as to what he saw as the correct diagnosis (Keynes, 1928, p.199).[4]

In presenting new evidence to test the propositions that follow from Keynes's arguments, the article addresses the key aims and objectives of this special issue which are to examine the 'methodological issues, particularly the role and opportunities for empirical research in business history'; to 'explicitly address the development of theory and/or hypothesis testing'; as well as building 'generalisations [that help us to]

understand and explain causal mechanisms', and, perhaps most importantly, we, 'develop scientific knowledge by constructing theories which are subject to empirical testing [which] will develop knowledge about businesses and entrepreneurs in their *historical context and about their interactions with the environment*'[5](emphasis added).

To achieve these objectives, the paper uses archival evidence to demonstrate that investor syndicates, both internal and external to this industry, exerted powerful effects on the ability of heavily recapitalised firms to pursue exit strategies. These links between finance, ownership and strategic behaviour provide an opportunity to develop and test hypotheses concerning the *relative* impact of investment by different groups of financial stakeholders on firm strategy. They suggest that strategy, financial performance and long term survival will be determined by the governance characteristics of the firm. The hypotheses generate evidence useful in wider literatures by illustrating the role of ownership as a potential constraint on corporate restructuring and as a determinant of managerial performance.[6] For the cotton industry these results also indicate that Keynes was far too dismissive of refinancing and the problems it caused; that investor groups in particular were at least as important, if not more so, than the banks that initially provided recapitalisation funds and subsequently kept indebted firms in the industry. The results are important because they show that the Keynesian panacea of reorganisation was insufficient and that financial restructuring, especially the radical variation of ownership rights, was also required.

Our analysis is also relevant for research on corporate restructuring and business turnaround within strategic management field since it uncovers a complex interplay of governance conflicts associated with a combination of debt and equity financing. As a consequence, the paper also contributes to more recent studies that question the universality of governance-strategy-performance relationship associated

with agency-grounded research and suggest that the impact of governance factors may also depend on organizational contingencies, such the stage in the firm's life-cycle, industry environment etc.[7] More specifically, we revisit the proposition that, in the context of organizational decline, governance factors, such as board directors' interlocks or presence of concentrated institutional ownership in situation of limited stock market liquidity, may impose severe constraints on possible turnaround strategies.[8] Our archival evidence helps to develop this theoretical framework further by combining firm-level data with more qualitative evidence obtained from the contemporary sources on individual cases and industry dynamics in general.

The paper is organised as follows. In Section 2 we compare and contrast the key features of Keynes's analysis of the industry's problems with those of other informed contemporaries. Particular emphasis is placed on the observation that, unlike his contemporaries, Keynes was generally dismissive of the impact of re-flotation. In Section 3 the composition of investor syndicates is analysed. Notwithstanding contemporary and subsequent debates, there is no prior empirical evidence concerning the composition of these groups. Indeed there are only passing references to 'London' and 'Metropolitan' syndicates and our research shows that these references are partially and materially inaccurate. Section 4 examines the role of investor groups, both syndicates and banks, and their impact on firm level performance outcomes, using a financial data set and appropriate econometric models. The comparative impact of bank lending and financial syndicate investment is assessed. Discussion and conclusions are presented in Section 5.

2. Keynesian and other interpretations of the collapse

The fundamental feature of the Lancashire textile industry between the wars was the violent and, as it turned out, irreversible contraction in world demand for cotton goods. The broad facts of this collapse have been extensively documented. The salient points are that during the 1920s, and 1930s, exports of cotton piece goods were 58% and 29 % respectively of their 1913 level. For yarn exports, the relevant figures were 80% and 66% respectively.[9] Of particular importance in this collapse were the loss of the Indian market and Japanese competition in third markets. In 1913, out of a total British production of approximately 700 million yards of cotton piece goods, 43 % by quantity and 36% by value, were exported to India.[10] By the 1930s, Indian production of cotton piece goods and yarn was 34% and 131% greater, respectively, than its pre-war average. A number of factors, including the disruption caused by the war, reduced shipping facilities, growing nationalism and increasing tariff protection, account for India's reduced dependence on Lancashire exports. The reversal in the Indian market was exacerbated by Japanese competition. Between 1914 and 1930, Japan's share of Indian imports of cotton piece goods increased over a hundred-fold, and Bowker estimated that Japanese penetration of the Chinese market was responsible for 17.6% of the decline in Lancashire's exports.[11]

However, although these basic facts were well known to contemporaries, there was less agreement on what the industry should have done in order to restore its competitiveness. For convenience, we contrast two interpretations: one is Keynes' view that reorganisation was required but the banks and industry directors prevented this outcome. The second is that advanced by other contemporaries that world economic conditions were to blame and recapitalization simply made matters worse.[12]

The Keynesian historiography

Keynes' analysis of the problems affecting the industry focused on excess capacity and, its consequence, short-time working. 'The termination of the short-time policy is urgently called for, and the substitution for it of a 'rationalising process' designed to cut down overhead costs by the amalgamation, grouping or elimination of mills'. Short-time working increased the costs of the industry, aggravated financial losses, and led to financial exhaustion. Keynes was adamant that while a policy of short-time working might be desirable to meet temporary disturbances in trade, it was absolutely disastrous as a long-term solution. In any case, as he pointed out, the actual practice of short-time working was very badly organised. [13]

The solutions to short-time working proposed by Keynes were threefold: the elimination of weak-sellers (those selling output below cost), the adjustment of surplus capacity and rationalisation to achieve appropriate economies.[14] Why, then, was the required contraction in capacity not forthcoming? Keynes position on this was clear: the banks had lent so much to the industry, particularly its financially weaker companies, that they were loath to let their debtor companies go bankrupt, even though this would have accelerated the adjustment of capacity in the industry.[15] In Keynes' perspective, the banks *could* have promoted change in the industry,[16] but *chose* not too (authors' emphasis). Whilst castigating the banks, Keynes dismissed the significance of the re-capitalisation boom:

> 'The industry is riddled with unsound finance; some of it the result of the over-capitalisation of the boom period….If high capitalisation and bad management were the essential troubles, reconstructions and bankruptcies might be the right solution. But they are only secondary troubles. The real

trouble – and this is the beginning, the middle and the end of my argument – is surplus capacity.'[17]

Keynes argued that the recapitalisations of the 1919-20 boom were irrelevant as they did not affect earnings, suggesting that even if this capital were written off the problem would persist without solving the underlying problem of over-capacity.[18] Therefore, as far as Keynes was concerned, the writing-off of capital was trivial and the important challenge was reorganisation.

In this respect, Keynes was not unique. Turning to the *general* problem of excess capacity, there was recognition that rationalisation and re-organisation could improve the competitive position of industry, but the existence of a large fringe of small producers hampered the efforts of big firms trying to secure these efficiencies.[19] John Ryan, (Managing Director of the Lancashire Cotton Corporation (LCC)), argued that amalgamation and re-organisation would simultaneously help Lancashire to improve her international competitiveness and provide relief to the spinning section which was a labouring under heavy financial losses.[20] In the specific case of the Lancashire cotton textile industry, the subsequent historiography strongly endorses the Keynesian interpretation, and most acknowledge that over-capacity was a root cause of the post war problems.[21]

Opinions differ somewhat as to who should have taken responsibility. Bamberg adds to Keynes' famous accusation that the bankers acted as 'a species of deaf mutes', abandoning their responsibilities, showing the competitive structure of bank lending to have been inimical to industry recovery. Indeed, as Bamberg has noted, the indebtedness of the industry *could* have provided the means for its salvation.[22] However, this had to await the formation of the LCC in 1929. Frank Platt, managing director of the LCC, realised that many firms in the American section were heavily indebted to the

banks that might be able to coerce their heavily indebted mill customers to obey price maintenance schemes. The banks had an obvious reason for exercising this coercion: their own fortunes had become intricately and heavily tied up in the fortunes of the spinning industry. For example, the index of bank overdrafts for a sample of 145 refloated companies increased from 100 in January 1921 to 152 by January 1924.[23] The extent to which individual banks were exposed varied substantially: the Midland Bank's customers accounted for 34.7 per cent of American spindles, but its total commitment was lower than William Deacon's which accounted for 13.8 per cent of American spindles and whose total advances to 40 spinning companies was £3.7m by the end of 1928.[24] Consequently, the banks had little option but to increase their overdrafts in order to try and protect previous loans to these firms. Periods of 'weak-selling', by increasing the operating losses of these firms, increased further the demand for overdraft facilities from the banks. Thus, in 1933, for example, Platt launched a price maintenance scheme to cover the medium 'American' section, which enlisted the support of a number of banks, all of which agreed to use their influence to force debtor spinning companies to observe minimum prices. However, even this option seems to have operated with only very limited success and was a 'dead letter' by 1934.[25]

Bamberg's evidence indicates that the most effective means for securing adherence to price maintenance schemes was completely independent of the banks and rested, instead, on the ability of the LCC to instigate a form of price leadership. Instead of following prices down in successive stages, as more firms abandoned existing price agreements, Platt proposed in 1934 that the LCC should undercut all its competitors by going directly to the 'rock-bottom' price.[26] This option was more than just an idle threat: the LCC had accumulated substantial reserves to protect itself against the breakdown of

'gentlemen's agreements'. Such was the success of this scheme that not only did it provide the basis for new and effective price maintenance schemes in the 'American' section for the rest of the 1930s but, also, in the 'Egyptian' section.[27] Obstinate directors, whom Keynes suggested should be dismissed have been subsequently criticised for their 'individualistic attitudes',[28] as have the unions for lack of co-operation.[29]

Contemporary opinion

For a second interpretation we need to consider contemporary opinion, since this view has attracted little support subsequently. Whiggish attitudes and hindsight make it difficult for historians to do other than condemn this view, since it is well known that the hoped for return to pre-1914 conditions never materialised. Indeed contemporary opinion was far from a consensus, and such optimism attracted some ridicule.[30] However, unlike Keynes, many informed contemporary observers did place much greater emphasis upon the harmful effects of the recapitalisation boom. Daniels and Jewkes and the report by *Political and Economic Planning* argued that those firms that had recapitalised had stronger inducements to engage in price-cutting in order to secure the volumes required to cover their inflated costs.[31] Both of these authorities also suggested that the effects of recapitalisation worked against any effective joint action either regarding output restriction to raise prices, or to secure amalgamation.[32] Henry Clay, a special adviser to the Bank of England, supported these views. He also argued that the supply of loan capital, which should have been available to finance re-equipment and facilitate re-organisation, had been drained away by the need of re-capitalised companies to call-up unpaid share capital in order to meet interest charges and to replace withdrawn loans.[33]

In addition, contemporary observers were well aware of the disastrous effects that external syndicates could have on the fortunes of individual mills. James White established the London-based Beecham Trust[34] which was intimately involved in the flotation and re-flotation of famous British manufacturing companies such as Austin Motor Co., and the Dunlop Rubber Co.[35] In the Lancashire cotton industry, White, via the Beecham Trust, participated in the flotation of the Amalgamated Cotton Mills Trust (ACMT) in 1919.[36]

This year marked the start of the recapitalisation boom when the fortunes of the Lancashire textile industry appeared unlimited. During the first annual general meeting of ACMT – also in 1919 – the chairman of ACMT, Lord Fairfax, proudly proclaimed that:

> 'It would appear to me that certain gentlemen in Lancashire, who take an interest in the trade of that county, are agitated by the fear that the great cotton spinning and manufacturing trade may be in danger of becoming controlled by London financiers. I should like to recall to your memory that, so far as the Amalgamated Cotton Mills Trust (Limited) is concerned, our mills are in no sense of the word controlled by London financiers'[37]

At the same, an extraordinary general meeting (AGM) was held at which the directors of ACMT were persuaded to create 1,300,000 new Ordinary shares of £1 which the Beecham Trust agreed to take at £3 a share, less a commission of £10,000. Subsequently, in 1920, the share capital was more than trebled. The consequences of this substantial – and unwarranted – increase in capital were clear for all to see: ACMT failed to pay a dividend on its ordinary shares from 1919/21 until 1937/38, when its

capital structure was re-arranged.[38] In addition, by 1930, the company's ordinary shares (nominal value £1), including those that the Beecham Trust agreed to purchase for £3, were quoted in the range 2s, 7.5d to 7.5d.[39] Unsurprisingly, therefore, the view of one commentator on White has been damning: 'the fact that he helped to saddle Lancashire with a disastrous load of "watered" capital probably figured for as little in his calculations as the ruin caused to thousands of small investors who followed his star.' [40] White was a controversial figure, condemned by contemporaries for manipulating the share prices of companies that he floated.[41] Ernest Terah Hooley had a similar track record and attracted criticism for similar reasons. In 1920, Hooley promoted the Jubilee Cotton Mill in Oldham for the purposes of defrauding a wealthy Cardiff-based investor and was convicted for fraud.[42] On his release, Hooley wrote: 'Several people, with no more pretentions to honesty than myself, made millions of pounds, selling mill shares that were not worth a shilling apiece…If everybody had their just deserts there would have been a hundred other men put in prison.'[43]

Similarly, Sir Edward Mackay Edgar, who was a partner in the finance house, Sperling & Co., promoted the substantial amalgamation, Crosses & Winkworth Consolidated Mills (C&WCM) and Crosses & Heatons' Associated Mills Ltd., in 1920 and 1921, respectively.[44] Edgar was, significantly, chairman of both these companies during the early 1920s.[45] An important feature of the formation of the C&WCM was the sale of 11 million shares to the directors by Sperling at a substantial discount to the issue and subsequent market price. 20 million ordinary shares of 1s were issued, of which 11 million were purchased by Sperling & Co., and resold to the directors 'and their friends' at par. Unlike the directors, the investing public were required to purchase in units of 1 £1 preference shares and 3 ordinary shares for 33s. The preference shares were issued at a premium of 10s, so that the ordinary shares were notionally issued at

par.[46] Although the preference shares participated in a further 20% of profits after their fixed dividend,[47] a 50% premium, applied to the preference shares only, made little sense. Unsurprisingly, shortly after the issue the ordinary shares were trading at around 1s 11d (a 92% premium) whilst the preference shares traded at around 18s (a 40% discount).[48] The premium on the ordinary shares and the discount on the preference shares represented a risk free wealth transfer of just over £500,000 from the investing public to the directors.

Again, the subsequent financial performance of these companies was dire. C&WCM had to drastically restructure its capital in 1928, involving the writing-down of 3 million £1 cumulative preference shares to 6 shillings each, and the 20 million £1 ordinary shares to 2 million shares. The companies were bought for a total purchase price of £5 million, but for the purposes of this reconstruction, the company's land, building and machinery, were valued at just £1.2 million in 1928.[49] C&WCM paid a dividend on its ordinary shares in 1921, but no further dividends on this class for the rest of the inter-war period. Crosses & Heatons' appear never to have paid a dividend on ordinary shares.[50]

The evidence suggests therefore that recapitalisation impacted upon subsequent financial performance, which may explain why contemporary opinion referred to above concentrated on the relationships between re-capitalisation, over-capacity, individual firm behaviour, and weak-selling. The case also illustrates some important analytical relationships between principal and agent expectations and asset values.[51] However, the comparative influence of the banks and the syndicates on firm strategy, including the exit decision, has not been analysed. Indeed, until now, Keynes' views on earnings, re-capitalisation and capital write-offs have not been questioned much in the subsequent literature.[52] None have presented significant new

empirical evidence. Even so, an empirical analysis of the composition of the syndicates and their relative impact on individual firm behaviour compared to the banks is important. This is in line with more recent research on the limitations of "pecking order" hypothesis in corporate finance that suggests that net equity issues track the financing deficit more closely than do net debt issues. Therefore, financial problems in a firm should be simultaneously attributed to the leverage and equity issues.[53] If the banks had an interest in preventing their clients exiting in order to avoid the consequent capital write-offs, then so too did the financial syndicates. Arguably the syndicates had more reason and greater ability to force firms to stay in the industry. Banks had the relative benefit of secured lending, albeit on reduced asset values and even where minimal, stood to obtain any marginal benefit ahead of the unsecured equity syndicates. Where loan interest payments were deferred, they were allowed to accumulate so there was an expectation of higher payments in future years. Equity holders benefited only where the firm had sufficient earnings to depreciate the overvalued assets and meet fixed interest charges.[54] Unlike the banks, the syndicates had direct control over the board and the strategy of the firm through the control of voting shares. Corporate governance researchers have pointed out these potential differences between modes of financing and the associated control factors.[55] Although Keynes called for the dismissal of the company directors, adding they were unlikely to vote for their own dismissal,[56] it has not been empirically established that this was a realistic option. If outside syndicates were significant, such resolutions could only be carried with their support. Although it was well known that cotton directors had shareholdings, the scale of these and also the extent to which interlocks might have influenced directors to behave collectively have not been established empirically.[57] More specifically, it is not clear how controlling power associated with directors' interlocks and shareholdings was

translated into majority voices at annual general meetings in companies they controlled.

Specifically the role of cross directorships and shareholdings has not been examined for the crucial 1919-20 re-capitalisation boom. Unlike previous cotton booms, such as 1907 and 1911-13, the events of 1919-21, were without precedent, particularly with regard to the severity and duration of the ensuing depression.[58] Consequently, the presence of such network connections might impact on coalescence in the strategies advocated by the syndicates and any outside investor groups. Although convenient for the first interpretation of decline discussed above, the neglect of the role of the syndicates is therefore surprising, and the analysis below examines their effects, in contrast to the banks, more closely.

There is a further and potentially important consequence of the presence of these outside investors. Keynes and contemporaries[59] seem to agree that they had little technical understanding or other useful knowledge of the industry other than perhaps its propensity to pay very generous dividends during periodic booms. In addition to the question of whether the syndicates forced firms to stay in the industry, there is the further question of their impact on business and financial strategy. Specifically it is likely that they would have forced the cotton companies to repay any profits as dividends, so that the capacity for recovery through new investment could not be sustained. More recent strategic management research indicates that different types of institutional investors may have different decision-making horizons and preferences with regard to business strategies their portfolio firms may pursue.[60] As a result, it is possible that the specific make-up of investor syndicates in the industry has created a specific set of constraints imposed on managerial decision-making and the firms' strategic orientation.

3. The syndicates: scale, characteristics and effects on firm behaviour

To examine the effects of ownership on managerial behaviour there are two empirical tasks. The first is to establish the nature of the ownership groups involved in the re-capitalisation boom of 1919-1920. Although an empirical contribution to the historical literature in its own right, this also provides a platform for second empirical task which is the development of statistically testable hypotheses. Knowing the detailed composition of ownership groups allows the statistical results to be triangulated and judgements to be made about the suitability of the proxies used. These two tasks are dealt with in turn below.

Ownership and control characteristics

To examine ownership and control characteristics of the re-capitalised companies all available annual returns from the BT31 file at the Public Record Office (PRO) were examined. The PRO has a policy of retaining a random sample of 1 in 5 company records and it was therefore appropriate to examine all surviving documents for firms that were known to be in existence, and to have been re-capitalised (as detailed in Worrall's and Tattersall's trade directories). The process produced a sample of 41 individual company archives. Within each, share registers, articles of association and annual returns (form E) were examined to identify the directors and significant shareholders in the re-capitalised companies, the scale of their cross-shareholdings, and the buy-sell and buy-hold behaviour of investing individuals and groups.

Table 1 shows the ownership details for the 41 firms. For each firm the table shows the paid up capital, the proportion of that capital owned by the directors, the proportion owned by significant (defined as 5%>) blocks of outside investors, and the

level and type of debt finance. Boards did not vary a great deal in size, typically consisting of five or six directors, so data is not reported in table 1 and the strength of insider control is measured using directors' share-ownership. The average total holding by directors' using the figures in table 1 was 26.2%. As the table shows, for 5 out of the 41 firms, the directors had outright control with combined holdings of greater than 50%.[61] In view of the size of these blockholdings and the pattern of ownership in residual shares, de facto control was likely even higher. Examples of inside blocks include Alexander Young and William Henry Heywood, two of the directors in Brunswick Mill, who jointly owned 31% on initial allottment; in Argyll, the directors owned 15.3%; Avon, 27.3%; Belgrave, 38.6%; Century Mill, 66.5%; Clover Mill, 35.7%, Delta, 28.3% and in Fern, the directors owned 22.8%.[62]

Most firms (29 out of 37 in Table 1 for which data was available) used debt finance of some description. Where debt was used, it represented 47% of the total (c.£4.25m debt compared to c.£4.72m equity for the 37 companies that had data on debt). As the equity of the firms was revalued for the purposes of the refloation, this represents a good estimate of the the average leverage of the firms at the height of the boom. As the cases in Table 1 illustrate, loan finance predominated over structured debt (preference shares and debentures) and bank overdrafts. Indeed firms using bank finance represented a small minority of cases. Debt finance, as Keynes and others suggested, was important, but not specifically bank finance, reinforcing the view that the banks, when forced to intervene, were relatively new financial participants in the affairs of the industry when the crisis struck. Debt finance also varied considerably from firm to firm and may therefore have moderated different strategic responses at firm level during the crisis. This issue is returned to in the next section of the paper.

Outside equity ownership meanwhile rarely amounted to significant influence. Only 13 out of the 41 companies in Table 1 had examples of significant outside ownership. For example, Francis Trippet, one of the directors of the Bolton Union Spinning Co., was also a director of City General Trust Ltd.[63] These connections may explain why Bolton Union represented a rare case of London-based investment, with significant investments from the Lancashire Cotton Syndicate, Barclays Bank and Horatio Bottomley, the MP and financial manipulator.[64] Indeed, outside of our sample, the only other Bolton spinning company for which we can establish significant outside ownership, was Beehive which attracted a London investment group. [65] Manchester-based William P. Hartley who had made money in preserves, invested in a portfolio of companies with investments in Asia, Duchess, Textile and Times. 'Gentlemen' investors were often based in Manchester, Liverpool and the Fylde coastal towns, but rarely in London or other non-Lancahsire metropolitan locations. Examples include William Sidebottom (Elder), James Chadwick (Fern), William Hartley Higham (Textile) and John Kenyon (Asia), [66]

Table 1 about here

Even then these outside investors were insignificant compared to the degree of inside control prevalent in the crisis-ridden Oldham section. Table 2 shows the number of directorships held by individuals identified from the returns of the 41 companies examined. This process identified seventeen individuals holding directorships in just under half of the 41 companies examined, but also including directorships in companies outside the sample and in a small minority of cases outside the cotton industry. Between them these seventeen individuals were on the boards of 66

companies, mainly other cotton mills. Most of these individuals were also involved in the promotion of their companies in the recapitalisation booms and held some stock for resale post refloation. Promoter and share dealer Samuel Firth Mellor was a director of 18 companies.[67] Harry Tweedale, a stockbroker for William Deacons Bank, was a director of Dale Mill and a founding director of Arrow Spinning Co and Century Spinning Co (in which he owned, or represented, 15.4% of the initial allotment of the stock). The pattern of inter-locks reinforces the evidence of the influence of these promotional groups of insiders in the recapitalisation boom and the sunk nature of their investments. Their undiversified and risky position would be more likely to commit them to the industry, reducing the likelihood of exit.

Table 2 about here

These commitments led them, like Keynes, to call for the reconstruction of the industry. John S. Hammersley, who was also a director of several companies, advocated the financial restructuring of the industry, involving the variation of claim-holders' rights.[68] Unlike Keynes therefore he focused on ownership rather than the bank loans, capacity and short-selling problems. His scheme was based on cash for equity, which as the argument below suggests was indeed necessary to rescue the industry. Compared to Keynes's argument, it is easy to see why it was unpersuasive. His scheme not only compensated the speculators for their failure, but it also presupposed there were new investors whose expectations about the industry's future were more optimistic than incumbent investors.[69]

Inside directors were in any case significant and typically long-term investors. For example, in the case of Anchor (1920), and Asia (1920), the original directors of

these companies held the same, or increased ownership shares, in 1934 and 1926, respectively.[70] Examination of *Statements in Lieu of Prospectus* indicates that the monies paid to directors who promoted their company could be substantial, and therefore they had no pressing incentive to sell further shares post issue. For example, Cecil Hilton and John Stuttard, who promoted Earl Mill and subsequently acted as directors, received £5000 each for their work as promoters.[71] Some outside investors exited completely and early. For example, Hartley, the preserve manufacturer referred to earlier, sold his entire holding of 28,000 shares in Asia Mill, on 21 July, 1921, thirteen months after purchase.[72] Insiders made only partial disposals if at all, and such transactions usually involved stockbrokers such as Firth Mellor and Bunting. It is likely that the stockbrokers who were also directors simultaneously provided market liquidity in their own companies for potential buyers.[73] It is very difficult to believe that these stockbrokers were able to increase total liquidity for cotton shares though there is some evidence that stockbrokers who were *not* directors, were able to effect substantial liquidation of their holdings: for example, in 1928, Samuel Firth Mellor sold his entire holding of 38,700 shares (£24,187), in Gorse Mill to the Union Bank.[74] The fundamental feature of the Oldham Stock Exchange was its dependence on cotton shares: 'Cotton spinning companies continued to be the unique feature of the Oldham Stock Exchange throughout its time as an independent exchange'.[75] No other exchange quoted Oldham mill shares. The Manchester and London stock exchanges had substantially more liquidity, but the low volume of business and the increased risk because of poorer market intelligence, made mill shares very unattractive. In any case, major stockbrokers at the Oldham exchange held multiple mill directorships, for example, James Henry Bunting and Kenneth Morris[76], meaning that the fate of this exchange was inextricably linked to the fate of the industry. Consequently, the total

number of shareholders was usually quite small and there were surprisingly few transactions, given they were quoted companies. An obvious problem was the absence of buyers after the collapse of the boom in 1920. Moreover, given the evidence from the share registers, the presence of controlling cliques of directors was in itself sufficient to impose conditions of market illiquidity.

This combination of low liquidity and significant individual holdings created a strong incentive for self-serving behaviour at the expense of the company and minority shareholders, that becomes stronger as control rights increase.[77] One option would be to obtain rents through payment of dividends since any further re-capitalization and investment would shift future rents to minority investors.

There were relatively few examples of family block holders within our sample, though the holding in Coppull Ring Mill by the Hollas family was one exception. The Hollas's represented a significant textile interest and were effectively insider investors.[78] Similarly, George, Robert, and Thomas Braddock, and Eric and John Brierley jointly owned 17.6% and 12.7%, respectively of the stock in Avon Mill.[79] Variations on the importance of family blockholders include the Cheetham brothers, James and John, who were directors and jointly owned 25.3% of the stock in Anchor,[80] and the Mellor family (Samuel Firth, director) and his wife Annie (non-director), who jointly owned 32.7 % of Hartford Mill.[81]

A final and very important feature was the striking continuity between these investor groups in the Oldham section and the operations of similar groups, sometimes involving the same individuals, in the pre 1914 period. A feature of previous booms, for example in 1907, was the involvement of Bunting in the mill promotion boom (Toms, 2002). Firth Mellor and Hammersley were also involved in putting together business groups through flotation and inter-locking directorships.[82] Another important

continuity was the involvement of successor generations. So James Henry Bunting continued his pre-war apprenticeship whilst successive generations of the architects and mill-designers A.H. Stott and Sons continued their practice of investing in the mills they helped to build.[83] In short, the investors of the 1919-20 re-capitalisation boom were local, inter-connected, had intensive knowledge of the industry and were continuing well-established practice from before 1914. The connection to pre-war behaviour is important, insofar as the practices established then contributed to the subsequent failure of the industry.

The governance characteristics identified by this review of corporate level characteristics strongly emphasize the importance of investor syndicates within the context of the industry. Building on this evidence, we argue that, controlling for debt, the firm's strategy, financial performance, and long term survival will be determined by the governance characteristics of investor syndicates. More specifically, we suggest that large and recapitalized firms with outside share owners (as opposed to closely controlled, non-quoted firms) were less likely to exit. Recapitalised firms faced higher fixed costs arising from the change in ownership structure in the form of depreciation charges, dividends and interest charges. These costs are not fixed in the strict sense, for example dividends are highly discretionary, but they are sunk in the sense that they must be paid at some point if investors are to recover their committed capital. As noted above, these investors were often directors closely linked to promotional groups who were overcommitted to the industry on the basis of their investments and inter-locked board positions, thereby making it even more likely that recapitialisation would function as an exit barrier. Notwithstanding the influence of these and other directors, their control was not as complete as in a private firm and the availability of the option to sell implies that public firms would be more likely to exit.

For firms that remained in the industry, although systemic industry conditions prevented turnarounds in general, some firms were more financiallly successful than others. *Ceteris paribus* because larger firms which had been recapitalised had potential access to greater financial resources, they were in a better position to dominate market niches or requip, where the directors chose to do so. However, such freedom of action would have been limited by pressure to pay dividends. Such pressures would have been higher where firms had recapitalised as investors holding such shares would require higher cash dividends to secure an equivalent return on their investments. To the extent that firms were leveraged through bank debt, it would be expected that, if Keynes was right, highly indebted firms would be less likely to exit. Empirical tests allow this argument to be tested against the contention that equity ownership was the driving force. In similar vein, as discussed above, banks had negligible involvement in 1920 but became closely involved subsequently and against their will as losses mounted, suggesting they had little knowldege of the industry and therefore were less likely to influence successful turnaround strategies. In restricting the free cash flow avaiallbe to managers, they might have also limited the tendency of firms to pay dividends in response to investor pressure. These arguments lead to following research hypotheses:

1. Controlling for leverage, large, recapitalised, publicly quoted firms were less likely to exit the industry.
2. Controlling for leverage, large, recapitalised, publicly quoted firms were more likely to be profitable.
3. Controlling for leverage, large, recapitalised, publicly quoted firms were more likely to pay high dividends.

The next section examines these complex relationships between corporate governance, strategy and performance using a statistical dataset.

Ownership characteristics and firm behaviour

The previous section indicated that some companies in our sample were controlled by a network of extensive cross-directorships, often involving stock brokers. Further, we also showed that directors of newly recapitalised firms were often substantial block holders. These findings facilitate the examination of the differential behaviour of firms within the industry in the 1920s and 1930s, with a particular focus on differences between governance arrangements, strategy and financial performance. We employ a sample of 147 spinning firms to test the hypotheses outlined in previous section.

The sample is based on the first year of extensively available accounting and share price data taken from Frederick Tattersall's *Cotton Trade Review* from 1926 *et seq*, using all firms with available data. These data were used to examine first the determinants of the decision to exit and second the determinants of financial performance.

To examine the decision to exit, and the determinants of financial performance, data and financial information for the five-year period 1926-1931 was used in the following models:

$$EXIT = \beta_1 + \beta_2 RECAP + \beta_3 PUBLIC + \beta_4 LEV + \beta_5 SIZE + \mu \quad (1)$$

$$APTC = \beta_1 + \beta_2 RECAP + \beta_3 PUBLIC + \beta_4 LEV + \beta_5 SIZE + \mu \quad (2)$$

$$DIV = \beta_1 + \beta_2 RECAP + \beta_3 PUBLIC + \beta_4 LEV + \beta_5 SIZE + \mu \quad (3)$$

Model (1) has a discrete dependent variable, the decision to exit (*EXIT*), and is specified as a logit model. If a firm exits in the subsequent five years after 1926, *EXIT* is assigned a value of 1, and 0 otherwise. In model (2) the dependent variable is subsequent financial performance after 1926, defined as the ratio of accumulated profit/loss to total capital in 1931 (*APTC*). In general the higher this ratio the more successful the firm, and firms with positive ratios suffered no loss of capital in generally difficult trading circumstances and were able to pay dividends. The ratio is used as a proxy for turnaround success. In general, only firms with positive accumulated profits paid dividends, but because dividends also reduce the balance of accumulated profits, a third model was specified using the dividend rate (as a percentage of paid capital) as the dependent variable (*DIV*). Together these variables are proxies for relative success, at least from the financial perspective of the individual firm. Because the dividend variable is strongly left censored, model (3) is specified as a Tobit model. Model (2) is ordinary least squares.

The explanatory variables are common to both models and each is described in turn. The *RECAP* variable captures the fixed costs arising from governance structures. If the firm had recapitalised in the 1920 boom, it typically resold its shares to syndicates of outside investors at three times the price of non-recapitalised firms. Firms were classified 1 or 0 according to whether they had recapitalised or not. Because investors had an incentive to force the firm to remain in the industry on the basis of expected future recovery of the committed investment, the expected sign on the *RECAP* variable is negative. *RECAP* also potentially proxies for a second variable of interest, the presence of syndicate investor groups. To observe these effects separately, a further variable is required. The availability of active share price quotations was used to proxy for the presence of outside investors, including equity syndicates, as opposed to the

insider quasi partnership investors where no such trading opportunities existed. Quoted firms, with therefore approximately wider share ownership were labelled as *PUBLIC* and assigned a value of 1, and 0 otherwise. As more closely controlled firms were under less pressure from outside investors to remain in the industry, and thus more likely to exit, the expected sign for the *PUBLIC* variable is positive.

In addition to these categorical variables, two further continuous variables were included. First the ratio of debt to total capital, or leverage (*LEV*) and second, to control for size the total value of balance sheet assets of the firm are used (*SIZE*). The *SIZE* variable might also proxy for the power of incumbent managers, as a function of the value of the assets under their control. *SIZE* was transformed logarithmically to achieve closer proximity to normality, whereas *LEV* was not transformed due to a significant number of zero variables.

As in many empirical governance studies, our data limitations do not allow research corporate governance as a process. As a result, we have to use governance proxies to describe the relationship between governance and organisational outcomes. In addition there are a number of specific caveats that should be borne in mind when interpreting the results. The first concerns preference shares, which might have impacted the relative voting power of large shareholders. Table 1 shows that of the 41 firms analysed in detail, few used preference shares. Of the 147 firms in the larger sample, only nine issued preference shares.[84] In all cases, these were issued prior to the 1919-1920 recapitalisation boom.[85] A further point is that it would have been interesting to specify a variable to test the effects of inside and outside ownership blocks. Unfortunately, the number of shareholder registers allowing the *precise* identification of this split was judged too small to allow tests of statistical significance. For this reason, some caution needs to be exercised in the interpretation of our RECAP

variable. A final observation is that it the age of firms might have had a bearing on our results. Thus, *ceterus paribus*, newer mills might be expected to be more profitable than older mills because of, for example, scale based advantages and the employment of modern technology. We included an age variable in our regressions but the results we report below did not change significantly.[86]

The results are presented in Tables 3-6. Tables 3 and 4 show descriptive statistics. Table 5 shows the classification of the 147 firms according to their strategy: turnaround success (APTC>0), turnaround failures (APTC<0) and exits. Table 6 shows the results for models (1), (2) and (3) above.

Table 3 about here

Table 4 about here

Table 5 about here

Table 6 about here

The *RECAP* variable is negative and strongly significant in model (1), showing that the presence of governance related fixed or sunk costs constitute an exit barrier. Table 5 confirms that relatively few recapitalised firms exited the industry. Where firms remained in the industry *RECAP* was associated with turnaround success, evidenced by the positive and significant coefficients in models (2) and (3). The *PUBLIC* variable is also negative in model (1) and significant, supporting the hypothesis that outside investor groups prevented exit. The data in Table 5 also show that a very high proportion (50/58, or 86%) of successful turnarounds were public companies. Although the *PUBLIC* variable is insignificant in model (2) it is positive and highly significant in model (3). Public ownership, albeit by the syndicates, is

therefore associated with firms staying in the industry and with turnaround success but this is manifested in the form of high dividend payments and not the accumulation of profits. In other words, syndicate investment acted as an exit barrier, helped stabilise cash flows, but undermined subsequent stages of the turnaround associated with new investment and repositioning.

Exit was positively but weakly related to high borrowing in model (1). Exiting firms had higher leverage than turnaround firms (Table 5), but the difference was marginal compared to firms unsuccessfully attempting turnarounds. In models (2) and (3) leverage was negatively and significantly related to turnaround success. In other words lenders exerted weak pressure on firms to exit and acted as a constraint for the firms that stayed in the industry and attempted turnarounds. Firms with relatively high debt were less likely to pay dividends. Jensen's (1986) free cash flow (FCF) hypothesis suggests that opportunistic managers may try to appropriate FCF at expense of minority shareholders, and presence of fixed-claim holders may restrain this opportunism. There is some evidence from the data in Table 1 that debt holders did indeed constrain directors. The banks therefore did what they were supposed to do under the FCF hypothesis, even though for Keynes this wasn't enough.

Finally *SIZE* had a significant and negative impact on exit and was positive and strongly significantly associated with turnaround success. Insofar as *SIZE* proxies for managerial power, the impact is the same direction as *PUBLIC*, supporting the view from the archival evidence that managerial groups were able to combine long run investment strategy with good knowledge of the industry. However, the speculation that enabled them to build business empires and appropriate associated rents in the pre-war period went badly wrong after 1920.

5. Discussion and conclusions

Recapitalisation was not new in the Lancashire textile industry or, indeed, in other British industries. Macrosty, for example, demonstrated that large sections of British manufacturing, brewing, chemicals, iron and steel, and textiles, participated in similar schemes, often with subsequent dire financial performance during the early twentieth century.[87] However, the new and unique features of the boom in the Lancashire textile industry during the inter-wars were the scale of recapitalisation, the method of its financing, and the often disastrous involvement of external financial syndicates. Consequently, industrial reorganisation was totally untenable *without* government intervention.

Indeed, by the late 1920s, the Bank of England was increasingly concerned about the exposure of particular banks to the cotton spinning industry. According to Sayers, the Governor, Montague Norman, would 'have known that two if not three of the smaller banks, and at last two of the Big Five, were so deeply involved in Lancashire's financial mire that further deterioration and eventual exposure might have rocked the whole banking system'.[88] Attempts to improve the financial health of exposed banks via amalgamation met with only limited success. Consequently, direct intervention in the spinning industry by the Bank of England was necessary. In 1929, via the Bankers Industrial Development Corporation, the Bank of England, financed the formation of the LCC. Between 1929 and 1931, the Bank advanced £920,000 to the LCC which it used to acquire approximately 10m spindles and 100 firms, respectively, in the heavily depressed 'American' section. This amalgamation facilitated rationalisation of the industry and, by encouraging encouraged the formation of other combines, helped to eradicate ruinous price cutting.[89]

Keynes's assertion that capacity mattered is true and no one would dispute the problems caused by over-capacity and weak selling. However, we dispute the assertion that capacity was *all* that mattered and that capitalisation was unimportant. Indeed, following from the above analysis the reverse was true: capitalisation was a serious barrier to exit for some firms and to reorganisation by others. It was more significant than bank debt, even though as has been demonstrated, bank debt performed its correct function of disciplining managers and associated insider groups. Over-capitalisation was serious without bank debt and would have become serious even without over-capacity, committing Lancashire firms to high fixed capital costs as overseas competitors entered export markets.

Changing capital structures, thereby undoing the mistakes of 1919-20, was therefore essential for the recovery of the industry. Even in the relatively weak legal framework of the 1920s, however, radical variation of ownership rights (writing-off the capital of a *whole* industry) was non-trivial. Not surprisingly perhaps, the only contemporaries calling for this solution were the speculators themselves, and they were unlikely to be received sympathetically by economists, policy makers or anyone else. The real irony is that, like Keynes, they recognised, through their own mistakes, the need for an end to *laissez-faire*.

This article has demonstrated that it is not possible to develop simple generalisations about the role of financial syndicates during the interwar years. Earlier scholarship revealed that many of the features of the Lancashire recapitalisation boom after 1919 were common to this and other industries, bicycles, brewing, and motor cars prior to 1914. An example was the practice of 'watering' (capitalising a company well above its asset value) and recycling the receipts from the purchase of a company to the previous shareholders.[90] However, in Lancashire, the involvement of external and local

syndicates had undesirable results, though their financial environment was very different. External syndicates, for example White and Edgar, proved disastrous for ACMT and C&WCM, whose shares were quoted on the highly liquid London and Manchester stock exchanges. In contrast, local syndicates buying shares in Oldham companies, became highly entrenched and prevented exit for the same reason the banks promoted weak selling – their inability to realise the value of their original investments through the highly illiquid Oldham exchange.

This case study suggests that a much broader business history enquiry is justified into the interactions between financial syndicates and business in general, which will help develop the 'circle of knowledge creation'.[91] For example, accounting analysis can demonstrate the precise impact of promoters and syndicates on particular companies: how big were the initial gains (and subsequent losses) in assets and share prices compared to a comparator group? How quickly did companies recover, and what factors were instrumental in this? Analysis of share registers can reveal the degree of 'stagging', which provides some indication of the severity of asymmetric information between promoters (vendors) and shareholders. Econometric analysis of share price data can reveal the illiquidity of stock markets and the range of survival strategies available to firms.

Finally, our findings have particular relevance to the development of theory and its application to industries in acute financial distress. The prior literature showcases the role of block-holders in promoting corporate restructuring, but this research suggests that liquid stock markets and/or exogenous solutions to the problem of sunk investment and embedded ownership rights are also important necessary conditions.

Table 1 Recapitalisation, blockholdings and financial characteristics of sample re-floated companies.

Company	Date of Return[1]	Total paid up share capital (£)	% shares owned by directors	% shares owned by blockholders[2]	Loan capital (£)
1.Ace Mill Ltd.	14 April, 1921	240,000	37.7	No sig blocks	Mortgage: 150,000
2.Anchor Sp. Co. Ltd.	24 January, 1921	37,500	74.6	No sig. blocks	Loans: 146,635
3.Argyll Cotton Sp. Co. Ltd.	28 April, 1921	150,000	15.3	No sig. blocks	Loans: 149,320
4.Arrow Mill Ltd.	26 June, 1920	150,000	n.a.	6.7	Bank o/d: 45,000 Loans: 188,000
5.Asia Mill Ltd.	19 January, 1921	160,000	17.9	25	Loans: 72,562
6.Astley Mills Co Ltd.	25 March, 1920	300,000	11.8	No sig. blocks	Bank o/d: 104,000 Loans: 201,000
7.Athens Mill Co Ltd.	8 March, 1920	120,000	19.1	No sig. blocks	No debt
8.Atherton Mills Ltd.	27 October, 1920	250,000	2.4	7.6	Loans: 299,000
9.Avon Sp. Co Ltd.	11 February, 1920	150,000	27.3	38.3	Loans: 26,000
10.Belgian Mills Co.	4 August, 1920	70,000	n.a.	n.a.	n.a.
11.Belgrave Mills Co Ltd.	20 October, 1920	20,000	38.6	27.5	No debt
12.Bolton Union Spinning Co Ltd.	14 March, 1921	86,000	39.0	53.5	n.a.
13.Briar Mill Ltd.	31 May, 1920	100,000	30.3	No sig. blocks	Bank o/d: 80,253 Loans: 294,497
14.Broadway Sp. Co Ltd.	25 May, 1920	90,000	34.1	No sig. blocks	No debt
15.Brunswick Mill Ltd.	30 January, 1920	120,000	6.2	No sig. blocks	Loans: 50,000
16.Butts Mills Ltd.	9 June, 1921	375,000	15.4	7.5	Bank o/d: 114,000 Debentures: 19,000 Loans: 257,000 Mortgage: 26,000
17.Cairo Mill Co Ltd.	25 April, 1921	175,000	n.a.	No sig. blocks	No debt
18.Cavendish Sp. Co Ltd.	26 March 1920	176,920	7.7	No sig. blocks	n.a.
19.Century Ring Mill Ltd.	5 August, 1920	130,000	66.5	No sig. blocks	Loans: 132,000
20.Clover Mill Co Ltd.	27 February, 1920	240,000	35.7	No sig. blocks	n.a.
21.Commercial Mill Sp. Co Ltd	17 January, 1920	75,000	9.7	No sig. blocks	Loans: 55,000
22.Coppull Ring Sp Co.	10 June, 1920	225,000	37.9	43.7	Loans: 59,000
23.Coral Mills Ltd.	30 December, 1919	150,000	0.0	6.1	Loans: 18,000 Mortgage: 60,000
24.Dawn Mill Co Ltd.	29 April, 1920	100,000	17.3	No sig. blocks	No debt
25.Delta Mill Co Ltd.	18 August 1920	150,000	28.3	No sig. blocks	Loans: 166,000 Overdraft: 169,000
26.Duchess Sp. Co Ltd.	24 March, 1920	60,000	36.2	No sig. blocks	Loans: 71,368
27.Earl Mill Co Ltd.	26 January, 1921	90,000	28.0	No sig. blocks	No debt
28.Elder Mill Ltd.	14 May, 1920	61,125	12.3	49.9	
29.Falcon Mill Co. Ltd.	24 September, 1920	190,000	10.9	No sig. blocks	Loans: 142,000
30.Fern Cotton Sp. Co. Ltd.	2 March, 1921	125,000	12.4	15.6	No debt
31.Fernhurst Sp.Co. Ltd.	19 December, 1919	260,000	92.0	No sig. blocks	Loans: 148,500
32.Glodwick Cotton Sp. Co Ltd.	12 March, 1920	100,000	15.0	No sig. blocks	Loans: 119,000
33.Gorse Mill Ltd.	31 December, 1920	75,000	n.a.	No sig. blocks	No debt
34.Greenacres Cotton Sp. Co. Ltd.	28 December 1919	125,000	14.4	No sig. blocks	Loans: 152,000
35.Hartford Mill Ltd.	21 October, 1920	130,000	31.0	8.7	No debt
36.Magnet Mill Ltd.	29 December, 1921	76,630	0.0	No sig. blocks	Loans: 109,000 Pref. shares: 37,000
37.Park Mill (Royton).	11 February, 1920	36,000	11.2	No sig. blocks	No debt
38.Ruby Mill Co Ltd.	19 May, 1920	31,552	0.0	No sig. blocks	Loan. Deposit a/c: 27,000
39.Rutland Mill Ltd.	25 June, 1918	48,000	1.9	No sig. blocks	Loans: 153,000
40.Textile Mill Co Ltd.	5 December, 1919	8,000	80.4	6.25	Loans and interest: 185,000
41.Times Mill Co. Ltd	29 April, 1919	32,000	65.7	16.9	Loans: 234,000

Notes:

1 Refers to the date the source documents were filed at Companies House
2 Significant block-holders are those who *individually* own 5% or greater of paid up share capital.
3 N.a. means not available.

Sources: Ace, *TNA*, BT 31/32360/162516; Anchor, *TNA*, BT 31/32438/168982; Argyll, *TNA*, BT 31/36914/165226; Arrow, TNA, BT 31/32335/160744; Asia, *TNA*, BT 31/37696/16711; Astley, *TNA*, BT 31/32339/165099; Athens, *TNA*, BT 31/32335/160787; Atherton, *TNA*, BT 31/37693/162145; Avon, *TNA*, BT 31/38811/159919; Belgian, *TNA*, BT 31/32371/163568; Belgrave, *TNA*, BT 31/25035/158943; Bolton Union, *TNA*, BT 31/32419/166839; Briar, *TNA*, BT 31/36670/163570; Broadway, *TNA*, BT 31/32354/162152; Brunswick, *TNA*, BT 31/32378/163957; Butts, *TNA*, BT 31/38834-36/167722; Cairo, *TNA*, BT 31/39365/163619; Cavendish, *TNA*, BT 31/33811/165932; Century, *TNA*, BT 31/32338/161017; Clover, *TNA*, BT 31/36912/164330; Commercial, *TNA*, BT 31/37691/160540; Coppull, *TNA*, BT 31/35255/168122; Coral, *TNA*, BT 31/37277/161019; Dawn, *TNA*, BT 31/36384/161805; Delta, *TNA*, BT 31/36385/161972; Duchess, *TNA*, BT 31/32362/162803; Earl, *TNA*, BT 31/32361/162607; Elder, *TNA*, BT 31/32392/164696; Falcon, *TNA*, BT 31/40637/164621; Fern, *TNA*, BT 31/32371/163516; Fernhurst, *TNA*, BT 31/36910/159530; Glodwick, *TNA*, BT 31/32351/161817; Gorse, *TNA*, BT 31/32349/161673; Greenacres, *TNA*, BT 31/32346/161415; Hartford, *TNA*, BT 31/32314/158753; Magnet, *TNA*, BT 31/31856/72977; Park Mill, *TNA*, BT 31/36258/81607; Ruby, *TNA*, BT 31/31158/28738; Rutland, *TNA*, BT 31/31959/91732; Textile, *TNA*, BT 31/32270/153035; Times, *TNA*, BT 31/31617/57373.

Table 2. Interlocking directorships within our sample of re-capitalised Lancashire spinning firms, 1919-1921.[1]

Name of Director	Spinning Company directorships held
Edward Heaton Blackburn	Argyll Cotton Spinning Co Ltd; Mona Mill Ltd; Peel Mills Co. Ltd; Raven Mill Ltd; Sun Mill Co. Ltd.; Slack Mills Ltd.
Herbert Bleakley	Arkwright Cotton Spinning Co Ltd; Arrow Mill Ltd; Century Ring Mill Ltd; Dale Mills Co Ltd.
George Cottam	Argyll Cotton Spinning Co. Ltd; Hartford Mill Ltd; Mersey Mill Ltd; Atlas Mills Ltd.
Fred Dawson	Cavendish Spinning Company Ltd; Rayners Ltd; Minerva Spinning Co Ltd; Astley Mills Co. Ltd; F.L. Bentley Ltd; Oldham Athletic Assoc. Football Club Ltd; Oldham Twist Co. Ltd; Hope Mill Co. Ltd; Chadderton Mill Co. Ltd; Copster Mill Co. Ltd; Melbourne Mill Co. Ltd; Malta Mill Co. Ltd; Ram Mill Co. Ltd; Bury Paper Tube Co. Ltd; Robert Stott Ltd; Robert Thatcher & Co. Ltd.
Joseph Deveney	Arrow Mills Ltd; Century Ring Mill Ltd; Slack Mills Ltd; Victoria Mill Ltd.; Wellfield Mill Ltd.
Thomas Howe	Cavendish Spinning Company Ltd; Rayners Ltd; Minerva Spinning Co Ltd; Astley Mills Co. Ltd; F.L. Bentley Ltd;; Oldham Twist Co. Ltd; Hope Mill Co. Ltd; Chadderton Mill Co. Ltd; Copster Mill Co. Ltd; Melbourne Mill Co. Ltd; Malta Mill Co. Ltd; Ram Mill Co. Ltd; Robert Stott Ltd; Robert Thatcher & Co. Ltd.
Samuel Firth Mellor*	Argyll Mill Ltd.; Broadway Spinning Co Ltd.; Fernhurst Spinning Co Ltd; Gee Cross Mills Ltd; Gorse Mill Ltd; Greenacres Cotton Spinning Co Ltd ; Guide Bridge Spinning Co. Ltd; Hartford Mill Ltd; Marsland Mills Ltd; Mars Mill ltd;; Mersey Mill Ltd ; Monton Mill Ltd; Orb Mill Co Ltd; Peel Mills co Ltd; Princess Mill Co. Ltd; Rugby Mill Ltd ; Stockport Ring Mill.
Herbert Mills	Cavendish Spinning Company Ltd; Rayners Ltd; Minerva Spinning Co Ltd; Astley Mills Co. Ltd; F.L. Bentley Ltd; Oldham Athletic Assoc. Football Club Ltd.
William Noton	Fern Cotton Spinning Co Ltd; Delta Mill Co. Ltd.
Frederick Simm	Arrow Mill Ltd ; Century Ring Mill Ltd; Era Mill Ltd.
George Stott	Anchor Spinning Co. Ltd; Avon Spinning Co Ltd; Fern Cotton Spinning Co Ltd; Soudan Mills Co. Ltd; Kent Mill Ltd; Ace Mill Ltd.
Harry Tweedale*	Arrow; Dale
James Waller	Arrow; Dale; Union Ring Mill
Bertram Whitehead	Cavendish Spinning Company Ltd; Minerva Spinning Co Ltd; Astley Mills Co. Ltd
Edward Whitehead	Avon; Delta Mill Co Ltd; Devon Mill Ltd; Gresham Mill Co Ltd; Osborne Mill Co Ltd.
Edwin Wilson	Argyll Cotton Spinning Co Ltd; Equitable Spinning Co Ltd; Monarch Mill Co. Ltd.
Alexander Young	Athens Mill Co Ltd; Bolton Union Spinning Co Ltd.; Brunswick Mill Ltd; Butts Mills Ltd; Falcon Mill Co Ltd.; Trencherfield Mills Co. Ltd.

Notes:

1. Refers to directorships held by directors of spinning companies that recapitalised between 1919-1921.

   * Samuel Firth Mellor and Harry Tweedale were stockbrokers.

Sources: Directorships of all directors are referenced in the following TNA files: Edward Heaton Blackburn, The Swan Mill, *TNA*, BT 31/40621/159990; Herbert Bleakley, Arrow, *TNA*, BT 31/32335/160744; Joseph Deveney, Arrow, *TNA*, BT 31/32335/160744; Samuel Firth Mellor, George Cottam and Edwin Wilson, Argyll, *TNA*, BT 31/36914/165226; William Noton, Delta, *TNA* BT 31/36385/161972; Fern, *TNA* BT 31/ 32371/163516; Frederick Simm, Arrow, *TNA*, BT 31/32335/160744; George Stott, Avon, *TNA*, BT 31/ 38811/159919; Harry Tweedale, Arrow, *TNA*, BT 31/32335/160744; Alexander Young, Bolton Union, *TNA*, BT 31/32419/166839; James Waller, Arrow, *TNA*, BT 31/32335/160744; Edward Whitehead, Avon, *TNA*, BT 31/38811/159919; Alexander Young, Bolton Union, *TNA*, BT 31/32419/166839; Herbert Mills, Fred Dawson, Thomas Howe, Bertram Whitehead, Cavendish, *TNA*, BT 31/33811/165932.

Table 3. Descriptive statistics

	Min	Max	Mean	S.dev
Continuous variables:				
APTC	-6.696	2.079	-0.272	0.825***
DIV	0.000	25.000	3.630	5.580***
LEV	0.000	1.903	0.368	0.338***
SIZE	8.144	13.473	11.567	0.877**
Grouping variables:				
EXIT			0.224	
RECAP			0.476	
PUBLIC			0.776	

S-Wilk p-value:
*** $p < .01$
** $p < .05$

Data definitions:
APTC: Accumulated profit to capital ratio, 1926-1931.
DIV: Dividend as a percentage of paid up capital.
LEV: Ratio of debt to total capital.
SIZE: natural logarithm of total assets.
EXIT: Dummy variable = 1 if the firm exits, = 0 otherwise
RECAP: Dummy variable = 1 if the firm recapitalised, = 0 otherwise
PUBLIC: Dummy variable = 1 if the firm's shares are quoted, = 0 otherwise

Table 4. Correlation matrix (independent variables)

	RECAP	PUBLIC	LEV	SIZE
RECAP	1.000			
PUBLIC	-0.172**	1.000		
LEV	0.098	-0.0230	1.000	-0.059
SIZE	-0.347***	0.165**		1.000

Spearman's Rho (below diagonal)/Pearson's co-efficient (above diagonal) significance levels
*** $p < .01$
** $p < .05$

Data definitions:
LEV: Ratio of debt to total capital.
SIZE: natural logarithm of total assets.
RECAP: Dummy variable = 1 if the firm recapitalised, = 0 otherwise
PUBLIC: Dummy variable = 1 if the firm's shares are quoted, = 0 otherwise

Table 5. Descriptive statistics for strategic outcomes

STRATEGY	VARIABLE						
		APTC	*DIV*	*RECAP*	*PUBLIC*	*LEV*	*SIZE*
	N		**%**	**N**	**N**		**£**
Turnaround							
- Success	58	0.152	8.780	37	50	0.289	172,671
- Fail	56	-0.282	0.435	20	43	0.408	141,392
Exits	33	-0.999	0.000	13	21	0.436	112,631

Data definitions:
APTC: Accumulated profit to capital ratio, 1926-1931.
DIV: Dividend as a percentage of paid up capital.
LEV: Ratio of debt to total capital.
SIZE: natural logarithm of total assets.
RECAP: Dummy variable = 1 if the firm recapitalised, = 0 otherwise
PUBLIC: Dummy variable = 1 if the firm's shares are quoted, = 0 otherwise

Table 6. Regression models

Model	*(1)* *Logit*	*(2)* *OLS*	*(3)* *Tobit*
Dependent variable	**EXIT**	**APTC**	**DIV**
Independent variables:			
CONST	11.386***	-4.083**	-62.168***
	0.001	0.036	0.000
RECAP	-1.406***	0.444**	13.293***
	0.002	0.013	0.000
PUBLIC	-0.955**	-0.072	6.936***
	0.042	0.612	0.005
LEV	0.843	-0.589**	-11.397***
	0.155	0.014	0.000
SIZE	-1.019***	0.334**	4.504***
	0.001	0.037	0.000
R-square[1]	0.151	0.184	0.114
Prob[2]	0.000	0.000	0.000
Residual S-Wilk	N/A	0.000	N/A

Co-efficients are reported for each independent variable with respective p-values underneath. N = 147 for all models. In model (3) 95 observations are left-censored at 0. In models (1) and (2) p-values are based on White's (1980) heteroscedasticity consistent estimation matrix. All models were re-tested with serial deletion of inter-correlated variables and insertion of interaction variables. The results were robust to alternative specifications. Model (2) was re-tested using a non-parametric formulation (quantile regression). Model co-efficients signs remained unchanged and significance levels increased marginally for significant co-efficients in the OLS model.

[1] Psuedo in models (1) and (3), adjusted in model (2)
[2] >Chi in models (1) and (3), and > F in model (2)

Two-tailed significance levels: *** p < .01, ** p < .05

Data definitions:
APTC: Accumulated profit to capital ratio, 1926-1931.
DIV: Dividend as a percentage of paid up capital.
LEV: Ratio of debt to total capital.
SIZE: natural logarithm of total assets.
EXIT: Dummy variable = 1 if the firm exits, = 0 otherwise
RECAP: Dummy variable = 1 if the firm recapitalised, = 0 otherwise
PUBLIC: Dummy variable = 1 if the firm's shares are quoted, = 0 otherwise

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[1] The authors are grateful to participants at a seminar held at the 'New Business History Conference, York (2012), for helpful comments on earlier versions of this paper.

[2] See, for example, Barley, *The Riddle*; MacGregor, 'The Rationalisation'; MacGregor, 'Problems of Rationalisation'; Garside and Greaves, 'Rationalisation'; Greaves, Greaves, *Industrial Reorganisation*.

[3] Keynes, *Return to Gold*, 46-47.

[4] Keynes, *Return to Gold*, inaction of the banks, 605, cotton directors, 631, criticism of contemporary commentators, in Daniels and Jewkes, `The post war depression', discussion, 199.

[5] De Jong, Higgins and Van Driel, 'New Business History', pp.3-4; p.7; p.9.

[6] For example, block ownership in corporate restructuring in the 1980s (Bethel and Liebeskind, 'The effects of ownership structure'), which in cases of performance decline tends to increase the frequency of asset reduction and lay-offs (Kang, Shivdasani, 'Corporate restructuring during performance declines'). In contrast ownership claims can be an exit barrier when predicated on previously overinflated asset values (Filatotchev and Toms, 'Corporate Governance and Financial Constraints'), sunk costs (Clark, and Neil 'Exit, the firm and sunk costs'), and insider ownership (Filatotchev and Toms, 'Corporate Governance, Strategy and Survival').

[7] Aguilera, Filatotchev, Gospel, and Jackson, 'An organizational approach to comparative corporate governance'.

[8] Filatotchev, Toms, and Wright, 'The firm's strategic dynamics and corporate governance life-cycle', Filatotchev and Toms (2006), 'Corporate governance and financial constraints on strategic turnarounds'.

[9] Calculated from Mitchell, *Abstract*, and Robson, *The Cotton Industry*, statistical appendices.

[10] Burnett-Hurst, 'Lancashire and the Indian Market', p.398.

[11] Bowker, *Lancashire under the Hammer.*

[12] Daniels and Jewkes, 'The post war depression', 182.

[13] Keynes, *Return to Gold*, 'rationalising process', 584, short time and financial exhaustion, 582,.590,597, 602, disastrous long term solution, 588, 598, actual practice, 596-597.

[14] Keynes, *Return to Gold*, 598.

[15] Keynes, *Return to Gold* 605.

[16] Keynes, *Return to Gold*, 603; 614.

[17] Keynes, *Return to Gold*, 603-4.

[18] Keynes, *Return to Gold*, 629-31.

[19] MacGregor, 'Rationalisation of industry', 528.

[20] Ryan and MacGregor, 'Problems of rationalisation', 359.

[21] Keynes, *Return to Gold*, Porter, 'The commercial banks', Bamberg, `The rationalisation of the British cotton industry 1988, Marchionetti, 'Keynes and the collapse of the British cotton industry', Bowden and Higgins, 'Short-time working and price maintenance'.

[22] Keynes, *Return to Gold*, 601, Bamberg, `The rationalisation of the British cotton industry,' 26-30.

[23] Daniels and Jewkes, 'The post war depression', 179.

[24] Political and Economic Planning, *Report on the British Cotton Industry*, 59; R. Sayers, *The Bank of England*, 253.

[25] Bamberg, The government, the banks and the Lancashire cotton industry,308-9.

[26] Bamberg, The government, the banks and the Lancashire cotton industry, 310.

[27] Bamberg, The government, the banks and the Lancashire cotton industry, 310-312.

[28] Saxonhouse and Wright, 'Stubborn mules and vertical integration', 89.

[29] Lazonick, 'The cotton industry', 396; Keynes, *Return to Gold*, 578-637; Skidelsky, *John Maynard Keynes*: 261-263.

[30] Dietrich, 'The plight of the Lancashire cotton industry', Greaves, 'Visible hands'.

[31] Daniels and Jewkes, 'The post war depression', 180-181, Political and Economic Planning *Report on the British Cotton Industry*, 60.

[32] Effect on prices, Daniels and Jewkes, 'The post war depression', 181); on amalgamation, Political and Economic Planning *Report on the British Cotton Industry*, 60.

[33] Clay, *Report on the Position of the English Cotton Industry*, 64

[34] Precise details are limited about the formation of the Beecham Trust. With the support of Sir Thomas Beecham, the pill magnate, White established the Trust in 1917, to carry on the business of financiers and merchants, with a capital of £300,000 in preference shares and £100,000 in ordinary shares, all of the latter being held by White. The company was liquidated in 1927 with assets of £134, 467 against unsecured liabilities of £1,098,850, of which over £450,000 was owed to the Westminster Bank. White drew heavily on the Trust's funds for personal purposes and, on its winding-up, owed the Trust over £450,000. White died in 1927. *Times*, 13 October, 1927, 5; *Times*, 1 July, 1927, 5; *Times*, 21 March, 1927, 5.

[35] *Economist*, 8 February, 1919, 188; *Economist*, 29 March, 1919, 521. The Trust were also rumoured to be active purchasers of stock in De Beers. *Economist*, 26 July, 1919, 140.

36 ACMT was registered in 1918 as a private company and converted into a public company in 1919. ACMT was formed to acquire the share capital of a number of cotton spinning/ cotton weaving companies, including, *inter alia*: Robert Hyde Buckley & Sons, Ltd; John Ashworth (1902), Ltd; Mill Hill Spinning Co, Ltd, and Horrockses, Crewdson & Co, Ltd. The company also owned controlling interests in a number of mills. *Stock Exchange Official Intelligence*, 1930.

[37] *Times*, 4 December, 1919, 24.

[38] *Stock Exchange Official Intelligence*, 1939.

[39] *Stock Exchange Official Intelligence*, 1930.

[40] Vallance, *Very Private Enterprise*, 88-89.

[41] For a review of White's business practices see Johnston, *Financiers and the Nation*, 94-96.

[42] *Re Jubilee Cotton Mills Ltd*, [1923] 1 *Chancery*. 1, 31.

[43] Johnston, *Financiers and the Nation*, 44.

[44] C&WCM, was formed in 1920 by the amalgamation of Crosses & Winkworth Ltd, and other textile firms, for example, Ward & Walker, Lord Hampson & Lord (1919), Ainsworth Bros., Ltd. Subsequently, in 1922, C&WCM, established Crosses & Heatons' Associated Mills Ltd, an amalgamation of other Bolton-based spinning companies, including William Heaton & Sons, The North End Spinning Co. Ltd., and the North End Spinning Co. Ltd (*Stock Exchange Official Intelligence*, 1930). Subsequently, it was

reported that a group of London financiers had agreed terms with C&WCM to purchase the entire share capital of its subsidiary, John Bright & Brothers. *Times*, 9 October, 1929, 21.

[45] Edgar was also involved with White in the £9m promotion of British Controlled Oilfields, a speculative venture that accumulated major losses for investors, leading to White's suicide in 1927. Johnston, *Financiers and the Nation*, 96.

[46] Company Prospectus, *Times* 16th March, 1920. From the information disclosed in the prospectus it is also possible to calculate that Sperling & Co. collected £300,000 in commission from the issue.

[47] Company Prospectus, *Times* 16th March, 1920.

[48] *Times* 26th May, 1920

[49] *Times*, 15 March, 1920, 24; *Times*, 6 September, 1922, 15; *Times*, 25 May, 1928, 20; *Times*, 5 September, 1928, 19.

[50] *Stock Exchange Official Intelligence*, 1931.

[51] Filatochev and Toms, 'Corporate Governance and Financial Constraints'

[52] But see Higgins and Toms, 'Financial Distress, Corporate Borrowing and Industrial Decline'.

[53] Frank and Goyal, 'Testing the pecking order'.

[54] Filatotchev and Toms, 'Corporate Governance and Financial Constraints'.

[55] Aghion and Bolton, 'The financial structure'.

[56] Keynes, *Return to Gold*, 631.

[57] Director interlocks were extensive before 1914 and in the 1950s For pre 1914 evidence, see Toms, 'The Rise of Modern Accounting', Toms, 'The English Cotton Industry'; for 1950s see Filatotchev and Toms, 'Corporate Governance, Strategy and Survival', Toms and Filatotchev, 'Corporate Governance, Business Strategy'.

[58] Bolton was the centre of the fine section of the industry and was relatively untroubled by the problems of over-capacity prevalent in the Oldham-centred coarse sector. Contemporary observers recognised that during the 1920s, the depression that affected the Lancashire spinning industry was much more pronounced in Oldham compared to Bolton. An important reason for this was that foreign competition was most serious in the course-medium count trade in which Oldham traditionally specialised, compared to the fine and super-fine counts in which Bolton was pre-eminent. H. Clay, *Report on the Position:* 8-9; Political and Economic Planning, *Report*, 55-56; 58.

[59] For example E.H. Stockton, the Chairman of the Manchester Chamber of Commerce pointed out mills passing into the hands of any 'syndicate who have no knowledge of the conditions of an intricate industry is certain to lead to disaster'. *Oldham Chronicle*, 25th November, 1919. Keynes, *Return to Gold.*

[60] Hoskisson, Hitt, et al., 'Conflicting voices'.

[61] If the Braddocks are treated as outsiders in Arrow, this proportion falls to six out of twelve.

[62] Calculated from Brunswick Spinning Company Ltd., The National Archives (TNA) BT/31/32378/163957; Argyll Cotton Spinning Company Ltd., TNA, BT 31/36914/165226; BT 31/36915/165226; Avon Mill (1919), Ltd., TNA, BT 31/38811/159919; BT 31/38812/159919; Belgrave Ltd., TNA, BT 31/25035/158943; Century Ring Spinning Company Ltd, TNA, BT 31/32338/161017; Clover Mill (Rochdale) Ltd., TNA, BT 31/36912/164330; Delta Mill Ltd., BT/31/36385/161972; BT 31/36386/161972; Fern Cotton Spinning Company (1920) Ltd., TNA BT/31/32371/163516;

[63] The Lancashire Cotton Syndicate Ltd, with a registered address in London, but organised at least in part by local cotton mill managers. Alfred Holt was the Managing Director of the Syndicate and mill manager of Bolton Union Spinning Company.. Bolton Union Spinning Company (1920) Ltd., TNA, BT/31/32419/166839.

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[64] Bottomley invested 26,000,.(Share registers, Bolton Union Spinning Co, TNA, BT 31/32419/166839. For details of Bottomley's financial manipulations see Johnston, *Financiers and the Nation*,, Ch.XI.

[65] Beehive re-floated with a nominal share capital of 2 million two-shilling shares (£200,000). The annual return for this company in 1938 indicates that 23% of this stock was owned by the following London based accounts: Midland Bank Nominees; Morrison Nominees; Barclays Bank Nominees; Branch Nominees; Control Nominees; Roycan Nominees, and one London based group not specified. Beehive Spinning Company Ltd., TNA, BT 31/42620/328092; BT 31/42621/328092.

[66] Elder, *TNA*, BT 31/32392/164696; Fern, *TNA*, BT 31/32371/163516; Textile, *TNA*, BT 31/32270/153035; Asia Mill (Holdings) Ltd., TNA, BT 31/37696/167111;

[67] John Bunting, of the same occupation was a director of about 20 mills (Farnie, 'John Bunting': 506-9).

[68] Hammersley, 'Rationalisation: the cotton trade.'

[69] Higgins and Toms, 'Financial Distress, Corporate Borrowing and Industrial Decline.' As far as we can tell, the only contemporary economist who advocated a comparable scheme was Allen, who proposed that, in a scheme of rationalisation, the surviving firms should make a debenture issue and use the proceeds to acquire the capital of firms which were to close down. In these schemes, Allen proposed that the owners of the closed plants would receive a cash payment representing the pre-rationalisation value of their interest plus an additional sum equivalent to their capitalised share of the additional profit which the industry was expected to earn as a result of the scheme. Of course, as with the Hammersely scheme, Allen recognised that his proposal would only work with government intervention. (Allen, 'An aspect of industrial reorganisation',189).

[70] Anchor, *TNA*, BT 31/32438/168982; Asia, *TNA*, BT 31/37696/167111.

[71] Earl Mill, *TNA*, BT 31/32361/162607.

[72] Asia Mill, *TNA*, BT 31/37696/167111.

[73] These stockbrokers were sometimes responsible for substantial short-term sales of stock. Thus, for example Hood and Tweedale between them sold 30.3% of Century stock between December 1919 and August 1920. Century Ring Spinning Company (1919) Ltd, TNA, BT 31/32338/161017;

[74] Calculated from Gorse Mill, TNA, BT 31/32349/161673.

[75] McKeown, *The Oldham Stock Exchange*: 40-41**.**

[76] McKeown, *The Oldham Stock Exchange*: 29; 32.

[77] Maug, 'Large shareholders'.

[78] Coppull Ring Spinning Company Ltd., TNA, BT 31/35255/168122. In Bolton, a prominent example of family control was provided by the reflotation of the Sir John Holden Mill Co. The Holden family owned 58.1 per cent of the ordinary shares. This mill was liquidated in 1929 and became one of the founding mills in the Combined Egyptian (English) Mills Co. TNA, BT 31/32448/170236, Sir John Holden & Sons Ltd*;* Longworth, *The Cotton Mills*: 95-96.

[79] Avon Mill (1919) Ltd., TNA, BT 31/38811/159919; BT 31/38812/159919.

[80] Because these figures refer to family holdings, they will be smaller than the figures reported in Table 1 which refer to total blockholders. Anchor Spinning Company (1920) Ltd, TNA, BT 31/32438/168982.

[81] Hartford Mill (1920) Ltd, TNA, BT 31/32314/158753.

[82] Farnie, 'Design and construction of mills',10.

[83] For a biographical discussion of the activities of three generations of the Stott family, 1862-1937, see Farnie and Gurr, 'Design and construction of mills', 15-18.

[84] Tattersall's *Cotton Trade Review*

[85] These were: Burns (1891); Fox (1911); Glen (1912), Goyt (1905); Laurel (1905); Magnet (1912); Majestic (1913); Park Road (1891), and Reyners (1912). We are grateful to a referee for indicating the caveats which are discussed in this section.

[86] To develop a proxy for age a cut-off date of 1891 was used. This was the last mill building boom year of the nineteenth century and the next wave did not gain significant momentum until the period 1904-1907 (Toms, 'finance and Growth'). Because almost all pre 1891 mills were still in operation in 1918 and there were relatively few mills built between 1891 and 1904, 1891 marks a useful watershed between the nineteenth century and twentieth century cotton mill. The age based dummy was marginally ($p<0.1$) and positively related to financial performance in model 2 and insignificant in the other models.

[87] Macrosty, *The Trust Movement.*

[88] Sayers, *The Bank of England*, 319-320.

[89] Bamberg, The government, the banks, 64-125; L. Hannah, *The Rise of the Corporate Economy*, 65; Political and Economic Planning, *Report* , 108-109.

[90] Armstrong, 'The rise and fall of the company promoter', 128-9.

[91] De Jong, Higgins and Van Driel, 'New Business History', 4.