The Rise and Fall of Bank Control in the United States: 1890-1939

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December 24, 1996
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Abstract

This article studies how equity ownership and corporate control were separated in the United States. Initially, railroads and industrial firms were tightly controlled by a few shareholders; this situation was altered in the 1890s by massive mergers and reorganizations, which allowed private banks to control railroads and industrial firms. Between 1912 and 1939, bank control faded away as a result of a political reaction against financial institutions. Using stock market data from 1914, I show that the eviction of banks from corporate boards depressed firm values by about 7 percent, and that part of this value came from cartelization.

JEL: G21, G24, G3, K21, L41, N21.

Keywords: Activist Shareholders, Antitrust, Corporate Governance, Private Banking, Reorganizations, Separation of Ownership and Control.

*I would like to thank John Taylor, Jeffrey Zwiebel, Miguel Villas-Boas, George Bittlingmayer, Marco Da Rin, Julian Wright, two anonymous referees, and seminar participants at Berkeley, Stanford, the Venture Capital workshop at CEPR, and the Academia de Centroamérica for helpful comments. All errors are mine. Financial Support for this article was provided by the Foundation Francisco Marroquin.

There has been a lively debate about the way in which large American corporations should be organized and operated. Authors such as Michael Jensen (1989) and Mark Roe (1994) argue that the American governance structure - where top executives in large firms are unaccountable to weak and dispersed shareholders - is flawed and in need of change[1]. These warnings are not new: in 1932 Adolph Berle and Gardiner Means were already airing their concerns of excessive management unaccountability. In the past twenty years, this concern has deepened as American productivity has experienced a significant deceleration. Some attribute this slowdown to, among other reasons, an outmoded governance structure which undermines American corporations. A variety of capital market reforms had been proposed in the past, such as the idea of creating the SEC to ensure the transparency of financial markets (Berle and Means in 1932). Some reform proposals nowadays include the promotion of the leverage buyout form (Jensen1989), and to concession of more power to institutional investors (Roe 1994).

A crucial point in this debate is to articulate the economic justification for corporate governance as practiced in contemporary American firms. In particular, why are managers so unaccountable to shareholders? Why are boards of directors in the largest U.S. corporations so weak? One way of answering these questions is by studying the historical evolution of American governance. Chandler (1977) has used this approach to analyze the separation of ownership and control, but only as it relates to the emergence of professional managers in the United States. The evolution of governance between 1850 and 1914 will be the main focus of this article; I will argue that the answer for the excessive separation of ownership and control lies in those years.

My analysis begins in 1850. By this time, several inventions such as the telegraph, the steam engine and a number of production processes had made it economically efficient

[1]See Bittlingmayer (1996) for an assessment of economists' view on the state of American corporate governance.

to create large, complex organizations. Large railroad companies emerged in the 1850s, and vast industrial firms arose in the 1880s. The size and investment needs of these new corporations were unprecedented. These firms had such intricate production and distribution processes that they needed professional managers to run them, as Chandler (1977,1984) documents. Professional managers with the skills and talent to run these large firms typically did not have the wealth or risk tolerance to own a controlling share of the corporations they ran. Thus, day-to-day operations were delegated early on to managers with little or no ownership stake in the firms they ran. Nevertheless, this operative separation did not mean that owners were powerless. In their earlier stages, railroads and industrial firms were tightly controlled by a few shareholders. These shareholders monitored and hired salaried managers, and controlled the long term decisions affecting their corporations.

The link of ownership and control was transformed when railroads and industrial companies found it advantageous to merge, or when hardship brought bankruptcy. The merger movement and the depression in the 1890s gave rise to financial capitalism, a new governance paradigm in the United States. Banks such as J.P. Morgan began to take seats in the board of directors of railroads and large industrial firms, exercising effective surveillance over executives. Financial capitalism - at its peak between 1890 and 1914 - began to wane around the time of World War I, and all but disappeared by World War II. Firms took then the corporate governance structure that we recognize nowadays, with scattered shareholders, and strong top managers. Subsequent developments were nothing more than the logical conclusion of the events that took place at the beginning of the twentieth century in the United States.

What was the cause for the demise of financial capitalism? One opinion - held by Chandler - is that the current governance structure in the United States is the result of economic forces, where the benefits of concentrated ownership fell below their costs. I will

argue - with Roe (1994), Jensen (1989), and DeLong (1991) - that financial capitalism would have remained in place had it not been for a political reaction that began in 1910. This reaction was led by people such as Louis Brandeis, who suspected that bank control was simply a way to promote industrial cartels. I will argue that these concerns were partially, but only partially, correct; furthermore, I will argue that antitrust sentiment can explain why active institutional investors disappeared from corporate boards by the 1940s.

The paper's layout is as follows: section 1 discusses the costs and benefits of concentrated ownership, and the different opinions on the nature of the separation of ownership and control in the United States. Section 2 describes the advent of the first large corporations, which where tightly controlled by entrepreneurs. Section 3 analyzes the rise of American financial capitalism in the 1890s. This section discusses how banks became a dominating force in boards of directors. Section 4 describes the decline of bank control of industrial firms and railroads. This section quantifies the benefits - or costs - of bank control, by studying the stock market impact to J.P. Morgan & Co.'s surprise announcement of resignation from 30 boards on January 2, 1914. I find that the firms that Morgan abandoned fell in value by about 7 percent. I also find evidence that part of this extra value was created through cartelization. The paper concludes with further questions and analysis.

1 Costs and Benefits of Concentrated Ownership

This section analyzes the costs and benefits of concentrated ownership and explains why a dominant shareholder might relinquish power to managers.

Costs of concentrated ownership. An investor must hold a disproportionate amount of a firm's stock to control it; for this reason, dominant shareholders' wealth will often be poorly diversified and illiquid. Berle and Means (1932) argue that a strong bond between

physical property and its owners makes assets illiquid, and that this has a real economic cost. In contrast, more liquidity improves the value of an asset, but it also weakens the bond between physical property and its owner.

Benefits of concentrated ownership: concentrated ownership allows a dominant shareholder to hire, fire, and oversee managers, whenever this is in the shareholders' best interest. Shleifer and Vishny (1986) show that a large shareholder is also an effective instrument to discipline managers by making takeover bids more likely to succeed. In their analysis, Shleifer and Vishny show that the existence of a large shareholder lessens free rider problems during takeover bids, allowing raiders with better management proposals to run the firm.

1.1 Separation of ownership and control arising as an efficient economic response

Some scholars hold that the separation of ownership and control is a rational decision, since the costs of concentrated ownership of large firms outweigh the benefits.

Chandler (1977,1984) argues that concentrated ownership yields limited benefits in complex firms; this is because managers in large companies are the only economical source of information to outsiders; for this reason managers can paralyze outside directors whenever it suits them. Even if managers disclosed information to outside directors, the latter may not have the time or the ability to digest this data. Chandler's second argument is that the benefits of shareholder oversight are limited since outside board members are rarely able to propose constructive initiatives; Chandler believes that a veto power has little value. Finally, one can argue that managerial and shareholder incentives may actually be well aligned. In particular, Holmstrom (1982) has shown how managerial career concerns may make executives less likely to behave opportunistically or to shirk.

Berle and Means (1932) believe that although the agency costs of not having effective manager oversight are large, the benefits from having liquid shares are greater.

Although Jensen (1989) argues that there is too much separation of ownership and control, he also believes that there are ways to remedy this. In Jensen's view, a firm can increase its debt to take away free cash flow from managers' hands. For Jensen's overall argument to be consistent, leverage cannot fully solve all agency problems; this is because debt produces harmful side effects such financial distress. Unfortunately, there does not yet exist a consensus among economists about the magnitude and nature of the costs of financial distress.

1.2 Separation of Ownership and Control as an Institutional Failure.

Jensen (1989) and Roe (1990, 1994) believe that contemporary American governance is not the result of unconstrained value maximization, and that there is too much separation of ownership and control. These authors argue that there are superior governance structures which are extremely restricted in the United States for political reasons. In Roe's alternative governance system, individuals buy corporate shares through a financial intermediary who specializes in overseeing management. This institutional investor can then vote its clients' shares at board meetings; moreover, it can diversify idiosyncratic risks by controlling several firms at a time; this will reduce agency costs between the intermediary and its clients. Since institutional investor control allows individuals to diversify their wealth, this governance mechanism reduces the costs of concentrated ownership without giving up the advantages of managerial supervision.

A possible theoretical justification for an equity intermediary is found in Holmstrom and Tirole (1994). In their setup, an entrepreneur can approach a 'generic' or a 'monitoring' investor for funds. A monitoring investor will always lend in coalition with generic investors, and for this reason is called a 'certifier.' Certified financing is limited because the monitor has to be compensated for the time and effort needed to control entrepreneurs. An important element in Holmstrom and Tirole's article is that the institutional investor

must have a stake in the firm it monitors; this investor then resembles a venture capitalist or a lead investment banker who certifies the value of a firm and is sometimes involved in its operations. This arrangement was used by American private banks at the turn of the century and by German banks presently.

Mark Roe (1990) argues that political constraints have prevented American institutional investors from becoming active shareholders. These constraints were established because Americans mistrusted financial concentration, and rationally feared that intermediaries would dominate corporate boards to encourage collusion.

2 The Emergence of Large Entrepreneurial Firms: 1850-1890

Railroads, the first large firms in the United States, had an enormous impact in the way other American businesses were financed and organized[2]. The first railroads were built in the 1830s to connect neighboring townships. In 1849 there were about 7,000 miles of railroads in the United States. A construction boom took place at this time, so that by 1860 the railroad trackage had more than quadrupled, to about 30,000 miles. By the 1870s trackage had risen to 70,000 miles, and by 1900s it had leveled off at about 200,000 miles[3].

Judging by past standards, the size of railroad companies must have been staggering: in the mid 1850s the four largest railroads had capitalizations ranging from $10 million to $35 million; by comparison, the largest contemporary industrial firms - textiles - had capitalizations of $1 million. Railroads demanded huge investments not only to construct but also to maintain their roadbed and rail lines. Between 1850 and 1859, an unprecedented $700 million in securities was raised in New York and London to finance railroad

[2]For a detailed assessment of the importance of railroads in American finance and in the creation of professional managers, see Chandler (1977), 81-205 and Carosso (1987), 219-273.

[3]U.S. Census (1975), 731- 734.

construction.[4].

Nineteenth century investors regarded railroads, not industrial firms, as the safest corporate investment. Industrial companies would emerge as major market players only in the twentieth century. Between 1850 and 1890 railroad projects were financed almost exclusively with convertible and straight bonds. More infrequently, railroad companies issued common and preferred stock, which remained in the hands of close friends and associates[5]. Stock was also used to compensate railroad contractors and investment banks, who would later resell their shares[6]. Since European investors preferred to buy corporate bonds, most equity instruments remained in the United States; this explains why the New York Stock Exchange had a fair equity volume by the 1850s.

Several technological and economic developments transformed the railroad industry dramatically. By the 1870s, railroad lines and equipment became standardized, and connections between different railroad sites were opened to reduce the number of transshipments. A typical railroad owned a few hundred miles of track, so it needed to cooperate with other railroads to secure traffic. The need for a high traffic volume generated ruthless price wars, which became a standard feature of the railroad industry for twenty years[7]. In essence, railroads had the economics of a public utility (high fixed costs, low marginal costs), which implied that marginal cost pricing was unprofitable. Nevertheless, competition made it impossible for railroads to deviate from marginal pricing. Railroads tried to cartelize to avoid losses, but this was a failure. By the 1890s, price fixing associations had become illegal under the Sherman Antitrust Act, so railroads decided to merge. Railroad mergers were consummated to assure a high and stable flow of passengers and cargo across the firm's facilities, and to avoid price wars[8].

[4]Chandler (1977), 90.
[5]Chandler (1954), 248, 255-259.
[6]Chandler (1977), 93.
[7]Chandler (1977), 122-144; Chernow (1990), 53-57.
[8]For a brief description of private bankers' view of atomistic competition, consult Redlich (1951), 378. For the impact of the Sherman Antitrust Act on the Merger movement, see Chandler (1977), 145-187.

From early on, railroads were operated by professional managers, who coordinated traffic flows, performed detailed cost studies, and assessed the investment needs of their corporation[9]. Managers and shareholders' interests began to conflict early in railroad history. Executives prized the long term health and survival of the firm they ran. Thus, managers tried to reduce stock dividends to leave a safe cash cushion for the firm. Salaried executives were also aggressive in their capital expenditures, to assure the long term survival of their firms. These managerial activities were opposed by shareholders, who sought high dividends and low capital outlays[10]. Whenever shareholders had a dominant board position, and before the 1890s this was the rule rather than the exception, they would veto unwarranted dividend reductions or farfetched investment plans[11].

Large manufacturing corporations emerged in the 1880s in industries with important economies of scale and speed. These giant corporations specialized consumer goods, such as food and electric appliances. Chandler argues that these firms became unstoppable once they combined mass production with mass distribution[12]. As with railroads, industrial firms hired professional managers. These industrial firms generated huge cash flows, which were enough to cover their investment needs. Hence, most of these large industrial corporations remained tightly controlled for a long time. Chandler explains:

> [None of the new enterprises] needed to go to the capital markets for funds to finance the expansion that so quickly placed them among the largest business enterprises in the world. For this reason the entrepreneurs, their families, and the associates who created these enterprises continued to control them. They personally held nearly all the voting stock in a company. Thus, although day-to-day operations had to be turned over to full-time salaried managers, long term decisions as to investment, allocation of funds, and managerial recruitment remained concentrated in the hands of a small number of owners[13]

Because of their investment needs, a few industrial firms such as General Electric and

[9] Chandler (1977), 94-121.

[10] On the governance of the Pennsylvania, see Chandler (1977), 185-187. For the 'empire building' episode, see Chandler (1977), 151-153

[11] See for example the cautiousness of the Baltimore & Ohio and New York Central railroad, as opposed to the Pennsylvania and Erie, Chandler (1977), 156-159.

[12] Chandler (1977), 287-314; Chandler (1984), 480-484.

[13] Chandler (1977), 298. Further evidence of the relatively high concentration of large sherholders in industrial companies is given in Berle and Means (1932), Book I, Chapter V, 109.

Westinghouse had to rely on outside financing heavily. These firms were also the first industrial corporations to become bank controlled[14].

3 Reorganizations and Bank Control: 1890-1910

Before 1890, most railroads and industrial firms were closely held by families or small groups of investors. Within two decades American governance was transformed by massive reorganizations and mergers, which allowed banks to control many railroads and industrials. The bankers' tools for control were the voting trusts or board representations. Even though banks had taken a fairly active role since 1865, and voting trusts had existed since the 1870s, it was not until the Sherman Antitrust Act and the economic collapse in 1893 that these two elements became truly prominent. The most important reorganizers were J.P. Morgan & Co. and Kuhn Loeb; these were private banks organized as partnerships and not subject to government regulation. Private banks played a triple role as investment bankers, commercial lenders and activist institutional investors[15]. There were other important reorganizers such as the First National Bank, the National City Bank, Edward Harriman and James Hill. Corporate reorganizers were called to rescue firms in deep financial distress, or to implement gigantic mergers, as will be detailed below.

3.1 Reorganizations arising from Mergers

By the early 1890s it became evident that the quilt of small railroads were unable avoid price wars through cartels. Railroad executives and banks became aware that the only way to stop price wars was to integrate the railroad industry into a few groups[16]. Initially, these mergers met little objection even from progressive politicians such as Theodore Roosevelt. Mergers did not necessarily imply that railroads (or industrial companies) had to change their governance structure. Chandler remarks:

[14] Carosso (1987), 390-391, Chandler (1977), 309-310.
[15] U.S. Senate Hearings (1933), 25-101; U.S. Congress (1913), 57-65, 77-80; Carosso (1987), 628.
[16] Carosso (1987), 364; Chandler (1977), 143-148; Chernow (1990), 67.

> Those firms that initially became large through internal expansion continued to have the stock ownership closely held by the founder, a few associates, and their families. On the other hand, the sale of securities to provide fixed and working capital for the new mergers further spread the ownership of capital stock, which the formation of the merger had already begun to disperse. Top executives in the central office of the first type [of firms] were nearly always major stockholders or personally close to such stockholders; but those in the second type became salaried managers who held only a small amount of the total stock and had little personal acquaintance with the scattered owners [17]

Voting trusts were used when no merging party was able to buy the shares from the other firm, or when one of the parties was unwilling to sell their shares to a former business rival[18]. The merger movement in the United States began in earnest in 1890 after the Supreme Court interpreted the Sherman Act as forbidding cartels but not horizontal mergers. The merger movement ended in 1903, when the Supreme Court revised its interpretation, forbidding horizontal mergers which would significantly impair competition.

By 1906 a good number of railroads had merged. Chandler (1977) identifies seven communities of interest that controlled most of the railroad trackage in the United States. Of these communities of interest, two had a dominant bank (the Vanderbilt and Morgan roads), four were dominated by an individual financier (the Gould, Moore, Hill, and Harriman lines), and one was management controlled (the Pennsylvania).

Most of the industrial firms that came under bank control did so because of mergers. General Electric is an early example of a large industrial merger, uniting General Edison Electric and Thompson-Houston in 1892. For this reorganization, J.P. Morgan & Co. was granted a controlling voice in General Electric's board of directors[19]. U.S. Steel was created in 1901 as a merger of a number of steel companies. It controlled half of the steel market share and was the world's largest industrial company at the time of its formation. The reorganizer, J.P. Morgan & Co., kept control through a voting trust[20]. In

[17] Chandler (1977), 331.
[18] Chernow (1990), 32.
[19] Carosso (1987), 391; Chandler (1977), 426-433; Chernow (1990), 67.
[20] Carosso (1987), 466-474; Chandler (1977), 361; Moody (1918), 70-98.

1903 Morgan created International Harvester, whose core was a merger of the McCormick Harvesting Machines and the Deering Harvesting Co. In 1903, International Harvester held 85 percent of the farm equipment market share[21].

Banks believed that mergers increased share value by reducing price competition[22], as the following quote from George Perkins, a Morgan partner, indicates:

> The old idea that we were raised under, that competition is the life of trade, is exploded. Competition is no longer the life of trade, it is cooperation[23]

Morgan believed that price competition is fatal to the subsistence of industry. In creating U.S. Steel in 1901, International Harvester and the International Mercantile Marine (IMM) in 1902[24], J.P. Morgan & Co. made the explicit point of creating firms with well over half of the market share of their segments. Although the motive for mergers was to increase market power[25], the only mergers that stood the test of time were those which created economies of scale and scope; other mergers, such as the IMM, had no such economies of scale and eventually failed.

3.2 Reorganizations arising from financial distress:

Although mergers were one cause for restructuring, financial distress was the most common reason for bank reorganizations. One of the first reorganizations of this type was attempted in 1871. That year bondholders, tired of management opportunism, began to boycott the Erie railroad securities. That railroad was notorious for skipping dividends, defaulting on debt payments, insider trading, and general manager abuse. In response to the boycott, Erie's president - Jay Gould - offered to bring outside coal, railway and banking interests to the board, who would exercise control through a voting trust[26]. Although initially rejected, the reorganization took place in 1876 when Erie defaulted on its

[21] Carosso (1987), 479- 481; Chandler (1977), 409; Chernow (1990), 109.
[22] Pujo Hearings (1912), 1019. Morgan's declarations on competition are reprinted in the Wall Street Journal, December 20, 1912. Chandler (1977), 317-319
[23] Carosso (1970), 138.
[24] On the monopolizing nature of the IMM, see Chernow (1990), 100-101, and Carosso (1987), 482-483.
[25] Chandler (1990), 79
[26] On Gould's proposal see Chernow (1990), 38.

debt.

Reorganizations arising from financial distress became more common during the depression in the 1890s. In that decade one third of the US railroad trackage fell into receivership. The Erie, the Chesapeake & Ohio, the Philadelphia & Reading, the Santa Fe, the Northern Pacific, the Great Northern, the New York Central, the Lehigh Valley, the Jersey Central and the Southern Railway companies were some of the firms that J.P. Morgan reorganized[27].

3.3 Reorganizations arising from Political Pressure:

Some reorganizations came about not because of default or merger, but because of direct political pressure. The reorganization of the New York Central railroad in 1879 was an example of this. Cornelius Vanderbilt had forged this railroad by acquiring many small companies, and turning the New York Central into one of the largest US corporations at the turn of the century. Vanderbilt kept the firm closely held. When he died in 1877, he gave shares for 40 percent of New York Central to his son, William Henry. Public opinion was alarmed by the fact that so much economic power was given to one man[28]. In 1879 the New York State assembly began to investigate New York Central for discriminatory pricing and imposed punitive levies on the railroad. The Vanderbilts believed that this would stop if they could disperse stock ownership, and entrusted Morgan with the task of reorganizing the firm. Chandler (1977) argues that William Vanderbilt had also become convinced that absolute control of the New York Central was useless, because it demanded a constant cash outlay to pay for road maintenance and for the acquisition of smaller roads. In any case, Morgan sold 250,000 shares belonging to William Vanderbilt during 1879, the largest stock offering made to that day. Once this reorganization took place, the New York State Assembly dropped its punitive levies against New York Central. Meanwhile, the

[27] For a detailed description of railroad reorganizations, see Carosso (1987), 363-390; Moody (1918), 29-34.

[28] See a quote from William Gladstone in Chernow (1990), 42.

voting trust that Morgan had formed meant that railroad control would remain tight[29].

3.4 The Mechanics of Bank Control

Morgan reorganizations would first determine the optimal leverage that a firm could support. The next step was to reduce debt to that optimal level, often by impelling creditors to exchange bonds for common stock, and by forcing old stockholders to give fresh capital to get new equity. To finance these security exchanges, Morgan issued equity well in excess of the firm's replacement cost; this was known as 'watering' the stock. Finally, Morgan used voting trusts to keep absolute control after the reorganization[30]. Carosso (1987) provides an illuminating account of voting trusts, and how banks exercised control:

> To assure themselves of the conservatism and sound management they sought, the reorganizing bankers established voting trusts, whose members (trustees) were authorized to vote a majority of the corporation's shares. [...] When the trust expired, usually five years after the reorganization had been completed or when the company started paying the required dividend on its preferred shares, a partner in the banking firm that had led the refinancing or one of its trusted business associates were appointed to the corporation's board, and sometimes to its finance committee as well. Such assignments were intended [...] to promote sound management practices and satisfy the company's security holders, many of whom considered their interests better protected if the firm that had managed the refinancing and sponsored the issues was represented on the corporation's board[31]

Voting trusts were intended to keep 'undesirable' people out of the board, and to avoid detrimental policies[32]; they also provided a way to scatter company's stock without emasculating shareholder control over managers.

Private banks would normally have a direct equity and debt position of the firm under their control[33]. It is important to note that even though private bankers could take an equity position in a firm, national banks could not; for this reason it is likely that private

[29] On the NYC RR reorganization, see Carosso (1987), 230-234; Moody, (1918), 21-23.
[30] Carosso (1970), 40-41.
[31] Carosso (1987), 368. For more on the mechanics of bank control, see U.S. Senate Hearings (1933), 54-57; Carosso (1987), 363-369, and Redlich (1951), 378
[32] Redlich (1951), 378.
[33] U.S. Senate Hearings (1933), 61, 100-101, 390-391

bankers were more active directors than commercial banks. Although banker-directors gave managers wide latitude, they intervened forcefully in a few areas, such as dividend policy and the allocation of the firm's resources. Private banks were not only concerned with the short term effect of corporate mismanagement. More importantly, they were interested in retaining a reputation as financial watchdogs; this impelled private banks to be fairly conservative directors[34]. In exchange for their monitoring efforts, the controlling bank kept the firm's deposits, gave it loans, and was the lead manager in the firm's security issues.

4 The Downfall of Bank Control: 1910-1939

Banks became victims of their own success; by 1912, 18 financial institutions sat on the boards of 134 corporations with $25.325 billion in combined assets[35]. Of these 18 institutions, five banks held the lion's share: J.P. Morgan & Co., First National Bank, National City Bank, Guaranty Trust Co., and Bankers' Trust sat on the boards of 64 financial institutions with $4.972 billion in assets. These five banks also sat on the boards of 68 non-financial corporations with $17.273 billion in assets. To put this last number in perspective, US GNP in 1912 was $39.4 billion; hence, these five banks controlled industrial assets (on behalf of others) representing 56 percent of the country's GNP. If banks held directorships in the same fraction of corporations in 1993, they would be in charge of $3.5 trillion dollars! Bradford DeLong explains why so few banks dominated the market for corporate monitoring:

> Individual investors are, essentially, without reliable information about the firms' prospects and their managers and without power to adequately monitor and control the executives who manage the firms in which they invest. By serving as an honest (albeit expensive) broker, a dominant investment bank can channel investors' funds into and choose executives to run firms, collect high fees, and yet on net provide value to investors. In such a situation, a firm's reputation as an honest broker becomes a very important asset - an

[34] U.S. Senate Hearings (1933), 3-5, 33, 54-56, 61, 390-395; Carosso (1970), 33

[35] New York Times, Dec 19, 1912. This quotes the findings from the Pujo Comission.

> asset that must be safeguarded by actually being an honest broker, and an asset that a potential competitor will find it very hard to match[36]

Bank concentration and the perception that banker-directors encouraged collusion lead to widespread criticism. The three groups that opposed bankers were small businessmen, local bankers, and wholesalers; these groups disliked both giant corporations and Eastern financiers. This animosity manifested itself first in 1905, when the New York Senate investigated insurance companies, and forbade them from underwriting securities or from buying equity[37]. Banker dislike was again shown when Theodore Roosevelt's administration filed an antitrust suit against a Morgan controlled firm, Northern Securities, in 1904. The Taft administration continued Roosevelt's antitrust policy by seeking to dissolve U.S. Steel, International Harvester, Standard Oil, and American Tobacco. Woodrow Wilson campaigned on the promise of dissolving the "Money Trust", and made sure that, once in power, his administration would arrest financial capitalism[38]. In 1912, Rep. Arsène Pujo spearheaded a Congressional investigation on the concentration of power in Wall Street. The Pujo hearings succeeded in tarnishing bankers' reputation and led to the Clayton Act in 1914.

Louis Brandeis made the most articulate case against financial capitalism in a small book entitled "Other People's Money, and How the Bankers Use It." In this book, Brandeis argued that banks who control industrial corporations encourage monopoly, whose static and dynamic costs are very large:

> More serious, however, is the effect of the Money Trust in directly suppressing competition. That suppression enables the monopolist to extort excessive profits; but monopoly increases the burden of the consumer even more [...]. Monopoly arrests development; and through arresting development, prevents the lessening of the cost of production and of distribution which would otherwise take place[39]

[36] DeLong (1991), 209.
[37] Carosso (1970), 110, 125; Moody (1918), 118-133.
[38] Carosso (1987), 624-642, Chernow (1990), 147-161.
[39] Brandeis (1914), Chapter 2, 33

Brandeis held that the social and political costs of monopoly and the concentration of powers are so onerous that interlocking directorates should be forbidden, even if they are the most efficient form of corporate organization:

> Conclusive evidence (if obtainable) that the practice of interlocking directorates benefited all stockholders and was the most efficient form of organization, would not remove the objections. For even more important than efficiency are industrial and political liberty; and these are imperiled by the Money Trust[40]

Furthermore, Brandeis challenged the premise that banker control is the most efficient form of economic organization. He argued that a banker-director can force management to take actions that are detrimental to minority shareholders. Brandeis illustrated this with the case of the New Haven railroad, a Morgan controlled firm; this road had been blamed for several serious accidents that occurred between 1911 and 1913[41]; it had also had recently skipped dividends and was under severe financial pressure. Brandeis argued that the New Haven was driven to such a state by the bank, which saddled the firm with a huge debt and extracted large underwriting fees:

> Was there ever a more be-bankered railroad than the New Haven?[...] Six years before the fall of that great system, the hidden dangers were pointed out to those banker-experts. Proof was furnished of the rotting timbers. The bankers took no action. [...] Of the New Haven stockholders 10,222 were of such modest means that their holdings were from one to ten shares only. The investors were sorely in need of protection.[...] But who, connected with those New England and New York banking houses (with stock in the railroad) [...] raised either voice or pen against the continuous mismanagement of that great trust property or warned the public of the impending disaster?[42]

Brandeis also argued that banks should not run industrial corporations because they do not have the time nor the expertise to look after the firms under their control. Furthermore, banker-directors are open to many conflicts of interest; for example, they may be tempted to extract monopoly underwriting fees from the industrial firms they oversaw. To solve these problems, Brandeis urged the government to prevent directors from

[40] Ibid. Chapter 3, 43
[41] Chernow (1990), 174-181.
[42] Chandler (1977) Chapter 6, 90-91.

sitting in the board of competing firms, i.e., to ban interlocking directorates. Brandeis also argued that banks should not be in the board of directors of any industrial firms, and that there should be more stringent disclosure rules about bankers' activities and fees. Ideally, according to Brandeis, a firm should be held in a "democratic" way, with no large shareholders pulling more weight than what their shares would warrant.

The impact of Brandeis' arguments was enormous, both because Brandeis became a leading Supreme Court Justice, and because New Deal reformers such as William O. Douglas, Ferdinand Pecora, and Adolph Berle openly espoused Brandeis' ideas.

4.1 Assessing the Cost of Managerial Capitalism

Brandeis made a compelling argument that deserves serious analysis. The main question is whether bank control enhanced corporate value, and if so, by how much and why? The importance of this question is obvious: if bank control did not add much value or was harmful, then absolute separation of ownership and control was economically efficient, as Chandler (1977, 1984) had argued. If, on the other hand bank control raised corporate value significantly, then its demise was probably caused by political pressure, as Jensen (1989) and Roe (1994) had claimed.

Bradford DeLong (1991) tried to assess the value of financial capitalism by looking at the 1911-1912 market-to-book value of eighty two corporations, of which twenty were Morgan controlled. DeLong found that Morgan control generated a positive premium, which ranged from 6 to 30 percent. The highest estimates were obtained by simply comparing the average ratio of the Morgan controlled firms against the others. The lowest estimate for the premium controls for cross-sectional variation by using the earnings-to-book ratio as an explanatory variable. There are serious questions that DeLong himself raises about the causality of his estimates. Did Morgan partners raise corporate value, or were they simply good at picking stocks? Another problem with DeLong's estimate is

their inability to discern whether the value of bank control came from effective oversight or from more cartelization across bank controlled firms.

Fortunately, history has provided an ideal experiment to study the size and the nature of the costs and benefits of bank control. At the time of the Pujo hearings, financial analysts were well aware of this investigation's impact on corporate value, as the following quote from the Wall Street Journal reveals:

> Traders regard the "money trust" investigation as the market factor of prime importance; but investors do not consider it at all. The latter think that the ownership in one bank by another has nothing to do with the value of Southern Pacific, or United States Steel. Therefore, when traders sold, the investors bought, and were glad to get the opportunity to acquire stocks easily[43]

In the aftermath of the Pujo hearings, Congress began to work on legislation that would eliminate bank control. Part of this legislation would ban interlocking directorates (i.e., managers sitting in the boards of competitor firms); another part of the legislation would prevent banks from sitting on the board of any railroad or industrial firm. In an effort to derail the last portion of this legislation, J.P. Morgan & Co. announced on Friday, January 2, 1914 that its partners would resign from the board of thirty corporations, while remaining in other firms. Table 1 shows the status of the largest firms affected by this announcement.[44]

Again, this retirement was made to placate the Wilson administration and to forestall any legislation prohibiting bank presence in corporate boards. Morgan's move was partly successful: in 1914 Congress passed the Clayton Act, which outlawed interlocking directorates but did not forbid bank presence in the boards of industrial firms or railroads. To investigate whether Morgan added value by encouraging cartelization, I identified, in

[43] Wall Street Journal, January 13 1913, Broad Street Gossip column. For an assessment of the importance of the Pujo Hearings, see Bittlingmayer (1996).

[44] Other industrials and railroads where Morgan completely retired were the Central New Jersey RR, the Millbrook Company and the Rhode Island Company. Banks and Trusts are not included. Other industrials and railroads where morgan did no retire are the Adams Express, Alabama Gt. S RR, Alaska Dev Co., Cent & South Am. Tel, Chic. Ind. & St. L RR, Cinn. Ham & Dayton RR,Copper Rv RR, Crowell publishing, Cruikshank Co., H Manville Co., Int. Agr. Co., Int. Merc. Marine, Lamont Corliss, Mobile & Ohio RR, Pere Marquette RR, Remington Typewriter, SW construction, White & Co.

Table 1: Morgan announcement of status of actively traded firms January 2, 1914

Total Retirement (TR)	**Partial Retirement (PR)**	**No Retirement (NR)**
1) AT & T	1) Reading RR	1) Atc. T & Sta. Fe RR
2) N Y Central & Hudson RR:	2) U.S. Steel	2) Chicago Gt. W. RR
-Clv, Cin, Chic & St. L. RR		
-Lake Shore & Mich. RR	3) Western Union Tel.	3) Erie Railroad
-Mich. Central RR		
-N Y, Chic. & St. Louis RR		4) General Electric Co.
-Rutland Railway Co.		
-West Shore RR.		5) Inter. Havester Co.
3) N Y, New Haven & Hart. RR		6) Lehigh Valley RR
-Cent. New England Railway		
-Harlem Rv. & Pt. Chest. RR		7) Northern Pacific RR
-Hart., Conn. & West. RR		
-N Y, Westch. & Boston RR		8) Southern Railway
-New England Navigation		
-New England Steamship		
4) N Y, Ontario & Western RR		
5) Utah Copper Co.		
6) Westinghouse Electric & Co		

table 2, the competitors of Morgan controlled firms[45]. Notice that there are a number of instances where Morgan controlled firms appear on both sides of the table.

4.2 The Impact of Morgan's withdrawal: Time series evidence

Morgan's announcement can be studied from a time series or a cross-sectional perspective. For the time series analysis I use the event study methodology introduced by Fama, Fisher, Jensen and Roll (1969), and discussed in Fama (1976), and Brown and Warner (1980). Briefly, if the logarithm of the stock returns is multivariate normal, the following equation holds:

[45]The methodology for selecting competitors is as follows: for industrial firms, the three digit SIC rivals; see Chandler (1977,1988) appendix A for more details on this. For railroads, the competitors are taken to be those in the same region as defined by the ICC. See Haney (1924) for more on this issue* Reading RR owns the Central Jersey RR, of which one Morgan partner (Steele) abandoned. A partner from Drexel-Morgan (Stotesbury) kept the post in Reading and in Central Jersey RR. ** Pullman had a Morgan director on December 1912, (J.P. Morgan Sr.). Upon his death, no Morgan partner took a post on the board of this firm.

Table 2: Competitors of Morgan controlled Firms

Name	Status	Competitors
1) AT & T	TR	Western Union
2) N Y Central & Hudson RR	TR	Baltimore & Ohio RR, Canadian Pacific RR, Erie RR, Pennsylvania RR, Pitt Cin Chi SL RR
3) N Y, New Haven & Hart. RR	TR	
4) N Y, Ontario & Western RR	TR	
5) Utah Copper Co.	TR	Amalgamated, American Smelters, Anaconda, Chino, Guggenheim, Inspiration, Miami, Nevada, Ray Consolidated, Tennessee
6) Westinghouse Electric & Co	TR	General Electric
7) Reading RR	PR	
8) U.S. Steel	PR	Bethlehem Steel, Colorado Fuel & Iron, Republic Iron & Steel
9) Western Union Tel.	PR	AT&T
10) Atchison, Topeka Sta. Fe RR	NR	Southern Pacific RR
11) Chicago Great Western RR	NR	Chicago & Northwest, Minn. St. P & SSM RR
12) Erie Railroad	NR	Balt. & Ohio RR, NYC RR, Pennsylvania RR
13) General Electric Co.	NR	Westinghouse
14) Inter. Havester Co.	NR	
15) Lehigh Valley RR	NR	
16) Northern Pacific RR	NR	Canadian Pacific RR., Great Northern RR, Chic. Mil. & St. Paul RR, Union Pacific RR
17) Southern Railway	NR	Atlantic Coast RR, Illinois Central RR., Louisville & Nashville

$$r_{it} = \alpha_i + \beta_i r_{mt} + \epsilon_{it} \quad \epsilon_{it} \sim N(0, \sigma_i^2) \tag{1}$$

where r_{it} is the (log) return of a stock or a portfolio of stocks, r_{mt} is the market return, and ϵ_{it} is an error term. Equation (1) would also hold under the Capital Asset Pricing Model, with the additional condition that $\alpha_i \equiv (1 - \beta_i) r_f$.

The essence of an event study is to assess if there are any abnormal returns associated with an event, i.e., returns beyond those predicted by equation (1). The first step in an event study is to select a benchmark period to estimate the parameters α_i and β_i; for this, I used the weekly returns of 85 actively traded corporations in the New York and Curb Stock Exchanges between May 11, 1910 and March 26, 1913 (150 observations).[46]

[46] The stock returns are corrected for dividends. I define as actively traded those common stocks which traded at least 10,000 shares and $1,000,000 during 1913. In addition, I required that average bid-ask spreads be lower than three percent for a sample of dates: Oct 1, 1913; Dec 3, 1913, and Jan 7, 1914.

The market return is a value weighted portfolio of these 85 actively traded firms, which account for 89 percent of shares traded in the NYSE in 1913[47]

The *abnormal returns* are defined as the forecast errors for the period surrounding the announcement:

$$AR_{is} = r_{is} - [\widehat{\alpha}_i + \widehat{\beta}_i r_{ms}]$$

where $\widehat{\alpha}_i$ and $\widehat{\beta}_i$ are the estimates extracted from the benchmark period. The cumulative abnormal return (CAR) is the sum of the abnormal returns during the period of interest, i.e.,

$$CAR_{id} = \sum_{s=k+1}^{k+d} AR_{is} \tag{2}$$

To select an appropriate event window, one has to allow for the fact that Morgan's withdrawal was known to some before the official announcement was made on Friday January 2, 1914. The following Wall Street Journal furnishes proof of this insider knowledge:

> The announcement of the retirement of the members of J.P. Morgan & Co. from a large number of directorates did not cause much surprise. Several weeks ago the statement was made in Broad Street Gossip [A Wall Street Journal Column] that a plan of that kind was under consideration [...] The members of the firm remain as directors in a large number of companies, but these are not considered interlocking[48]

I was unable to find the Broad Street Gossip article where this information was revealed, although the price reaction suggests that information was slowly revealed. Also, the market did not fully react to Morgan's announcement within one day because of its excellent timing, i.e., the day after New Year and the beginning of the weekend. Trade on Friday the 2nd, Saturday the 3rd and Monday the 5th of January was almost half of

To derive reliable estimates of α_i and β_i, I excluded firms with less than forty observations during the benchmark period. I used preferred stocks if the firm did not have actively traded common stock, and the preferred security satisfied the above requirements (there are four such cases). I use the Wednesday closing price, but if no closing price exists, I use the average of the closing bid ask prices for the day. The sources for the prices were the Wall Street Journal, The New York Times, and the Commercial and Financial Chronicle. The New York Times is the source for the volumes, dividend dates, and dividend rates.

[47] See Pierce (1996) for overall NYSE trading volume. The value weighted average uses weights from 12/26/1912, since I only have reliable information for end year shares outstanding, from the New York Times. Use of an equally weighted market portfolio gives does not change the results of this study.

[48] Wall Street Journal, January 3 1914

the normal trading volume. Because of the insider trading problem, I decided to look at the weekly abnormal returns between October 1, 1913 and January 7, 1914.

I created six value weighted portfolios of firms. The first three portfolios grouped Morgan controlled companies, and distinguished those where Morgan withdrew completely, those where it withdrew partially, and those where it retained all its original directorships. I also created three portfolios of competitors of the Morgan controlled firms.

Table 3: Cumulative Abnormal Returns for Portfolios of Firms affected by Announcement

From: Oct 1 1913	Total Retirement **TR**	Competitors of TR firms **CTR**	Partial Retirement **PR**	Competitors of PR firms **CPR**	No Retirement **NR**	Competitors of NR firms **CNR**
To:	**coefficient (t-stat)**	**coefficient (t-stat)**	**coefficient (t-stat)**	**coefficient (t-stat)**	**coefficient (t-stat)**	**coefficient (t-stat)**
Oct 8 1913	-0.9432	0.4986	-2.3989	-2.9431	0.7224	0.5992
	(-1.9265)	(1.2968)	(-2.5531)	(-4.3702)	(1.0896)	(1.9567)
Oct 15 1913	-0.6814	0.0726	-1.1342	-3.7279	0.0717	0.4934
	(-0.9779)	(0.1327)	(-0.8482)	(-3.8895)	(0.0759)	(1.1321)
Oct 22 1913	-1.5957	0.0985	0.9135	-4.0080	0.5357	-0.2510
	(-1.8748)	(0.1474)	(0.5592)	(-3.4234)	(0.4648)	(-0.4715)
Oct 29 1913	-2.5488	0.0873	1.0568	-5.0322	0.8496	-0.0215
	(-2.5878)	(0.1129)	(0.5591)	(-3.7142)	(0.6370)	(-0.0348)
Nov 5 1913	-2.8583	-0.4103	1.3542	-4.6214	1.1474	-0.1035
	(-2.5834)	(-0.4722)	(0.6378)	(-3.0365)	(0.7658)	(-0.1496)
Nov 12 1913	-4.0088	0.0235	1.6181	-5.8042	1.5092	0.3619
	(-3.2928)	(0.0246)	(0.6925)	(-3.4658)	(0.9154)	(0.4752)
Nov 19 1913	-4.3464	-0.0693	1.4939	-6.3966	1.0900	0.4617
	(-3.2979)	(-0.0670)	(0.5906)	(-3.5284)	(0.6107)	(0.5601)
Nov 26 1913	-4.3135	-0.3671	1.8483	-5.6318	0.9295	0.5177
	(-3.0543)	(-0.3310)	(0.6819)	(-2.8990)	(0.4860)	(0.5860)
Dec 3 1913	-3.9873	-0.5182	2.6164	-5.7873	0.9256	0.3356
	(-2.6585)	(-0.4399)	(0.9090)	(-2.8051)	(0.4557)	(0.3577)
Dec 10 1913	-7.5656	-0.6051	3.4393	-6.9982	1.5952	0.3153
	(-4.7661)	(-0.4855)	(1.1290)	(-3.2050)	(0.7421)	(0.3176)
Dec 17 1913	-9.1661	-1.2703	4.7471	-9.2770	2.4680	-0.0505
	(-5.4788)	(-0.9669)	(1.4785)	(-4.0311)	(1.0893)	(-0.0483)
Dec 24 1913	-5.8436	-2.1427	4.8488	-4.1321	2.1955	-0.5468
	(-3.3458)	(-1.5623)	(1.4466)	(-1.7199)	(0.9283)	(-0.5005)
Dec 31 1913	-5.6924	-2.4356	4.2959	-5.9471	1.7625	-0.8706
	(-3.1213)	(-1.7007)	(1.2274)	(-2.3706)	(0.7136)	(-0.7632)
Jan 7 1914	-6.2405	-2.9813	4.0529	-6.0082	2.6519	-0.8196
	(-3.2887)	(-2.0007)	(1.1129)	(-2.3019)	(1.0320)	(-0.6906)

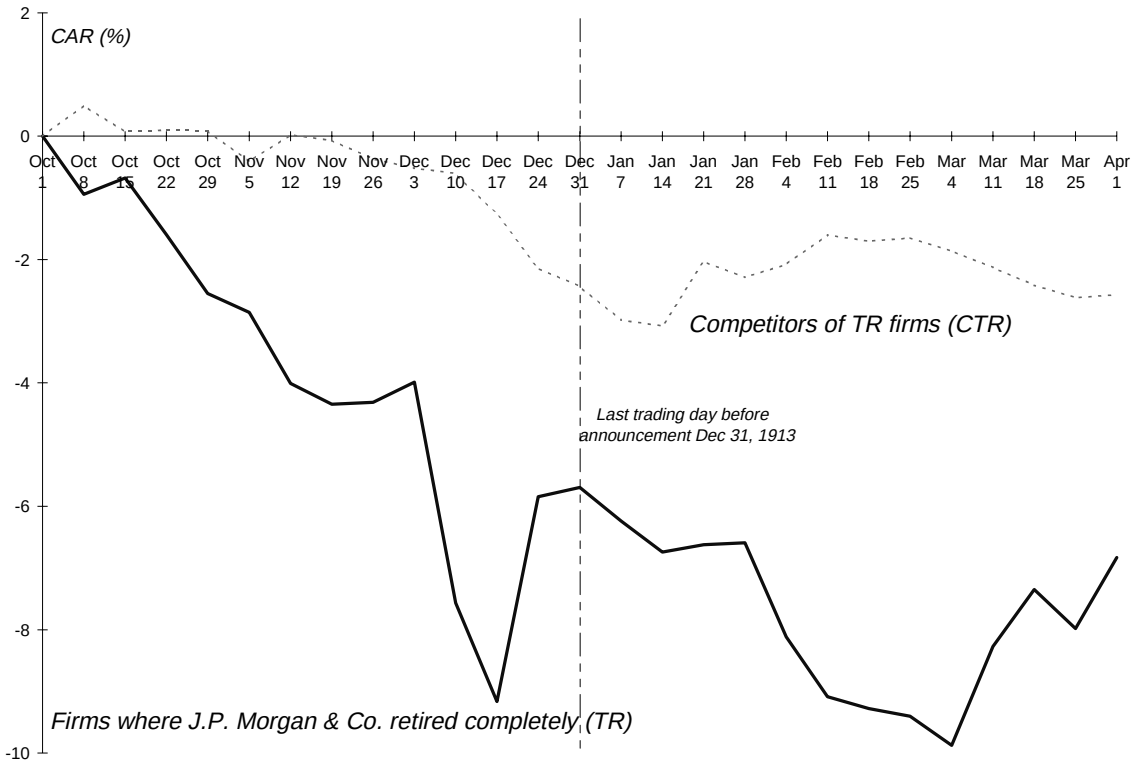
Table 3 displays the cumulative abnormal returns for these six portfolios. The standard errors for the CARs are derived in the appendix. There were no further abnormal returns

for any of these portfolios after January 7, 1914, which suggests that the market digested all the new information within 3 or 4 days.

The first column in table 3 shows that the firms completely abandoned by J.P. Morgan & Co. fell by 6.24 percent. No other portfolio fell by as much, although the competitors of firms where Morgan partially retired came close; this other portfolio is dominated by AT&T which also happened to be abandoned by Morgan.

Another portfolio with a significant depreciation (2.98 percent) was composed of *competitors* of the firms where Morgan withdrew completely. Figure 1 shows that this drop began in earnest in mid-December, and accelerated upon the formal announcement.

Figure 1: Cumulative abnormal returns for portfolio of Morgan abandoned firms and their competitors



Evidently the market believed that implicit cartels would collapse after the bank de-

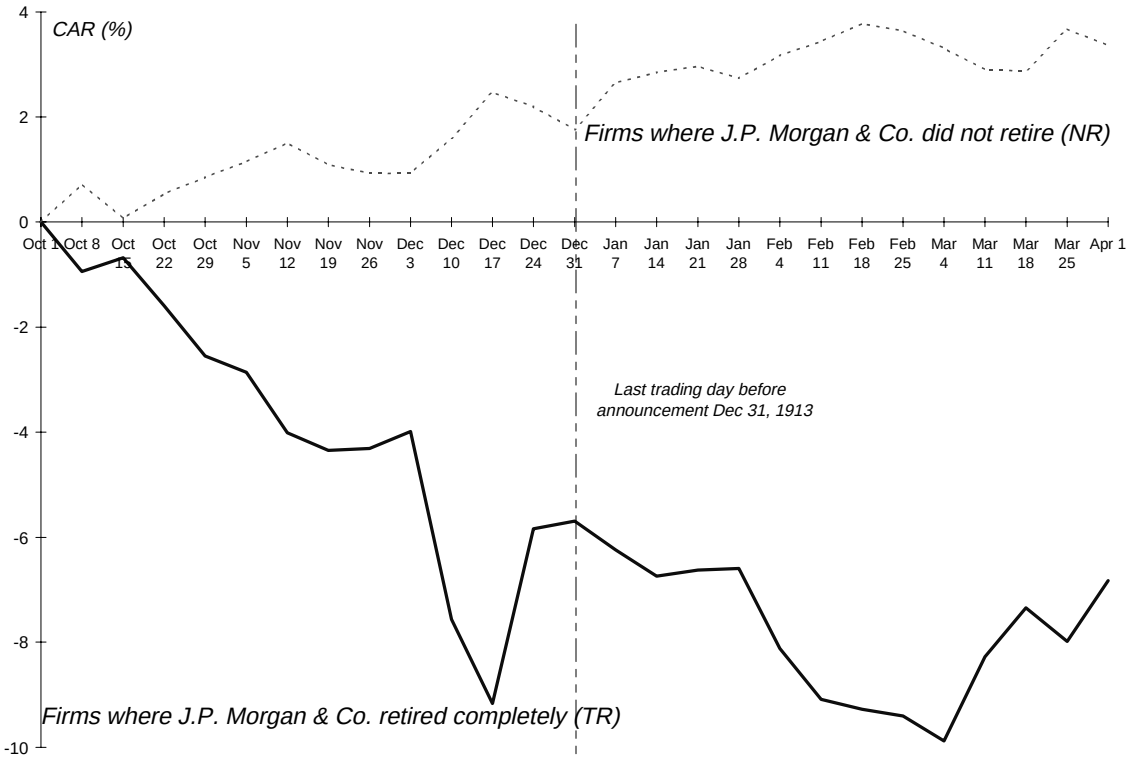
parted. These results and Morgan partners' assertions suggest that this bank created some shareholder value by cartelization, as Brandeis thought. If cartelization affected the abandoned firm and its competitors symmetrically, collusion would explain about 48 percent of the shareholder value added by Morgan. This is probably an overestimate since J.P. Morgan & Co. dropped those companies most likely to be challenged by the Wilson administration under the Clayton Act.

There are at least two possible explanations for the drop in stock prices of Morgan abandoned firms. The first hypothesis, based on signalling, goes as follows: investors knew that Morgan needed to withdraw from some firms because of political pressure, but the fact that it withdrew from Westinghouse and remained in General Electric may be quite informative. Taking this argument to its limit, one could say that Morgan did not really add value, but only conveyed insider information as a board member. Thus, a signalling story says that Morgan had valuable insider information but that this knowledge could not be acted upon. One problem with a signalling hypothesis is that one would need to tell a very complicated story to explain the drop in price for the abandoned firms' competitors. The other problem with this hypothesis is that one would expect that upon announcement, the value of the retained firms would rise significantly. Although the firms retained by Morgan rose by 2.65 percent, this rise was not statistically significant either here or in the cross-sectional results.

A second hypothesis, based on uncertainty, would argue as follows: at some point in the past, the market had realized that Morgan was to withdraw from some corporations, but it did not know from which. Furthermore, the firms where Morgan was to withdraw would depreciate because there would no longer be an effective monitor. The ex-ante uncertainty about Morgan's decision would depress every firm's stock somewhat. Once the uncertainty was resolved, the retained firms would return to their initial price while the abandoned firms would drop fully. One could also argue that Morgan retained firms

would benefit from the announcement, now that the five Morgan partners had to supervise 33 rather than 63 firms.

Figure 2: Cumulative abnormal returns for two portfolios of Morgan controlled firms



These results suggest that Morgan's board membership did add value, and that some of this value came from increased collusion, since competitors' of firms were Morgan withdrew fell on the announcement.

4.3 The Impact of Morgan's withdrawal: Cross-sectional evidence

Morgan's announcement can also be studied cross-sectionally. Event studies normally analyze incidents such as stock splits that occur at different calendar dates; all observations are then centered around the announcement time. We are fortunate that calendar and

event time coincide for Morgan's announcement, and should exploit this. Another reason why a cross-sectional study is important is the massiveness of the announcement, which affected 43 firms in complex ways. For example, General Electric was a firm retained by Morgan, so its price was expected to rise upon announcement. GE was also the one competitor for Westinghouse, a firm Morgan abandoned; from this perspective, GE's stock price was expected to fall. To disentangle these effects it is better to use a multivariate regression. Our methodology is as follows: suppose that the cumulative abnormal returns are a function of different firm attributes, so that

$$CAR_i = \gamma' X_i + \upsilon_i \quad \upsilon_i \sim N(0, \overline{\sigma}_i^2) \quad i = 1, 2, ..., 85 \tag{3}$$

where CAR_i is the firm's cumulative abnormal return from October 1, 1913 to January 7, 1914, and X_i is a vector of dummies that captures corporate attributes. The attributes are whether a firm was abandoned by Morgan completely (TR), or a competitor of these firms (CTR); whether the company was abandoned partially by Morgan (PR), or a competitor of such a firm (CPR); and whether the company was retained by Morgan (NR), or a competitor of these corporations (CNR). Finally, I included a railroad dummy to control for the ICC's impending regulatory crackdown on railroad rates during this period.

A Park-Glejser test indicates that errors in equation (3) are heteroskedastic, and that their variance is proportional to the variance estimated for the market model in equation (1)[49]. Thus $\overline{\sigma}_i^2 = \delta \sigma_i^2$ where σ_i^2 and $\overline{\sigma}_i^2$ are defined in equations (1) and (3) respectively; this allows for a weighted least squares regression.

As a robustness check, I ran equation (3) using the market adjusted returns (MAR_i) as the dependent variable. The MAR_i substracts the market return from the individual stock return; the implicit assumption is that $\alpha_i = 0$ and $\beta_i = 1$ in equation (1). This alternative method controls that the findings are not driven by a market model misspecification.

[49] see Pindyck & Rubinfeld (1981),150-152.

Table 4 presents the results. The first two columns regress the abnormal return against different corporate attributes; the difference between column one and two is that the first uses a weighted least squares estimation, while the second uses ordinary least squares with heteroskedastic consistent errors. The last two columns regress the market adjusted return against different corporate attributes. It seems that the results are fairly robust, since the different techniques yielded similar estimates. Further, the cross-sectional results are very close to the time series numbers shown in table 3.

Table 4: The Cross-Sectional Impact of Morgan Partners Retirement

Starting Date (t-1)	**Oct 1 1913**	**Oct 1 1913**	**Oct 1 1913**	**Oct 1 1913**
Ending Date (t)	**Jan 7 1914**	**Jan 7 1914**	**Jan 7 1914**	**Jan 7 1914**
Procedure	**WLS**	**OLS**	**WLS**	**OLS**
Dependent Variable	**CAR**$_i$	**CAR**$_i$	**MAR**$_i$	**MAR**$_i$
No. Observations	**85**	**85**	**85**	**85**
Adjusted R^2	**0.22522**	**0.08371**	**0.27612**	**0.15581**
Variable	**coefficient**	**coefficient**	**coefficient**	**coefficient**
	(t-stat)	**(t-stat)**	**(t-stat)**	**(t-stat)**
Constant	0.94310	4.44096	1.41914	3.28207
	(1.12832)	(2.95698)	(1.96826)	(2.71966)
Total Retirement - TR	-7.10511	-7.96119	-7.03925	-6.76363
	(-3.51323)	(-4.81888)	(-4.03499)	(-4.53169)
Competitors of TR firms	-3.61243	-5.20774	-3.44571	-4.29924
	(-2.73436)	(-3.09638)	(-3.02354)	(-3.24260)
Partial Retirement - PR	3.16541	-0.20388	2.05823	-0.00967
	(1.17884)	(-0.07163)	(0.88859)	(-0.00317)
Competitors of PR firms	-0.29399	-2.10942	0.51865	-4.65493
	(-0.10332)	(-0.57764)	(0.21129)	(-1.73331)
No Retirement - NR	3.80752	3.07356	3.25950	3.53100
	(1.86428)	(1.51901)	(1.85013)	(1.85137)
Competitors of NR firms	2.37414	1.14466	2.95182	4.06804
	(1.56668)	(0.57211)	(2.25811)	(2.00326)
Railroads	-1.51570	-4.25004	-2.69310	-6.60352
	(-1.05590)	(-1.98818)	(-2.17492)	(-3.11436)

The t-statistics for OLS procedures use heteroschedastic consistent standard errors

The cross-sectional regressions indicate that the firms Morgan abandoned fell by about 7 percent, as opposed to 6.25 percent in the time series analysis. The drop of Morgan's competitors was steeper than in the time series study, since it ranged from 3.44 to 5.2 percent. If one assumes that the cartelization effect is symmetric for Morgan firms and their competitors, then extra collusion represents between 49 and 65 percent of the value

added by this firm. As before, the firms retained by Morgan rose in value, but this was not statistically significant at the conventional levels.

Although statistically significant, the impact of a Morgan withdrawal is not huge. My results are in line with DeLong's lowest calculations, but they are a far cry from his highest estimate for a Morgan premium of 30 percent. A Morgan retirement from all boards would depress the Oct 1, 1910 stock market by $167 million (2.08 percent), and the value of all its competitors by a further $172 million dollars (2.14 percent). In spite of the empirical results, it is very difficult to discern whether financial capitalism was socially beneficial or not. On the one hand, bank control would create market power, with all its attendant distortions[50]. On the other hand, eliminating bank control would lead to more agency costs between managers and shareholders. This problem has yet to be settled.

An aggressive reading of table 4, column 1, would say that if the largest American banks had abandoned all the non financial corporations where they were directors, the market would have lost about 2.6 percent of 1912's GNP (i.e., this is larger than the 1982 recession).

4.4 The Political Economy of Banker Regulation

Financial capitalism was doomed as soon as Americans identified it with monopoly. Our findings, and the quotes from leading bankers have shown that these antitrust fears were partly justified; moreover, these suspicions mobilized a powerful coalition of small businessmen, townships, and farmers. Previous anti-trust legislation, such as the Sherman Act, was enacted at the time railroads were becoming large. Small businessmen and distant localities combined against railroads because these charged lower rates to large customers or important city routes. Small merchants and townships lobbied for the Sherman Antitrust Act, which passed in 1890 with overwhelming Congressional support (the Senate and House votes were 52-1 and 242-0 respectively). Chandler explains the mood

[50] See Tirole (1988), chapter 1 for a detailed analysis of monopoly inefficiencies.

at the time of the Pujo hearings:

> Much the same type of businessmen - the older general merchants and the newer specialized wholesalers - provided similar pressures that led to the enforcement of the Sherman Act in the early years of the 20th century and the passage of the Clayton and Federal Trade Commission Acts in 1914. Even more than small manufacturers, these middlemen felt themselves threatened by the rise of large-scale industrial enterprise in the 1880s and 1890s. This was because manufacturing firms grew large by integrating forward in marketing, backwards into purchasing, and by obtaining their own raw materials... At the same time, these same middlemen were reeling from the impact of the new giant retailers... In 1912 - one of those rare national elections in which there were four rather than two major candidates - all four promised in somewhat different ways to regulate and control business. Moreover, by business all four meant big business operated through managerial hierarchies and not small personal enterprise[51].

The Clayton Act was meant to counteract big business and financiers; the bankers were thought to be the glue for the 'communities of interest' that public opinion so disliked. World War I produced a temporary truce between banks, big business, and the government. At the beginning of the War, investment banks helped the Allies raise funds in America and became the purchasers for the Allies' victuals. By the time the U.S. entered the war, investment banks were instrumental in raising funds for the government. John Moody argues that the bankers' war role improved their public image dramatically[52]. This shift in public opinion and the postwar boom stalled 'progressive' reforms momentarily, and allowed Morgan to return to the board of some companies he had previously abandoned. Another factor that helped investment bankers was the creation of the Investment Bankers' Association of America in 1912: this organization lobbied on bankers' behalf, policed its members to sustain high business standards, and burnished the investment bankers' public image. Yet, even in this pro-business environment, there was no move to abolish the Clayton or the Federal Trade Commission Act; the Clayton Act had a particular effect in that it stopped bank representation in firms that competed directly with each other.

[51] Chandler (1980), 428-429.
[52] Moody (1918), 176-179; also see Carosso (1970), 193-239

The temporary truce between bankers and the government came to an end with the 1929 market crash. The Gray-Pecora Hearings in 1932-1934 brought to light many misdeeds of commercial bankers and led to the enactment of legislation that would further reduce the power of bankers. Reformers were especially worried about possible conflicts of interest that a banker-director may have, and on the fate of minority shareholders that were cow-towed by bankers and their voting trusts. Two reforms, the Securities Act and the Glass Steagall Banking Act were passed in 1933, a year before the hearings had closed. Another, the Securities Exchange Act, was signed into law on June 6, 1934

The Securities Act required extensive disclosure of a security upon offering and of a cooling off period for security issues; this legislation did not obstruct financial capitalism much. The Glass Steagall Act (Banking Act of 1933) had a much more profound impact on bank control: it required that security affiliates be separate from investment banks and compelled private banks to become investment or commercial banks. From a governance perspective, the importance of Glass Steagall was that it no longer allowed private bankers to exist. Private bankers had been among the most active directors in industrial corporations, and had the right incentives to do so, since they owned some stock of those industrial firms. Once they became commercial banks, their stock holdings were severely restricted[53]. On the other hand, if the private banks became investment bankers, their leverage would be much reduced by not being allowed to take deposits.

In 1938 Congress passed the Chandler Act. This law restrained investment banks from reorganizing publicly traded corporations; these reorganizations were now to be implemented by disinterested trustees. The impact of this reform is that bankers would no longer be able to take control of firms through reorganizations, a very common route for bank control as shown in section 3.2[54]. The Trust Indenture Act in 1939 forced companies

[53] U.S. Senate, House Committee on Banking and Currency (1933) , pt. 1, 100-101.

[54] New Deal reformers were well aware of this, as shown by Douglas (1940), 7, 41-42, and the U.S. House (1913), 148-150.

with publicly traded securities to issue a trust indenture; furthermore, it prevented the issuer or its investment bankers form being trustees. This legislation made it more difficult for investment banks to reorganize companies, producing a similar impact as the Chandler Act.

By 1939 this New Deal Legislation had made banker control useless, as DeLong and Ramirez (1995) have shown; this legislation led to the complete divorcement of ownership and control among the largest industrial corporations in America. It is important to note that this legislation had its theoretical underpinnings from Brandeis' work and that it traced its ideology directly to the Pujo hearings.[55]

5 Conclusion

In this article I have shown that by 1910 American corporate governance was developing along the lines of the German system. This type of corporate governance was characterized by banks using proxy votes to exercise control over managers. Banks did not exercise control by micro-managing firms, but rather by overseeing financial matters (dividends, capital structure and investment) and appointing top managers. Although this system had flaws, it is unlikely that it would have been voluntarily abandoned.

Financial capitalism in the United States was a victim of its own success. By the 1910s, banks had a power that no one else in the United States ever had. This animosity also arose from a rational suspicion that banks created shareholder value by cartelizing the firms they controlled. This sparked a reaction that completely separated financial institutions from corporate boards. This paper has shown that although there is an element of truth in the fear of bank led cartels, financial intermediaries did create bona-fide value through their effective monitoring role.

An interesting question is whether it could have been possible to eliminate the evils of

[55] Ferdinand Pecora, William O Douglas, and Adolph Berle were Brandesian thinkers vis-a-vis the role of banks in corporations.See Carosso (1970) 326, 408.

bank control - cartelization and concentration of financial power - without giving up the benefits.

6 References

Berle, A; Means, G., (1932), *The Modern Corporation and Private Property*, Transaction Publishers, New Brunswick.

Bittlingmayer, G., (1996), "The Regulation of Corporate Control: Origins and Effects," Mimeo, University of California, Davis.

Brandeis, L., (1914), *Other People's Money and How Bankers Use it*, Jacket Library, New York

Brown, S.; Warner, J., (1980), "Measuring security price performance," *Journal of Financial Economics*, **8**, 205-258.

Carosso, V. (1970), *Investment Banking in America*, Harvard University Press, Cambridge MA.

Carosso, V., (1987), *The Morgans: Private Investment Bankers 1854-1914*, Harvard University Press, Cambridge MA.

Chandler, A., (1954), "Patterns of Railroad Finance 1830-1850," *Business History Review,* **2** (Fall), 248-263.

Chandler, A., (1977), *The Visible Hand: The Managerial Revolution in American Business*, Harvard University Press, Cambridge.

Chandler, A. (1980), "Government Versus Business: An American Phenomenon," in Dunlop, J. (Ed.) *Business and Public Policy,* Harvard University Graduate School of Business Administration, Boston, 1-11.

Chandler, A., (1984), "The Emergence of Managerial Capitalism," *Business History Review,* **58** (Winter), 473-503.

Chandler, A. (1990), *Scale and Scope: The Dynamics of Industrial Capitalism,* Har-

vard University Press, Cambridge MA.

Chernow, R., (1990), *The House of Morgan: An American Banking Dynasty and the Rise of Modern Finance*. A Touchstone Book, 1st Edition. New York.

Commercial and Financial Chronicle, various 1913-1914 issues

DeLong, B., (1991), "Did Morgan's Men Add Value?," in Temin, P. (Ed.), *Inside Business Enterprise: Historical Perspectives on the Use of Information*, University of Chicago Press, Chicago.

DeLong, B., Ramirez, C., (1995) "Banker Influence and Business Performance: Assessing the Impact of Depression-Era Financial Market Reforms," in Bordo, M.; Sylla, R. (Eds.) *Anglo-American Financial Systems*, Irwin Publishers, New York.

Douglas, W., (1940), *Democracy and Finance*, Yale University Press, New Haven.

Fama, E., (1976), *Foundations of Finance*, Basic Books, New York.

Fama, E.; Fisher, L.; Jensen, M.; Roll, R., (1969), "The Adjustment of Stock Prices to New Information," *International Economic Review*, **10** (Feb.), 1-21.

Haney, L., (1924), *The Business of Railway Transportation: Traffic-Rates-Regulation*, the Ronald Press Co., New York.

Holmstrom, B., (1982), "Managerial Incentive Problems: A dynamic Perspective," in *Essays in Economics and Management in Honor of Lars Wahlbeck*, Helsinki, Swedish School of Economics

Holmstrom, B.; Tirole, J., (1994), "Financial Intermediation, Loanable Funds and the Real Sector," Mimeo MIT.

Jensen, M., (1989), "The Eclipse of the Public Corporation," *Harvard Business Review*, (Sept.-Oct.), 61-74.

Moody, J., (1919), *The Masters of Capital: A Chronicle of Wall Street*, Yale University Press, New Haven.

New York Times, various 1912-1914 issues

Pierce, P. (Ed.), (1996), *The Dow Jones Averages 1885-1995*, Irwin Professional Publishing.

Pindyck, R.; Rubinfeld, D., (1981), *Econometric Models and Economic Forecasts*, 2nd edition, McGraw-Hill publishers.

Redlich, F., (1951), *The Molding of American banking: Men and Ideas* (2 vols,. New York, 1947,1951).

Roe, M., (1990), "Political and Legal Restraints on ownership and control of public companies," *Journal of Financial Economics*, **27**, 7-41.

Roe, M., (1994), *Weak Owners, Strong Managers*. Princeton University Press, Princeton.

Shleifer A., Vishny R., (1986), "Large Shareholders and Corporate Control," *Journal of Political Economy*, **94**, 461-488.

Tirole, J., (1988), *The Theory of Industrial Organization*, MIT Press, Cambridge MA.

U.S. Census, (1975), *Historical Statistics of the United States Colonial Times to 1970*, (2 vols., Washington DC).

U.S. House, 62nd Cong., 2nd Sess, "Report of the Committee appointed pursuant to House Resolutions 429 and 504 to Investigate the Concentration of Control of Money and Credit," Washington, February 28, 1913.

U.S. Senate, House Committee on Banking and Currency, 72nd and 73rd Congress, *Stock Exchange Practices: Hearings ...*, 20pts, Washington, 1933-1934.

Wall Street Journal, various 1913-1914 issues

A Appendix

The following equations derive the variance and the standard errors of the cumulative abnormal returns, as specified by the market model (see Fama 1976).

$$\begin{aligned} r_{it} &= \alpha_i + \beta_i r_{mt} + \epsilon_{it} \qquad \epsilon_{it} \sim N(0, \sigma_i^2) \\ AR_{is} &= r_{is} - [\widehat{\alpha}_i + \widehat{\beta}_i r_{ms}] \end{aligned}$$

$$
\begin{aligned}
\widehat{\beta}_i &= \frac{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})r_{it}}{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})^2} = \frac{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})(\alpha_i+\beta_i r_{mt}+\epsilon_{it})}{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})^2} \equiv \beta_i + \sum_{t=1}^{T} c_t \epsilon_{it} \\
c_t &\equiv \frac{r_{mt}-\overline{r}_{mt}}{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})^2} \quad \sum_{t=1}^{T} c_t = 0 \quad \sum_{t=1}^{T} c_t^2 = \frac{1}{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})^2} \\
\widehat{\alpha}_i &= \overline{r}_{it} - \widehat{\beta}_i \overline{r}_{mt} = \alpha_i + (\beta_i - \widehat{\beta}_i)\overline{r}_{mt} + \frac{1}{T}\sum_{t=1}^{T}\epsilon_{it} = \alpha_i - \sum_{t=1}^{T}\left[c_t \overline{r}_{mt} - \frac{1}{T}\right]\epsilon_{it} \\
AR_{is} &= (\alpha_i - \widehat{\alpha}_i) + [\beta_i - \widehat{\beta}_i] r_{ms} + \epsilon_{is} = \sum_{t=1}^{T}\left[c_t(\overline{r}_{mt} - r_{ms}) - \frac{1}{T}\right]\epsilon_{it} + \epsilon_{is} \\
CAR_{id} &= \sum_{s=k+1}^{k+d} AR_{is} = d\sum_{t=1}^{T}\left[c_t(\overline{r}_{mt} - \overline{r}_{md}) - \frac{1}{T}\right]\epsilon_{it} + \sum_{s=k+1}^{k+d}\epsilon_{is} \quad \text{where } \overline{r}_{md} \equiv \frac{1}{d}\sum_{s=k+1}^{k+d} r_{ms} \\
Var(CAR_{id}) &= d\sigma_i^2\left[1 + \frac{d}{T} + \frac{d(\overline{r}_{mt} - r_{ms})^2}{\sum_{t=1}^{T}(r_{mt}-\overline{r}_{mt})^2}\right]
\end{aligned}
$$

The last equation shows the variance of the forecast errors, which takes into account the estimation errors of $\widehat{\alpha}_i$ and $\widehat{\beta}_i$.