Too Much Ado about Morgan's Men:
The U.S. Securities Markets, 1908-1914[1]

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Scholars of the development of financial systems have taken a keen interest in the structure of U.S. securities markets prior to World War 1. What they find there, as Bradford De Long puts it, is a "Morgan-dominated 'money trust' " with "the concentration of the business of issuing securities of large corporations in the hands of a few investment banks led by the Morgan partnership".[2] Different contributors may debate whether these financial oligarchs promoted or restricted the development of U.S. securities markets.[3] Yet, they agree that Morgan's men dominated the underwriting and distribution of corporate securities in the United States in the years prior to World War 1.

In this regard, they draw direct inspiration from the 1912-1913 investigation by the Pujo committee into the concentration of the control of credit in the United States.[4] The Pujo report's conclusions proved highly controversial when they were released in early 1913 with the committee itself splitting on partisan lines.[5] Nevertheless, they have come to be taken as broadly accurate, not only by social scientists but also by historians, for characterising the operation of the U.S. securities markets prior to World War 1.

In this chapter, I take issue with this consensus, arguing that there has been too much ado about the money trust for understanding both the operation and the development of the U.S. securities markets in the years prior to World War 1. I begin in Section 1 by providing some context for the Pujo investigation with an analysis of the trends in corporate securities issuance in the United States from the panic of 1907 through 1912. A significant expansion in the U.S. securities markets marked this 5-year period as well as a broadening in their scope with industrials, in particular, assuming a greater place there.

These trends, because they tended to reinforce competition among underwriters in the U.S. primary market, meant that the Pujo report was curiously ill-timed. In Section 2, I show the significant contrast that existed between the strength of the claims made in the Pujo report and the weakness of the evidence adduced in the

[1] Chapter 6 in *Dividends of Development: Fits & Starts in the Expansion of U.S. Securities Markets, 1888-1919*, book manuscript (see synopsis).
[2] Bradford De Long, 1991, "Did J. P. Morgan's Men Add Value? An Economist's Perspective on Financial Capitalism", in Temin, Peter, ed., *Inside the Business Enterprise: Historical Perspectives on the Use of Information*, Chicago, pp. 205-249, cited at pp. 210-211 & p. 205. Notwithstanding the positive attention this article has garnered, see Leslie Hannah, "J. P. Morgan in London and New York before 1914", *Business History Review*, 85, pp. 113-150 for a searing critique.
[3] De Long, for example, vaunts the protections that Morgan's men provided to investors while Raghuram Rajan and Luigi Zingales lament the existence of a "clubby, uncompetitive, and conservative" system which gave financiers no incentives to assume the risks of encouraging innovation (Raghuram Rajan and Luigi Zingales, *Saving Capitalism from the Capitalists, Unleashing the Power of Financial Markets to Create Wealth and Spread Opportunity*, Crown Business, New York, 2003, pp. 35-6).
[4] In April 1912, the House Banking and Currency Committee appointed a subcommittee, headed by Arsène Pujo, the Democratic chairman of the House Banking and Currency Committee.
[5] Vincent Carosso, *Investment Banking in America*, 1970, p. 151.

investigation to support them. Based on newly-compiled data, I argue that the money trust did not dominate the underwriting and distribution of corporate securities as the Pujo report claimed. Instead I show that a much larger and more heterogeneous population of bankers and brokers was active in the primary U.S. market for corporate securities. And, as the Pujo hearings were underway, competition in the primary market was further reinforced by the changing characteristics of corporate issues.

Thus, contemporary scholars, who assume the existence of a money trust, overstate the dominance of Morgan's men in the U.S. primary market for corporate securities. Moreover, as I argue in Section 3, they also exaggerate the distinctiveness of the role they played through their representation on the boards of their clients. Board representation was, in fact, a widespread practice among U.S. bankers at the time in their efforts to bring order to the U.S. securities markets. They were not the only prime movers in the U.S. securities markets that sought to impose private order with the NYSE also making such an effort. Although one should not exaggerate the strictness of that private order but there is no question that access to the U.S. securities markets was more strictly policed than it had been in the past.

However, as I show in Section 4, that did not stop boom in the securities markets turning to bust. The volume of securities trading and issuance plummeted from the end of 1912, leaving the U.S. securities markets to stagnate until the eve of the World War 1. That stagnation can be explained by weaknesses in the structural conditions that underpinned the market for U.S. corporate securities. On the demand side, there was a slowdown in the money flowing into the purchase of corporate securities. On the supply side, the challenge of generating a steady flow of corporate securities, especially industrial securities, that offered investors an appealing combination of returns and stability continued to go unmet. No matter how powerful they were, whatever their influence over the reservoirs of other people's money or the companies in which it was invested, investment bankers were unable to alter these conditions. Thus, their influence has been exaggerated not only on the operation of U.S. securities markets but also on their development.

1. CORPORATE SECURITIES ISSUANCE IN THE UNITED STATES, 1908-1912

An analysis of general patterns and trends in corporate securities issuance in the United States in the years following the panic of 1907 is important for understanding the broader context for the Pujo report. The data required to generate that analysis are not readily available. However, the *Journal of Commerce* did publish lists of all securities issues in the United States for these years.[6] My analysis of these data served as the basis for Table 1 below which shows the main characteristics of the U.S. primary market for corporate securities in the period from 1905 to 1912.

[6] These data include the name of the issuer, the type of security issued, and the amount of the issue.

Table 1 Corporate Securities Issues in the United States, 1905-1914

Year	Railroads & Traction		Industrials		Utilities		Total	
	No.	Value	No.	Value	No.	Value	No.	Value
1905	77	869.5	40	337.5	7	32.0	124	1239.0
1906	87	1159.5	49	280.7	23	196.8	159	1637.0
1907	163	954.8	87	235.1	53	202.4	303	1392.3
1908	152	999.1	84	250.7	39	198.4	275	1428.2
1909	205	1014.7	170	440.3	90	213.7	465	1681.1
1910	220	876.6	186	457.4	105	182.1	511	1518.3
1911	281	1099.2	231	470.6	119	168.4	631	1739.5
1912	160	1096.1	250	798.2	136	355.6	546	2253.6
1913	207	953.9	187	403.0	122	299.5	516	1645.7
1914		930.7	126	223.5		277.2		1436.5
1914(a)		1,410.4	142	308.5		434.4		2153.3

Source: author's calculations based on data compiled from Journal of Commerce

1914(a) annualized based on data for first 6 months

For 1905, 1906 and 1907, the Journal of Commerce recorded only issues equal to or larger than $1m. From 1908 on, it aimed to cover all securities issues undertaken in the United States.

These data show that, by 1909, the primary market showed signs of recovery from the panic. In 1910 the proceeds raised in corporate securities issues declined slightly but the number of firms that gained access to the primary market continued to increase, reaching more than 500 that year. Developments in 1911 and 1912 proved more favourable with larger numbers of issuers and a significant increase in the proceeds raised. In both years, and especially in 1912, more money was raised in the primary market than had been raised even in the boom years of 1905 and 1906.

Developments in the primary market for corporate securities in the years after the panic seemed to promise the long-awaited shift in the relative importance of different sectors as issuers. Railroads had been the dominant issuers prior to the panic, accounting for 70 per cent or so of the proceeds of corporate securities issues and, in its immediate aftermath, their dominance persisted. The market for industrial securities, as I argued in the previous chapter, remained narrowly based and limited in its importance. Thus, industrials accounted for only 17 per cent of the proceeds of all corporate securities issues in the United States in 1906 and they remained at that level in 1907 and 1908. However, from 1909 on, there was a significant shift in the relative shares of corporate issues recorded by different sectors. Railroads declined in importance, to only 48.6 per cent of corporate securities issues by 1912, in favour of other sectors and especially industrials whose share grew to 35 per cent.[7]

Issues of industrial securities rose to almost $800m in 1912 having averaged about $450m over the previous three years.[8] The total proceeds raised by industrial issues in 1912 remained below the aggregate for railroads even in 1912 but 250 industrial companies gained access to the primary market that year compared with only 160 railroads. Some industrial issuers were very large ones, raising proceeds of $10 million or more,[9] but the average industrial issue was $3.2 million in 1912 and the median issue even lower at $1.2 million.[10]

[7] The share represented by utilities, which had accounted for 12 per cent of securities issues in 1906, showed no consistent signs of a change role until 1912 when its share increased to 16 per cent.

[8] They thus increased by almost 80 per cent compared with less than 40 per cent for overall corporate securities issuance.

[9] 21 of the industrial issues in 1912 raised proceeds of $10 million or more.

[10] In 1911, moreover, the average and median issues were even smaller at $2 million and $1 million respectively.

The boom in industrial issues did not come out of the blue. By 1909, as Table 2 shows, the industrial common stock index had not only recovered from the 1907 panic but had surpassed its 1906 average. Industrials gained little further ground between 1909 and 1911 but they still did better than other classes of stocks, not only utilities but even railroads. An additional surge in the values of industrial stocks in 1912 made that lead decisive.

Table 2 Stock Price Indexes by Sector, 1906-1914

Year	All Stocks	Industrials	Railroads	Utilities
1906	100.0	100.0	100.0	100.0
1907	84.4	83.7	86.0	74.6
1908	88.6	87.0	91.2	73.2
1909	116.0	120.7	117.9	92.3
1910	116.8	127.7	116.6	95.1
1911	121.0	129.1	120.5	104.9
1912	131.5	150.1	128.0	115.5
1913	123.8	142.9	120.6	110.0
1st ½ of 1914*	124.9	150.9	119.0	111.8

Source: Cowles Commission

As the *Journal of Commerce* noted in mid-1912, investors looked to industrials due to the higher yields they seemed to promise:

> Investors have turned to industrials for the sake of securing a larger yield than that offered by the railroads and this explains the <u>enormous</u> increase in the announcements of bonds, notes and stocks of these concerns. The industrials, therefore, have been in greater favor than ever before and striking evidence of this is readily found in the constant succession of new high records and in some cases of sensational advances on the Stock Exchange. There are many industrial securities, both stocks and bonds, that at the current market prices return 6 to 7 per cent to investors. This has appealed to even many large capitalists who usually consider the safety of capital as a first requisite.[11]

Investors' increased enthusiasm for industrial securities was stimulated by two significant developments. On the one hand, "old" industrials, those that already featured on the U.S. securities markets prior to 1907, showed improved prospects. As one commentator explained:

> Industrial companies are constantly increasing in favor with the public and there are many reasons why they should appear attractive to the investor. During the past few years of more or less depression, economies have been effected, organization brought to a high state of efficiency and working capital carefully conserved.[12]

The conservative management of old combinations was considered an important factor in allowing them to consolidate their financial positions.

> Although it can be said with some degree of truth that many of our prominent industrial companies have been floated with a capitalization much of which represented water, very few have failed to make earnest efforts to squeeze this water out and place themselves in the strongest possible financial position.[13]

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[11] "Year's financing new high level", *Journal of Commerce*, July 3, 1912, p. 3.
[12] "Industrials find Favor with Public, Their Outlook Bright", *Wall Street Journal*, July 10, 1912, p. 6.
[13] "Industrials in Much Stronger Position than in Past Years", *Wall Street Journal*, Nov 18, 1912, p. 5.

Many established industrial companies proved prosperous in 1912 but the year was particularly good for the manufacture of agricultural machine and implements,[14] food processing, especially the biscuit industry,[15] as well as the fertilizer industry.[16] Investors were attracted not only by the improved prospects of companies whose securities were already traded but also by competitors in these industries who were new to the markets.

In addition to their growing enthusiasm for "old industrials", U.S. investors looked with excitement to the prospects of industries that had not featured prominently on the securities markets prior to 1907. The automobiles and truck industry was a leading example of such "new industrials" as was office and business equipment. In addition, there were industries like retailing and oil refining where the securities of one company had been available for some time but which came to be represented much more broadly after the panic.[17]

The trend towards a broadening of the class of industrials with interesting profit prospects led to a significant expansion in the secondary markets for industrial securities in the United States. As Table 3 shows, the NYSE participated actively in this expansion allowing it, for the first time since the merger movement, to significantly expand its class of industrial securities other than mining stocks. Just as important were tentative signs of a broadening in the trading of industrial stocks on the NYSE with the share of total trading volume accounted for by the leading five industrial stocks starting to drop in 1911 and 1912.

Table 3 Sectoral Breakdown of Traded Stocks on the NYSE, 1903-1912

	1903	1906	1908	1910	1912	June 1914
Total	324	343	340	336	384	345
Railroads	163 (50%)	164 (48%)	167 (49%)	150 (45%)	134 (35%)	123 (36%)
Utilities	39 (12%)	43 (13%)	34 (10%)	41 (12%)	46 (12%)	33 (10%)
Industrial & Miscellaneous	122 (38%)	136 (40%)	139 (41%)	145 (43%)	204 (53%)	189 (55%)
Coal & Mining	15 (5%)	18 (5%)	29 (9%)	26 (8%)	25 (7%)	23 (7%)
Other	107 (33%)	118 (34%)	110 (32%)	119 (35%)	179 (47%)	166 (48%)

Source: Author's analysis based on data from *Financial Review*.

The industrial section of listed bonds also expanded, growing to more than 100 issues by 1912, up from a mere 45 in 1906. It is true that railroads continued to dominate not only in terms of the numbers of bonds traded on the NYSE but also the volume of bond trading. However, for the first time, some industrial bonds began to attract considerable interest from investors.[18] By 1912, 28 industrial

[14] "Most Industrials Class 1912 among the Prosperous Years", *Wall Street Journal*, Dec 27, 1912, p. 2. Mfg concerns who have reaped bountiful harvest from this year's remarkable crops. None has reaped such increase in profits as J. I. Case Threshing Machine Co. "Very little was heard of this concern before the present year." But then huge increase in capital at end of 1911. Common described as being very closely held.
[15] "Most Industrials Class 1912 among the Prosperous Years", *Wall Street Journal*, Dec 27, 1912, p. 2. Biscuit companies did well too in 1912 although no figures made public of National Biscuit's sales. Mentions Loose-Wiles Biscuit Co too and its success and fact that only serious competitor of National. National Biscuit already on but joined by Loose Wiles.
[16] American Agricultural Chemical there and Virginia Carolina but joined by International Agricultural Corporation.
[17] Retailing – Claflin around already, then United Dry Goods, Associated Merchants, but also May and chains; Oil producing & refining – Standard Oil around but Texas Co., Associated Oil, Mexican Petroleum, California Petroleum Co.; Tobacco too.
[18] The industrial sector, with 12 per cent of bonds traded on the NYSE in 1915, had drawn neck-and-neck in importance with the utility sector but that still placed it a long way behind railroads with more than three quarters of all listed bonds on the Big Board.

bonds sold in annual volumes of more than $1m, compared with only 12 industrial bonds in 1908. Some of them even ranked among the most actively-traded bond issues on the New York Stock Exchange, a feat that was unprecedented for industrial bonds,[19]

The New York Curb Market, now with a much clearer relationship to the NYSE,[20] also benefitted from the industrial boom. By the early teens it had surpassed the Boston Stock Exchange in terms of share trading volume to become the second most important trading market in the United States.[21] Although the Curb still remained heavily dependent on mining stocks,[22] the boom made industrials much more prominent there. By the end of 1912, the stocks of somewhere between 60 and 120 industrial companies, other than mining companies, were traded on the Curb. The volume of trading in these stocks also increased, especially in 1912, although the increase was concentrated in a small number of stocks and industrials still represented a minority of trading activity on the Curb.[23]

2. A Closer Look at Pujo's Findings & Evidence

It was in this context that the Pujo committee began its investigation into the concentration of control of credit in the United States. The House Banking and Currency Committee appointed the committee in April 1912[24] but the momentum that led to its creation dated back at least to the panic of 1907. That crisis, and the manner of its resolution, did much to reinforce the sense that a small coterie of leading U.S. financiers exerted undue influence over the nation's savings and investments. In the Panic's immediate aftermath, U.S. Congress declined to initiate a federal investigation but, as criticism of U.S. high finance continued, it was only a matter of time before such an investigation was launched.[25]

The Pujo Committee was charged with the investigation of "the concentration of money and credit" in the United States. Its report distinguished between a concentration of the volume of money, especially in reserve cities of the national banking system, and a "concentration of control of this volume of money and consequently of credit into fewer and fewer hands". It was the latter phenomenon, especially in the city of New York, that was the subject of the Pujo inquiry.[26]

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[19] "Stock Exchange Bond Dealings – 1915," *The Annalist*, January 3, 1916, pp. 29-32.
[20] See previous chapter for the closure of the NYSE's Unlisted Department and its implications for the Big Board's relationship with the Curb.
[21] Jones & Baker, *Profits and Dividends of America's Second Largest Stock Market* (New York, 1919), 18; New York Stock Exchange, *Fact Book*. Of course, it was still a long way behind the NYSE with somewhere between 10 and 20 percent of the Big Board's volume.
[22] Michie, *London and New York Stock Exchanges*, 206-07
[23] Still, notwithstanding prominent examples like British-American Tobacco, United Cigar Stores, Allied Securities, Mays Oil, and Marconi Wireless, most of these industrials traded in very low volumes. Sobel also gives the example of Standard Oil of New Jersey (Sobel, *Curbstone Brokers*, 158). In fact, based on data from the *Financial Review*, far fewer of its shares were traded on the Curb compared to the above-mentioned companies.
[24] It was headed by Arsène Pujo, the Democratic chairman of the House Banking and Currency Committee, whose name has been associated with it ever since.
[25] Carosso, p. 135-6.
[26] U.S. House, 62d Cong., 3d Sess. *Report of the Committee Appointed Pursuant to House Resolutions 429 and 504 to Investigate the Concentration of Control of Money and Credit*, Washington, 1913, p. 55 (hereafter Pujo Report).

2.1 The Pujo Report's Findings

The majority report's conclusion was unequivocal: it had "no hesitation" in asserting that "[a]n established and well-defined identity and community of interest between a few leaders of finance" had been created in the United States and had resulted in "a vast and growing concentration of control of money and credit in the hands of a comparatively few men".[27] It identified "the most active agents in forwarding and bringing about the concentration of control of money and credit" as J. P. Morgan & Co., First National Bank of New York, National City Bank of New York, Lee, Higginson & Co. and Kuhn, Loeb & Co.[28] It did, however, draw important distinctions within this group identifying the Morgan bank, the First and the City as constituting an "inner group", Kidder, Peabody and Lee, Higginson as close allies of that group, and Kuhn, Loeb as "only qualifiedly allied with the inner group, and only in isolated transactions" but having "many interests in common, conducting large joint-account transactions with them".[29]

The Pujo committee identified the locus of concentrated control over the U.S. credit system as centred in the country's securities markets and, specifically, in the underwriting and distribution of corporate securities. It contended that "the inner group and its allies have drawn to themselves the bulk of the business of marketing the issues of the greater railroad, producing and trading, and public-utility corporations, which, in consequence, have no open market to which to appeal".[30] It attributed their dominance of the primary market for corporate issues to the command of other people's money they had achieved through their influence over other banks and trust companies.[31] The report explained that

> [u]nder our system of issuing and distributing corporate securities the investing public does not buy directly from the corporation. The securities travel from the issuing house through middlemen to the investor. It is only the great banks or bankers with access to the mainsprings of the concentrated resources made up of other people's money in the banks, trust companies, and life insurance companies, and with control of the machinery for creating markets and distributing securities, who have had the power to underwrite or guarantee the sale of large-scale security issues".[32]

In identifying the troubling consequences of the control exercised by the money trust, the Pujo report argued that: "[t]his inner group and its allies thus have no effective competition, either from others or amongst themselves for these large security issues, and are accordingly free to exact their own terms in most cases".[33] Moreover, the money trust's dominance of securities issuance gave it the power to decide which companies would receive financing and "to say what and whose securities shall *not* be bought". Thus the "great banks and bankers" could "tap those reservoirs [of the people's money] for the ventures in which they are interested and to prevent their being tapped for purposes for which they do not approve".[34] The report pointed out that the latter was just as

[27] Pujo Report, p. 130.
[28] Ibid., p. 56.
[29] Pujo Report, p. 131.
[30] Pujo Report, p. 133.
[31] See Carosso for summary, pp. 142-3 and report itself.
[32] Pujo Report, p. 130.
[33] Pujo Report, p. 133.
[34] Reference.

important as the former and, indeed, was "a controlling consideration in its effect on competition in the railroad and industrial world".[35]

The Pujo investigation proved very controversial with members of the committee itself disagreeing about its findings. The majority report, signed by the Democratic members of the committee, may have been definitive in identifying the presence of a money trust but neither of the two minority reports, submitted by the Republican members, was so sure.[36] Controversy persisted once the reports were released. The majority report attracted accolades from certain quarters and, even among those unwilling to accept it in its entirety, some of its findings and recommendations garnered favourable attention. However, the report also generated strong criticisms with financial journals lining up to denounce its methods and conclusions.[37]

In light of such controversy, it is somewhat surprising that so many scholars have come to accept the Pujo report's description of the underwriting and distribution of corporate securities in the United States as broadly accurate for the years leading up to World War 1. In his pioneering study of U.S investment banking, Fritz Redlich expressed serious reservations about Samuel Untermyer's role in the investigation[38] but he accepted his assertion of a money trust.[39]

Vincent Carosso was also critical of the Pujo report for "some of its exaggerated and misleading conclusions". He also qualified the Pujo report's description to some extent, emphasising the emergence of new entrants to the U.S. underwriting business prior to World War 1, specifically Goldman, Sachs and Lehman Brothers.[40] Nevertheless, he too agreed that the investigation "showed that the business of underwriting and distributing securities, especially those of the great interstate corporations was, as it had been and continued to be, the occupation of a relatively few firms".[41] Other leading historians have also accepted the Pujo report's findings, often with less qualification than Carosso,[42]

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[35] Pujo Report, p. 130.
[36] Two minority reports were issued. One report was signed by three members of the committee – Everis A. Hayes, Frank E. Guernsey, and William H. Heald – and stated the opinion that "the testimony has not disclosed the existence of any so-called Money Trust in this country" although it accept that it "disclosed a dangerous concentration of credit in New York and to some extent in Boston and Chicago" (Pujo, p. 247). The second minority report, signed by Henry McMorran, considered that "much of the evidence in regard to the concentration and control of money and credit submitted to the subcommittee, both statistical evidence and the testimony adduced through the questioning of witnesses, has been seriously incomplete and misleading, and that no such harmony of motive and action has been shown to exist between the dozen or 18 large banks in different cities which have been repeatedly named as would justify the description of these banks as a 'group' or as an 'inner group' " (Pujo, p. 250).
[37] See Carosso, p. 174.
[38] Redlich thought that Untermyer's "questioning of such investment bankers as Morgan or Baker took all too often a turn toward the pathetic" and suggesting that "[h]e acted on the basis of a semi-religious creed, on the basis of certain value judgements… [and] consequently he could not understand the fact statements, the basic thinking, and the value judgements of those whom he questioned" (p. 378). Nevertheless, he too accepted that "In America financial capitalism, the organization of the large-scale sector of the national economy under the guidance and to the advantage of the investment banker, was the work of no more than half-a-dozen firms and hardly twice as many men" (ibid., p. 381).
[39] "[i]n America financial capitalism, the organization of the large-scale sector of the national economy under the guidance and to the advantage of the investment banker, was the work of no more than half-a-dozen firms and hardly twice as many men". The six firms that Redlich identified were those identified by the Pujo report as the principal members of the money trust. Fritz Redlich, Investment Banking, chapter XXI in …, p. 381.
[40] Carosso, p. 82.
[41] Carosso, p. 153.
[42] See, for example, Herman Krooss and Martin Blyn, *A History of Financial Intermediaries*, 1971, New York, p. 131; Hugh Rockoff, 2008. "Banking and Finance, 1789-1914," *Cambridge Economic History of the United States*, 19th Century, pp. 682-3.

although it is perhaps in the recent contributions of leading economists, as we have seen, that we find their most unreserved acceptance.[43].

2.2 Evidence adduced in the Pujo Investigation

In the face of such academic consensus, qualified or otherwise, it might seem contrarian to ask what evidence has been adduced to reveal the existence of a money trust. However, as one scrutinises the Pujo report, and the thousands of pages of testimony behind it, it becomes clear that the evidence used to substantiate its conclusions is far from satisfactory. If we focus on the report's key finding of the money trust's domination of the business of underwriting and distributing corporate securities issues, the supporting evidence is summarised in a table presented in the body of the report "showing joint purchases and underwritings of corporate securities by certain-named banking houses".[44]

The table was prepared based on data supplied by some of these banks in their responses to a questionnaire sent to them by the Pujo committee. As far as securities issues were concerned, they were asked to provide the number of their joint purchases and underwritings of corporate securities since 1907. The table covered the six institutions the Pujo report identified as the "the most active agents" of financial concentration, as well as three Chicago banks[45] and a New York brokerage house, Kissel, Kinnicutt & Co.[46] In total, as Table 4 below shows, the Pujo report provided data on joint purchases and underwritings of nearly 300 issues from 1903 to 1913, transactions which generated total proceeds of $3.6 billion.

Table 4 Corporate Securities Issues by the Money Trust shown in the "Pujo table"

Year	Proceeds	No.	Average Issue
1903	40.0	1	40.0
1904	0.0	0	0.0
1905	326.1	15	21.7
1906	238.9	12	19.9
1907	184.6	11	16.8
1908	382.8	39	9.8
1909	629.4	51	12.3
1910	414.1	42	9.9
1911	621.4	54	11.5
1912	533.1	51	10.5

[43] Not just Bradford De Long but also Carlos Ramirez, 1995, "Did J. P. Morgan's Men Add Liquidity? Corporate Investment, Cash Flow, and Financial Structure at the Turn of the Twentieth Century", *Journal of Finance*, vol. 50, no. 2, 661-678 and Miguel Cantillo Simon, 1998, "The Rise and Fall of Bank Control in the United States, 1890-1939", pp. 1077-1093. Political scientists and legal scholars have written in a similar vein with Peter Gourevitch and James Shinn speaking of the oligarchic U.S. financial system prior to World War 1 and suggesting that J. P. Morgan's "bank-trust" system made the United States look rather like Germany at the time (Peter Gourevitch & James Shinn, *Political Power & Corporate Control: The New Global Politics of Corporate Governance*, Princeton University Press, 2005, p. 243, check phrasing); see also John Coffee, 2001.

[44] Pujo Report, pp. 92-100.

[45] The first two of these banks -- the Illinois Trust & Savings Bank and the First National Bank -- seem to have been included on the grounds that, in Chicago, the inner group "associates with and makes issues of securities in joint account or through underwriting participations" primarily with them. No explanation is provided for the inclusion of the First Trust & Savings Bank of Chicago.

[46] The report considered Kissel, Kinnicutt to be dependent on the money trust since it received "large and lucrative patronage from the dominating groups" being "used by the latter as jobbers or distributors of securities the issues of which they control, but which for reasons of their own they prefer not to have issued or distributed under their own names". However, if this was indeed the reasoning that justified its inclusion in the table, it is unclear why the two other New York brokerage firms -- White, Weld & Co. and Harvey Fisk & Sons -- accorded a similar dependent status by the report were excluded from it (Pujo Report, pp. 131-132). It should also be noted that no evidence was presented during the investigation that proved such dependence and that Jacob Schiff, at least, objected strongly to this characterisation of Kissel, Kinnicutt & Co. (U.S. House, 62d Cong., 3d Sess. *Investigation of Financial and Monetary Conditions in the United States under House Resolutions Nos. 429 and 504 before Subcommittee of the Committee on Banking and Currency*, Washington, 1913, (hereafter Pujo Investigation), p. 1667).

1913	237.0	2	118.5
Total	**3,607.4**	**278**	**13.0**

Source: author's analysis based on table in the Pujo report "showing joint purchases and underwritings of corporate securities by certain-named banking houses".[47]

At best, given variations in how responding banks completed the questionnaire,[48] the table can be considered comprehensive only for the four years from 1908 to 1911. More problematic than the table's coverage on its own terms is the Pujo committee's decision to confine its attention to the activities of the "certain-named banking houses" included in it. After all, the primary objective was to show that six, or perhaps ten, institutions together controlled the underwriting and distribution of corporate securities issues in the United States. At a minimum, it would seem necessary to show the dominance of their joint issuance activities in the broader primary U.S. market for corporate securities but, to a striking degree, the Pujo investigation neglected that task.

The Pujo report, and those who rely on it, often seems to imply that the money trust's control was most significant for the very largest transactions.[49] Indeed, as Table 5 shows, 74 per cent of the proceeds of money trust transactions were generated by issues of $10m or more. Yet, even for these giant corporate issues, the Pujo investigation did not actually document the dominance of the money trust's activities.

Table 5 Size Range of Money Trust Issues shown in the "Pujo Table"

Range	Proceeds	Share	No.	Share
$1m or less	11.3	0.3%	16	5.8%
>$1m, <=$5m	290.9	8.1%	87	31.3%
>$5m<=$10m	591.9	16.4%	67	24.1%
>$10m<=$20m	991.7	27.5%	65	23.4%
>$20m	1722.4	47.7%	43	15.5%
Total	3,607.4	100.0%	278	100.0%

Source: author's analysis based on table "showing joint purchases and underwritings of corporate securities by certain-named banking houses".[50]

It is worth emphasising that the qualitative evidence adduced on this point during the Pujo hearings is quite ambiguous. The testimony of George F. Baker, the chairman and former president of the First National Bank of New York, is sometimes cited as clear evidence of the money trust's dominance of large issues. De Long, for example, claims that Baker admitted he could not name a single transaction of more than $10m in the last 10 years that had been undertaken without the participation of the members of the money trust.[51] However, closer inspection of Baker's testimony shows his response to have been much less definitive than De Long's statement suggests.

In the first place, it is worth looking at the way Untermyer phrased the question that he addressed to Baker:

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[47] Pujo Report, pp. 92-100.

[48] There was considerable variation in how the banks in question responded to the Pujo committee's questionnaire with some providing earlier data and others furnishing lists of their transactions only from 1908 (Pujo Report, p. 92). Moreover, the data were supplied during the course of the investigation and so are not complete for 1912 and 1913.

[49] See the reference to "the issues of the greater railroad, producing and trading, and public-utility corporations" and the lack of effective competition with, or among, the members of the money trust "for these large security issues" (Pujo Report, p. 133).

[50] Pujo Report, pp. 92-100.

[51] De Long, footnote 2, p. 206.

> Will you be good enough to name a single transaction in the last 10 years of over $10,000,000 in amount which has been financed without the participation of Messrs. Morgan & Co., or the First National Bank, or the City Bank, or Kuhn, Loeb & Co., or Speyer & Co., or Lee, Higginson & Co., or Kidder, Peabody & Co., of Boston, and the First National Bank and the Illinois Trust & Savings Bank, of Chicago? Take the whole range of transactions and point to a single one that has been financed without the cooperation of some one of these institutions.[52]

Untermyer's wording was important because it included the name of an important financial institution, Speyer & Co., which was not designated as a member of the money trust in the Pujo report. Speyer & Co.'s network and reputation made it a potentially important competitor for the likes of J. P. Morgan & Co. and Kuhn, Loeb. Indeed, in his testimony, Jacob Schiff was explicit that there was "a sort of rivalry" between Kuhn, Loeb and Speyer & Co: "Speyer & Co. have often made an issue of securities which came within our range, and we have made issues of securities which came into their range".[53] Had Untermyer confined his question to the money trust banks, therefore, Speyer & Co.'s transactions would have represented plausible answers.

Furthermore, Untermyer asked Baker about the participation "of some one of these institutions" even though the Pujo inquiry focussed on their "joint" participation; its primary task, after all, was to investigate whether the members of the money trust acted together as a cohesive group to control the supply of credit in the United States. Once again, the framing of Untermyer's question limited the possible responses that Baker might give. Lee, Higginson, for example, often conducted joint underwritings without the involvement of other members of the money trust as did National City Bank and Kuhn, Loeb. To the extent that such banks were deemed to have access to networks that were independent of the money trust, it would have been harder to argue that they tended to act in concert with the inner group of the money trust.[54]

Untermyer's phrasing of his question may explain, at least in part, Baker's hesitancy in answering it. His initial response was that he was "not sufficiently familiar with it to tell you". When pushed by Untermyer he made the tentative suggestion of White, Weld & Co.[55] but Untermyer dismissed it on the grounds that the house marketed "largely J. P. Morgan & Co.'s bonds". Asked again, Baker repeated three times that he was "not sufficiently familiar" with the situation to know. The discussion of the matter concluded with Baker agreeing to investigate the subject further when he had finished his testimony.[56]

Less than one week later, on January 14, 1913, George F. Baker sent a letter to Samuel Untermyer in which he noted that "a search of the files of the First

[52] Pujo Investigation, Hearings, II, 1540.
[53] Pujo Investigation, p. 1668.
[54] The Pujo report indirectly recognises such a potential objection to its conclusions in the following statement: "Of course we do not suggest that banking houses may not on particular occasions join in purchasing or underwriting an issue of securities and yet remain entirely independent and free to compete with each other generally in the purchase of security issues. But where a group of such banking houses, pursuant to a settled policy, regularly purchase these issues in concert competition amongst them in this vastly important commercial function is effectually suppressed" (Pujo Report, pp. 101-102).
[55] Baker also referred, even more tentatively, to Rollins or Rollins & Co. (Pujo Investigation, p. 1540).
[56] Pujo Investigation, v. 2, pp. 1540-1.

National Bank, which are not in any way complete, disclose some 16 such transactions". Baker did not provide details of most of these transactions, stating merely that "to answer your question specifically in regard to one instance, there was issued $13,500,000 Studebaker Corporation 7 per cent preferred in February, 1911. The First National Bank had no interest in this issue, and from what information we have none of the other houses mentioned had an interest".[57]

For some reason, Baker's letter was included in the written record of the investigation only on February 25, 1913, a mere three days before the majority report was issued.[58] Moreover, in asking that it be included, Untermyer challenged its authority, contesting Baker's characterisation of the Studebaker preferred issue as beyond the reach of the money trust.[59] Whether for this reason or not, the letter is not even referenced in the Pujo report's index to Baker's written testimony.[60]

Thus, Baker's contribution to the Pujo investigation leaves us with more questions than answers. Was he right that there were other large issues conducted by banks that were not members of the money trust and, if so, how many were there? Was it reasonable for Untermeyer to dismiss the Studebaker preferred issue in which the lead underwriters -- Goldman, Sachs, Lehman Brothers and Kleinwort & Sons – were not designated as members of the money trust just because J. P. Morgan had conducted previous transactions with the company? Indeed, was it not true that the example could be used to argue for, rather than against, the existence of competition with the money trust? And what of the other transactions that Baker claimed to have identified and to which Untermyer made no reference?

The testimony of Morgan partner, Henry Davison, raises similar types of questions. Davison was even more adamant than Baker that the money trust banks faced competition for large issues. Referring to an ongoing bond issue of $67 million by AT&T in which all six primary members of the money trust played a prominent role, Untermyer asked Davision if AT&T had any other option but to give an issue of this size "to you gentlemen"? Davison replied that "There are 10 houses in New York City that could get up a syndicate in 24 hours, irrespective of any one of those houses". "Of sixty-seven millions?", Untermyer asked. Davison concurred but noted that "it is very rare that you have a syndicate of sixty-seven millions". Untermyer rephrased his question: "Instead of sixty-seven millions, let us make it twenty-five millions". Davison offered the example of a $25 million note issue by Utah Security Corporation brought out by Electric Bond & Share Co. and Hayden, Stone & Co. Untermyer wondered what kind of company and, when they agreed it might be a mine, he claimed "We are not referring to copper mines

[57] P. 2205.
[58] The letter was, therefore, one of the last pieces of evidence thus included and it does not appear in the entry for George F. Baker in the index to the printed testimony.
[59] On the grounds that J. P. Morgan & Co. had been allocated $1 million of the common stock of the Studebaker Corporation in compensation for certain services it had provided the automobile company with respect to the acquisition by the same company of the stock of the Everitt-Metzger-Flanders Co.
[60] Index.

or gold mines; we are referring to industrials and railroads, but we will take that up for the time being".[61]

By this point, both men were showing distinct signs of irritation with each other. Untermyer continued to probe the details of the Utah Security issue because, as he told Davison, "I am trying to find out if you know what you are talking about". Davison snapped back that "I know what I am talking about as much as you do, from the information you have there. There is a public list of securities, a list containing three hundred and thirty-two millions of securities, which have been recently issued by houses which are not in your list, and have no connection, so far as the evidence shows". At this point, the written record shows, Davison handed a list to Untermyer, compiled by a man in his office, which purported to contain large transactions that had been handled by houses with which J. P. Morgan was in no way connected.[62] He insisted further that there were houses that "can handle issues without the help of any other house" citing as examples "Blair & Co., William Salomon & Co., Lehman Brothers, Golden & Sachs [sic], and Heidelbach, Ickelheimer & Co."

Untermyer was clearly sceptical, and pushed Davison for specific details, but Davis retorted that he had given him the list and asserted that "it is my belief, because I know and you know that there are a great many houses in New York doing a very large volume of business that have no relation or connection with those houses you have named there. You know it just as well as I do, and it can be proved".[63] Untermyer dismissed his claim since he did not think "any of them can exist against your ill will". Davison snapped back that Untermeyer's remark was "an absurd statement that ought not to be made".[64]

Untermyer then turned his attention to Davison's list, wondering aloud how the total proceeds represented in the list compared with the issues "you all" had undertaken. Davison said he did not know and emphasised that he wanted it understood that "I do not offer that [the list] as the amount of securities that have been issued by other houses since the time stated". At this point, Untermyer asked him whether he wanted to offer the list at all and, when Davision curtly declined, Untermyer said that "Then you may take it back, because if you do not want it we will not examine it".[65]

Again, it is hard to know what to believe based on these rather extraordinary exchanges between Untermyer and Davison. Was it possible, as Davison contended, that a substantial number of large issues fell outside the purview of the money trust? Untermyer seemed to wonder himself but clearly chose to let the matter drop once Davison did. Stepping back a bit, one can see that the fact that such questions even arise is proof of a major problem with the evidence adduced in the Pujo investigation. In failing to present information on the broader population of corporate securities issues, the Pujo report cannot show,

[61] Pujo Investigation, P. 1860.
[62] Pujo Investigation, P. 1861.
[63] Pujo Investigation, P. 1862.
[64] Pujo Investigation, P. 1862.
[65] Pujo Investigation, P. 1864.

even for giant corporate issues, the dominance of the money trust that is its central claim.

Indeed, even if we were to accept that the money trust dominated at the top end of the market, the question would still arise as to the importance of these very large transactions. Did issues of $10 million or more constitute the vast bulk of U.S. corporate securities issues in the years prior to World War 1? And, if not, if instead smaller corporate issues were important, who underwrote and distributed them? In fact, the Pujo report, even if it suggested the money trust's influence was especially striking for the largest transactions, emphasised that it was also actively engaged in underwriting and distributing smaller issues.[66] And, so, the question of the money trust's influence is relevant even for smaller issues but, once again, it was not addressed explicitly by the Pujo investigation.

2.3 New Evidence on the Money Trust

Even a casual comparison of the tables above suggests that the securities issues designated by the Pujo report as joint issues of the money trust represented a minority of all corporate issues. The results of a systematic analysis, shown in Table 6, confirm this impression. The limited share of money trust issues is especially true if we look at numbers of issues but it is true even for their proceeds. Indeed, if we treat these measures as concentration ratios for 6 to 8 competitors, they fall short of what is considered to constitute an oligopoly, never mind a trust.[67]

Table 6 Money Trust Issues as Shares of U.S. Corporate Securities Issues

Year	Total		Railroads & Traction		Industrials		Utilities	
	Proceeds	No.	Proceeds	No.	Proceeds	No.	Proceeds	No.
1908	382.8 (26.8%)	39 (14.2%)	292.5[1] (29.2%)	33 (21.7%)	35.3 (14.1%)	4 (4.8%)	55.0 (27.7%)	2 (5.1%)
1909	629.4 (37.4%)	51 (11.0%)	507.3 (50.0%)	39 (19.0%)	70.6 (16.0%)	9 (5.3%)	51.5 (24.1%)	3 (3.3%)
1910	414.1 (27.3%)	42 (8.2%)	290.1 (33.1%)	30 (13.6%)	84.0 (18.4%)	8 (4.3%)	40.0 (22.0%)	4 (3.8%)
1911	621.4 (35.7%)	54 (8.9%)	524.4 (47.7%)	37 (13.2%)	63.7 (13.5%)	11 (4.8%)	33.4 (19.8%)	6 (5.0%)
1912	533.1 (23.7%)	51 (9.3%)	357.7 (32.6%)	33 (20.6%)	117.1 (14.7%)	12 (4.8%)	58.3 (16.4%)	6 (4.4%)
Total[2]	**2047.7 (32.2%)**	**186 (9.9%)**	**1614.3 (40.5%)**	**139 (16.2%)**	**253.6 (15.7%)**	**32 (4.8%)**	**179.9 (23.6%)**	**15 (4.2%)**

[1] Included $25m and $10m issues by Interboro Rapid Transit Co. in 1908 and 1909, identified as money trust issues, in railroads and traction, and removed them from utilities, to make Pujo data comparable with Journal of Commerce data.
[2]Totals are for 1908 to 1911, the years for which the Pujo Report's data can be considered to be most comprehensive.

When we break down the data by sector, we find that the money trust's representation is greatest for railroad issues. Yet, even for railroad issues, the money trust never accounted for more than 50 per cent of their proceeds with its average share from 1908 to 1912 being just over 40 per cent. The money trust's dominance of utility issues is much lower and is still lower for industrial issues.

[66] "Of the issues since 1907 shown on that table as having been purchased or underwritten by two or more of the banking houses there named acting together, about 90 were for $5,000,000 and less, while an additional 60 were for amounts between $5,000,000 and $10,000,000" (Pujo Report, p. 101).
[67] One usually requires CR6 or CR8 of more than 50 per cent to constitute an oligopoly.

As we have seen above, the importance of railroad issues was declining in the U.S. primary market at this time, ceding ground to other classes of securities where the money trust's influence was weaker. Taken together, as Table 1 shows, industrial and utility issues accounted for about 40 per cent of all U.S. corporate securities issues between 1908 and 1912. Together with the 50 per cent or more of the railroad market that the money trust did not control, these estimates suggest that as much as 70 and 75 per cent of the U.S. primary market for corporate issues may have been beyond the money trust's control.

A similar point can be made with respect to size trends in corporate issues. The money trust exercised its greatest influence for the very largest issues but these issues were declining in importance. Even for railroad issues, the average size of issues was declining. For industrials and utilities, the average size of issues had always been smaller and there too there were signs of a decline in average scale. Trends in terms of medians are even clearer in their downward direction.[68]

In light of these findings, it seems worthwhile to take a closer look at the money trust's role in the primary market for U.S. corporate securities. Focussing on 1911 as a representative year, I complement the data obtained on securities issues from the *Journal of Commerce* with information on the financial houses involved in specific issues from the *Commercial and Financial Chronicle*. I begin by identifying all corporate securities issues of $10 million or more to focus initially on the part of the market where we would expect the money trust to dominate.

In total, as Table 7 shows, 41 of these giant issues were undertaken in 1911, on behalf of railroads, utilities and industrials. Of these transactions, 24 were designated by the Pujo report as money trust issues. It is already possible, therefore, to identify 17 extremely large issues that were outside the reach of the money trust.

Table 7 Underwriters for Corporate Securities Issues of $10m or More, 1911
To be added

Railroad issues accounted for the majority of the giant transactions and it was here that the money trust's influence was greatest. Yet, even for these issues, there were competitors. Just as Schiff's testimony would lead us to expect, Speyer & Co. features as an important player, being the lead underwriter on four large railroad issues.[69] Nor was it the only competitor for the money trust even for railroad issues; in another transaction, Blair & Co., Ladenburg, Thalmann & Co. and Middendorf, Williams & Co. formed a "best efforts" syndicate to underwrite an issue of $19m bonds for the Seaboard Air Line, subsequently exercising an option to take up an additional $4m for a total issue of $23 million.[70]

[68] Add numbers (author's analysis based on data from the *Journal of Commerce*)
[69] A $20m bond issue and a $12.5m note issue underwritten for the Mo. Kansas & Texas RR, a $20m note issue for Missouri Pacific and a $10m bond issue for Cihc., R. I. & Pac.
[70] Chronicle, Jan 21, 1911, p. 189, vol. LXXXXII.

Moreover, once we begin to scrutinise railroad issues, a certain looseness in the Pujo investigation's classification becomes clear.[71] A particularly interesting example is a $20 million note issue for the Missouri Pacific Railway on which Speyer & Co. was designated as the lead underwriter.[72] That bank had obtained the business in competition with Kuhn, Loeb, leading to the resignation of Paul Warburg, its representative on the Missouri Pacific's board, who had been appointed "when his firm was expecting to take an active part in financing the company", resigned as director.[73] Nevertheless, the issue was designated by the Pujo report as a money trust issue because Kidder, Peabody took up some of the issue.[74] Yet, what was the meaning of a money trust if Kidder, Peabody was willing, on occasion, to act against the interests of a fellow member, Kuhn, Loeb, in concert with an outsider, Speyer & Co?[75]

There are also problems with the Pujo classification of some of the transactions underwritten by money trust banks. All six of the issues in which Kuhn, Loeb served as a lead underwriter are classified as money trust issues. However, only in two cases, those in which National City Bank was a joint underwriter, does such a classification seem reasonable. In another huge issue of $50 million for the Central Pacific, Kuhn, Loeb acted with a syndicate of French banks and sold most of the issue abroad. In two other issues, Kuhn, Loeb partnered with one of two banks – Baring Bros. & Co. of London and Speyer & Co. – that were not designated as money trust members. In a fourth transaction, it acted on its own as the lead underwriter. All four of these latter transactions are classified as money trust issues because at least one other member of the money trust bought some of the issue. Yet, just how minimal that standard might be is suggested by the Central Pacific transaction in which Kidder, Peabody's purchase of only 500,000 francs[76] of a total issue of 250,000,000 francs qualified the entire issue as a money trust transaction.[77]

Again, beyond the issue of how to classify specific transactions, a more interesting question is whether, given the diversity of its financial connections, Kuhn, Loeb could be considered sufficiently integrated into a money trust to systematically act in concert with its other members. A similar question arises in other cases where houses like Lee, Higginson,[78] National City Bank[79] or Guaranty

[71] Of course, this classification concern applies not just to the very largest issues but also to much smaller ones. Thus, St. Louis & San Francisco RR, bonds were offered by Speyer & Co., New York, in a highly successful underwriting conducted on an international scale. No members of the money trust were mentioned in the Chronicle entry. Instead it noted that "Subscriptions will also be received (a) in London by Speyer Brothers (b) in Frankfurt-on-Main, by Lazard Speyer-Ellissen; (c) in Berlin by Deutsche Bank, (d) in Amsterdam by Teixera de Mattos Brothers". Chronicle, Jan 14, 1911, vol. LXXXXII, p. 119-120. And not just for railroads. Or American Agricultural Chemical Co., $4m bond issue, offered by Clark, Dodge & Co, NY and Lee, Higginson & Co., Boston, Chicago & NY.Chronicle, Jan 28, 1911, vol. LXXXXII, p. 264.

[72] Chronicle, vol. LXXXXII, May 20, 1911, p. 1375; ibid., May 27, 1911, p. 1436.

[73] Chronicle, vol. LXXXXII, April 22, 1911, p. 1109. Essentially a battle between the Vanderbilt (allied with Kuhn, Loeb) and Gould (with Speyer) interests for control of the Missouri Pacific. Cornelius Vanderbilt announced his resignation as a director at the same time as Warburg.

[74] Kidder, Peabody bought $1.5m of the issue (Pujo Investigation, p. 2059). The "Pujo table" also lists Illinois Trust as purchasing some of the issue (Pujo report, P. 97) but that financial house did not include the Missouri Pacific issue among the list of issues in which it took participations (ibid., p. 2101). Strictly speaking, therefore, the issue should not have been included in the table since it does not seem to have been a joint transaction involving two or more members of the money trust.

[75] Similar questions can also be raised about the Pujo report's classification as a money trust issue of the bond issue of $10 million on behalf of Chicago Railways underwritten by Speyer & Co (Chronicle, p. 260).

[76] Pujo Report, p. 2057.

[77] Chronicle, vol. LXXXXII, March 4, 1911, p. 593.

[78] Lee, Higginson on its own 22m note issue for for NY, NH & Hartford.

[79] Chicago Railways, bonds offered, $15m, sale to Harris, Forbes & Co. (successors of N. W. Harris & Co.) and the National City Bank, both of New York. Chronicle, vol. LXXXXII, Jan 28, 1911, p. 260.

Trust Co. acted alone or with other houses that were not members of the money trust. In total, as Table 7 shows, there is ambiguity with respect to the classification of 10 out of the 22 giant railroad issues classified by the Pujo report as money trust issues.

Turning to sectors other than railroads, evidence of the money trust's dominance is less compelling even for the very largest transactions. In 1911, there were only two issues by utilities of $10 million or more and neither of them was designated a money trust issue. In both cases, Kidder, Peabody & Co. was a lead underwriter but none of the other members of the money trust was involved either as underwriter or purchaser. For industrial issues too, the money trust influence was much more limited than for railroads. Of the seven issues of $10 million or more in which some financial house was involved, money trust firms were jointly involved in only two instances and, in one of these, the money trust classification is ambiguous.

Therefore, even for the very largest issues, evidence to support the claim that six, or even ten members, of a money trust acted in concert to dominate the underwriting and distribution of securities issues is weaker than we might expect. First, competition for these issues can be identified from financial houses that were not members of the money trust. Second, some of the members of the money trust cannot be considered so dependent on it that we might expect them to act in concert with other members as a matter of course.

When we look at corporate issues of less than $10 million, the money trust's influence was much more limited. If we focus, for example, on industrial securities issues of between $1m and $10m, only 9 issues of a total of 120 were identified in the Pujo report as money trust issues. And, as Table 8 shows, that classification was ambiguous in 8 out of 9 cases.

Table 8 Industrial Securities Issues of between $1m and $10m in 1911 designated as "Money Trust" Issues
To be added

With respect to the other 111 issues what is striking, as Table 9 shows, is the diversity, rather than the concentration, of the underwriters involved. The one member of the money trust that is prominent in these transactions is Lee, Higginson but, in the industrial issues it handled, it tended to act without the assistance of other members of the money trust. Moreover, there were other financial houses, notably William Salomon & Co., but also Hallgarten & Co., Harvey Fisk & Co, and White, Weld & Co., which were also significant players.[80] Yet, even if we take the five leading players together, there is little evidence of an oligopoly, never mind a money trust, in this segment of the market. And, ironically, while the Pujo hearings were in full swing, the boom in the primary market, especially in industrial issues, reinforced the importance of this heterogeneous group of financial houses.

[80] As Carosso's work would lead us to expect, Goldman, Sachs and Lehman Brothers were represented too but, being involved in only one transaction (a $4.3m bond issue on behalf of Knickerbocker Ice), they were not as prominent as the other financial houses listed in Table 6.

Table 9 Underwriters for Industrial Securities Issues of between $1m and $10m in 1911

	Financial House	Number of Issues	Proceeds of Issues ($m)
1	William Salomon & Co.	8	14.15
2	Lee, Higginson & Co., NY & Chicago	6	10.55
3	George H. Burr & Co., Chicago	4	3.25
4	Higginson & Co., London	4	5.20
5	Pomroy Bros. & Co., NY	4	3.75
6	Hallgarten & Co., NY	3	9.70
7	Harvey Fisk & Co., NY	3	10.00
8	Spencer Trask & Co.,	3	6.50
9	White, Weld & Co., NY & Chicago	3	8.75
10	Blair & Co., NY	2	4.00
11	Brown Bros. & Co., NY	2	4.40
12	Cassatt & Co., Phila	2	0.90
13	Chas. D. Barney & Co., NY & Phila	2	2.40
14	Citizens' Saving & Trust Co., Cleveland	2	4.50
15	Clark L. Poole & Co., Chicago	2	1.60
16	Edward B. Smith & Co., Phila & NY	2	2.40
17	Eugene Meyer, Jr. & Co., NY	2	8.00
18	First National Bank of NY	2	5.40
19	Hayden, Stone & Co., Boston & NY	2	4.00
20	Kissel, Kinnicutt & Co.	2	6.30
21	Ladenburg, Thalmann & Co., NY	2	3.90
22	Montgomery, Clothier & Tyler, Phila	2	0.90
23	Peabody, Houghteling & Co., Chicago	2	2.80
	Top 24 houses	**68 (61%)**	**123.4 (61%)**
	43 other houses	**43 (39%)**	**80.4 (39%)**
		111	**203.7**

Source: author's analysis based on data on industrial issues from the *Journal of Commerce* and on underwriters from the *Commercial and Financial Chronicle*.

3. PRIVATE ORDERING BY PRIME MOVERS

Clearly the Pujo report, as well as scholars who have accepted its essential arguments, have overstated the dominance exercised by the money trust over the U.S. primary market for corporate securities. It is also true that economists have exaggerated the distinctiveness of the role that Morgan's men played with respect to their client issuers. It is worth quoting Bradford De Long at length on this point:

> The Morgan partnership and its peers saw themselves – and other participants in the pre-World War 1 securities industry saw them – as filling a crucial "monitoring" and "signalling" intermediary role between firms and investors in a world where information about firms' underlying values and the quality of their managers was scarce. In such a world it was valuable for a firm to have the stamp of approval from Morgan & Company (with its established reputation) and to have its managers watched over by Morgan's men from their posts on the board of directors. The presence of Morgan's men meant that when a firm got into trouble – whether because of "excessive competition" or management mistakes – action would be taken to restore profitability. The presence of one of Morgan's men may also have reassured investors that a firm appearing well-managed and with bright prospects actually was well-managed and did have bright prospects.[81]

De Long goes on to argue -- indeed it is his main claim -- that "the presence on one's board of directors of a partner in J. P. Morgan and Company added about 30 percent to common stock equity value" of the firms whose securities they

[81] De Long, p. 209.

issued.[82] The "important monitoring role" purportedly played by the Morgan-dominated trust also explains, in De Long's analysis, how "[t]he investment banking oligarchs profited immensely from their middleman role".[83]

In fact, contrary to what De Long suggests, there was nothing distinctive about the Morgan bank's practice of taking a seat on the boards of the companies whose securities it issued. As we have seen in previous chapters, it was a practice that dated back a long way and, in the years prior to World War 1, it was widespread. If we look at the General Baking Company, for example, for whom Harvey, Fisk & Company underwrote a $4 million bond issue in 1911, we find that Pliny Fisk, one of the bank's principals, was represented on the company's board. Similarly, Charles Hayden had seats on the boards of both Ray Consolidated Copper and Chino Copper, both companies for which his house, Hayden, Stone, had conducted securities issues in the early teens.[84] The board of May Department Stores, whose 1912 stock issue was underwritten by Goldman, Sachs and Lehman Brothers, counted Philip Lehman and Henry Goldman among its members. That was also the case for the Underwood Typewriter Company.

Indeed, to the extent that there has been any recognition that board representation was a more widespread practice among U.S. investment banks, it is the example of Goldman, Sachs that has been cited.[85] Thus, Carlos Ramirez, writing in the same vein as De Long, acknowledges that Henry Goldman and Philip Lehman were board members not only of the companies mentioned above but also of Studebaker, Sears, Roebuck and F. W. Woolworth. However, he persists in arguing for the distinctiveness of Morgan's men on the grounds that "these financiers were still very small and relatively inexperienced".[86] Such an argument might be plausible for Goldman and Lehman in 1906 but much less so for 1912. It makes no sense at all for more seasoned players such as Pliny Fisk and Charles Hayden and others like them who were represented on their clients' boards.

The companies described above were high-profile ones that sought and secured listings on the New York Stock Exchange. However, representation of U.S. investment banks was not confined to them. Braden Copper Mines Company, for example, whose stock traded on the Curb market, conducted a series of securities issues which were handled by Eugene Meyer, Jr. & Co. Both Eugene Meyer Jr. and Edgar J. Meyer were represented on the company's board. Even smaller companies had banker representation as the case of Burt Olney Canning Company of Oneida, N.Y. suggests. When Eastman, Dillon & Co. arranged a small offering of the company's preferred stock, it placed H. L. Dillon on the company's board as its representative.

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[82] Ibid., p. 205.

[83] Ibid., p. 206.

[84] A stock and bond issue in 1910 and a further stock issue in 1912 for Ray Consolidated Copper and a bond issue for Chino Copper in 1911.

[85] No doubt because Vincent Carosso singles out that firm in speaking of new entrants to the U.S. investment banking business prior to World War 1.

[86] Carlos Ramirez, "Did J. P. Morgan's Men Add Liquidity ? Corporate Investment, Cash Flow, and Financial Structure at the Turn of the Twentieth Century", Journal of Finance, 50, 2, pp. 661-678, p. 666. Ramirez bases this assessment on Carosso, 1970. The historian does emphasise that these two banks were newcomers to the primary market in 1906 (although Lehman Bros had issued securities for International Steam Pump in 1899) but he does not make any assessment of the abilities of Philip Lehman or Henry Goldman in their capacity as board members of industrial firms.

In some cases, representation of investment banks went much farther than board membership. Voting trusts were sometimes put in place that gave bankers much greater influence over the companies in question. We see such an arrangement at the International Motor Company, for example, where control was exercised by a voting trust whose three members included H. K. Pomroy of Pomroy Bros., one of the firms that had arranged financing for the company. In addition, that company numbered among its directors Arthur H. Lockett, another member of Pomroy Bros., and Herbert H. Dean of Edward B. Smith & Co. which had participated with Pomroy Bros in the financing of International Motor.[87]

Surely the most famous example of a voting trust controlled by financiers was the General Motors Company. Founded in 1908, it had pursued a strategy, spearheaded by William C. Durant, of rapid expansion through acquisition. By 1910 it was desperately in need of working capital to finance the operations of the companies it had acquired, a problem that was compounded by a decline in its profitability.[88]

The company issued notes to raise temporary funds in the summer of 1910[89] and, in November 1910, it concluded an agreement with a syndicate of three banks to raise funds on a more permanent basis to reduce its indebtedness and to provide fresh money for working capital purposes.[90] Lee, Higginson and Company of Boston, J. & W. Seligman and the Central Trust Company of New York underwrote a public issue of $15 million in 6 per cent notes.[91] However, as a condition of the offering, the bankers insisted that control of the company pass from Durant to a voting trust that they dominated and they also took control of GM's board of directors.[92]

All of these examples suggest that banks on boards were the rule not the exception for corporations seeking access to the U.S. securities markets in the years prior to World War 1. Other private actors also sought to impose a certain order on these markets with the NYSE, in particular, more closely approximating a gatekeeper than it had in the past. It played its role largely through its listing standards which were more exacting than in the past and more binding with the closure of the Exchange's Unlisted Department in 1910.

The Exchange's listing requirements were negotiated on a case-by-case basis with companies seeking a quotation on the Big Board. The listing application of the Underwood Typewriter Company gives us a good sense of what was typically required of industrials seeking an initial listing on the NYSE:

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[87] The board also numbered among its members Charles Sabin, the Vice-President of Guaranty Trust Company and Benjamin Strong Jr., the Vice-President of Bankers' Trust Company.
[88] Lawrence Seltzer, 1928. *A financial history of the American automobile industry; a study of the ways in which the leading American producers of automobiles have met their capital requirements*, Clifton, NJ, p. 161.
[89] Commercial and Financial Chronicle, vol. 90, p. 719.
[90] Seltzer, 1928, p. 163.
[91] John B. Rae, *American automobile manufacturers: the first forty years*, Philadelphia, Chilton Co., 1959, p. 89.
[92] FTC, 1939, p. 423.

> The Underwood Typewriter Company agrees that it will not dispose of its interest in any constituent company or allow said companies to dispose of its interests in other companies except on direct authorization of the Stockholders.
> That it will not speculate in its own or constituent companies' securities, or permit similar speculations by any of its constituent companies.
> That it will print and publish at least once each year and submit to the Stockholders at least fifteen days before the annual meeting of the Company a detailed statement of its physical and financial condition: an income account covering the previous fiscal year, and a Balance Sheet, showing assets and liabilities at the end of the year.[93]

Some companies went further than the provisions listed above, promising, for example, to produce financial reports for all subsidiary companies.[94] As we can tell from previous chapters, such commitments represented a tightening of standards compared with the past. Still we ought not to exaggerate the strictness of the NYSE's standards. Certainly to call the exchange "the guardian of the public investor", as John Coffee does, is to exaggerate. What it demanded of companies fell short, in important ways, compared with what was required of companies seeking access to the London capital market.

Missing, for example, was any requirement that a company's financial statements be audited by an independent accountant. To the extent that US companies had their accounts audited, and some of them did, it seems to have been at the instigation of the banker or broker handing their securities issues.[95] However, the practice was far from general. Moreover, and in stark contrast to the London Stock Exchange's long-standing practice, the NYSE placed no formal requirements on listing companies to disclose the ownership of the securities for which they sought a listing or to comply with any rule with respect to the dispersion of these securities.

Notwithstanding these caveats, there is no question that the prime movers in the U.S. primary and secondary markets for corporate securities were more active in seeking to impose a private order than they had been in the past. Yet, whatever their efforts, they could not will the development of the U.S. securities markets or control the structural conditions on which those markets depended for their dynamism. When these conditions turned against them, even the most powerful private actors were powerless to change them.

4. Boom Turns to Bust, 1912-1914

Boom turned to bust in the U.S. securities markets towards the end of 1912. Already, in July 1912, the *Journal of Commerce* sounded a cautionary note about the upsurge in industrial issues: "There is danger of this emission of industrial securities being overdone. This has occurred before and it may occur again". Six months later, it repeated its warning,[96] but stock prices had already gone into decline from October 1912.

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93 NYSEA, Listing Applications, A-3927, February 10, 1911, p. A-1449.
94 See, for example, listing applications for Ray Consolidated Copper Company (A-3933) and Standard Milling Company (A-3967).
95 See, for example, the prospectus of General Baking Company, Commercial and Financial Chronicle, vol., 93, p. 232.
96 "Financing in 1912 breaks all records", *Journal of Commerce*, January 2, 1913, p. 4. Also noted that issues were of notes and stocks. Speculative.

The largest losses were recorded for industrials, notably those that been darlings of the stock market. As one commentator put it, "The public is becoming critical of the numerous public utilities and industrial stocks. This feeling is due to the knowledge that all have been overcapitalized and are in the promotion stage, the outcome of which cannot be predicted". As a result, investors were "left little better than speculative opportunities in the preferred and common shares" and they retreated from the market. Thus, financial houses "which have made a specialty of utilities and industrials are now finding a situation so adverse as to be discouraging".[97]

To explain the "tremendous liquidation" that occurred, and the huge loss in market value that resulted, the *New York Times* emphasised the tightening of the market for collateral loans:

> All of them were listed on the Exchange in the Summer and Fall of last year, and the auspices under which their flotation occurred seemed excellent as evidenced by the quotations made for them in early trading. Sentiment gradually changed, however, and when money began to grow tight toward the end of December, these stocks were among the first to be discriminated against by the banks as collateral for loans, and a general recession began.[98]

The *Wall Street Journal* echoed that analysis, noting that the decline in industrials was "due to the fact that bankers are discriminating against issues of this class". However, the article also made clear that the change in bankers' attitudes was not a mere whim: pointing to companies like Mexican Petroleum, California Petroleum and Pittsburgh Coal, it noted that all of them had issued reports that disappointed relative to expectations.[99] As we shall see, the slump was due in part to limits to the demand for corporate securities. In addition, deficiencies in the industrial securities that were sold to investors acted as a brake on the market's development.

4.1 The Limits of Other People's Money, 1908-1914

There was a clear slowdown in the flow of funds into the U.S. securities market in 1913. In fact, it began even earlier in the collateral loan market, being traceable largely to a change in the behaviour of trust companies. The panic of 1907 had prompted a collapse in the aggregate resources at their disposal but they quickly regained the ground they had lost and more. However, their fortunes worsened from 1910 on and, by the end of 1913, trust companies' deposits were below the levels attained at the end of 1909.

Even more important was the significant decrease in the share of their aggregate resources that trust companies invested in the call loan market. Whereas 60 per cent or more of their deposits had been loaned out on collateral prior to the panic, that share had fallen to 40 per cent by the end of 1913.[100] This change in behaviour, coupled with the flattening out of trust companies' deposits, resulted

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[97] "High Money Rate Curbs Investors", *Chicago Daily Tribune*, March 28, 1913, p. 20.
[98] "Crumbling Stocks", *New York Times*, March 23, 1913, p.
[99] "Industrial Stocks", *Wall Street Journal*, March 19, 1913, p. 6.
[100] In part money going into cash reserves – new requirement – rose from 6.5% in Dec 1907 to 10% in Dec 1913. Lending to other banks and trusts. But especially increase in bills purchased not secured by other collateral.

in a sharp decline in the amount of funds they made available to support demand on the U.S. securities markets. Thus trust companies' collateral loans declined from about $665m prior to the panic to just over $500m by the end of 1913. As a result, the trust companies provided less support for trading activity on the securities markets than in the past and no impetus at all for any increase in that activity.

Much the same can be said of the NY national banks which where the other major supplier of funds to the call loan market. In the immediate aftermath of the panic, they had compensated to a significant degree for trust companies' withdrawal from the collateral loan market by increasing their call loans from x in 1907 to $700m by 1909. However, their collateral loans also levelled off thereafter, declining to less than $600m by the end of 1913.

Taking NY trust companies and national banks together, therefore, call loans outstanding in December 1913 were, at $1.1bn, lower than the $1.2bn recorded before the panic. The result was a tightening in the conditions prevailing in the call loan market and a discrimination against the weakest classes of stocks in lending money on collateral. As the quotes above suggest, it was industrials that bore the brunt of this tightening and, the harder it was to borrow on industrial securities, the more difficult it was for investors to buy them on margin.

The reduced flow of money through the "irrigation channel" of the call loan market was bad news for activity on the U.S. securities markets. To some extent, an expansion in the domestic "reservoir" for corporate securities helped cushion the blow as institutional investors bought up increasing amounts of corporate securities after the panic. However, their purchases did more to support the market for railroad securities than anything else and they levelled off in the years leading up to the war.

Life insurance companies, especially those based in New York, remained the most important institutional investors in the U.S. securities markets. Their holdings of corporate securities rose by more than $500 million during these years.[101] The increase occurred despite the Armstrong investigation of 1905[102] and the restrictions on NY insurance companies' investments that it prompted. The insurance companies were banned from holding corporate stocks but these securities represented only a small minority of their securities portfolios at the time.[103] The Armstrong commission was much more reluctant to propose restrictions on insurance companies' holdings of corporate bonds.[104] However, it

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[101] Their holdings of corporate securities rose from $1.2 billion to $1.9 billion between 1906 and 1916 with some of the growth surely taking place in the first few years of hostilities in Europe.

[102] Carosso refers to "life companies' reduced security purchases" after the investigation but he bases his statement on the decline in investments in securities as a proportion of life companies' assets (1987, p. 534). Since their assets were growing, that meant that the dollar amount they invested in corporate securities actually grew despite the decline in their share.

[103] Insurance companies' purchases of corporate securities had attracted a great deal of criticism during the Armstrong investigation of 1905 and were deemed to show that they had overstepped the boundaries of their activities as insurance companies. "[Securities underwriting and purchase] have brought insurance companies into close relations with railroads, banks, trust companies, banking houses and the flotation of new enterprises, thus involving [insurance companies] in the manifold transactions of the financial world, not in their normal relation as creditors through suitable investments, but as co-owners of the corporations... to which they have become allied". Armstrong Report, pp. 293-294. However, corporate stock accounted for about 11 per cent of these portfolios.

[104] The Armstrong report did consider collateral trust bonds to be problematic investments for life insurance companies given that "the greater part of the security consists of the hypothecated stocks of corporations." P. 391. However, the report baulked at other

drew a distinction between secured and unsecured corporate obligations that effectively restricted life insurance companies from making investments in industrial and commercial companies.[105]

As a result, in increasing their investments in the U.S. securities markets, insurance companies became even more heavily reliant on railroad bonds than before. [106] Industrial securities had been of minor importance in life insurance companies' portfolios before the investigation and they declined still further in the years the followed it.[107][108] Thus, although insurance companies pumped more than $600 million in fresh money into the U.S. securities market after the panic, these monies largely bolstered the primary market for railroad issues.

Other New York financial institutions also increased their investments in corporate securities at this time.[109] Taken together, the state's trust companies and national banks increased their investments in corporate securities by about $367 million between the panic of 1907 and the outbreak of World War 1. However, even if we assumed that all of these monies were invested in non-railroad securities, which is highly unlikely, they would have fallen far short of what was necessary to support the primary market where each year's issues of industrial securities were soaking up several millions of dollars.

Demand from individual investors must be taken into account too but, in the absence of well-developed retail networks for the distribution of securities in the United States, the country's financial houses did not have ready access to them. It was only the nation's richest investors, with whom financial houses often had direct contact, who were integral to their distribution networks. However, they were unlikely to have been able to absorb the slack on their own. It is not surprising, therefore, that as activity in the primary market for U.S. corporate securities increased, U.S. financial houses turned to foreign markets to place some of them.

They met with some success. London investors bought U.S. corporate securities on a much larger scale than they had for a long time and, in 1911 and 1912, they even proved willing to invest large amounts in U.S. industrials, which they had largely ignored since the early 1890s. All told, the monies that London investors invested in U.S. corporate securities at this time amounted to about 10 per cent of all primary issues of U.S. corporate securities in any given year.

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restrictions: "[a]fter much reflection upon this subject the Committee is of the opinion that no satisfactory line can be drawn with reference to investments in bonds, other than collateral trust bonds, without hampering the companies in the enjoyment of that reasonable freedom of investment necessary to ensure the return upon which the calculations of their risks are based".

[105] Source?

[106] Railroad bonds rose from 77 per cent to 83 per cent of their corporate securities between 1906 and 1916 while industrial bonds, in contrast, declined from 3.1 per cent to 2.5 per cent (Bell & Fraine, pp. 55-6). Check.

[107] 86 per cent of all of corporate bonds held by NY insurance companies and nearly 80 per cent of their total corporate securities at the end of 1906.

[108] Their bonds represented a mere 3 per cent of insurance companies' portfolio of corporate securities. Corporate stocks, in total, amounted to 10.6 per cent but Bell and Fraine provide no sectoral breakdown. However, other sources, including the Armstrong investigation itself, suggest that an important proportion of them were stocks of insurance and other financial companies, which was the main reason for the prohibition of insurance companies' stockholdings.

[109] In the period following the panic until 1911 their investments increased from $586 million to $778 million for national banks and from $259 million to $434 million for trust companies. In total, therefore, $367 million in additional money flowed from these financial companies into investment demand for corporate securities. December for both years.

And London was not the only foreign market of importance during these years. U.S. corporate securities continued to be sold to Dutch and German investors although we do not have systematic data on the amounts involved. Moreover, and for the first time, France became an important market for U.S. corporate securities. Indeed, as we have seen, some U.S. corporate issues were expressly tailored to the French market.

Contemporaries recognised the importance of foreign markets in buying U.S. corporate issues. Speaking of the industrial boom in 1912, the *Journal of Commerce* noted: "What has helped this movement along has been a disposition in Europe to participate in the securities put out by such concerns… This policy of incorporating private businesses has been much in vogue in Europe, more especially in Britain, and it is really this foreign example that is now being followed to such a great extent in the United States."[110]

However, when the tide turned in the United States in 1913, and the primary market declined, foreign markets did little to stem the fall. If anything, they reinforced it with the congestion of securities reportedly even greater in Europe with many of the later syndicates left with 70 to 90 per cent of securities they undertook to float.[111] Thus the limits to other people's money as sources of demand for U.S. corporate securities were found on both sides of the Atlantic.[112]

5. The Problem with Industrials, 1913-1914

However the malaise of the U.S. securities markets on the eve of World War 1 cannot be attributed solely to deficiencies on the demand side of the market. They interacted with problems on the supply side of the market and, specifically, with the poor performance of the securities that had been offered to investors. The decline in some securities that had led the industrial boom was a particular cause for concern. As the *Journal of Commerce* noted with respect to 1913 "[t]he output of capital issues was likewise kept down by the spectacular collapse in the market value of the newer industrials and by the establishment of frequent low records for stocks and bonds of the highest class".[113]

The shares of tire company, B. F. Goodrich, plunged from a high of $81 in 1912 to a low of just over $15 in 1913. Investors in California Petroleum witnessed a similarly dizzying decline from a high of 72½ in 1912 to a low of 16 in 1913. So too shares in Studebaker Corporation collapsed from a peak of 49½ in 1912 to less than 15 in 1913 and United States Motor, whose shares traded as high as $9 in 1912, saw them fall to only 1/16 before the company imploded. Indeed, among new industrials, it was the automobile stocks in which the rout in prices proved most dramatic.

Various motor companies, including Studebaker, United States Motor, General Motors and Willys-Overland had made their debuts on the nation's securities markets in the years following the panic. For a while, investors became

[110] "Year's financing new high level", *Journal of Commerce*, July 3, 1912, p. 3.
[111] "Decided check to finance in 1913", Journal of Commerce, January 2, 1914, p.
[112] Ibid.
[113] Decided check to finance in 1913, Journal of Commerce, January 2, 1914, p.

convinced of automobile stocks' allure but their enthusiasm wore off in the face of the car companies' ongoing financial problems. The bankers who had underwritten these companies' securities issues -- Goldman, Sachs and Lehman Brothers, Eugene Meyer & Sons as well as Lee, Higginson and Co. and J. & W. Seligman – had seats on these companies' boards and, in the case of General Motors, had established a voting trust. Nevertheless, they found themselves unable to solve these companies' problems in the short term. Much the same can be said of companies like B. F. Goodrich Co.[114] and California Petroleum[115] where bankers also played a prominent role.

Nor was it just the new industrials that did badly since the record of industries that featured on the market before 1907 was also very mixed. The overall industrial index may have performed rather well in the years after the panic, as Table 10 shows, but it was sustained by the success of a small number of industries. Indeed, in some cases, notably that of steel, only the leading company did well while the others languished.[116] Thus, although there was some basis for a broadening of investment interest in industrials after the panic, it remained limited even among the most successful industries.

Table 10 Stock Price Indices for High-Performing U.S. Industries, 1906-1913

Year	Industrials	Chemicals	Cigar Mfr	Steel & Iron	Food Products[1]	Electrical Equipment
1906	100.0	100.0	100.0	100.0	100.0	100.0
1907	83.7	73.7	89.3	81.2	100.5	83.6
1908	87.0	83.5	102.9	99.5	119.7	90.2
1909	120.7	106.5	146.8	170.3	162.2	112.1
1910	127.7	110.8	165.7	196.2	157.3	109.1
1911	129.1	156.0	173.5	194.3	185.8	119.6
1912	150.1	235.0	216.7	203.1	214.9	141.5
1913	142.9	233.4	231.7	193.0	183.5	156.6

Source: Cowles Commission for Research in Economics. Common-stock Indexes, 1871-1937 (Alfred Cowles 3rd & ass., 1938), Series C, pp. 168-268.
[1] other than meat products

And there were many more established industries that did poorly during these years. Indeed, as Table 11 shows, the performance that some of them sustained on the stock market was nothing short of disastrous. In some cases, like lead and zinc, the dramatic collapse in stock prices reflected the travails of just one company.[117] In other cases, the decline was suggestive of more general problems. Thus, in the paper industry, the stock prices of International Paper and Union Bag & Paper languished and, in the machinery industry, both Allis-Chalmers and International Steam Pump did very poorly.[118] It should be borne in mind that only the industries whose stocks registered the worst performances are shown in the table below; there is also a list of industries whose performance was somewhat better but still fell short of the industrial average.[119]

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[114] As the B. F. Goodrich prospectus noted, "the bankers will be represented on the board by A. H. Wiggin, Pres. of Chase Nat. Bank, and by Henry Goldman and Philip Lehman" (*Chronicle*, June 15, 1912, v. 94, p. 1630).
[115] William Salomon & Co., the banking house which had underwritten the company's initial public offering, played a major role in this company's affairs through a voting trust and the finance committee that managed its financial activities (Pujo hearings, pp. 1253-4).
[116] The index for U.S. Steel stood at 212.4 in 1913 but only at 96.2 for the steel & iron industry excluding US Steel.
[117] Federal Mining & Smelting in this case.
[118] International Power Co and Ingersoll-Rand Co. did not even survive the panic of 1907.
[119] A list of these industries follows with the number representing the index in 1913 relative to 100 for 1906:

Table 11 Stock Price Indices for Poorly-Performing U.S. Industries, 1906-1913

Year	Industrials	Lead & Zinc	Machinery & Machine Equipment	Household Products	Wool & Woollen Goods	Paper & Paper Products	Shipping & Shipbuilding	Mining & Smelting
1906	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1907	83.7	74.1	59.1	79.3	64.8	65.2	67.7	52.1
1908	87.0	55.6	75.4	35.8	59.8	58.1	70.1	62.4
1909	120.7	53.7	126.1	46.3	90.8	90.6	86.2	73.2
1910	127.7	19.5	115.9	32.8	86.3	70.6	74.2	63.4
1911	129.1	16.3	93.8	31.2	85.0	61.0	70.7	56.7
1912	150.1	11.6	59.9	34.5	74.5	84.5	82.4	60.8
1913	142.9	9.7	18.5	34.3	48.9	51.3	58.1	58.7

Source: Cowles Commission for Research in Economics. Common-stock Indexes, 1871-1937 (Alfred Cowles 3rd & ass., 1938), Series C, pp. 168-268.

Just as for the new industrials, many of the more established industrial companies that did poorly had bankers on their boards.[120] Yet, these bankers could not change the basic fact that confronted many U.S. industrial companies, both new and old, at this time. Many of them struggled to make substantial profits and even those that enjoyed them were not sure they would last. Thus, U.S. industrial companies either could not, or were reluctant to, pay the kind of dividends that railroad and utility corporations were offering.

The exceptions to this rule, the companies that paid substantial and stable dividends, were held in high regard on the nation's securities markets in 1913 but that did not imply that their stocks traded actively.[121] Indeed, the really active industrial stocks on the New York Stock Exchange in 1913, those with volumes of 1 million shares of more, could still be counted on the fingers of one hand. Moreover, the fact that, taken together, these five stocks represented 74 per cent of the volume of all industrials traded there underlines just how narrow the market for industrial securities remained.

6. Conclusion

In the years prior to World War 1, therefore, there was little room for optimism about the future of U.S. securities markets. The overall volume of trading activity on the New York Stock Exchange had fallen to 83.4m shares by 1913 from its previous peaks of 284.1m in 1906 and 265.3m in 1901. Little wonder then that a seat on the Exchange cost less in real terms in 1913 than it had in any year since 1899![122]

Of course, there had been important changes in the interim. One of the most important one was the diminishing importance of railroads on the nation's securities markets.[123] By 1913, as a result, trading in industrial and utility shares had increased to a majority of total share trading on the NYSE. Nevertheless, this trend occurred in parallel with a sharp decline in trading volume. By 1913 the volume of trading in industrial and utility stocks was only 39 million shares, far

[120] International Paper, for example, boasted three prominent bankers on its board: Albert Wiggin, President of Chase National Bank, Benjamin Strong, Jr., and Samuel Fuller, representative of Kissel, Kinnicutt & Co (Bank & Quotation Section, Commercial & Financial Chronicle, June 7, 1913, v. 96, p. 158).
[121] Continuing role of founders and major investors. Provide leading examples.
[122] Davis & Gallman, pp. 319-320.
[123] Decided check to finance in 1913, Journal of Commerce, January 2, 1914, p.

lower than the peak of 109m in 1906 and, indeed, the lowest level recorded since 1897.

In Charles Dow's oft-quoted editorial from the *Wall Street Journal* of March 3, 1900 he predicted that "[i]t is as certain as anything in the future that industrial securities will form the principal medium for speculation in this country". His statement is usually credited with foreseeing the long-term future of industrial stocks from a very early vantage point.[124] Yet, despite the growing diversity of the stocks listed and traded on the NYSE, the world that Dow envisaged had not yet come to pass even as late as 1913.

There was no doubt that the U.S. securities market could no longer rely on railroad securities for their future. However, it remained unclear whether industrials could fill the void. The U.S. securities markets were in the doldrums in 1913, largely because the market for industrials had failed to broaden and deepen the way Dow had predicted. And that is where they stayed until World War 1 changed everything, changed it utterly, and a new world was born.

[124] Quoted in Bishop, *Charles H. Dow*, 137.