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ABSTRACT

The extent to which business groups ever existed in the United States and, if they did exist, the reasons for their disappearance are poorly understood. In this paper we use hitherto unexplored historical sources to construct a comprehensive data set to address this issue. We find that (1) business groups, often organized as pyramids, existed at least as early as the turn of the twentieth century and became a common corporate form in the 1930s and 1940s, mostly in public utilities (e.g., electricity, gas and transportation) but also in manufacturing; (2) In contrast with modern business groups in emerging markets that are typically diversified and tightly controlled, many US groups were focused in a single sector and controlled by apex firms with dispersed ownership; (3) The disappearance of US business groups was largely complete only in 1950, about 15 years after the major anti-group policy measures of the mid-1930s; (4) Chronologically, the demise of business groups preceded the emergence of conglomerates in the United States by about two decades and the sharp increase in stock market valuation by about a decade, so that a causal link between these events is hard to establish, although there may well be a connection between them. We conclude that the prevalence of business groups is not inconsistent with high levels of investor protection; that US corporate ownership as we know it today evolved gradually over several decades; and that policy makers should not expect policies that restrict business groups to have an immediate effect on corporate ownership.

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1. Introduction

Ever since Berle and Means introduced agency conflicts associated with corporate ownership into modern economics in 1932, much attention has been devoted to corporate ownership in the United States. Becht and De Long (2005), following Roe (1994), note that corporate ownership in the United States is "exceptional" in the sense that significant block holdings in large listed firms are rare in comparison with most other developed economies,[1] and yet there is no consensus on why this is the case. Furthermore, systematic data and empirical evidence on the formation and evolution of corporate ownership in the United States is scant: following the classic Berle and Means (1932) description of US corporate ownership in the early 1930s, and despite considerable public and academic interest in these issues during the Great Depression, there is surprisingly little evidence on corporate ownership and control in US firms between the 1930s and the 1960s. Furthermore, some of the best known empirical studies on the history of corporate ownership in the United States focus on the issue of executive compensation (e.g. Holderness et al., 1999; Frydman and Saks, 2010), leaving the role of block holders and the study of patterns of corporate ownership largely unexplored.[2]

The present study attempts to offer a comprehensive dynamic perspective on these issues by focusing on a relatively under-studied period in US corporate history — roughly from 1930 to 1950 — and by examining the existence, evolution and demise of business groups in the United States. There is a voluminous literature documenting the ubiquity of business groups in contemporary emerging markets (see Khanna and Yafeh, 2007, and Morck, 2010, for literature reviews), but the extent to which such groups were common in earlier stages of development in now-modern economies and, in particular, in the United States, is often uncertain. In addition, although there is historical evidence indicating that business groups existed in the United States in the early 1930s, their nature is debated (e.g., Morck, 2005a vs. Bank and Cheffins, 2010), and it is not clear when and why these groups disappeared and how the present-day ownership structure of US corporations has emerged.[3]

[1] The closest comparison is, of course, the United Kingdom, where, Becht and De Long (2005) argue, ownership is even more dispersed and institutional investors more powerful than the United States. Holderness (2009) finds that block ownership in the United States today is more prevalent than commonly argued, especially if small listed firms are taken into consideration.

[2] There are also several studies of board interlocks such as Dooley (1969), Bunting and Barbour (1971), or De Long (1991).

[3] There is, however, considerable evidence on diversified conglomerates in the United States, a phenomenon which is typically described as dating back to the 1960s. A conglomerate, or a multi-divisional firm, like a business group, is engaged in multiple lines of business (see, for instance, Servaes, 1996). However, a business group differs from a conglomerate in several important respects, primarily in consisting of legally independent firms (rather than of fully-owned corporate divisions), bound together by persistent formal and informal ties; also, each firm within a business group has a different ownership structure, again, in contrast with conglomerate divisions (see a detailed discussion in Khanna and Yafeh, 2007; for country-specific descriptions of business groups around the world, see also the edited volume by Colpan et al., 2010).

We use newly assembled and hitherto unexplored data; our starting point is corporate history (business descriptions and in-depth financial statements) hand-collected primarily from Moody's Manuals for the period between 1926 and 1950, and supplemented by information from additional historical sources. The data set we construct contains detailed information on the history of all business groups involving the largest 200 US non-financial corporations in 1929, identified by Berle and Means (1932), their ownership structure, the industries they operated in, the geographic locations of their headquarters and operations, and the evolution of all these characteristics over time. We strive to provide answers to the following five questions:

(i) How common were business groups in the United States?

(ii) What were the major characteristics (types) of groups which existed in the United States during the sample period?

(iii) How long following the introduction of anti-group measures did the groups react and adapt their structure? When, if at all, did they disappear from the US economic landscape?

(iv) Can the demise of groups in America be attributed to any specific regulatory measure, or to other economic factors? Some of the most important regulatory changes with respect to groups in the United States took place in the 1930s and 1940s, barely 80 years ago, and yet the impact of these measures is virtually unknown. And finally,

(v) What is the relation between the disappearance of business groups in America and the emergence of the ownership patterns we observe today?

We provide partial answers to these questions in the form of a set of stylized facts on the prevalence, structure and demise of business groups in United States:

First, a significant number of large pyramidal business groups existed in the United States in the 1930s and 1940s and quite a few even survived until 1950. While these groups were primarily concentrated in utilities, railroads and other non-manufacturing sectors, as described in considerable detail in Bonbright and Means (1932), a number of significant industrial and financial business groups existed as well (e.g., the Morgan group), in contrast with the impression generated by several recent studies such as Bank and Cheffins (2010) or Mahoney (2012).

Second, during our period of observation (roughly, 1930-1950), many US groups were different from present-day business groups in emerging markets in at least two important respects:

(a) In comparison with today's business groups in emerging markets such as Hyundai or Tata, which are diversified across a large number of sectors, US groups of the 1930s and 1940s were typically focused, operating in a small number of industries (often utilities).

(b) The holding company controlling about half of the US groups was widely held, in contrast with the ubiquity of family control in business groups in emerging and developed markets today (e.g., the *chaebol* of Korea, groups in India or Thailand or the Wallenberg group in Sweden). This difference in ownership suggests differences in the decision making processes and agency problems between historical US groups and present-day groups.

The third stylized fact we establish has to do with the disappearance of US business groups. In contrast with several other accounts (e.g., Morck, 2005a; Morck and Yeung, 2005), the demise of most business groups in the United States occurred much later and much more slowly than previously thought. In fact, the groups did not disappear immediately in response to the introduction of two well-known anti-group regulatory measures: the inter-corporate dividend tax of 1935 and the Public Utility Holding Company Act initiated in 1935 and implemented in 1940.[4] Instead, business groups continued to exist in the United States for more than a decade after these legislative changes; a significant reduction in the number and size of business groups is observed only around 1950, following prolonged legal battles regarding the validity of the Public Utility Holding Company Act (see Anderson, 1947), which lasted about a decade. However, even in 1950, 18 business groups of various sizes were still present; several public utility groups survived even until 1960 under SEC administration dating back to the anti-group measures of the 1930s and 1940s. Interestingly, over a fifteen-year period of decline, family-controlled and smaller groups were more likely to disappear than diffusely-held and larger groups such as AT&T or Pennsylvania Railroad. Regardless, if inter-corporate dividend taxes or the Public Utility Holding Company Act contributed to the demise of business groups, their effects took hold after a considerable lag.

A fourth stylized fact is that we observe no formation of entirely new US business groups.[5] This is consistent with the anti-business group policies of the 1930s — the inter-corporate dividend tax and Public Utility Holding Company Act — deterring the formation of new business groups, even if these measures did not immediately force the dissolution of all extant groups. Thus, after the business groups extant in the 1930s downsized, broke into smaller

[4] In addition to these two regulatory acts, the Investment Company Act of 1940 also imposed some restrictions on companies whose main assets were shares of other companies.

[5] The sole major exception to this is the venture capital provider, Thermo Electron Corporation, which retained equity blocks in start-ups it financed after their listings. This was a stark deviation from the standard venture capital cycle, where venture capital funds cash out at IPOs to raise funds for the next round of start-ups. Thermo Electron was acquired in 2006 by Fisher Scientific to form Thermo Fisher Scientific, which lists no equity holdings among its assets.

groups, and ultimately disappeared, the US was left with a stock market of free-standing listed firms.

Our analysis yields a few additional observations. Some observers (including Bonbright and Means, 1932) attribute the rise of public utility pyramidal groups in the United States in the early twentieth century to attempts to circumvent antitrust regulation.[6] In line with this view, we find that the public and regulatory discourse on curbing the influence of groups in the early 1930s indeed focused primarily on the application of antitrust reasoning. The modern focus on investor protection in the literature on business groups was largely absent at that time, although during the 1930s, arguments related to what is now referred to as "tunneling" within business groups were introduced (e.g., Field, 1933).

Markham (2002) dates the rise of institutional investors in the United States in the 1950s. Jones (2000) relates the demise of British-owned business groups in East Asia (e.g., Jardine Mathewson and HSBC) in the 1970s and 1980s to the rise of institutional investors in the United Kingdom. He suggests that the increased power of institutions reduced the need for business groups, thus leading to their decline. The evidence provided here suggests that, in the United States, the demise of groups preceded the rise of institutional investors by about a decade. At the same time, the increased investment power of institutional investors may have been conducive to a smooth transition to a new corporate ownership mode in the United States.

A related conjecture is that early US business groups were replaced by multi-divisional conglomerates, with subsidiaries organized as administrative units rather than as legally independent companies. According to Servaes (1996), the "conglomerate merger wave" began in the 1960s, and diversification became a pronounced trend in the late 1960s.[7] We do not find direct evidence connecting the gradual demise of groups with the emergence of early conglomerates perhaps because additional data are needed to systematically examine this conjecture (see Bock, 1970). We do observe, however, that the number of firms that were formerly affiliated with business groups and subsequently involved in unrelated mergers and

[6] It is possible that pyramidal holding companies controlling public utilities in different States were, to some extent, a reaction to the introduction of antitrust laws: Writing during World War I, Mathewson (1915) refers to a public debate on the question whether public utility holding companies violate the spirit of antitrust legislation (he thinks they do not); Bonbright and Means (1932) mention market power-related reasons for the formation of pyramidal holding companies and groups which could affect competition (by setting prices and monopolizing procurement contracts) despite the existing antitrust laws. Anderson (1947) also refers to the ability of groups to fix prices and circumvent antitrust legislations in other ways.

[7] According to Dirlam (1970), over the period 1948-1968, almost 21% of the asset growth of the 200 largest corporations was accounted for by acquisitions. Conglomerate mergers played an increasingly important role in these acquisitions — the FTC estimates that they made up 37.5% of the large acquisitions in the period 1948-1951 and in 1968 they accounted for 88.5 % of acquired assets in large mergers. As a result of these mergers, corporations with assets exceeding $1 billion increased their share of total assets from 26% in 1948 to 46% by 1968. Similarly, the share of all assets held by the 200 largest corporations rose from 46.3% in 1948 to 60.4% in 1968. Beginning in 1963, the largest manufacturing corporations began to rapidly acquire non-manufacturing firms so that in 1968 the value of such acquisitions equaled that of the manufacturing assets acquired.

acquisitions in the 1950s and 1960s is negligible (Boyle, 1970; Dirlam, 1970)[8]; the list of large conglomerates established in that period includes only one of the 18 business groups in existence in 1950 – ITT (International Telephone and Telegraph; see Dirlam, 1970). Previous work relates the rise of US conglomerates to strong antitrust enforcement starting in the 1950s (such as the Celler-Kefauver Act of 1950, see Kamerschen, 1970), and draws no connections to prior membership in business groups.[9]

Finally, did the dissolution of groups in the United States contribute to the rise of stock market liquidity and other measures of financial development, which were perhaps impeded by the presence of pyramidal groups, as is often claimed in the law and finance literature (Morck et al., 2005; Khanna and Yafeh, 2007)? We provide preliminary (and rather inconclusive) answers to these questions towards the end of the paper: there is a considerable time lag between the demise of business groups and the marked improvement in measures of stock market development, suggesting that a causal link between the two phenomena is hard to establish.[10]

These findings, which represent the very beginning of the inquiry, have several interesting implications both for the history of corporate ownership in the United States and for corporate governance research.

One such implication is that (non-financial) business groups existed in twentieth century America, in contrast with commonly accepted stylized facts on corporate ownership today according to which business groups are primarily a phenomenon associated with weak investor protection environments where their presence results in under-developed financial systems (La Porta et al., 1999; Morck et al., 2005; Almeida and Wolfenzon, 2006).[11] The Securities and Exchanges Act, Investment Companies Act, and other key foundations of US investor rights were largely in place by 1940, while business groups persisted until 1950. If enhanced shareholder rights helped bring about the demise of business groups, their effect was slow to materialize. Stated differently, perhaps investor protection and related regulation can prevent the

[8] Instead, these firms apparently grew through small-scale vertical integration and horizontal (within industry) consolidation (Piccini, 1970).

[9] Wolf (1969) on the basis of an examination of "decided cases, complaints filed, published statements of enforcement officials, and academic writings," suggests various cases where conglomerate mergers would probably be illegal, the common factor of which is that they all include any possible combination of the 200 largest manufacturing firms with either equivalent or smaller size, companies in other sectors. The position taken by Attorney General Mitchell (see 115 Cong. Rec. 6659-61, June, 1969) was similar; based on Mitchell's guidelines the Wall Street Journal compiled a list of companies that (if merged with other business entities) would be probably violate the existing antitrust policy; most of the companies classified as group-affiliated in our sample are included in this list (June 9, 1969, p. 14, col. 12).

[10] Greenwood and Scharfstein (2013) date the beginning of the "growth of finance" in the United States to the 1980s, although a rising trend in the size of the financial sector can be observed starting in 1945. Philippon and Reshef (2012) observe a long time series of wages in the financial industry; they too date the beginning of the rising trend in compensation in the financial sector to the 1980s.

[11] In contrast with this conventional wisdom, Franks, Mayer and Miyajima (2012) argue that business groups co-existed with thriving equity markets in Japan of the 1930s. Business groups exist also in financially developed Common Law countries such as Canada, Hong Kong, and Israel.

emergence of new business groups, but in order to bring about the dissolution of existing ones, more dramatic measures are needed.

A second implication is that the currently typical US corporate ownership structure plausibly evolved slowly over a very long time period of over 60 years under a combination of pressures. In this sense, our focus on the 1930s and the 1940s complements the findings of Becht and De Long (2005), who describe the long evolution of corporate ownership in America in the first thirty years of the twentieth century.

A third implication pertains to lessons for policy makers in many countries (e.g., Korea, Israel, Italy and others), who design regulatory measures to limit the negative impact of business groups on the economy. For them, an important lesson from the present study is that regulatory measures of the kind implemented in the US in the 1930s may take a long time to have an effect on ownership structure: the demise of business groups in America lasted over a decade, even following very strict regulatory measures. This is consistent with the long time period required for regulatory and institutional changes to take effect in various historical contexts described in Sussman and Yafeh (2006; 2013). In developed democracies, the dominant factor that delays the implementation of reform measures is extended legal battles, especially in cases where regulatory changes are perceived as infringing on property rights and other fundamental freedoms. This was certainly the case in the United States in the 1930s and 1940s.

Finally, the findings of the present study imply that, even though regulatory measures restricting business groups in the United States date back to the 1930s, the forced dissolution of business groups in Japan (*zaibatsu*) by the American occupation authorities in the late 1940s preceded, or at best coincided with, the disappearance of business groups in the United States, rather than followed it, as previously believed. We argue that, when implementing the *zaibatsu* dissolution reform in Japan, the US occupation authorities had little previous experience in the dissolution of groups in their home country and so, in a sense, ran the first "experiment" of a large-scale forced change in corporate ownership in Japan (which they could not attempt at home), without much evidence from the United States or elsewhere. It may well be that it was the realization that reforms worked very slowly that led the US occupation authorities in Japan to use fiat to disband the *zaibatsu*, rather than relying on regulatory measures. Nonetheless, arguments that inter-corporate dividend taxation and the Public Utility Holding Company Act ought to be repealed because, with pyramiding no longer important in the US, they were "shaped by purposes that no longer exist" (Schaffer 1979, p. 170) are not obviously correct. The continued absence of pyramiding in the Unites States, especially given the persistence of pyramiding in Israel, Hong Kong, Singapore and its resurgence in the 1970s in Canada (all advanced Common Law countries), suggests at least the possibility that these measures serve as unappreciated, but potentially important, preventative safeguards.

The rest of the paper proceeds as follows. The next section reviews the history of business groups in the United States and the regulatory changes affecting them as viewed by contemporary observers and as reflected in more recent academic research. Section 3 presents our newly constructed data set on US business groups in the 1930s and the 1940s and establishes the set of stylized facts described above. In Section 4, we provide preliminary evidence on the link between the demise of business groups and measures of financial development in the United States. Section 5 concludes and presents a research agenda of which the present paper forms the first part.

2. Institutional Background and Literature Review

2.1 A Historical Overview of Business Groups in the United States

In this section we review the major milestones in the development and demise of holding companies and business groups in the United States. The main events described in this section are summarized also in an Appendix consisting of a graphical timeline and a table listing major regulatory changes.

Early years (1830-1870)

The concept of the corporation, which originated in Europe, was introduced to the United States at the end of the eighteenth century. Holding companies — where one business corporation owns the stock of another — were explicitly forbidden in many States because they were perceived as outside the scope of normal business, although local courts could allow such formations in special circumstances (Freedland, 1955).[12] In 1832, however, the Baltimore & Ohio Railroad Co. (B & O), a state-owned company incorporated in Maryland five years earlier and charged with the mission of constructing "a railroad from the City of Baltimore to the District of Columbia…," was authorized to acquire the stock of the Washington Branch Road Company and to formally establish the first known parent corporation in the United States. This corporate form, however, did not expand in the following three decades until, in 1868, Pennsylvania chartered the first pure holding company — the Continental Improvement Company. The State Legislature gave this company the authority to hold and own securities of any form in order to construct the Grand Rapids and Indiana Railroad. In the next four years,

[12] Interestingly, Freedland (1955) regards this as a basic tenet of Common Law: "At common law, in New York and virtually every other American jurisdiction, it has been uniformly held that a business corporation has no inherent authority to hold the stock of another business corporation, even if both corporations are engaged in exactly the same type of business venture" (p. 369). Canada, Hong Kong Singapore and Israel, where holding companies and business groups do exist suggest that not all Common Law courts perceive it that way.

forty pure holding corporations were created in Pennsylvania. We are not aware of an explanation for this development, which may have been a result of legislative favoritism and corruption (Bonbright and Means, 1932). Some of the newly created holding companies, such as the Penn Company, United Gas Improvement Company, American Bell Telephone Company and the Philadelphia Company would play key roles in the history of American railways and the public utility and industrial finance sectors. Nevertheless, the holding company structure remained a rare phenomenon during this period.

The 1870s - 1914

In the last third of the nineteenth century the US economy experienced a significant industrial transformation. Railroad and telegraph networks expanded rapidly, the exploration of natural resources intensified and major technological changes, such as the introduction of electric power, created a vast range of business opportunities. In addition, due to mass migration, the US population more than tripled, from 23 million in 1850 to almost 80 million in 1900 (Cochrane, 1972). All these factors contributed to the transformation of the US economy from a predominately rural society to an industrial economy with national and competitive markets operating in metropolitan areas. These changes brought about a significant transformation in corporate structure, as many leading industries became dominated by a small number of large, vertically integrated and centrally-controlled enterprises (Chandler, 1959). Intense competition led to the development of various methods designed to foster collusion, exercise market power and achieve joint control of markets. Two devices were particularly important in attaining these objectives.

The first was "pool agreements" (an arrangement between competing parties to fix prices or rates and share business in order to eliminate competition) which were common in manufacturing and in railroads during the 1870s, but declined in importance afterwards, as these collusive arrangements were often not enforceable and once anti-trust legislation was introduced, deemed illegal. The second anti-competitive device was "trusts" — a combination of companies tied together through a legal device.[13] This mechanism first appeared in 1879 with the formation of the Rockefeller-controlled Standard Oil Trust. Trusts declined in importance in the early 1890s with the dissolution of New York Sugar Trust (1890) and Standard Oil (1892)[14] in the first

[13] In certain respects, "trusts" are the antecedents of holding companies. J.P. Mogan, for example, used a trust to run firms in different industries and so amounted to something akin to a diversified business group. In contrast with a business group, each company in a trust is owned and controlled by different individuals. Morgan had representatives on many boards of companies within his "trust" and thus achieved control over them.

[14] This was not confirmed until all the appeals ran out in 1911.

major implementation of the Sherman Act (1890) which declared as illegal every trust "in restraint of trade or commerce among the several States."

The holding company structure emerged as a possible solution to the legal obstacles against trust agreements and other collusive arrangements. In 1888 the State of New Jersey became the first to amend its laws and explicitly allow every corporation to hold stocks in other corporations ("The New Jersey Holding Company Act"), thus ending the era in which special incorporation charters were required for this purpose. One explanation for New Jersey's legal revolution may have been the desire to increase revenues by attracting companies to the State and collecting incorporation fees and franchise taxes (Freedland, 1955; Nelson, 1959; Grandy, 1989). By creating a friendly home environment for groups of firms in the same industry, New Jersey sought a competitive advantage over other States in the Union.[15] In this respect, New Jersey's legal reform was successful — of the 64 large-scale mergers and consolidations (with value of over $1 million) that took place between 1895 and 1904, 80% were incorporated in New Jersey. In fact, all seven "industrial giants" as well as half of Moody's 318 industrial trusts (a figure which probably includes a few holding companies as well) emerged in New Jersey (Moody, 1904).[16] Nevertheless, little use was made of the holding company structure in the 1890s[17] until the reorganization of Standard Oil Trust in 1899 using a holding company structure fostered the view that this was a legitimate device for corporate owners to create large, horizontally-integrated business groups while avoiding close scrutiny and strict regulation imposed by the Sherman Act (Keller, 1979). Around the turn of the century several major business groups were created using the holding company device, including the Consolidated Tobacco Company, Eastman Kodak, US Steel (all in 1901), followed by and DuPont (1903) and General Motors (1908) (Bonbright and Means, 1932; Nelson, 1959).[18]

[15] Contemporary observers did not fail to notice New Jersey's role in the creation of big business. For example, an article by Lincoln Steffens titled "New Jersey: A Traitor State" (1905), claimed that "New Jersey is selling out the rest of us" and pointed out that the State had become a "corrupted refuge-house for trusts." Alternatively, New Jersey's legal innovation could be perceived as a typical case of "infant law," as corporate law was at the time in the United States. Users of "infant law" are not always fully aware of the implications of a new legal phenomenon.

[16] The book describes more than 400 "greater" and "lesser" trusts in American industry. In Moody's language, a "trust" was not limited to the strict legal sense of trust agreements, but rather referred to any kind of coordinated economic activity, including a holding company, presumably. As Moody himself explains in the preface to the book, "the term trust is applicable to any act, agreement or combination believed to possess the intention, power or tendency to monopolize business, interfere with trade, fix prices etc." Moody's list of trusts is restricted to corporations controlling two or more plants.

[17] Jones (1928) reports that out of the ten most important monopoly-seeking consolidations formed between 1889 and 1897, only American Cotton Oil Company made use of a holding company, whereas the remaining nine cases were "fusions" (i.e. mergers, amalgamations or outright purchases of the assets). According to Bonbright and Means (1932) out of 41 important industrial consolidations in 1898-9 only six appear to have been based on a holding company structure.

[18] Between 1895 and 1904, 167 holding groups consolidated more than 1800 companies and controlled more than 40 percent of the capital invested in the industrial sector (Hogan 1971; Keller, 1979).

The holding company structure, as in the case of trust agreements, was challenged on political, legal and economic grounds. In March 1904 the Supreme Court invalidated a large holding company-based merger plan in the railroad sector under the management of the Northern Securities Company.[19] In May 1911 the Supreme Court ordered the dissolution of American Tobacco and Standard Oil due to violations of the Sherman Act.[20] In October 1914 the Clayton Antitrust Act was enacted by Congress, broadening the Sherman Act-imposed constraints on industrial monopolies. Section 7 of the Clayton Act prohibited one company from holding controlling stocks of a rival company if the result was the substantial lessening of competition between these two firms.[21] In fact, the Clayton Antitrust Act was the first piece of Federal legislation to explicitly link the two concepts, holding companies and trust agreements, viewing the former as a substitute for the latter and both as mechanisms for reducing market competition.[22]

The "Golden Age" (1915 – 1928)

Despite the development of antitrust legislation, in the period between World War I and the onset of the Great Depression, many holding companies evolved into full-fledged business groups. A number of factors contributed to this development. First, inter-state competition, intended to attract businessmen and corporations, was an important factor in the establishment and maintenance of groups. In the twentieth century, New Jersey's position as the "Mother of Trusts" was challenged by other states, which adjusted their laws so as to encourage companies to locate their headquarters within their borders. West Virginia, Maryland, Maine and especially Delaware and New York competed for the niche previously held by New Jersey. The latter two together accounted for about 75% of the capital of companies involved in mergers and consolidation during the period 1915-1920, a figure roughly equivalent to New Jersey's share around the turn of the century (Nelson, 1959).

A second reason for the proliferation of business groups was that the interpretation of Section 7 of the Clayton Act was arbitrary; in cases where the merging companies which were not competing in the same market or not engaged in interstate commerce, there was no risk of

[19] According to Prechel (2000), the decision was based on the form of consolidation: The Northern Securities case was considered an "unreasonable restraint of trade" primarily because of the holding company pyramidal structure. However, because the case involved railroad companies which were considered natural monopolies, it was not clear if the decision could be applied to industrial corporations as well.
[20] See the USA v. American Tobacco Company, 221 U.S. 106 (1911) and Standard Oil Company of New Jersey v. USA, 221 U.S. 1 (1911).
[21] Clayton Act 1914; 38 stat. 730, Sec. 7.
[22] Nevertheless, to ensure that the bill was not too restrictive, the term "holding company" was deleted from the final version of the act. The establishment of the Pujo Committee by the House of Representatives in 1912 was also part of the pro-competition spirit of that era, see House Resolutions no. 429 and 504.

violation of the Act (Bonbright and Means, 1932; Martin, 1959). Thus, of the 26 largest industrial groups listed by Moody's in 1929 (see a description of this historical source below), 17 were formed in or after 1912, that is, in the period when the Clayton Act was already in place.

A third reason for the "golden age" of business groups in the United States in the 1920s was the free markets ideology of Calvin Coolidge, who assumed the presidency in 1923. The Coolidge administration essentially emasculated US antitrust policy by re-tasking the Federal Trade Commission (FTC) to promote industry trade association agreements and re-tasking the Department of Justice to pre-clear mergers (Bittlingmayer, 2001). The result was a virtual suspension of antitrust enforcement, prompting the prominent antitrust lawyer Gilbert Montague to pan the Sherman Act as dead letter law (Bittlingmayer 2001, p. 378). This situation persisted until 1929, when the newly inaugurated president, Herbert Hoover, acting on FTC reports compiled during Coolidge's final years in power, ordered a reassessment of the policy changes.

Finally, the new Federal tax code, the Revenue Act of 1918, provided a clear incentive for the increase in number and influence of holding companies and business groups by making inter-corporate dividends fully tax deductible. The Revenue Act of 1918 was a clear departure from the Revenue Act of 1913, which did not distinguish inter-corporate dividends from other types of income, subjecting them to full taxation and providing no tax-incentive to create business groups (Morck, 2005a).

As a result, holding companies and business groups were formed in various sectors, but especially in public utilities, i.e. electricity, gas and transportation-related services. The utilities sectors, which had grown tremendously in the early decades of the twentieth century, became characterized by groups of giant corporations controlled through holding companies (Ruggles, 1929; FTC Annual Report, 1927). According to Ruggles (1929), the large, multi-state, inter-connected scale of operations offered an opportunity for the development of the public utility holding company, which could provide financial and managerial assistance to small, local, operating companies. Electric utility holding companies such as General Electric, Standard Gas and Electric Co., United Gas Improvement Co. and many others, became involved in the management of many operating companies. In contrast to the holding companies of the turn of the century which were apparently aimed at achieving market power (Stigler, 1950; Markham, 1955; Nelson (1959), the holding companies and groups of the 1920s were allegedly able to achieve efficiency gains in the utilization of capital and equipment and to benefit from low distribution costs, professional management, monopsony power in the acquisition of supplies, joint engineering, construction and R&D outlays, as well as low costs of capital due to diversification (Waltersdorf, 1926).[23] Many of these holding companies were affiliated with, or controlled by, the Morgan family (Cochrane, 1972; De Long, 1991).

Holding companies and the business groups controlled by them increased in importance both through the growth of existing subsidiaries and through the acquisition of new ones. In 1924 there were approximately 150 public utility companies in the United States; utility companies belonging to groups accounted for almost 75% of all electricity generated in 1926 (Pinchot, 1928); by 1930, 90% of all operating companies in electricity were ultimately controlled by merely 19 holding companies (Public Utility Holding Company Act, 1935; Energy Information Administration, 1993). Four public utility holding companies dominated the US gas industry; one holding company, AT&T, together with its subsidiaries, controlled approximately 97% of the total telephone business in the country.[24]

Despite its alleged operational benefits, the growth of holding companies raised concerns about their extensive acquisitions, possible over-capitalisation (the costs of which might be reflected in charges to the public through rate regulation, see an explicit quote from Anderson, 1947, below), reduced competition, and even political corruption (Waltersdorf, 1926; Buchanan, 1937). In addition, many pyramidal holding companies seem to have used accounting loopholes to inflate the value of their assets and increase leverage (Graham and Dodd, 1934).[25] Finally, forming a holding utility company became a way to reduce regulation: holding companies that were engaged in interstate commerce had to be regulated by the Federal Government; once an operating utility became a subsidiary of an out-of-state holding company, individual States could no longer regulate them.[26]

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[23] In addition, Eis (1969) claims that many groups formed in the late 1920s were characterized by vertical integration, especially in the copper and chemical industries. He reports that 38% of the 1926-1929 acquisitions involved vertical, vertical-horizontal or quasi-vertical ties.

[24] By 1928 the use of holding company device was widespread: out of 573 corporations listed on the New York Stock Exchange, 92 were pure holding companies and an additional 395 were both holding and operating companies. Of the pure holding corporations, 69 were in manufacturing 21 were public utilities and two were related to railroad operations. By contrast, 83 of the 86 listed operating companies were manufacturing companies vs. only three public utilities. Of the 92 pure holding companies, only 15 existed in 1910, 23 were established between 1913 and 1920 and the remaining 54 were established after 1928 (Berle and Means, 1932).

[25] See also *Hearings before the Committee on Banking and Currency*, United States Senate, 73d Congress, 1st Session, on Senate Resolution 84 of the 72d Congress and Senate Resolution 56 of the 73d Congress, Part 2, pp. 563 on 84 of the 72d Co 1933ss "Stock Exchange Practices."

[26] Contemporary observers viewed the absence of regulation of holding companies in the public utility sector as particularly worrisome (Buchanan, 1937). Even though the public utility sector was heavily regulated at both the State and the Federal levels, the holding companies themselves were left almost unnoticed with no Federal law provided for their direct supervision except the Federal Power Act of 1920, which allowed for the control of licensing for hydroelectric power projects. At the State level, in the vast majority of cases, public utility commissioners had no jurisdiction over holding companies, although indirect influence through the regulation of retail prices and of transactions with operating companies within State boundaries was possible. See also: President Roosevelt's message to Congress in 1935 (http://www.presidency.ucsb.edu/ws/index.php?pid=15019), Buchanan (1937) and Energy Information Administration (1993).

Public utility holding companies and groups were not the only business groups present in the United States on the eve of the Great Depression. In the second half of the 1920s new, more diversified, groups were created by investment banks (Kotz, 1978). The growth of these groups was apparently driven by ambitions for size and influence more than by considerations of economic efficiency and monopoly power: “Whole strings of companies with no particular relation to, and often essentially unconnected with, units in the existing system have been absorbed from time to time. Among the subsidiaries in the holding company systems were companies engaged in one or more of a variety of enterprise — coal mining production, refining, and transportation of oil; wood, coal and oil retailing; foundries; textiles; farming, irrigation, orchards; taxicabs; ice and cold storage; towing and lighter age; real estate, finance and credit, water, street railways, railroads, bus transportation and telephone companies” (SEC Annual report, 1944). These groups were often regarded as convenient vehicles for speculation in the member companies’ securities (Kotz, 1978).[27]

The Great Depression and the Early Years of the Roosevelt Administration, 1929-1935

The abovementioned concerns and the changing economic conditions of the late 1920s led to growing public hostility towards holding companies and business groups, which translated into a negative attitude by the authorities towards them. In 1927, the FTC published a report on the “Control of Power Companies.” The commission was directed to investigate by what means the General Electric Co. or its stockholders, monopolize or control the electric power industry and to report to the Senate on the “manner in which the said General Electric Co. has acquired and maintained such monopoly” (FTC Annual Report, 1927, p. 30). This first FTC investigation, which referred also to other big groups in the electric utility industry, made no substantial allegations against them (*Ibid*, pp. 32-33). As a result, in March 1928, following a resolution by

[27] Markham (1955) describes the role of investment banks in the consolidation process: “Many mergers, and some acquisitions, involve the flotation of new securities. In periods like 1928 and early 1929, when there is almost an insatiable demand for securities, the merger movement will be certain to flourish. Its most active sponsor is the investment banker. Reputable business houses merely carrying on their business under their existing organization bring a very slight volume of new securities for the banker to handle. But if they can be brought together into a new organization it may mean a large flotation of stock. During 1928 and 1929 some investment houses employed men on commission who did nothing but search for potential mergers. One businessman told me that he regarded it as a loss of standing if he was not approached at least once a week with a merger proposition. A group of businessmen and financiers in discussing this matter in the summer of 1928 agreed that nine out of ten mergers had the investment banker at the core… While oligopoly (with and without product differentiation) and distribution and production economies undoubtedly motivated some of the mergers, others certainly had promoters' profits as their principal objective. In any case they seem to have given little impetus to monopoly growth, although they are reflected in a concomitant increase in concentration of control of assets. It is not surprising, therefore, that the public's reaction to the merger movement of the 1920s was not more rigid enforcement of the Sherman Act, but the enactment of the Securities Act of 1933, the Securities Exchange Act of 1934, and the Holding Company Act of 1935” (p. 173).

the Senate, the FTC launched a second investigation of the holding companies. This investigation was much broader and dealt with problems in both the electricity and gas industries.

Also in 1928, an informal association of State utility commissioners ("The National Association of Railroad and Utility Commissioners") criticized in its annual report "the holding company method of control" and described "the adverse public sentiment aroused against holding companies." The report argued that the authority of State Commissioners regarding holding companies was too restricted and recommended legislation giving State Commissioners direct and explicit jurisdiction over the holding companies (Greenlaw, 1930; Morehouse, 1929).

With the end of the Coolidge administration, the onset of the Great Depression in 1929, and in light of public anger against the "big business," ideas of breaking the "money trusts" gained popular support. The anti-big business sentiment was fuelled by the collapse of the Insull Group, the third largest utility group with combined assets of $2.5 billion. In 1931, the highly leveraged Insull Group could no longer service its debt following a sharp drop in its electricity-based revenues. Dividends to preferred stockholders and intra-group loans to the two top holding companies further weakened the group (Cudahy and Henderson, 2005). By the end of 1931, Insull's creditor-appointed auditor concluded that the group's wealth was a mere accounting illusion. In June 1932 Samuel Insull, the head of the group resigned from all the 85 directorships and 11 presidential posts he held and fled to Europe (Mahoney, 2012), leaving many hundreds of thousands of creditors and shareholders with nearly worthless claims on the group's assets (Bank and Cheffins, 2010). Because the group firms had been co-insuring each other (Khanna and Yafeh, 2005), they finally failed at once, generating spectacular headlines.[28]

Insull Group's fate was soon shared by other groups. In the next six years 53 holding companies and 36 utilities companies went bankrupt (Melnyk and Lamb, 2006), often following over expansion and unrelated diversification (SEC 1944 Annual report; Buchanan, 1936 and 1937; Dewing 1941).

In 1932 the Interstate Commerce Commission (ICC) submitted to Congress a special report[29] recommending the prohibition of control acquisitions over two or more railroad carriers by a single holding corporation (except with ICC approval), and the application of ICC regulation for the issuance of securities by railroad holding companies (Ansnes, 1932).

In January 1933, F. D. Roosevelt was elected as President of the United States. During his presidential campaign Roosevelt lashed at the large holding corporations, which he saw as

[28] Galbraith (1954) describes the failure of the holding companies differently, focusing on what he calls "reverse leverage" where inter-corporate dividends are used to pay interest on bonds issued by companies at the apex of pyramids. In his view the downturn of the late 1920s created a liquidity problem and reduced the capacity of daughter companies to pay dividends, resulting in bankruptcies of many parent holding companies.
[29] H. R. 11677, 72nd Cong., 1st Sess. (April 28, 1932).

"power trusts" and "a menace to the whole country." In a campaign speech in Oregon, Roosevelt specifically attacked the collapsing Insull Group:

> "…The crash of the Insull Empire has given excellent point to the truth of what I have been arguing for four long years… The great "Insull monstrosity," made up of a group of holding and investing companies, and exercising control over hundreds of thousands of operating companies, had distributed securities among hundreds of thousands of investors, and had taken their money to an amount running over one and a half billions of dollars… That "Insull monstrosity" grew during the years of prosperity until it reached a position where it was an important factor in the lives of millions of our people… [T]he methods used in building up these holding corporations were wholly contrary to every sound public policy. The Insull failure has done more to open the eyes of the American public to the truth than anything that has happened. It shows us that the development of these financial monstrosities was such as to compel inevitable and ultimate ruin."[30]

In May 1933, the Emergency Railroad Transportation Act (1933) was enacted. Among others, it broadened the ICC's jurisdiction over holding companies, declaring them a common railroad carrier and subjecting them to regulation as such. For example, all consolidations, leases, acquisition of controlling shares or control arrangements by a holding company required ICC approval (Conant, 1961; Goddard, 1933). In the same month, the newly assembled 73rd Congress enacted the Securities Act of 1933. Its purpose was to regulate the issue of new securities, mainly by enforcing various disclosure obligations on issuers and underwriters. In June 1933, the Congress enacted the Banking (Glass-Steagall) Act, which separated commercial banking (i.e. deposits and loans) from investment banking.

In June 1934, the Congress enacted the Securities Exchange Act which regulated securities markets, extended disclosure requirements and established the Securities and Exchange Commission (SEC) as the regulatory body responsible for this task. This new regulatory body will play a role in the regulation of business groups, in addition to the already existing Federal Trade Commission (FTC).

In July 1934, Roosevelt established the National Power Policy Committee (NPPC), which was instructed to study the public utility industry and propose further legislation (Mahoney, 2012). Robert Healy, the SEC Commissioner, was responsible for investigating the issue of holding corporations. The NPPC's investigation was conducted simultaneously with two similar investigations of the holding corporations, one by the Congress through the FTC, and the other by the government through the Federal Power Commission (Funigiello, 1973). The final outcome of the NPPC investigation was the Public Utility Holding Company Act (PUHCA).

On January 4th, 1935, President Roosevelt, during his second State of the Union address, said that "among the subjects that lie immediately before us is… the restoration of sound

[30] September 1932. The full text is available at: http://newdeal.feri.org/speeches/1932a.htm.

conditions in the public utilities field through abolition of the evil features of holding corporations.[31]" Following the President, on January 11th, 1935, Sam Rayburn, the Speaker of the House, said that he wanted to "eliminate rather than regulate" holding corporations (Mahoney, 2012).

On January 27th, 1935, the FTC released a report, after nearly seven years of investigation (starting under the former Hoover Administration).[32] Its research covered over 60 major holding corporations and nearly 100 operating companies, with total assets of nearly $12 billion, all in the public utility sector.[33] Its findings portrayed an unfavorable picture of the holding companies' grip of the public utility sector, detailed their abuses, and concluded that "the detriment of utility holding corporations to the public has exceeded, thus far, their value to the public".[34] The FTC recommended exercising Federal control over utility holding companies either through taxation or through direct prohibitive legislation.[35]

"Under Attack" (1935 -)

On June 19th, 1935, President Roosevelt sent a special tax message to Congress, which included sections explicitly designed as incentives for the elimination of holding corporations (Blakey and Blakey, 1935). The President's campaign against pyramidal groups relied on two novel regulatory tools — taxation of inter-corporate dividends and fiat restrictions on holding companies in public utilities sectors. These tools were supposed to address concerns about the anti-competitive effects of public utility pyramidal groups expressed in the FTC's report. The existing antitrust regulation in the United States at the time was considered too weak to handle the pyramidal holding groups (Roosevelt, 1935).

Changes in the tax law introduced in the mid-1930s included: the prohibition of consolidated tax reports in 1934 (as they were often used to conceal the true financial situation of certain group companies); a 10% tax on inter-corporate dividend payments introduced in 1935 (raised to 15% in 1936); and preferential tax treatment for pyramids which liquidated subsidiaries or incorporated them into existing group firms. However, some observers expressed doubts about the effectiveness of anti-group tax-based tools in view of extensive tax planning exercises by affected corporations (Magill, 1939; Rolbein, 1939; Schaffer, 1979).[36] Similarly, a report issued by the Temporary National Economic Committee on the Concentration of

[31] Available at: www.presidency.ucsb.edu/ws/index.php?pid=14890#ixzz1cwHQ1pUl.
[32] Available at: www.ftc.gov/os/annualreports/ar1935.pdf.
[33] FTC report, 1935, p. 20; Energy Information Administration (1993), p.16.
[34] FTC report, 1935, p. 26.
[35] FTC report, 1935, p. 27.
[36] Rolbein (1939) describes non-cash dividends and stock rights as methods for tax avoidance and Magill (1939) considers the tax rate to be too low.

Economic Power (TNEC) for the period 1939-1940 argued that inter-corporate dividend taxation had a “rather negligible” effect on the development of the groups during the 1930s.

In August 1935, the Congress passed the Public Utility Holding Company Act (PUHCA). In addition to mandating registration of public utility companies and imposing severe restrictions on their activity (e.g. restrictions on intra-group loans and dividends, restrictions on intra-group transactions, restrictions on group lobbying and more), the Act included the “Death Sentence Clause” stipulating that, in order to remain under common control, public utility groups had to have a connected infrastructure and focus only on one industry (i.e. either electricity or gas). The “Death Sentence Clause” permitted holding companies to control operating public utilities directly, essentially limiting pyramids to two tiers — the holding company and its controlled operating subsidiaries.

Until 1940, the Act was challenged in courts several times and seemed to have little impact. In 1940, after a change in the composition of the Supreme Court, the Act became subject to harsher interpretation by both the courts and the SEC. The SEC attempted to induce the dissolution of 13 groups and also tried, following novel legal interpretations of the Act, to force groups to divest unrelated companies and to cease operations in non-adjacent States. In view of the heightened public awareness of investor protection issues starting in the late 1930s (after the collapse of the highly leveraged *Insull* group) and the growing concerns for the low shareholder returns on investment in public utilities, the SEC also tried to prevent groups from issuing non-voting shares and to limit their leverage. The legal struggle on the implementation and interpretation of the PUHCA ended in only 1946 when the Supreme Court finally affirmed the “Death Sentence Clause.” [37]

2.2. Academic Research on Corporate Ownership in America: From the 1930s to the Present

The most comprehensive contemporary source on US pyramids and business groups in the 1930s is Bonbright and Means (1932). They describe several types of groups in existence in the early 1930s: pyramids consisting of public utilities from different States, railroad pyramids, industrial pyramids and a few bank-centered pyramids. Most of the groups they describe were focused in a single sector, sometimes controlling vertically related companies (especially in copper, chemicals and railroads). Bonbright and Means (1932) offer a variety of rationales for the development of groups, which correspond, to a surprising extent, to arguments in the modern literature (e.g. Khanna and Yafeh, 2007). They claim that groups were established to take

[37] The historical account in this section makes no reference to World War II. We are not aware of any evidence linking the fate of business groups in the United States with the social and economic changes associated with the War.

advantage of rare managerial skills; to create an internal capital market for group-affiliated firms, which may have faced difficulties in raising capital on their own; and to benefit from the "cost plus" regulation of electricity and other rates (for example, an upstream supplier which was not subject to rate regulation, could charge the public utility company an excessive price, thus affecting the rate charged to consumers). In addition, following earlier work by Means (1931) and Berle and Means (1932), Bonbright and Means (1932) discuss at great length the ability of the controlling shareholder to divert dividends away from the minority as an additional reason behind the formation of groups. Only in the late 1990s did the Law and Finance literature re-establish the link between pyramidal business groups and what became known in modern parlance as "tunneling".[38]

Buchanan (1936) regards complex ownership structures involving multiple firms within a group as (among other things) a mechanism corresponding to what the modern literature on groups has referred to as mutual insurance or risk sharing (Khanna and Yafeh, 2005). Gordon (1938) describes the "giant corporations" of his time, focusing on inter-corporate holdings in utilities and railroads. He emphasizes that these groups are "almost uniformly in the same industry" (p. 385). Troxel (1942) is the first (as far as we know) to connect the capital structure of business groups, as well as the "excessive" debt and/or dividends of public utility pyramids, with concerns about investor welfare, controlling shareholders' conflicts of interest, and the like. Anderson (1947) provides an illuminating description of how US business groups in their early stages of development solved problems of what the modern literature has called "missing institutions" (e.g., under-developed capital markets), but later became associated with price fixing, related party transactions, pyramiding and violations of investor rights.[39]

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[38] Most of the 1930s literature dealing with pyramidal groups was antitrust-oriented and tended to ignore conflicts of interest among different types of shareholders. For an early exception, see Field (1933).

[39] On the positive side, Anderson (1947) writes: "In the period before 1910 in the public utility field, it (the holding company) made a definite contribution in financing the purchase of utility plant and equipment. Even in the 1920s many holding companies continued to render valuable services to young and growing operating companies. They assisted materially in financing, in super-vision of construction, in supplying continuous engineering, accounting, and legal counsel, and in buying materials and supplies at lower prices for the individual operating units. When the holding company functioned in this manner it behaved like the modern corporate version of Adam Smith's self-interested, omnicompetent entrepreneur organizing the factors of production in the market" (p. 244). He also refers to the "abuses" of holding companies: The lack of what courts called "arms-length bargaining" meant that as between parent and subsidiary in the pricing of services, of construction work, and of equipment and materials, charges were excessive. All this meant that in economic terms these internal exchanges between holding company and operating company were untested by the forces of a free, competitive market. Not satisfied to sell and serve at excessive prices, some parent companies begged "up-stream" loans from the subsidiaries at low rates of interest. Moreover, "pyramiding" had produced an entity in organized business that behaved more and more like a government. If control by relatively fractional interests "within" a corporation had become common and a challenge to the concept of individual enterprise, then the pyramid holding company made mockery of the private property concept in which the central feature is disposition and control of productive instruments. In the issuance of securities a variety of evils grew and spread like a cancer. Lack of uniform accounting made the earning position of the issuing company uncertain, the investment market less efficient in its pricing function. Free from the need to comply with issue requirements of state governments, holding company securities were being marketed on the basis of fictitious

In addition to the mixed evaluation of the effectiveness of inter-corporate dividend taxation by contemporary observers mentioned above, writings on the "Death Sentence Clause" are also controversial. Anderson (1947) does not think it implies the elimination of all holding companies and actually believes that the outlook for them is "quite positive." Indeed, while by June 1945 as many as 342 holding companies had been divested (p. 251), many others submitted reorganization plans for SEC approval. By contrast, Harry McDonald, Chairman of SEC in the early 1950s portrays a more positive picture: by the end of 1950, 759 companies with gross assets of over $10 billion were divested by holding companies and were no longer subject to SEC jurisdiction (supervised reform).[40] In addition, according to McDonald, the geographic spread of groups was reduced: Whereas in December 1938, 14 registered groups provided gas and/or electric services in ten or more States and 14 others served five or more States, in 1950 none of them served a ten-state area and only eight operated in five or more States (McDonald, 1951).

Moving to more recent studies of the evolution of corporate ownership in the United States, Roe (1994) attributes the "exceptionalism" of (dispersed) corporate ownership (in large firms), which has evolved in America since the 1930s, to political developments and, in particular, to America's "love of (free) markets" combined with "hatred of monopolies." Becht and De Long (2005) present a more nuanced view and suggest that American political values alone cannot account for the peculiarity of corporate ownership in the United States and that a variety of other factors (such as the need of controlling shareholders to diversify their holdings in growing firms) were at play. Morck (2005a) and Morck and Yeung (2005) study the demise of business groups in the 1930s and emphasize the inter-corporate dividend tax of 1935 as the most important regulatory measure of the period. Bank and Cheffins (2010) disagree and argue that the introduction of the inter-corporate dividend tax could not have fostered a rapid dismantling of corporate pyramids, because they had already become rare by that time. Although they concede that pyramids were indeed prevalent in utilities sectors, they claim that the demise of utility pyramids was prompted by the Public Utility Holding Company Act of 1935 rather than the tax reform. Mahoney (2012) also views the Public Utilities Holding Company Act as a

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asset values, thus burdening the operating companies with the support of overcapitalized structures and tending to prevent voluntary rate-reductions. Even the market itself was manipulated to bring higher prices for holding company floatations of stock. And finally, the limits of managerial efficiency were being exceeded in the cases of scattered and fragmentary holdings that were clearly unrelated to any scheme of integrated and coordinated operating properties" (pp. 245-246).

[40] These figures include 249 electric and 147 gas companies which were released from holding company control and 363 non-utilities divested. In addition, 225 companies whose assets amounted to over $6 billion were divested by their original parents but continued to be regulated by SEC due to their relationship to other holding companies. "SEC jurisdiction" affected 919 designated group-affiliated electric and gas companies at one time or another, of which only 214 were still under SEC jurisdiction at the end of 1950.

crucial legislative benchmark in the demise of pyramids and conducts an event study analysis showing that the Act was detrimental to investors (i.e. led to negative excess returns).

As will become clear below, the systematic evidence provided in the present study presents a more nuanced picture than both the Morck-Yeung view and the Bank-Cheffins-Mahoney view: while the inter-corporate dividend tax did not directly lead to the rapid disappearance of most pyramids in the United States (at least not immediately), neither did the Public Utilities Holding Company Act. And, while it is true that many of the pyramids of the 1930 were in the public utilities sector, it is not the case that pyramids were rare in other sectors.

In sum, the existing literature leaves questions about the prevalence of business groups in the United States of the 1930s and the reasons for the demise in subsequent decades unanswered. In the next section we provide the most comprehensive and systematic evidence on these issues using a newly constructed data set.

3. The Prevalence and Demise of Business Groups in America – Empirical Evidence

3.1. Historical Sources and the Construction of the Data Set

Our dataset contains annual information on ownership and some financial variables for approximately 2,500 US companies. The sample is an unbalanced panel of about 15,000 firm-year observations drawn from six points in time: 1926, 1929, 1932, 1937, 1940 and 1950. The main data source is Moody's Corporate Annual Reports for the railroad, public utility and industrial sectors (published in three separate manuals).[41] A typical report contains general information about each company, a brief description of its history, a limited number of financial variables as well as some information about its capital structure and management.

First, we explore the ownership structure of the 200 largest (measured by total assets) non-financial corporations reported in Berle and Means (1932). Firms in this sample are from the manufacturing, mining, and various service sectors; financial companies are excluded.[42] We use Moody's Manuals to track the chain of companies controlled by these 200 "parent corporations" in 1926 and construct 200 detailed ownership trees including parent corporations and subsidiaries (controlled companies) at various levels. Then we follow the same pyramids and companies over time in snapshots, constructing similar ownership trees.[43] All companies that

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[41] The manuals, scanned and uploaded onto an online database, are available upon subscription from Mergent Online (http://webreports.mergent.com/).

[42] Because financial companies are excluded, the Morgan Group in the sample consists of the holding and operating units controlled by the group but not its financial institutions.

[43] To test for the possibility of sample selection we conduct the two following tests: first, following Lundberg (1937), Collins and Preston (1961) and Navin (1970), we confirm that our sample is representative of the overall US corporate population: the combined assets of firms included in our data set amounts to over half of all non-banking corporate assets in America at the time. Berle and Means (1932) report that, during their period of study, the remaining corporate assets were held by more than 300,000 small and widely-held companies. Second, to control for the possibility of selection in the ownership data as reported in Moody's manuals, we pick at random nine parent

were subsidiaries of a parent corporation (or controlled by it) at any time point between the late 1920s and 1950 are included.[44]

We then identify the ultimate owners of each parent corporation. We verify if one or more parent companies are controlled by another parent corporation included in the original list and, if this is the case, combine their ownership structures. Next, we use several different sources (Moody's reports, the website fundinguniverse.com, historical texts from archive.org, historical company records, SEC annual reports starting in 1935, the archives of the Wall Street Journal and the New York Times, and the final report of the Temporary National Economic Committee on the Concentration of Economic Power, TNEC) to identify the ultimate owners of each one of the parent corporations at given points of time. We define owners as "ultimate" if they themselves are not controlled by another entity: the ownership of the ultimate controlling company may be widely-held, or it may be controlled by a financial trust, a foreign company, the State, or individuals and families. Finally, having identified ultimate owners, we sort parent companies and their subsidiaries into clusters (or groups) commonly controlled by the same ultimate owner.

As in Mahoney (2012), a subsidiary of which 95% or more of the shares are controlled by a parent is defined as a fully owned subsidiary, whereas affiliated companies where the controller's equity stake is smaller than 95% is regarded as a separate public company. More specifically, in the period we study there were no legal limits on the types of shares a company was allowed to issue. As a result, companies could issue several classes of shares, each one with a different set of voting rights, dividends, etc. For the purpose of this study we are interested only in those share classes with fixed voting power at the general shareholder meeting (typically called "common stock," although they could have other names). Stocks without voting power at all, or stocks with limited and/or conditional voting power are not included in this research.[45] Thus, if no more than 95% of a company's common stock is owned by either a parent company

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companies from the three different manuals (railroads, public utilities and industrial firms) and compare the list of their controlled subsidiaries in their consolidated reports with their subsidiaries as reported by Moody's. 291 companies existed in both data sources but 144 are not in our (Moody's report-based) dataset. Most of these are small (in terms of total assets), 100% controlled subsidiaries.

[44] It should be noted, however, we are not always able to identify the reason why a firm may not appear in the sample in a certain year. In most cases, we rely on Moody's reports, and conclude that the "missing" company was either dissolved or merged into another company, or that it was simply not yet established. In other cases, Moody chose not to include the firm's reports in the manual because of "lack of public interest." Finally, especially in the case of small subsidiaries entirely owned by larger firms, Moody often chose not to provide a separate report for them. Instead, a brief paragraph is included in the controlling company's report, describing the main facts about smaller controlled subsidiaries. Nevertheless, there are still cases where we cannot establish the fate of a company.

[45] The exclusion of non-voting shares could potentially bias the cash flow rights and the wedge between control and cash flow rights which we derive for each group-affiliated firm. This bias is unlikely to be severe: aggregate ownership data for 1940 (drawn from the annual SEC report and the TNEC report) suggest that, for the 200 largest companies covered by the SEC, the 20 largest shareholders owned about the same fraction of common and (non-voting) preferred stocks (although this was not always the case for subsidiaries, where the proportion of non-voting shares was relatively high).

or another corporation, we define it as public (otherwise, it is considered private). We combine this information with Moody's description of whether the company is traded on a stock exchange and also use annual SEC reports published starting in December 1935 and the CRSP database for the period 1930-1950 to verify our definitions. Using the classification of companies into public and private, we define a business group as a group with three or more public companies controlled by the same ultimate owner. Control clusters without any public affiliated company are defined as conglomerates (which, in modern parlance, might also be called multidivisional firms).

We supplement the ownership data with information, also drawn from Moody's Manuals, on each firm's total assets, gross revenues, number of employees and its year and State of incorporation. All the financial and accounting data in this study are expressed in constant 2005 dollars. [46]

We also characterize the nature of each company's economic activity using the following definitions: a pure holding company (with no operations); a semi-holding company (a holding company with operations) and a pure operating company. We follow Moody's industrial categories and classify companies into three industries: railroads (including underground and all kinds of transportation methods); public utility (including gas, fuel, coke, electricity, water and communications); and manufacturing and services (a default category for firms which do not fall into any of the first two categories). Then, for the 200 parent corporations, we use the industrial classification provided by Berle and Means (1932), modified using the classification provided in the Statistics of Income publications. In order to identify the industrial affiliation of subsidiaries, we use company names and the description of the firm's "occupation" in Moody's reports. Finally we assign the SIC 2 digit codes to correspond to the Berle and Means industries names based on the 98 industrial classes reported in 1947.[47]

3.2. Evidence on the Presence of Pyramidal Business Groups in the United States

Table 1 presents an overview of business groups in the United States between 1926 and 1950. In terms of total assets controlled by groups (in constant 2005 prices), it is clear that the aggregate size of groups peaked in the early 1930s and then declined somewhat, with group assets in 1940 amounting to about two thirds of their assets in 1932, both in absolute terms and in terms of the fraction of total corporate assets controlled by group-affiliated firms. By 1950,

[46] During the time period we study, there were no clear rules regarding the use of consolidated vs. unconsolidated financial stgatements. Consolidation of financial reports occurred frequently, but not always, when the controlling ties between the consolidated companies were very strong (e.g., 95-100% controlled subsidiaries). We try to separate whanever possible consolidated and non-consolidated reports.

[47] Additional sources used in this study are the Survey of Current Business, different IRS Statistics of Income publications and the 1947 Input-output table. These sources are referred to in some of the tables below.

total group assets amounted to less than a quarter of their value in 1932, and in relative terms, only 5% of all corporate assets in the United States were controlled by group-affiliated firms in comparison with 35% in 1932. The total number of groups stayed roughly constant during the 1930s, but declined significantly by 1950; paralleling changes in group assets, there was a decline in the total number of affiliated firms from the peak number of 1932 (1463 affiliated firms): the number of group-affiliated firms in 1940 (860) was only about 60% of the corresponding number for 1932 and by 1950 only 332 group-affiliated firms were left. Interestingly, during the 1930s, the variation in group size declined significantly, and by 1937 the largest groups had become much smaller than earlier. Despite the decline in group power after 1932, Table 1 makes it very clear that business groups did not disappear from the US economic landscape by 1940, five years after the two main regulatory changes of 1935, the inter-corporate dividend tax and the Public Utility Holding Company Act. The decline in the business group phenomenon is observable only by 1950.

It is interesting to compare the absolute size of business groups in the United States in the early 1930s with present-day business groups (as described in Colpan et al., 2010). In terms of total revenues, the large US business groups in 1932 would have probably ranked among the top 20-30 largest business groups in today's emerging markets: the largest US group, Morgan, with revenues of $46 billion (in 2005 prices) was smaller in 1932 than today's largest Korean groups such as Samsung (whose revenues in 2007 were estimated at $162 billion), Hyundai ($83 billion), or LG ($72 billion), but was comparable in size to Taiwan's Formosa Plastics group ($49 billion) and significantly larger than the Noble group of Hong Kong, which was ranked 23rd in the world with revenues of $24 billion in 2007.

Table 1 also presents the diversification of groups across 20 sectors. It is clear that, in contrast with present-day groups in emerging markets, groups in the United States of the 1930s were extremely undiversified with an average Hefindahl-Hirschman index of revenues across 2-digit industries hovering around 0.8 and a median value of one (a value of one represents sales in one industry only). Groups were also geographically fairly concentrated and were not vertically integrated to any significant extent: the vertical integration figures suggest that, on average, only slightly more than one percent of a typical group-affiliated company's output was used as inputs by another group company, so that a "cost plus" reasoning, whereby groups in regulated industries could try to inflate input costs purchased from affiliated suppliers, is unlikely to have been the main driver for the existence of groups in the United States of the 1930s.[48]

[48] The average value of the vertical integration index in our sample is 0.013. To put this figure in perspective, Fan and Lang (2000) report an average vertical integration index for US multi-segment firms of 0.018 in 1979-1982, and about 0.02 or slightly higher figures in later periods.

Table 2 presents further evidence on the relative lack of diversification of US business groups in the 1930s. Most groups operated in two main industries — public utilities (including electricity, gas, water etc.) and transportation (typically railroads). The table describes widely held groups (where the firm at the apex of the group pyramid is diffusely held) separately from family-controlled groups. The industrial focus (lack of diversification) characterizes all widely-held firms; by contrast, a few family-controlled groups were diversified, much like present-day family-controlled business groups in emerging markets; for example, the Du Pont or Mellon families operated in eight or ten sectors, including manufacturing and services. Interestingly, this is what we would have expected given that the controlling families cannot diversify, contrary to the financial investors in the widely held firms.

Figure 1 completes the picture, showing that, not only were the groups focused, they also dominated certain industries. In particular, 80% of all transportation services and public utilities in 1932 were provided by group-affiliated companies. Among industrial sectors, heavy industry sectors such as chemicals and metals show significant presence of group-affiliated firms; as in many countries, business groups (that facilitate access to capital) often operate in capital intensive industries (see, for example, Yafeh, 1995, on the pre-war Japanese pyramidal groups).

Figure 2 describes the consolidation of business groups. The groups present in the 1930s were formed in two distinct periods: The first period was at the end of nineteenth century, apparently in response to early antitrust measures and in view of the fact that certain States (New Jersey being the leader) allowed the formation of holding companies and thus created the legal infrastructure for the evolution of pyramidal groups. The second period was during the late 1920s, when takeovers were *de facto* unrestricted and well-financed business groups acquired control over operating firms.

Figure 3 presents the relative size of groups (in terms of assets) in 1932. The largest group was Morgan's, a family-controlled, highly diversified group (described in De Long, 1991, and Ramirez, 1995); the second largest group was the Pennsylvania Railroad company, a highly focused (undiversified) and widely-held group. Among the other large groups, a few were widely-held (such as AT&T), whereas others were family controlled (the Mellon or Van-Sweringen groups, for example).

Figure 4 describes the pyramidal structure of the major groups in 1932. In terms of pyramidal layers, the most notable groups in 1932 were Morgan and Mellon with six pyramidal layers each. However, despite the prevalence of pyramidal structures, Bonbright and Means (1932) note the inconsistency of the theoretical purpose of using pyramids to control large properties using small investments with the empirical evidence on the actual equity stakes held by controlling firms within US pyramids of the 1930s. We validate this point empirically (Figures 5a, Figure 5b and 5c): 88% of all group-affiliated firms in the data set were controlled by their direct mother/parent companies through holdings of common stocks exceeding 90%. Stated differently, mother companies tended to hold virtually all of the stocks of their subsidiaries. Restricting attention to publicly traded companies, 84% of them were controlled with an equity stake of 60% or more of the voting common stocks. In general, the average holdings in each given pyramidal layer were above the 50%-60% level. Therefore, extreme "wedges" between control and cash flow rights and the accompanying problems of conflicts between controlling and minority shareholders emphasized in the modern literature on business groups (e.g., Morck et al., 2005) were not a central feature of US business groups in the 1930s: pyramidal structures were apparently not destined primarily to separate ownership and control rights.

Figure 6 displays the geographic location of the groups' holding companies; most were incorporated in Delaware and elsewhere in the North-East. In terms of operations, the economic presence of business groups was also centered in the North-East, primarily in New York and Pennsylvania, as well as in California on the West Coast, the most densely-populated and economically developed regions of the United States at the time, with considerable public utilities and railroad operations.

We conclude from the description in this section that business groups were certainly present in America throughout the 1930s; we also observe that, while groups were primarily concentrated in public utilities and transportation (especially railroads) and mostly undiversified, there were notable exceptions in the form of family-controlled diversified business groups with presence in manufacturing industries much like what is commonly observed in emerging markets today. Finally, large wedges between control and cash flow rights were less commonly observed in US business groups than they are in emerging markets today.

3.3. Evidence on the Demise of Business Groups in the United States

Tables 3 and 4 present descriptive statistics for the 18 groups that survived through 1950 and for the 35 groups that disappeared during the period 1930-1950.[49] One immediate observation that emerges from Table 3 is that the phenomenon of business groups in the United States did not disappear from the economic landscape even by 1950. Some widely-held groups

[49] The total number of groups which survived and disappeared (53) does not equal the number of existing groups in each year presented in Table 1 because the figures presented here include newly formed groups and groups which existed for part of the period, while the statistics in Table 1 are snapshots for specific years.

such as AT&T, Pennsylvania Railroad, Southern Railway, or the Electric Bond and Share Company continued to exist; a few family-controlled groups (e.g., Rockefeller, DuPont, Harriman or Young & Kirby, formerly the Alleghanny Group controlled by the Van Sweringen Brothers) survived as well. Although the majority of groups (35) disappeared during this time period, Panel A of Table 4 indicates that small groups and, more interestingly, family-controlled groups were more likely to disappear than large groups with widely held apex firms. These results are corroborated in the regressions displayed in Panel B of the Table 4, which also suggest that the survival probability of focused (undiversified) groups with a small number of pyramidal levels was relatively high, whereas older groups (established before 1929) were less likely to survive. Figure 7 shows that most of the affiliates sold by groups were divested during the 1940s, a considerable time lag after the legislation of the 1930s. In line with the view that the regulatory measures of the 1930s did not affected US business groups immediately, Table 5 presents the volume of inter-corporate dividends, in absolute terms and as a fraction of net profits from 1926 to 1951. While 1934 and 1935 were years of relatively high levels of inter-corporate dividend payout, inter-corporate dividends remained a common phenomenon until the early 1940s; only in the early 1940s do we observe a marked decline in inter-corporate dividend payout in absolute terms, relative to net profits and, in particular, in the amount of dividends received by holding companies. [50]

Overall, the evidence in this section suggests that the demise of business groups in America was a slow process and most certainly not a quick response to the legislative measures of the mid-1930s. Indeed, business groups did not completely disappear from the United States even by the 1950s. Interestingly, while family-controlled groups nearly disappeared, widely-held groups (a rare phenomenon outside the United States[51]) continued to exist in 1950 and in some cases even later.

4. Evidence on Financial Development in the United States

In this section we present data on financial development in the United States following the demise of business groups. The evidence is preliminary and what we draw from them are mere conjectures at this stage: Figure 8 suggests that soon after the decline in group power during the 1950s, market capitalization to GDP in the United States was still below its level in

[50] Nevertheless, in 1937, an independent think tank called the Twentieth Century Fund claimed that, since the Public Utility Holding Company Act (PUHCA) of 1935, seven industrial groups, including US Steel and DuPont, had eliminated one or more holding corporation "and have cited the tax provisions as a reason for the action." According to the same source, an additional twenty-four groups eliminated one or more holding corporation without stating tax considerations as the reason.

[51] There are certain periods in which widely-held groups have been observed in Sweden or Japan (Morck, 2005b), but this phenomenon is highly unusual in business groups around the world.

the pre-Great Depression era of the 1920s. This comparison is likely to be misleading as it reflects the "irrational exuberance" of investors in the 1920s, but is nevertheless is useful as an indication that there was no surge in standard financial market development metrics immediately following the anti-business group regulatory measures. A full resurgence in US financial markets, as reflected in the ratio of market capitalization to GDP, is observed only in the 1960s, when measures of financial development first surpassed their 1920s levels. This coincides with the advent of institutional investors in US financial markets, but, of course, it is not clear if this finding should be directly attributed to the disappearance of business groups. Other forces, such as the Employee Retirement Income Security Act (ERISA) of 1974 may have been crucial for the development of institutional investors and financial markets in the United States; whether this could have been achieved without the dissolution of large pyramidal groups is, of course, an open question.

Figure 9 suggests that a pronounced rise in the number of IPO's on US stock markets took place only in the late 1960s and 1970s, several decades after the decline in power of most business groups during the 1940s. Again, there is no clear evidence to suggest that the demise of business groups led to an immediate rise in market-based financial development in the United States.

There are several possible ways to interpret the results presented in this section. One conjecture, or possible interpretation, is that the dissolution of business groups is an essential prerequisite for financial development without which an active and liquid market is unlikely to thrive. The impact of anti-group measures on financial development, however, may be observable only after a considerable time lag and only if additional pro-market measures (such as ERISA or the establishment of NASDAQ) are taken.

An alternative interpretation is that business groups and developed stock markets need not be mutually exclusive. Related arguments have been made by Hoshi and Kashyap (2001) and Franks et al. (2012) in the case of pre-war Japan where, they argue, business groups co-existed with a thriving stock-market based financial system in the 1930s. Indeed, the dissolution of business groups in Japan following the World War II led to a bank-dominated financial system rather than to further development of the stock markets. Other examples of co-existence of business groups and developed financial markets are Canada (in the 1990s), Hong Kong and Singapore, all Common Law countries with high levels of investor protection.

Yet a third interpretation of the time lag between the decline in power of groups and the "rise of finance" in the United States might be that, as documented by Rajan and Zingales (2003), many countries experienced changes in their relative financial development during the twentieth century for reasons which are often not related to investor protection. The United States follows this pattern too, though perhaps less extremely than many other (non-Common Law) countries. Overall, while it is clear that the United States experienced considerable financial development a decade or two after business groups nearly disappeared from the economic landscape, it is not clear if the two phenomena (business groups and financial development) are indeed related. Similarly, it is also hard to establish a clear causal link between the demise of business groups around 1950 and the rise of multi-divisional conglomerates in the 1960s (described in Servaes, 1996, and discussed briefly in the introduction to this study).

5. Concluding Remarks

This study generates a set of stylized facts that challenge certain aspects of the conventional wisdom in the modern corporate-governance-oriented literature on business groups. Business groups are not incompatible with Common Law and investor protection; business groups need not involve a large “wedge” between the controlling shareholder’s control and cash flow rights and therefore the public discourse about them need not necessarily focus on minority shareholder expropriation and “tunneling.” In an institutionally developed democracy, anti-group regulation is unlikely to yield immediate results due to legal challenges in court, and, once groups disappear, benefits in the form of financial development are uncertain and may take a long time to materialize.

This set of stylized facts sets the stage for an interesting research agenda; two questions which seem to us particularly interesting are the following. Given that, in United States, the motivation for legislation limiting the power of business groups was driven primarily by antitrust considerations, it would be interesting to examine the conjecture that the dissolution of business groups in the United States fostered increased competition. This would be particularly interesting as the empirical industrial organization literature connecting the presence of business groups and modes of competition is rather small.

Another interesting extension of the present study would be to use historical firm-level data on US companies and their relocation from and into business groups to study the endogenous formation (and disintegration) of these structures. We intend to explore both of these questions in future research.

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Table 1: Main Characteristics of US Business Groups, 1926-1950

The table presents descriptive statistics of US business groups for the period from 1926 to 1950 (end of calendar year). The data set includes both private and publicly traded companies. The number of group-affiliated companies is the number of firms controlled by the same ultimate owner, as long as the same ultimate owner (business group) controls three or more publicly traded companies. Age is measured in years since incorporation; Total assets is the book value of total assets in constant 2005 prices; Geographic diversification index is a Herfindahl-Hirschman index of the assets of affiliated companies by State of incorporation; Industrial Concentration is a Herfindahl-Hirschman index of revenues by industry; Vertical Integration is the average opportunity for vertical integration (based on input-output tables) in all lines of business (industries) in which the group's affiliated firms operate. Sources: Moody's Manuals (Railroads, Industrial, Public Utilities), 1926 -1950; 1947 US Input-Output tables.

Year	1926	1929	1932	1937	1940	1950
No. of Groups	**21**	**29**	**26**	**24**	**26**	**18**
Family controlled groups	11	13	12	10	7	5
No. of affiliated	**791**	**1430**	**1463**	**1175**	**860**	**332**
Public affiliated	146	292	253	193	149	98
Total Assets (2005 mil. $)						
Mean	**19,149**	**25,649**	**45,786**	**35,634**	**29,516**	**11,495**
Median	12,525	14,122	33,807	27,546	13,501	6,938
Max	58,905	156,151	289,256	114,413	122,474	56,231
Min	2,069	1,215	1,160	1,890	1,843	54
First Quartile	6,880	4,716	12,772	10,006	4,759	1,928
Third Quartile	27,329	33,335	49,253	45,838	37,596	15,180
Share in Total Corporate Assets	**17%**	**24%**	**35%**	**28%**	**22%**	**5%**
Industrial Concentration (weighted by earnings)						
Mean	**0.82**	**0.85**	**0.77**	**0.78**	**0.83**	**0.96**
Median	1.00	1.00	0.92	0.92	1.00	1.00
Max	1.00	1.00	1.00	1.00	1.00	1.00
Min	0.33	0.33	0.27	0.22	0.23	0.52
First Quartile	0.67	0.69	0.52	0.50	0.67	0.52
Third Quartile	1.00	1.00	1.00	1.00	1.00	1.00
Geographic Diversification (weighted by total assets)						
Mean	**0.41**	**0.45**	**0.40**	**0.44**	**0.48**	**0.68**
Median	0.36	0.43	0.39	0.34	0.40	0.66
Max	0.86	1.00	0.79	1.00	0.99	1.00
Min	0.20	0.12	0.13	0.13	0.17	0.26
First Quartile	0.24	0.28	0.22	0.27	0.27	0.53
Third Quartile	0.52	0.55	0.51	0.55	0.61	0.82
Vertical Integration						
Mean	**0.013**	**0.013**	**0.011**	**0.010**	**0.014**	**0.013**
Median	0.008	0.011	0.007	0.007	0.009	0.009
Max	0.039	0.039	0.039	0.022	0.052	0.039
Min	0.003	0.003	0.003	0.003	0.002	0.003
First Quartile	0.007	0.007	0.006	0.007	0.007	0.005
Third Quartile	0.020	0.013	0.011	0.013	0.013	0.015

Table 2: Distribution of Business Groups by Industry, 1932

The table presents the total number of group-affiliated firms and the number of publicly traded group-affiliated companies (in parentheses) by industry and group, making a distinction between widely held groups (above the line) and family-controlled groups. Industry definitions are based 2-digit codes from the 1958 Standard Industrial Classifications. Public Utilities and Transportation cells are shaded.

	Business Group/industry	Wholesale and retail trade	Amusements	Repair Construction	Transportation and warehousing	Communications	Electric, gas, water and sanitary services	Finance and Insurance	Coal mining	Other	Primary iron and steel manufacturing	Electric industrial equipment	Construction	Textile	Chemicals & selected chemical products	Rubber and miscellaneous plastics	Motor vehicles and equipment	Tobacco manufactures	Petroleum refining & related industries	Other fabricated metal products	Metalworking machinery and equipment	Food and kindred products
Widely-Held Groups	American Telephone & Telegraph Co.					48 (8)	1 (0)															
	Anaconda Copper Mining Co.									2 (0)	9 (6)	1 (1)										
	Atlantic Coast Line Co.				36 (5)																	
	Central States Elec. Corp.				2 (0)	2 (2)	29 (2)						1 (0)									
	Delaware Lackawanna & Western Rd. Co.				20 (3)																	
	Inter. Tel. & Tel. Corp.					11 (5)																
	Kennecott Copper Corp.				1 (0)						6 (4)											
	Loew's Inc.	1 (1)	8 (3)																			
	Middle West Utilities Co.			1 (0)	10 (0)	4 (3)	100 (8)	1 (0)														
	Pacific Lighting Corp					1 (1)	5 (3)															
	Paramount Publix Corp.		8 (4)																			
	Pennsylvania Rd. Co.				237 (43)				2 (0)													
	Southern Ry. Co				38 (5)																	
	Stone & Webster, Inc.				3 (0)	1 (1)	35 (6)															
Family Groups	Doherty family					1 (1)	48 (4)						1 (1)									
	Du Pont family				1 (0)		1 (1)	2 (0)				1 (0)		1 (0)	1 (1)	5 (4)	3 (1)					
	Harriman family				26 (4)																	
	Hill family				25 (5)													4 (4)				
	Hopson				6 (0)	1 (0)	50 (6)	1 (0)														
	Kuhn-Loeb				17 (4)	4 (3)																
	Mellon family	1 (0)			7 (0)	2 (2)	60 (15)		9 (1)	1 (0)	1 (1)	2 (1)	2 (0)		3 (0)		1 (0)		2 (0)	5 (2)	2 (0)	
	Rockefeller family								1 (1)										38 (13)			
	Sinclair																		11 (6)			
	Van Sweringen				100 (11)				1 (0)													1 (0)
	Vanderbilt				72 (13)																	
	Morgan*	1 (1)			49 (1)	8 (8)	235 (19)	4 (1)	4 (1)		2 (2)	4 (1)			1 (0)		3 (1)		1 (0)	2 (0)	3 (0)	

Table 3: The Evolution of US Business Groups, 1926 – 1950

The table presents the evolution of US business groups from 1926 to 1950. A business group is defined as a group with three or more publicly traded companies controlled by the same ultimate owner. The groups are divided by type of control (widely-held vs. family-controlled). Groups denoted by * are groups under SEC administration stipulated by the Public Utilities Holding Companies Act (PUHCA) of 1935.

	Business Group/Year	1926		1929		1932		1937		1940		1950	
		Total	Public affiliates	Total	Public affiliates	Total	Public affiliates	Total	Public affiliates	Total	Public affiliates	Total	Public affiliates
Widely-Held Groups	**American Gas & Electric Co.***											**8**	7
	American Radiator & St. San. Corp.			**6**	4								
	American Telephone & Telegraph Co.	**45**	6	**48**	8	**49**	8	**39**	6	**35**	7	**29**	8
	American Tobacco Co.			**5**	3					**4**	3	**4**	4
	Anaconda Copper Mining Co.					**12**	7			**11**	6	**10**	5
	Atlantic Coast Line Co.	**35**	4	**36**	5	**36**	5			**38**	4		
	Baltimore & Ohio R.R. Co.									**39**	4	**25**	4
	Baltimore & Ohio R.R. Co.+New York Central									**36**	3		
	Central States Elec. Corp.	**27**	5	**49**	15	**34**	4	**57**	5	**22**	7		
	Commonwealth Edison Co.							**34**	4				
	Dela. Lackawanna & Western Rd. Co.	**21**	3			**20**	3	**20**	4				
	Delaware & Hudson Co.	**14**	3	**13**	3			**14**	3	**14**	3		
	Delaware & Hudson Co. + Union Pacific Rd. Co.									**61**	11		
	Electric Bond & Share Co.*									**61**	9	**24**	11
	General Electric Co.							**87**	15				
	General Theatre Equipment, Inc			**10**	4								
	Great Northern Ry. Co							**20**	3				
	Inter. Tel. & Tel. Corp.			**14**	6	**11**	5	**10**	3	**12**	4	**8**	3
	Kennecott Copper Corp.	**5**	4	**7**	4	**7**	4						
	Loew's Inc.					**9**	4	**10**	5	**9**	3	**6**	3
	Middle West Utilities Co.					**116**	11						
	Milbank interests			**36**	5								
	National Dairy Products Corp.			**11**	3								
	New York, New Haven & Hartford R.R Co.											**13**	3
	Pacific Lighting Corp			**7**	3	**6**	4	**5**	3				
	Paramount Publix Corp.			**7**	3	**8**	4			**8**	3	**4**	3
	Pennsylvania Rd. Co.	**170**	32	**206**	40	**239**	43	**123**	17	**84**	13	**35**	9
	Prince trust			**5**	3								
	Radio Corp. of America									**10**	4		
	Southern Pacific Co.							**59**	3	**37**	3		
	Southern Ry. Co	**40**	5			**38**	5	**40**	5	**39**	5	**31**	6
	Stone & Webster, Inc.			**39**	8	**39**	7	**34**	8	**36**	7		
	Tide Water Associated Oil Co.	**11**	5										
	United Gas Improvement Co.	**50**	4										
	Western Union Tel. Co.									**4**	3	**4**	3
Family owned groups	**Broes and Grosman trust**							**17**	11				
	Crawford interests	**15**	3										
	Cyrus S. Eaton & Assoc.	**20**	6	**30**	9								
	Doherty family*	**41**	3	**45**	3	**50**	5	**32**	4				
	Du Pont family	**8**	3	**11**	6	**15**	7	**13**	5	**16**	4	**9**	4
	Harriman family	**29**	4	**30**	4	**26**	4	**26**	4			**50**	11
	Harriman-Kuhn-Loeb					**21**	7						
	Hill family	**27**	3	**26**	4	**29**	9						
	Hopson			**67**	6	**58**	6						
	Insull	**68**	6	**115**	27								
	Mather family									**4**	3	**3**	3
	Mellon Family			**82**	10	**98**	22	**34**	14	**26**	10		
	Morgan*	**28**	9	**259**	43	**317**	35	**193**	17	**97**	8		
	Rockefeller	**30**	19	**46**	27	**39**	14	**72**	13	**37**	10	**15**	6
	Sinclair					**11**	6	**10**	3	**9**	3		
	Stone & Webster families	**35**	7										
	Van Sweringen			**105**	13	**102**	11						
	Vanderbilt	**68**	12	**91**	20	**72**	13	**66**	12				
	Warner family			**6**	3								
	Young and Kirby							**103**	12	**71**	9	**50**	5

Table 4: Survivor Groups vs. Groups which Disappeared

Panel A: Univariate Regressions

The panel presents mean values of group characteristics for groups which survived until 1950 and for groups which disappeared by 1950. Both categories include groups which existed at the beginning of the sample (1926) and groups which were formed during the sample period. Public level is the number of levels in the group pyramid when only publicly-traded companies are included; Pyramidal level refers to levels in the pyramid when both private and publicly-traded companies are included; ** and *** denote significance at the 5% and 10% levels, respectively.

	Number of Groups	**Age**	**Total Assets($mil)**	**Herfindahl Index**	**Public Level**	**Pyramidal level**	**Family controlled**	**Vertical integration**
Survived	18	30	21,238	0.9	1.7	2.6	28%	0.015
Disappeared	35	27	16,694	0.8	2.0	3.1	51%	0.011
T-test differences significance		-	***	-	-	-	**	-

Panel B: Groups Survival: Probit Regressions

The panel presents probit regressions of the likelihood to survive during the period 1926 to 1950. The dependent variable is a dummy variable indicating whether a business group (in existence or formed during the sample period) survived or dissapeared by 1950. Family-controlled is a dummy variable that takes the value of one for family-controlled groups and zero for widely-held ones; Depression is a dummy variable that takes the value one for groups established (or in existence) prior to 1929; Earnings is the log of average group earnings during the years in which the group existed; Industrial Concentration is the group's average Herfindahl-Hirschman index of revenues by industry during the years in which the group existed; Geographic Diversification is an average Herfindahl-Hirschman index of the group's assets by State of incorporation during the years in which the group existed; Vertical Intgration is the average opportunity for vertical integration in all lines of business during the years in which the group existed; Pyramidal Levels are the average number of levels in the group pyramid (including both private and publicly-tradeed companies); SEC Administration is a dummy variable that takes the value one for groups which were under SEC administration as stipulated by Public Utility Holding Compnay Act of 1935. Standard errors are in parantheses: *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5) Pre-Depression Groups	(6) PUHCA era (1935-1950)	(7) PUHCA era (1935-1950)
Family-controlled		-0.67	-0.66	**-0.74***	**-1.6***		-0.52
		(0.42)	(0.6)	(0.43)	(0.9)		(0.55)
Depression	**-0.69***	-0.57	**-1.65****				
	(0.41)	(0.4)	(0.71)				
Earnings	**0.61****	**0.4***	**0.71****	**0.63****	**1.23*****	**0.56***	**0.62***
	(0.26)	(0.23)	(0.33)	(0.27)	(0.45)	(0.31)	(0.33)
Industrial Concentration	**2.26****	**2.41****	**5*****	**1.9***	**3.05***	**2.38****	**2.55****
	(1.1)	(1.08)	(1.88)	(1.03)	(1.81)	(1.24)	(1.21)
Geographic Diversification				**2.04***	1.53		**2.54***
				(1.09)	(1.54)		(1.43)
Vertical Integration			0.15				
			(0.36)				
Pyramidal Levels	**-0.48****					**-0.54****	
	(0.2)					(0.28)	
SEC Administration						-0.24	
						(0.62)	
Intercept	+	+	+	+	+	+	+
Observations	55	55	36	55	35	38	38
R-square	0.23	0.18	0.39	0.21	0.36	0.24	0.24
Hosmer-Lemeshov (pr>chisq)	0.21	0.89	0.61	0.64	0.84	0.55	0.19

Table 5: Inter-corporate Dividends Received on the Stock of Domestic Corporations 1926-1951

The table presents the volume of inter-corporate dividends received both in monetary values and as a percent of net profit. Source: Statistics of Income 1926-1951, ($mil)

Taxable year	Total all corporations ($mil)	Compiled Net Profits (CNP) ($mil)	% of CNP	Agriculture and related	Mining and Quarrying	Manufacturing	Construction	Transportation and other public utilities	Trade	Services	Finance, banking, insurance, real estate, holding companies, stock and bond brockers	
											Total	*Holding Companies*
1926	1,506	9,510	16%	7	76	428	12	447	54	20	461	na
1927	1,658	8,669	19%	8	52	377	26	547	58	27	559	na
1928	1,916	10,667	18%	9	58	475	12	581	62	35	682	na
1929	2,593	11,870	22%	9	60	584	14	832	59	60	972	na
1930	2,571	4,649	55%	10	54	548	25	740	64	53	1,076	na
1931	1,569	777	202%	5	35	392	21	615	47	42	809	na
1932	1,259	3,829	33%	5	21	211	18	429	36	18	521	na
1933	1,025	930	110%	4	16	160	10	311	34	8	481	na
1934	2,217	2,970	75%	6	76	389	5	324	60	12	1,346	177
1935	3,013	5423	56%	10	72	613	6	268	72	17	1,955	229
1936	2,676	7618	35%	13	68	546	7	341	81	45	1,575	na
1937	2,682	7777	34%	13	86	524	6	324	94	36	1,602	na
1938	1,791	4,144	43%	7	41	261	4	268	60	21	1,065	589
1939	1,906	7,236	26%	7	41	367	6	293	53	21	1,116	655
1940	2,021	9,472	21%	7	43	373	8	130	49	23	1,264	996
1941	2,235	16,592	13%	9	55	502	6	139	61	25	1,306	1,034
1942	1,344	23,280	6%	4	31	305	9	301	40	22	631	297
1943	1,334	27,933	5%	4	25	312	8	323	47	23	591	264
1944	1,429	26,547	5%	7	32	394	5	306	47	32	605	274
1945	1,418	21,345	7%	13	22	358	11	323	48	39	604	268
1946	1,713	25,399	7%	4	30	464	8	367	91	56	693	311
1947	1,837	31,615	6%	6	54	590	7	340	92	42	749	300
1948	2,194	34,588	6%	6	102	716	11	390	102	28	877	581
1949	2,162	28,387	8%	5	82	674	8	195	85	25	1,086	807
1950	2,460	42,831	6%	45	97	920	12	244	100	31	1,010	666
1951	2,377	43,800	5%	35	94	902	12	238	99	25	972	611

Figure 1: The Share of US Business Groups in Selected Industries, 1932

The diagram presents the share of business group affiliates in selected industries, measured as the total assets of group-affiliated companies in the sample relative to the to total assets of all corporations in the same industry. Industries are defined on the basis of 2-digit 1958 Standard Industrial Classifications (SIC codes). Sources: Moody's Manual (1932), Statistics of Income (1932).

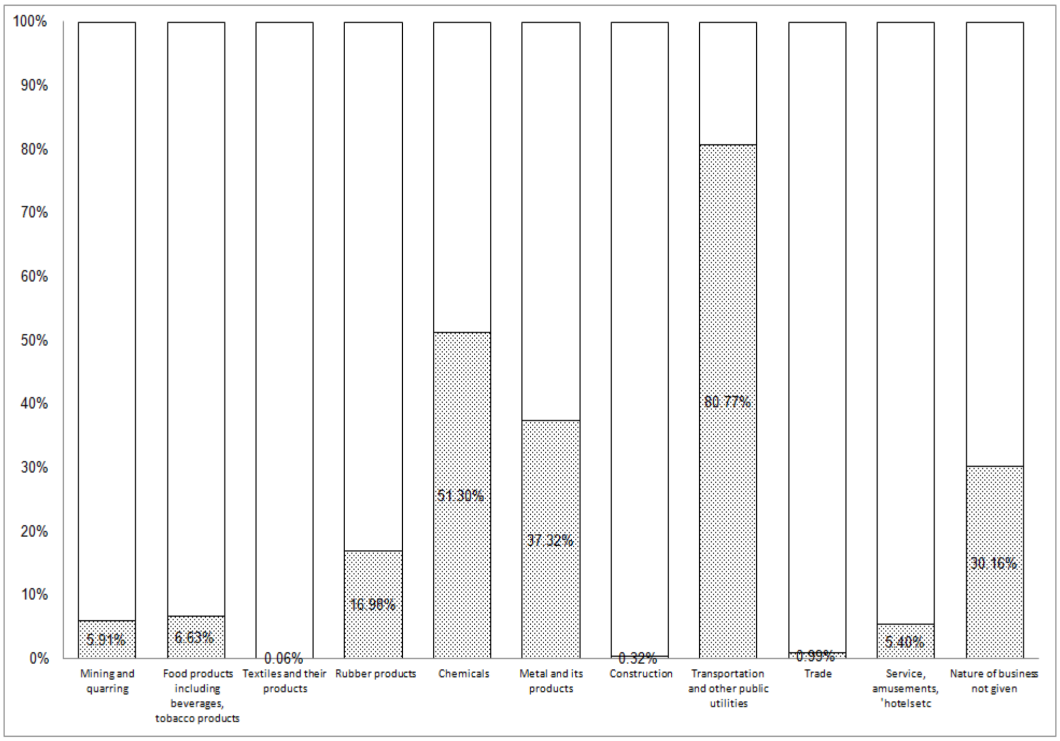


Figure 2: Group and Conglomerate Formation through Mergers, 1895 -1970

The figure presents the number of firm taken over though mergers (consolidation of two or more previously independent enterprises into a single economic entity) by year. Shaded periods denote periods of economic downturn. Source: Nelson (1959), Historical Statistics of the United States, Colonial Times to 1970.

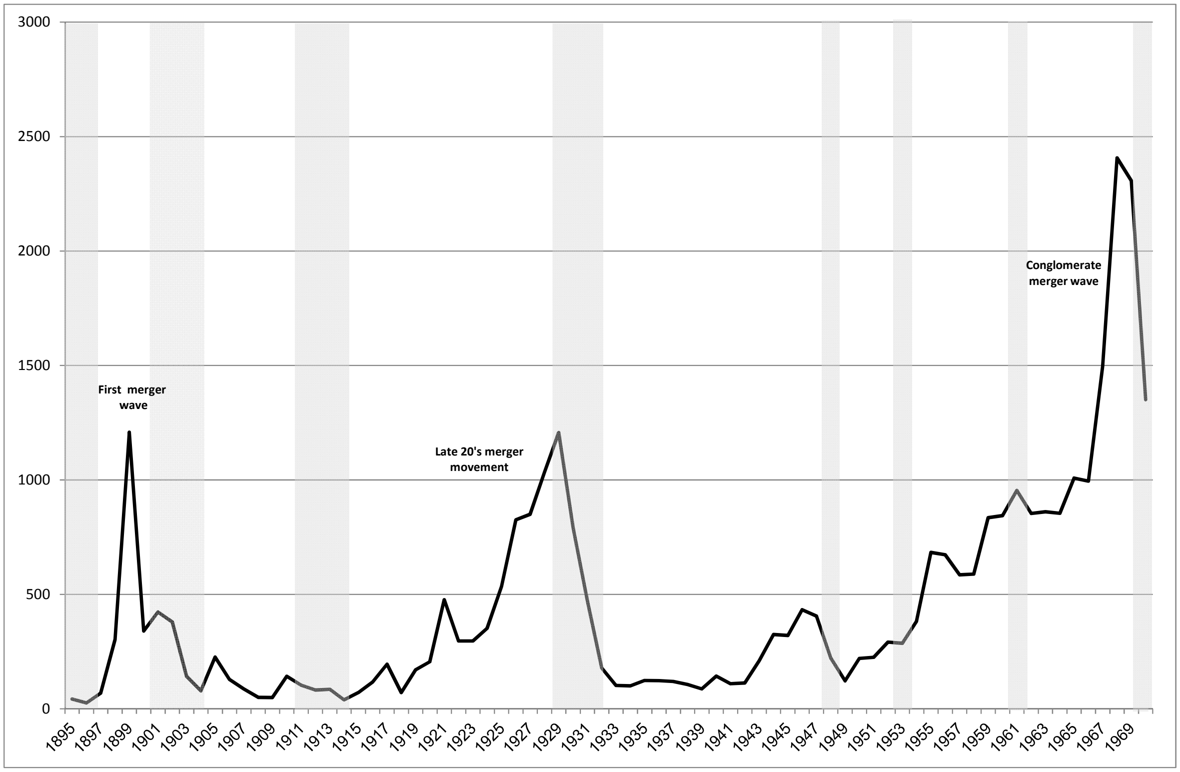


Figure 3: The Relative Size of Business Groups, 1932

The figure presents the distribution of US Business Groups by size (measured by the combined assets of all of the group's affiliated companies) as of the end of 1932. A business group is defined as a group with three or more publicly traded companies controlled by the same ultimate owner. The data are based on consolidated financial reports from Moody's Manuals (Railroads, Industrial and Public Utilities) and expressed in constant 2005 dollars. Family controlled and widely-held groups are presented in black and grey bubbles, respectively. Source: Authors' calculations.

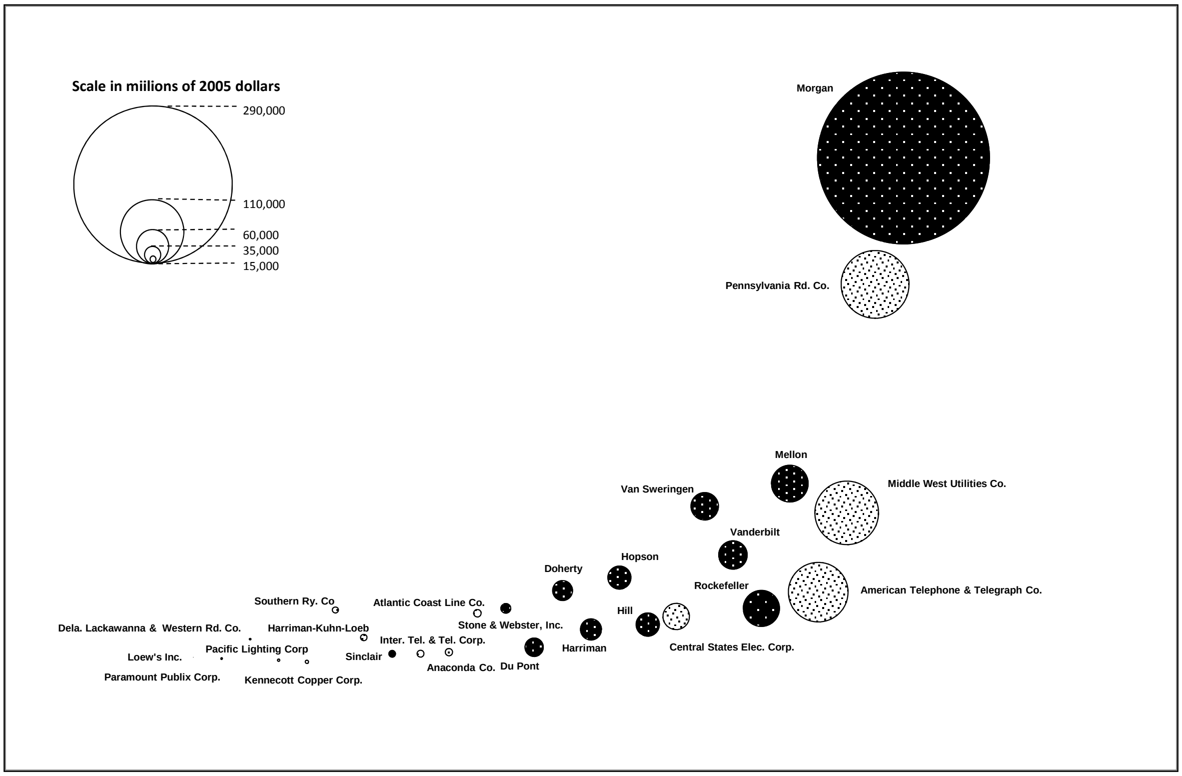


Figure 4: Pyramidal Forms, 1932

The figure presents the pyramidal structure of US business groups as of the end of 1932. Each cluster represents the group hierarchy of companies. The apex node represents the controlling entity (either family or widely-held) and the other points represent group affiliates. A business group is defined as a group with three or more publicly traded companies controlled by the same ultimate owner. Arrows represent control relations between companies. Source: Authors' calculations.

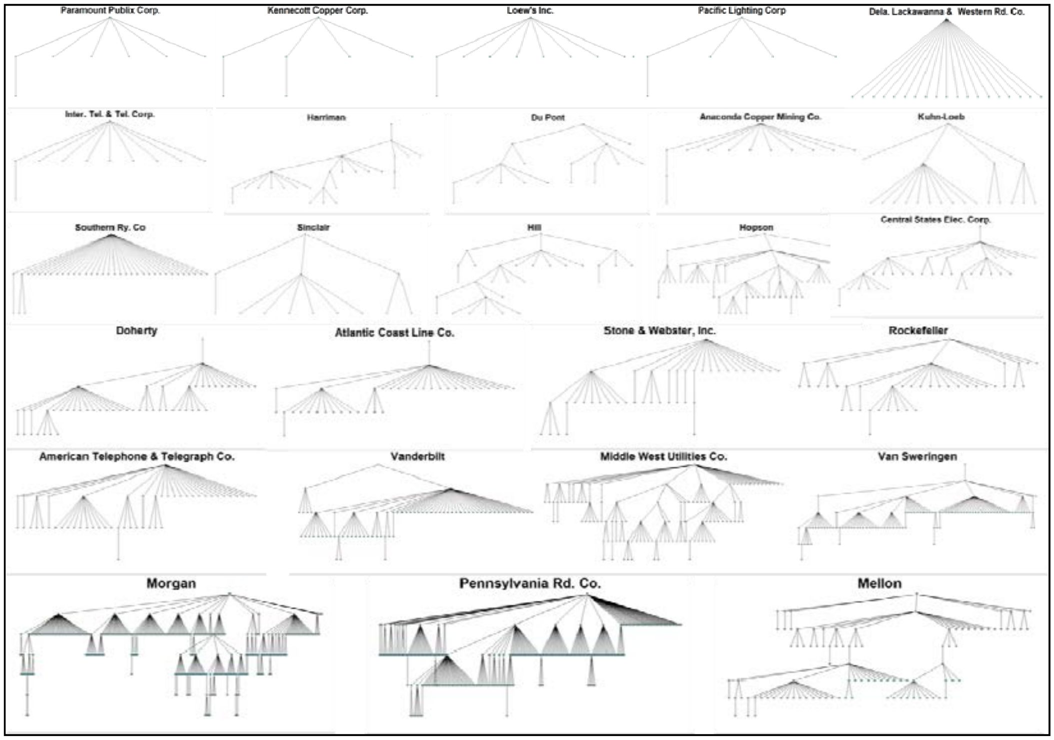


Figure 5a: The Distribution of Affiliated Firms by Controlling Stakes

The graph presents, for the entire sample period, the distribution (percent) of subsidiaries (both private and public) by control/ownership deciles: Decile 1 represents the percent of companies controlled with share of common stocks in the range from 0 to 10 %; Decile 10 represents a controlling stake in the range of 90-100%, respectively.

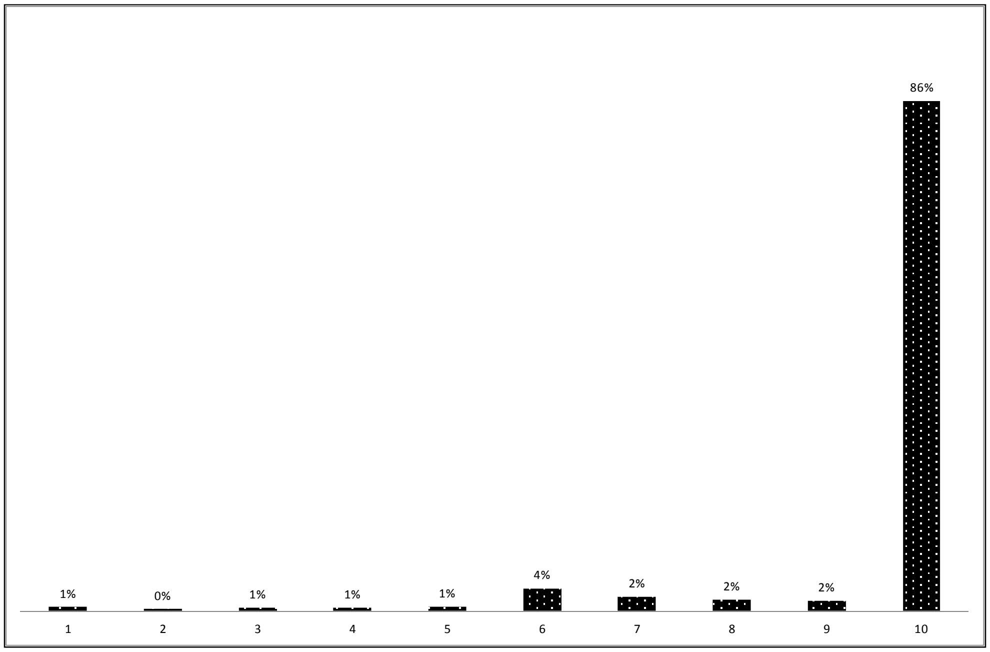


Figure 5b: The Distribution of Publicly-traded Affiliated Firms by Controlling Stakes

The graph presents, for the entire sample period, the distribution (percent) of publicly-traded subsidiaries by control/ownership deciles: Decile 1 represents the percent of companies controlled with a share of common stocks in the range from 0 to 10 %; Decile 10 represents a controlling stake in the range of 90-100%, respectively.

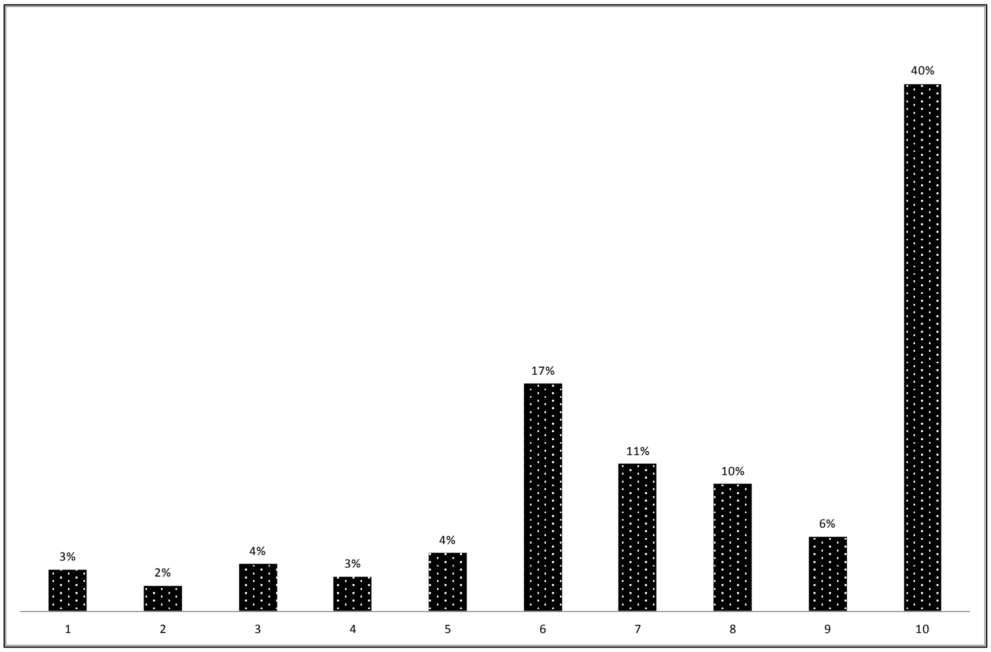


Figure 5c: Distribution of Controlling Stakes by Pyramidal Layers, 1932

The graph presents the distribution of controlling stakes at different levels within group pyramids. Pyramidal levels are denoted by 1 (closest to the apex) to 4 and the controller's equity stake appears on the vertical axis. Decile 1 represents the percent of companies controlled with a share of common stocks within the range of 0 to 10 % by pyramidal level, category 10 within the range of 90-100%, respectively.

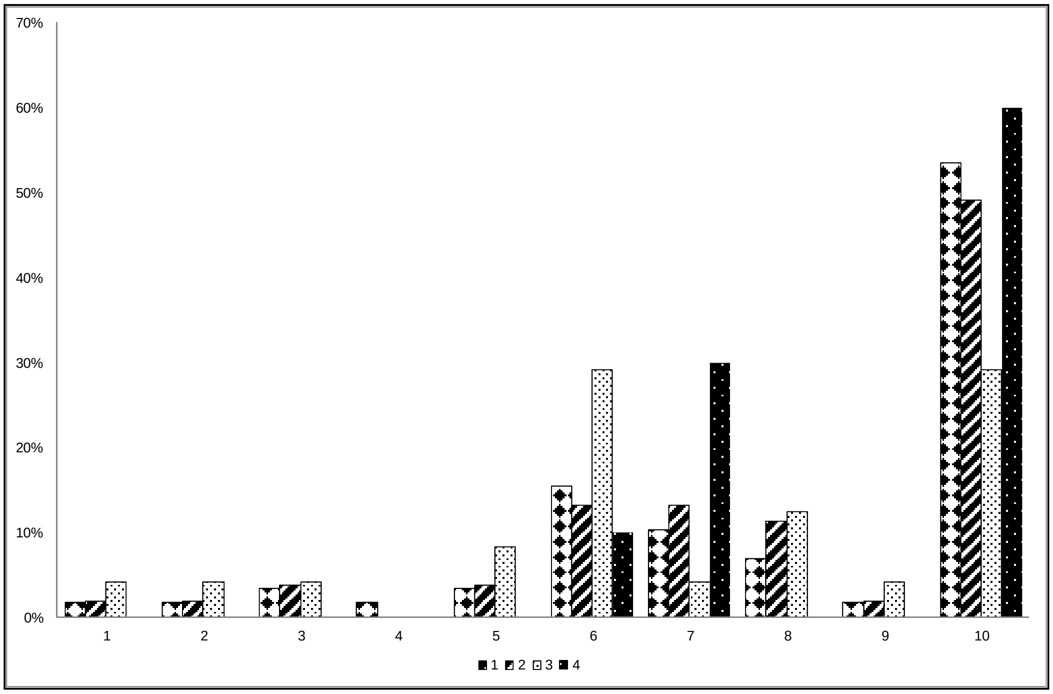


Figure 6: Geographic distribution of US Business Groups, 1932

The maps depict the location of group holding companies (Panel A) and operating companies (Panel B). The full sample consists of 143 holding and 1681 operating (or semi-operating) firms. The geographic distribution is represented by colors, where darker shades denote higher proportions of companies incorporated in this State in the sample. Source: Authors' calculations.

A. Geographic Distribution of Holding Companies (N=143)

B. Geographic Distribution of Operating Companies (N=1681)

Figure 7: Affiliates Sold/Divested by Public Utilities Holding Companies, 1936-1955

The figure presents the number of electricity, gas and non-utility affiliates divested by Public Utilities Holding Companies registered under the PUHCA of 1935 between December 1, 1935 and June 30, 1955. Source: SEC Annual Reports, 1935-1955.

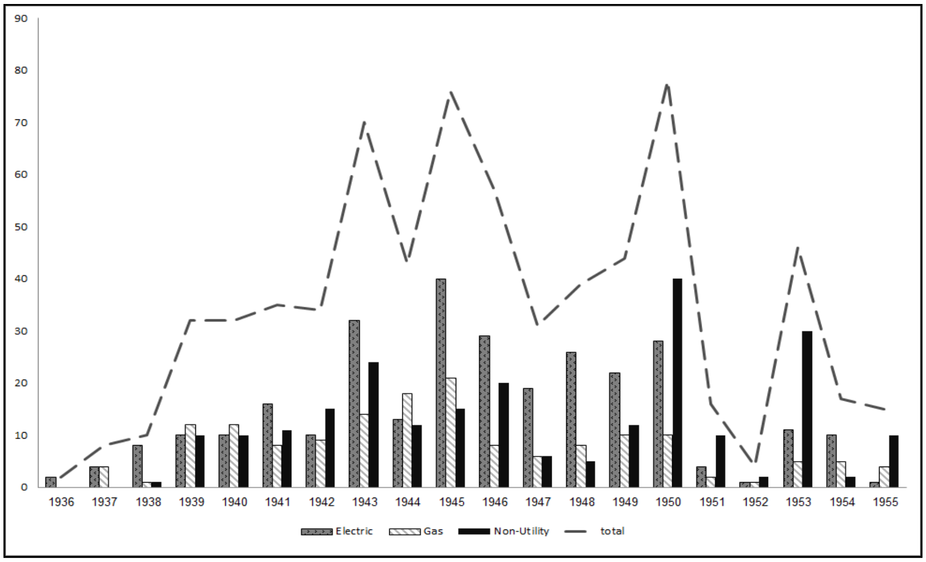


Figure 8: Market Capitalization to GDP, 1935-1969

The figure depicts the equity market capitalization of all publicly-traded companies on the NYSE (from 1925 to 1935) and the NYSE and AMEX stock exchanges (from 1935 onwards) as a percent of nominal GDP. Source: Survey of Current Business (1921-1935) and SEC Annual Reports (1935-1969).

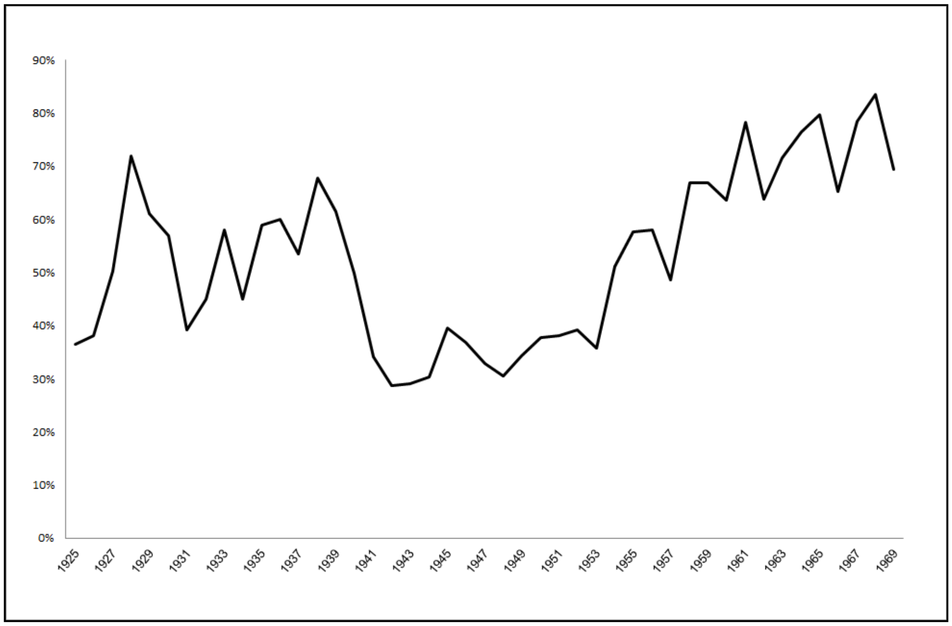
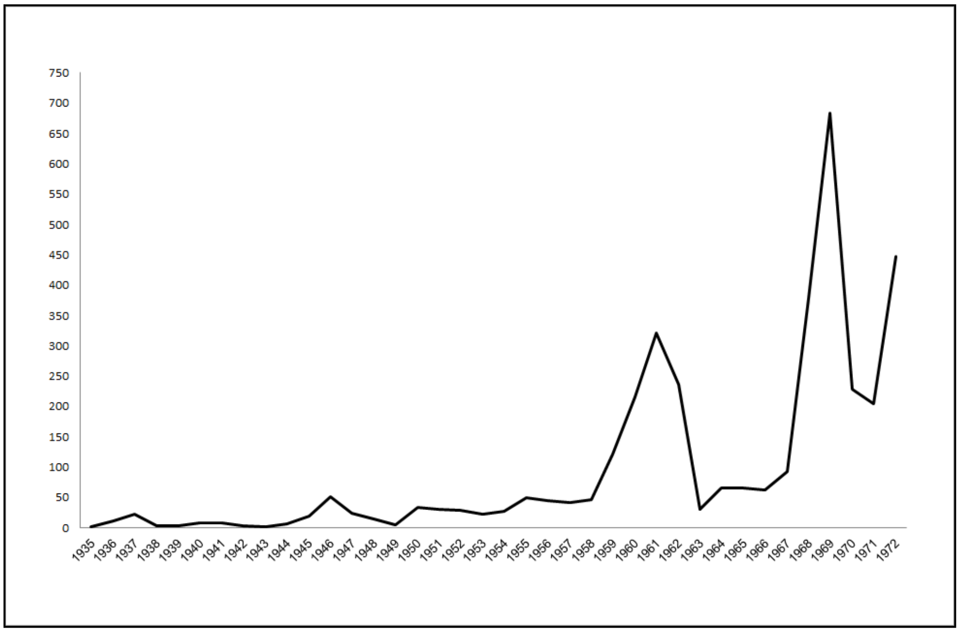
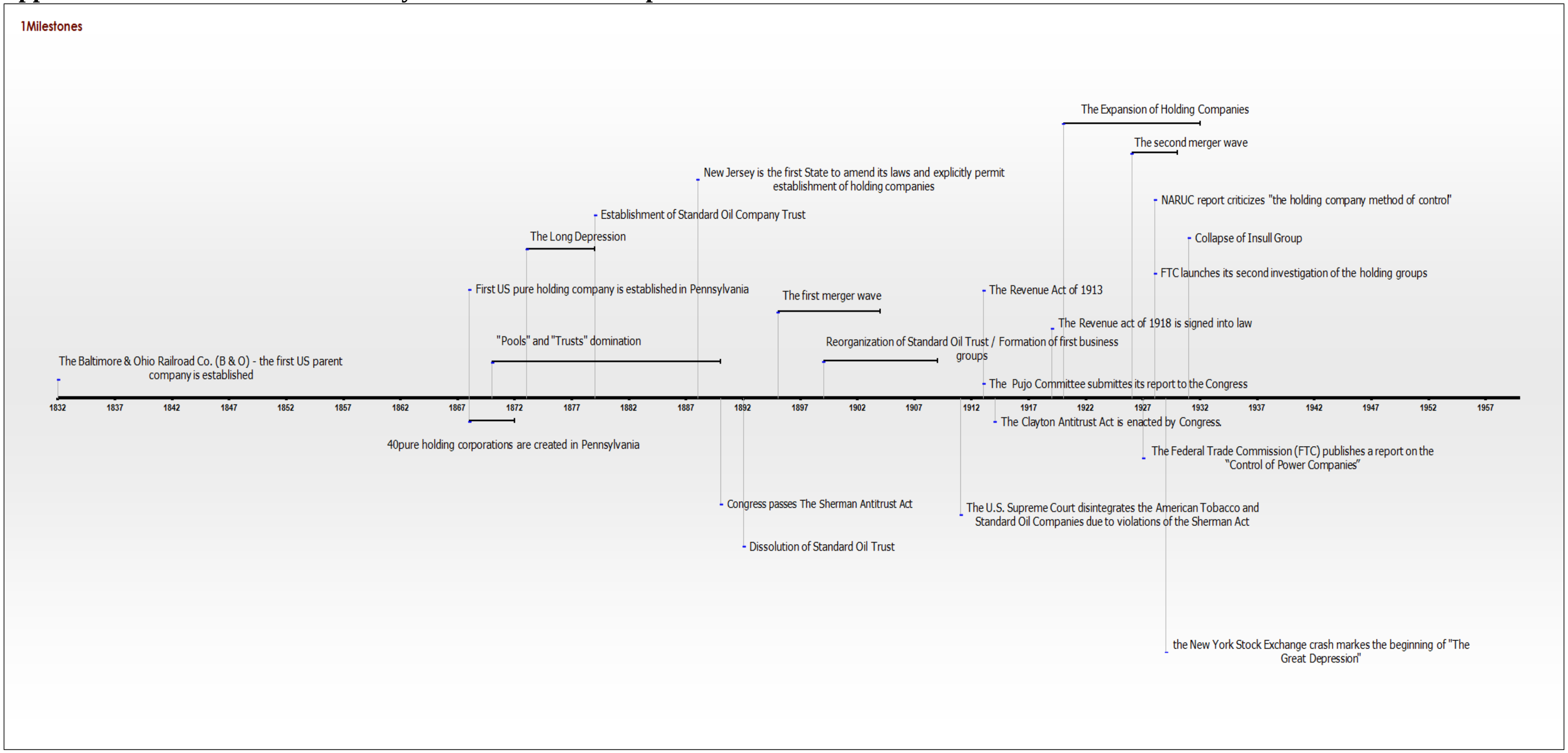


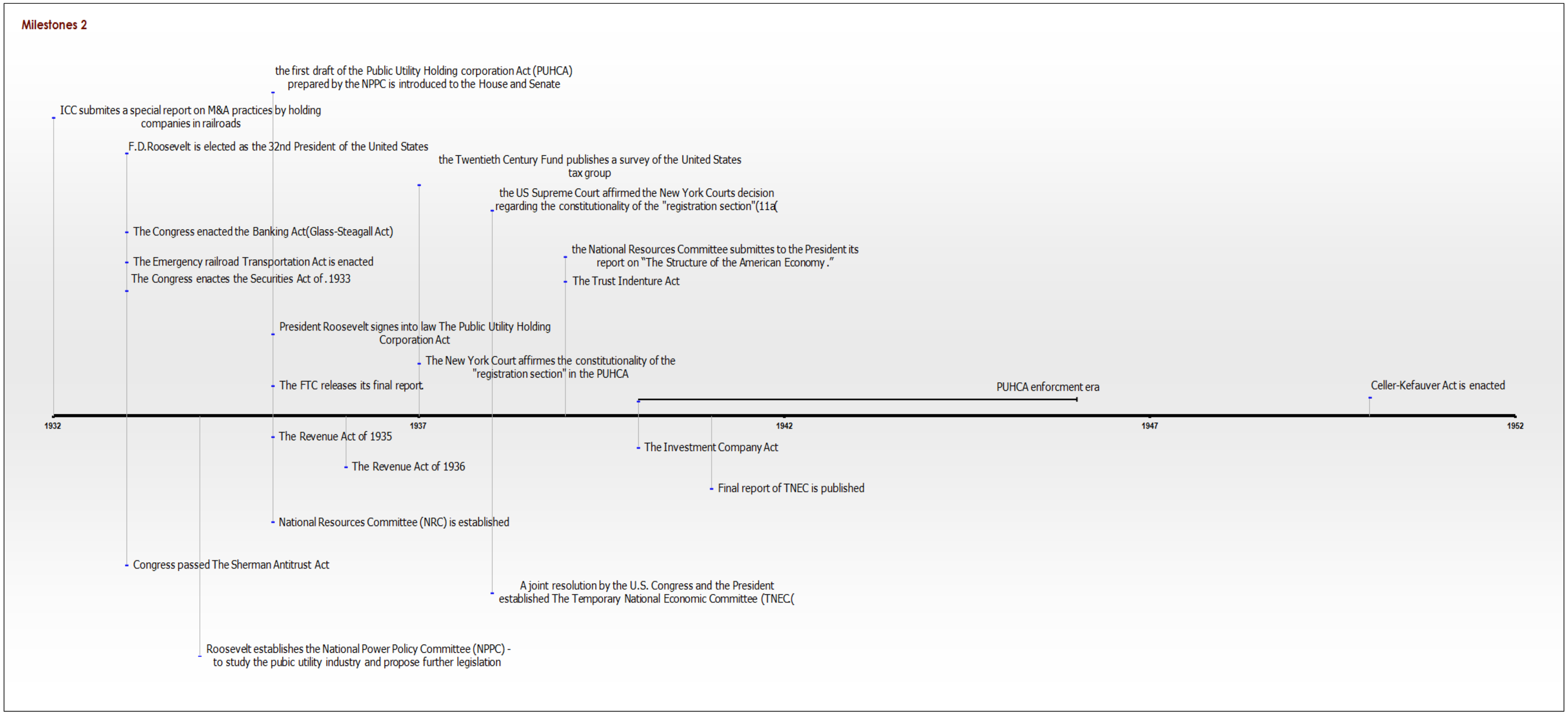
Figure 9: Initial Public Offerings, 1935-1972

The figure presents the number of initial public offerings (IPO's) in each year in the period 1935 through 1972. Data are based on the sample of 3,661 IPO's identified by Gompers and Lerner (2003).



Appendix 1: Milestones in the History of US Business Groups 1832-1950




Milestones 2
the first draft of the Public Utility Holding corporation Act (PUHCA) prepared by the NPPC is introduced to the House and Senate
ICC submites a special report on M&A practices by holding companies in railroads
F.D.Roosevelt is elected as the 32nd President of the United States
the Twentieth Century Fund publishes a survey of the United States tax group
the US Supreme Court affirmed the New York Courts decision regarding the constitutionality of the "registration section"(11a(
The Congress enacted the Banking Act(Glass-Steagall Act)
the National Resources Committee submittes to the President its report on "The Structure of the American Economy."
The Emergency railroad Transportation Act is enacted
The Congress enactes the Securities Act of .1933
The Trust Indenture Act
President Roosevelt signes into law The Public Utility Holding Corporation Act
The New York Court affirmes the constitutionality of the "registration section" in the PUHCA
The FTC releases its final report
PUHCA enforcment era
Celler-Kefauver Act is enacted
1932
1937
1942
1947
1952
The Revenue Act of 1935
The Investment Company Act
The Revenue Act of 1936
Final report of TNEC is published
National Resources Committee (NRC) is established
Congress passed The Sherman Antitrust Act
A joint resolution by the U.S. Congress and the President established The Temporary National Economic Committee (TNEC(
Roosevelt establishes the National Power Policy Committee (NPPC) - to study the pubic utility industry and propose further legislation

Appendix 2: Milestones in in the History of US Business Groups

February 28, 1827 - Baltimore & Ohio Co. is incorporated in Maryland
1832 - The Baltimore & Ohio Railroad Co. is authorized by the State of Maryland to acquire the stock of Washington Branch Road Company
1868 - Pennsylvania charters the first pure holding corporation: Continental Improvement Company
1868-1872 - 40 pure holding corporations are created in Pennsylvania
1872 - Wisconsin outlaws incorporation by special legislature act
1874 - Penn public scandal (special amendment to the Constitution forbids the State Legislature from creating or chartering corporations).
1873-1878 - The first wave of "the Long Depression"
1879 - Establishment of Standard Oil Company trust - the first known trust agreement
January 1886 - The Cullom Committee submits its report, concluding that the existing railroad corporations abuse their monopolistic powers to unfairly discriminate between customers
February 4, 1887 - The Interstate Commerce Committee (ICC) is established to regulate railroad business and assure "equality of opportunity" to all users of railroads.
1888 - New Jersey is the first State to amend its laws and explicitly permit every corporation to hold stocks in other corporation
July, 1890 - Congress passes the Sherman Antitrust Act – the Act prohibits certain business activities that Federal regulators deem to be anticompetitive and requires the government to investigate and pursue trusts, companies, and organizations suspected of being in violation of the Act
1892 - The formation of the Corporation Trust (CT) Company of New Jersey - CT becomes the first company to assist lawyers with the details of incorporating and qualifying corporations in all states and territories
March 2, 1892 - The Supreme Court of Ohio rules that the Standard Oil trust agreement should not be executed, because it "created a monopoly which was against the public policy of the State"
1898 - Standard Oil Company of New Jersey turns itself into a pure holding corporation, and acquires the stock of all other Standard Oil companies in the United States
1895-1904 - The "first merger wave"
March 1904 - The Supreme Court invalidates a big merger plan in the railroad sector, designed to be carried out through a newly-registered holding corporation (Northern Securities Co. v. U.S., 193 U.S. 197 (1904))
1904 - "The Truth about the Trusts" by John Moody is published. The book analyses the phenomenon of the American Trust Movement, covering more than 400 "greater" and "lesser" industrial trusts
May 1905 - Lincoln Steffens publishes "New Jersey: a Traitor State", which claims that "New Jersey is selling out the rest of us" and describes the State as a corrupted refuge-house for trusts
1910 - Wilson is elected governor of New Jersey, the State known by then as the "mother of trusts". During his inaugural speech, in January 1911, he claims that "we are much too free with grants of charters to corporations in New Jersey" and calls for a change in State laws, so as to "effectually prevent the abuse of the privilege of incorporation which has in recent years brought so much discredit upon our State"
May 1911 - The Supreme Court orders the disintegration of American Tobacco Company, due to violation of the Sherman Act (U.S.A v. American Tobacco Company, 221 U.S. 106 (1911))
May 1911 - The Supreme Court orders the disintegration of Standard Oil Company to its constituents companies, due to violations of the Sherman Act (Standard Oil Company of New Jersey v. U.S.A, 221 U.S. 1 (1911))
February 1912 - The establishment of the Pujo Committee in February 1912 by the House of Representatives in order "to investigate the concentration of control of money and credit"
February 1913 - The Pujo Committee submits its report to the Congress. The report identifies over $22 billion in resources and capitalization controlled through 341 directorships held in 112 corporations by members of the empire headed by J.P. Morgan. It claims that a few banks, led by J.P. Morgan, create a "money trust" to control the United States' financial and credit resources. The

Committee's recommendations do not deal directly with holding corporations or business groups, but rather focus on banking issues - consolidation, interlocking stockholdings and directorates etc.

1913 - The Revenue Act of 1913

1914 - The Clayton Antitrust Act is enacted by Congress. Section 7 of the Clayton Act prohibits one company from holding controlling stocks of a rival company, if the result is substantial lessening of competition. Section 7 elaborates on specific and crucial concepts of the Clayton Act; a "holding company" is defined as a "common and favorite method of promoting monopoly," or more precisely as "a company whose primary purpose is to hold stocks of other companies" which the Government saw as an "abomination and a mere corporate form of the old fashioned trust

March 1914 - Louis Brandeis publishes his book "Other People's Money and How the Bankers Use It." The book includes strong condemnation of "our financial oligarchy"

1915 - The State of New Jersey passes a new act which materially amends that portion of the "Seven Sisters" Acts in relation to the rights of corporations to deal in the stocks of other companies. This is due to Governor Walter Edge's explicit wish to re-attract corporations to the State

January 1916 - President Wilson nominates Brandeis to the Supreme Court

1919 - The Revenue act of 1918 is signed into law, making inter-corporate dividends fully deductible

March 1920 - The Transportation Act of 1920 submits railroad corporations to strict Federal regulation by the Interstate Commerce Commission (ICC). Among other provisions, the ICC is ordered to "prepare and adopt a plan for the consolidation of the railway properties of the continental United States into a limited number of groups." The act subjects every consolidation in the railroad industry to the approval of the ICC. However, a legal device, the holding corporation, threatens to render the Act irrelevant (the Application of the Denver & Rio Grande Wester, 70 I.C.C. 102, 105 (1920))

1920-1932 - A period of expansion of holding companies

1924 - The Court strikes down the Public Utilities Commission of Missouri's decision to regulate rates charged by a gas transportation company to its distribution companies, as "an inseparable part of a transaction in interstate commerce"

1926-1930 - The "second merger wave"

1927 - The Federal Trade Commission (FTC) publishes a report on the "Control of Power Companies." This follows Senate Resolution No. 329, which directs the Commission to investigate by what means the "General Electric Co., or the stockholders or other security holders thereof monopolize or control" the electric power industry, and also to report to the Senate on the "manner in which the said General Electric Co. has acquired and maintained such monopoly." The FTC investigation, which deals briefly with other big holding groups in the electric industry, makes no substantial allegations against these groups

March 1928 - FTC launches a second investigation of the holding groups. This investigation covers both the electricity and the gas industries, with the aim of gathering information "concerning the history and growth of the financial structure of all public utility corporations."

1928 - An informal association of State utility commissioners ("The National Association of Railroad and Utility Commissioners") criticizes in its report "the holding company method of control" and describes "the adverse public sentiment aroused against holding companies." The report claimes that the current authority of State commissioners regarding holding companies is too restricted, and recommends to promote legislation giving commissioners direct and explicit jurisdiction over the holding corporations

1929 - The beginning of "The Great Depression"

1930 - The New York Commission on Revision of the Public Service Commission Law recommends that the jurisdiction of the Commission be extended to holding corporations

March, 1930 - The Massachusetts Special Commission on Control and Conduct of Public Utilities recommends certain statutory changes in order to obtain information from holding corporations

1931- The collapse of the Insull Group. By mid-1931, the drop in electricity revenues (due to the Depression) causes great trouble to the highly leveraged Insull Group. By the end of 1931, creditors appoint a new auditor, Arthur Andersen, to oversee the operations of the group

1932 - "The Modern Corporation and Private Property" by Adolf Berle and Gardiner Means is published. The book includes a thorough analysis of the 200 largest non-financial corporations in the US

1932 - "The Holding Company, its Public Significance and its Regulation" is published by Bonbright and Means

September 1932 - Roosevelt attacks the Insull Group and holding corporations during a campaign speech in Portland, Oregon

1933 - F.D. Roosevelt, the former Governor of New York, is elected as the 32nd President of the United States

1933 - The newly assembled 73rd Congress enacts the Securities Act of 1933
1933 - The Emergency Railroad Transportation Act is enacted. Among others, it broadens the ICC's jurisdiction over holding companies, declaring them a common carrier and subjecting them to special regulations. For example, all consolidation, lease, acquisitions of control etc. by a holding company requires ICC approval
1933 - The Congress enacts the Banking (Glass-Steagall) Act
1934 - Congress enacts the Securities Exchange Act of 1934. The Act governs the trading markets of securities and also establishes the Securities and Exchange Commission (SEC)
1934 - Roosevelt establishes the National Power Policy Committee (NPPC) to study the public utility industry and propose appropriate legislation
January 4, 1935 - Roosevelt attacks "the evil features of holding corporations," during his second State of the Union address
January 27, 1935 - The FTC releases its final report. The report covers over 60 major holding corporations and nearly 100 operating companies, with total assets of nearly $12 billion, all in the public utility sector
February 6, 1935 - The first draft of PUHCA is presented to the House and Senate
June 7, 1935 - Roosevelt establishes the National Resources Committee to prepare plans "as may be helpful to a planned development and use of land, water, and other national resources"
June 11, 1935 - The Senate passes the PUHCA intact by a 45-44 vote
June 17, 1935 - The House decides to remove the "Death Sentence Clause" from the PUHCA bill
June 19, 1935 - Roosevelt sends a special tax message to Congress requesting to impose a 15% tax on inter-corporate dividends
August 18, 1935 - Agreement on the PUHCA and the "Death Sentence Clause" is achieved
August 26, 1935 - PUHCA is signed into law
September 1935 - The constitutionality of PUHCA is brought to a test at the Maryland Federal Court.
September 1935 - James Landis replaces Joseph Kennedy as Chairman of the SEC
November 7, 1935 - The Maryland Federal Court declares the PUHCA to be "void in its entirety" due to violation of the Constitution
November 1935 - The SEC files a lawsuit, under PUHCA, against Electric Bond & Share (EBS) in the New York District Court
June 22, 1936 - The Revenue Act of 1936 encourages simplification of holding groups into single consolidated company
January 1937 - The New York District Court affirms the constitutionality of the "registration section" in the PUHCA
March 9, 1937 - Roosevelt's famous Fireside Chat includes an attack on the Supreme Court for raising obstacles in the way of several New Deal reforms
July 1937 - Congress rejects The Judicial Procedures Reform Bill of 1937, a Roosevelt attempt to undermine the Supreme Court's power.
August 1937 - Roosevelt appoints Hugo Black to the Supreme Court
November 1937 - The New York Court of Appeals affirms the lower court's decision from January 1937 on the constitutionality of the "registration section" in the PUHCA
December 1937 - James Landis is replaced by William Douglas as the Chairman of the SEC
1937 - The Twentieth Century Fund, an independent think-tank, publishes a survey according to which, seven industrial groups have eliminated one or more holding corporation citing tax provisions as a reason for the action. An additional 24 groups have eliminated one or more holding corporation without stating tax considerations as the reason
1937-1943 - Roosevelt appoints eight out of nine judges to the Supreme Court.
March 1938 - The Supreme Court affirms the New York Courts' decisions regarding the constitutionality of the "registration section"
April 29, 1938 - A Roosevelt message to Congress denounces holding corporations and calls for raising inter-corporate taxation
April 1938 - Establishment of the "Industry Committee," an informal committee representing the senior managers in the public utility industry threatened by the PUHCA
May 1938 - The Industry Committee sends a letter to the SEC Chairman, promising cooperation with the PUHCA but requiring a repeal of "the Death Sentence Clause"
June 16, 1938 - A joint resolution by Congress and the President establishes the Temporary National Economic Committee (TNEC). Its functions are to study monopoly and concentration of economic power, and to make recommendations for appropriate legislation
June 1938 - The major holding corporations in the public utility sector comply and register with SEC, as required by PUHCA

August 1938 - SEC Chairman Douglas demands that all utility groups file with the SEC detailed simplification programs, as required by Section 11 of the PUHCA

June 1939 - The SEC launches an offensive against the holding groups in an attempt to speed up the PUHCA's enforcement. The SEC submits detailed plans to simplify the structure of the 13 largest public utility groups, holding among them 67% of the total assets of the companies registered with SEC

June 1939 - The National Resources Committee submits its report on “the Structure of the American Economy” which includes an analysis of the concentration in 275 industries

1939 - The head of the Public Utility Division, the SEC department responsible for the PUHCA enforcement, is dismissed

1940 - The Investment Company Act imposed some restrictions on companies whose main assets were shares of other companies.

1941 - Final report of TNEC is published

1942 - SEC issues an order requiring the North American Company to divest itself of all its properties

1940-1946 - PUHCA enforcement era; the Supreme Court affirms the PUHCA Death Sentence Clause in 1946

1950 - The Celler-Kefauver Act reforms and strengthens the Clayton Act of 1914 giving the Government the ability to prevent any vertical or conglomerate asset acquisition which could limit the competition