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DISPERSED CAPITAL AND MORAL AUTHORITY: THE PARADOX OF SUCCESS IN THE UNREGULATED 19TH CENTURY NEW YORK CAPITAL MARKETS

*Christian C. Day**

ABSTRACT

In this age of Enron and WorldCom it may be hard to fathom the notion of successful, robust capital markets without extensive government regulation. Yet the 19th century New York capital markets offer a striking picture of success despite the aura of Robber Baron buccaneering.

This article will describe how the New York markets fostered the growth of great enterprises—first the railroads and then the supporting cast of gigantic industrials—by breaking the investment into tiny bits—shares that sanctioned the infusion of massive amounts of domestic and European capital. Security came from the liquidity provided, thus overcoming the hold-up effect present in smaller, family-controlled corporations or partnerships.

This article also addresses the riotous nature of the mid-century markets and their manipulation by unscrupulous investors such as the early Jay Gould and Daniel Drew. It shows how the moral authority of great investment bankers like Morgan, reputable brokers, and the New York Stock Exchange (NYSE) exerted their considerable influence to render the markets relatively transparent and safe for domestic and foreign capi-

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tal, despite the climate of legislative and judicial corruption: an interesting model for modern minds to ponder.

I. INTRODUCTION

AT first glance the United States was not the most auspicious location on the globe to develop vibrant and sophisticated capital markets.¹ One would have thought that the greatest capital market would have remained in Europe, probably London. London, certainly, because of its head start, sound institutions, and growing global trade during the 19th century. Yet the upstart American Republic was to wrest supremacy from London, and did so with capital markets that contained relatively little formal regulation.

The law of unintended consequences may have been at play here. Pressure from the South Sea Company was responsible for the passage of the Bubble Act of 1720. The company impressed Parliament, many members having considerable self-interest, to pass the Bubble Act, squelching Bubble Company competitors of the South Sea Company. The Act prohibited the creation of joint stock companies (prototypes of the modern corporation) without permission of Parliament or the Crown. The impact of the Act was both immediate and far-reaching. First, it was a conspicuous cause of the rapid deflation of the South Sea Bubble. The Act and concurrent prosecutions of competitors not only crippled the competition, these legal attacks also deflated the value of the South Sea Company stock. The long-range effect was even more devastating—business organizations in Great Britain had a harder time obtaining charters. Parliament extended the Bubble Act to the colonies. America jettisoned the Bubble Act with the Revolution and the states liberally chartered corporations in the 19th century. In the long run, the consequences of the Bubble Act proved to be significant.²

This article begins with a brief description of the American economy after the conclusion of the American Revolution. The new nation was a huge debtor with virtually valueless currency³ and was in danger of being

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1. At the end of the 18th century, continental North America was a wilderness and rightly regarded as such. The prize was the West Indies with its wealth based on the sugar trade. See FRED ANDERSON, *CRUCIBLE OF WAR: THE SEVEN YEARS' WAR AND THE FATE OF EMPIRE IN BRITISH NORTH AMERICA, 1754-1766* 497-506 (2000). The Caribbean was rich because of sugar. At the conclusion of the conflict in 1763, England seriously considered restoring Canada to France in exchange for Guadeloupe! See also RICHARD BROOKHISER, ALEXANDER HAMILTON, *AMERICAN* 13 (1999). The United States, in 1800 did not seem to have such magnificent wealth-generating opportunities.
 2. STUART WEEMS BRUCHEY, *ENTERPRISE: THE DYNAMIC ECONOMY OF A FREE PEOPLE* 131 (1990) [hereinafter *ENTERPRISE*].
 3. America, at the conclusion of the war for independence, was a weak debtor nation. It owed \$2 million to Dutch banking houses and about \$5 million to the French (in nominal, historical dollar values). *ENTERPRISE*, *supra* note 2, at 118. In 1786, the total income of the central government was less than one-third of the charges owed the national debt. *Id.* The situation under the Articles of Confederation

picked apart by European powers. Great Britain did not evacuate its frontier forts until the signing of the Jay Treaty (1793),⁴ significantly later than the Treaty of Paris (1783)⁵ that concluded the conflict. Spain controlled Florida, the critical port of New Orleans, and west of the Mississippi. In 1802, Napoleon intended to use Saint Dominique⁶ as an entrepôt for the Louisiana Territory, which Spain had recently ceded to France. Had the Haitian rebels, led by the capable slave L'Ouverture, and yellow fever not defeated General Leclerc, Haiti might have facilitated French domination west of the Mississippi. The United States was fortunate; the Haitian expedition failed and Napoleon needed funds to renew his European conflict with Great Britain. The result was the 1803 Louisiana Purchase. Great Britain attempted to sever the United States by splitting New York from New England and taking New Orleans.⁷ American borders finally obtained security with the Treaty of Ghent (1814) that ended the War of 1812. Had Jackson been defeated at New Orleans, it is possible that the borders agreed upon in the Treaty of Ghent would have been revised, with the United States blocked by a triumphant Britain both at the mouth of the Mississippi and Canada to the north.

In 1800, America was a rural nation with a largely subsistent economy. Her exports were primarily agricultural; she imported luxuries and necessities from her principal trading partner, the English. Yet, by the 1850s, America had discovered and successfully developed the modern corporation and was becoming an increasingly industrial and commercial nation. The America of 1900 spanned the continent with railroads, created great industries, such as oil and steel, and was a rising industrial rival of France, Great Britain, and Germany.

This article explains how the development of the modern corporation solved the hold-up problem that plagued small, family-owned businesses (both corporate and non-corporate).⁸ A hold-up occurs when an investor threatens to leave the business by pulling out capital or withdrawing services. This is easily accomplished in a partnership because partnerships are terminated by the withdrawal of a partner. The very threat may per-

worsened. The Confederation was burdened with huge debts because it lacked taxation powers; hence, it could neither pay, nor service the debt.

4. Jay's Treaty, U.S.-Gr. Brit., art. 3, Nov. 19, 1794, 8 Stat. 116.

5. Treaty of Paris, U.S.-Spain, Dec. 10, 1898, 30 Stat. 1754.

6. Saint Dominique is the French name for the former Caribbean possession of Spain. Haiti and the Dominican Republic now occupy that island.

7. The critical campaign was the invasion of New York from Canada on down the Champlain Valley. The intent was to split New England (that had secessionist and pro-British leanings) from the rest of the United States. The sacking of Washington was retaliation for the burning of York (Toronto) and a diversion, as was the invasion of Louisiana. But had the Louisiana invasion succeeded, the United States may have seen its western expansion blocked. See DAVID G. FITZ-ENZ, *THE FINAL INVASION: PLATTSBURGH, THE WAR OF 1812'S MOST DECISIVE BATTLE* (John R. Elting ed., 2001).

8. See Christian C. Day, *Partner to Plutocrat: The Separation of Ownership from Management in Emerging Capital Markets—19th Century Industrial America*, 58 U. MIAMI L. REV. 525 (2004) [hereinafter *Partner to Plutocrat*].

mit the party to exact greater rents. A related concern was the need to lock-up or lock-in capital to enable the business to grow and exploit opportunities.⁹ Partnerships were fragile organizations due to the hold-up problem, death, illness, and disability (also causing termination). The corporation of the 19th century, because of its separate personality and the difficulty of dissolving it, permitted the amassing of sufficient capital to create large and innovative businesses that had staying power.

As is discussed below in the section on railroads, the American corporation locked in sufficient wealth to exploit large opportunities. Very early on, railroad corporations sold shares in small denominations, inviting many to invest, and creating liquidity—breaking the investment into bits and pieces, shares available to many, many interested parties.¹⁰

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9. See Margaret M. Blair, *Locking in Capital: What Corporate Law Achieved for Business Organizers in the Nineteenth Century*, 51 UCLA L. REV. 387 (2003) [hereinafter *Locking in Capital*]. The corporate structure facilitates the lock-in of capital and its retention for productive uses. Professor Blair believes this 19th century development was critical to the development of the modern corporate enterprise. The capital lock-in, denying capricious withdrawals that plague partnerships, and the liquidity offered by the modern plutocratic form and capital markets created an investment model second to none.

But see Larry E. Ribstein, *Should History Lock In Lock-In?* (Ill. Law and Econ. Working Papers Series, Working Paper No. LE06-005, 2006), available at http://papers.ssrn.com/pape.tar?abstract_id=883648. Ribstein critiques Blair's conclusions, and considers "whether the corporate form was necessary to achieve" the goal of capital lock in. *Id.* at 9. Ribstein concludes that the business forms available before the corporation (partnerships, joint stock companies, etc.) were capable of locking in capital, and that firms did not use the corporate form merely to achieve capital lock in. *Id.* at 9-14. Instead, Ribstein believes that limited liability, not capital lock in, was the main characteristic that firms desired when forming a corporation. *Id.* at 15-16.

"[L]imitation or elimination of liability of the shareholders is not merely the chief single advantage of a business corporation but it is the advantage which in the estimation of legislatures and also in the estimation of the public is of more importance than all the other advantages put together. It is the main thing."

Id. at 14 (quoting EDWARD H. WARREN, *CORPORATE ADVANTAGES WITHOUT INCORPORATION* 399 (William S. Hein & Co., Inc. 1929)). This article does not argue that capital lock in was the reason for use of the corporate form, but instead that lock in was one of the advantages the corporate form had to offer. *See infra* Section III.

As will be seen in this article, Professor Blair has the stronger argument because it is inconceivable that the transcontinental railroads and the gigantic industries that they spawned could have been built without the massive capital provided by relatively well-run and liquid capital markets. And those markets were buoyed by dispersed investment—counter-intuitive, yet powerfully effective. For an excellent history of the rise of big business, *see* CHARLES R. MORRIS, *THE TYCOONS: HOW ANDREW CARNEGIE, JOHN D. ROCKEFELLER, JAY GOULD, AND J.P. MORGAN INVENTED THE AMERICAN SUPERECONOMY* (Times Books 2005).

10. Foreign capital was essential to the success of the United States. Europe enjoyed a capital surplus, due to its more mature industries and thrift. The United States offered a considerably higher yield (10 percent versus 5 percent). This higher rate of return is related of course to risk and liquidity. American capital markets were less well-developed, hence less liquid. The choice of the plutocratic corporation led to diversified shareholding and increased liquidity. Eventually gatekeepers like investment bankers were to provide effective monitoring. This invited a massive influx of capital that helped to sustain American development for the entire

This liquidity concurrently fed the growth of the capital markets in New York, Boston, Baltimore, and Philadelphia.¹¹ Further, railroads pioneered the hierarchical management structure of the modern corporation. This solved the agency problem of supervising sophisticated businesses over the great expanse of America. Hierarchical management permitted expert stewards (division superintendents, mechanical officers, and other executives) to manage gargantuan enterprises over, eventually, continental distances. This new management structure substituted for the close, personal supervision that was commonplace in businesses of the era. The high quality of this new class of professional managers¹² and the liquidity provided by the ever-growing capital markets brought more capital into the pool, fueling greater industrial and commercial expansion.

Next, this article explores the effect of exploitation by predatory investors on the mid-century market. The market looked like a sucker's game. The capital markets of the 1850s and into the 1860s were ripe for exploitation. And exploited they were! Developing capital markets are often shallow and dominated by large holdings, causing illiquidity and fostering instability. American markets followed that pattern. As the railroads developed and became hot investments, unscrupulous investors such as Daniel Drew, known as the Speculative Director, and the early Jay Gould attempted to corner markets. Drew, Gould, and Jim Fisk also took advantage of corrupt judges and legislatures as they attempted to control the Erie Railroad and other investments.

During the Erie Railroad battles, the tide began to turn. A youthful Jay P. Morgan, an ally of Cornelius Vanderbilt, decided to make merchant bankers (our investment bankers), honest brokers for foreign and domestic investors.¹³

The penultimate section of this article describes the ultimate regulation by norms and market institutions, rather than through government regu-

19th century. JEAN STROUSE, *MORGAN: AMERICAN FINANCIER* 71 (Random House 1999) [hereinafter *MORGAN*].

11. See generally Christian C. Day, *Investor Power & Liquidity: Corporations, Capital Markets and the Industrialization of America*, 5 J. SMALL & EMERGING BUS. L. 345 (2001) [hereinafter *Investor Power*].
12. The military and the Civil War also play a key role. West Point and the Army Corps of Engineers trained many of the railroad executives and surveyors. For instance, General Granville Dodge was a key player in the building of the Union Pacific, and he was only one of many! Many military officers with Civil War service staffed the railroad executive corps, employing chains of command that mimicked the military's.
13. Titans of industry, commerce, and finance are still pejoratively referred to as Robber Barons. The term comes from ancient brigands who robbed merchants and travelers in narrow mountain passes. While the term is colorful and used to great effect, see MATTHEW JOSEPHSON, *THE ROBBER BARRONS: THE GREAT AMERICAN CAPITALISTS 1861-1901* (Harcourt, Brace & Co. 1934), the application is incorrect. Josephson and other critics of capitalism seem to have missed that these barons created the great industries and infrastructures in the first place. They did not swoop down from the hills and plunder the innocent. Certainly these capitalists reaped great profits. They also knitted the nation together, founded great industries, employed millions, and propelled the United States to a world power.

lation (through agencies, legislation, or judicial decisions). The moral authority exercised by Morgan and others, coupled with stock brokerage firms favoring and pushing for fair markets and disclosure made the markets more liquid, open, and transparent. Last, but not least, the anti-competitive NYSE, in an effort to enhance its power, sought to brand the NYSE and its listed companies as being reputable and of high quality. The NYSE worked to protect its brand and offered high-quality firms to the investing public and institutions.

Finally, this article concludes by asserting that by the end of the 19th century, the United States had developed relatively transparent and liquid markets without resort to extensive regulation. This was accomplished because the modern corporation, employed to build and operate railroads, needed liquid markets and massive amounts of capital. Wall Street titans, like Morgan, investment banks, stockbrokers, and the NYSE all contributed to the regulation of the market by norms and non-governmental standards. The success of these norms and this quality of regulation continued to attract capital and built capital markets that rivaled, and would soon supplant, those of Europe.

II. THE STAGE IS SET: PRE-INDUSTRIAL AMERICA POST REVOLUTION AND BEFORE THE COMING OF THE RAILROADS (CIRCA 1783—1830)

At the conclusion of the War for Independence, America was in a pre-industrial stage; before the development of railroads, businesses were really only local businesses. Most businesses were conducted as partnerships and proprietorships.¹⁴ Because the American continent had primitive transportation, much of the economic activity and market exchanges were local as well. The Appalachian Mountain chain blocked access to the fertile Ohio Valley. It had to be surmounted if America was to quench its desire for farmland. The requirement of better transportation would create the demand for public works projects like turnpikes, canals, etc.—most built by the earliest corporations chartered under special acts by state legislatures.¹⁵ While there was some coastal trade between states and oceanic trade with Europe and the West Indies, primitive networks of roads did not encourage trade or the development of businesses of any magnitude.

Roughly 6 percent of the nation's five million people resided in urban

14. Today, the bulk of American businesses remain small businesses and about 75 percent are still partnerships and proprietorships. ROBERT L. HEILBRONER & LESTER C. THUROW, *ECONOMICS EXPLAINED* 45 (Prentice-Hall, Inc. 1998).

15. Joseph S. Davis, *Charters for American Business Corporations in the Eighteenth Century*, 15 *PUB. AM. STAT. ASS'N* 426, 429 (1916). For one of the best general accounts of late 18th century American corporate development, see JOSEPH STANCLIFFE DAVIS, 2 *ESSAYS IN THE EARLIER HISTORY OF AMERICAN CORPORATIONS EIGHTEENTH CENTURY BUSINESS CORPORATIONS IN THE UNITED STATES* (Harvard Univ. Press 1917).

areas in 1800.¹⁶ Sixty percent lived in towns of less than 25,000.¹⁷ Households were the predominant economic unit and they functioned in a hierarchical manner. Thus, late in the 18th century and into the beginning of the 19th century, much of America's economic activity centered on the home and small businesses that replicated the management functions of subsistence farms. But the new nation would soon be on the verge of economic change as it attempted to place itself on a strong economic footing.

A. THE FINANCE-LED ECONOMIC REVOLUTION¹⁸

The Federalist economic program of Alexander Hamilton and the nascent American banking system (discussed *infra*) provided the framework for a finance-led economic transformation of the American continent. "By any standards, the U.S. economy experienced a near-miraculous turnaround in the last decade of the 18th century, when it made the transition from a defaulting debtor awash in obligations left over from the war of independence to a magnet for international capital flows."¹⁹

In Hamilton's economic plans, the American debt was monetized, following the Bank of England model.²⁰ The new federal debt was known as Hamilton 6s (because of the interest rate).²¹ The Hamilton 6s were redeemable at par, like consuls. They were extremely popular and very quickly established their value, regularly trading above par (indicating the strength of the investment).²² Monetization accomplished two important goals: it provided necessary funds to operate the government and greatly increased the liquidity of the economy that in turn attracted more capital.²³ Finally, historian Richard Hildreth skillfully summarized the

16. Naomi R. Lamoreaux et al., *Beyond Markets and Hierarchies: Toward a New Synthesis of American Business History* 12 (Nat'l Bureau of Econ. Research Working Paper No. 9029, 2002), available at <http://www.nber.org/papers/w9029>.

17. *Id.*

18. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 532-37.

19. Peter L. Rousseau, *Historical Perspectives on Financial Development and Economic Growth*, 85 FED. RES. BANK ST. L. REV. 81, 92 (2003), available at <http://research.stlouisfed.org/publications/review/03/07/Rousseau.pdf> (limited liability for American banking corporations was critical in the development of banks and capital markets).

20. While the American public debt system resembled England's, the federal fiscal system bore close resemblances to that of the Dutch. NIALL FERGUSON, *THE CASH NEXUS: MONEY AND POWER IN THE MODERN WORLD, 1700-2000* 115 (Basic Books 2001).

21. *Id.*

22. See Peter L. Rousseau & Richard Sylla, *Emerging Financial Markets and Early U.S. Growth* 6 (Vanderbilt Univ., Dept. of Econ., Working Paper No. 00-W15, May 2000), available at <http://www.vanderbilt.edu/Econ/wparchive/workpaper/vu00-w15.pdf> [hereinafter *Emerging Financial Markets*]; see also JOHN STEELE GORDON, *HAMILTON'S BLESSING: THE EXTRAORDINARY LIFE AND TIMES OF OUR NATIONAL DEBT* 38-39 (1997) [hereinafter *HAMILTON'S BLESSING*] (by 1794, the United States had the highest credit rating in Europe and some of its bonds were selling at 10% over par!).

23. *HAMILTON'S BLESSING*, *supra* note 22, at 11-41.

long-term effects of the Hamiltonian policies:

The great secret of the beneficial operation of the funding system was the reestablishment of confidence; for commercial confidence, though political economists may have omitted to enumerate it among the elements of production, is just as much one of those elements as labor, land, or capital—a due infusion of it increasing in a most remarkable degree the productive activity of those other elements, and the want of it paralyzing their power to a corresponding extent. By the restoration of confidence in the nation, confidence in the states, and confidence in individuals, the funding system actually added to the labor, land, and capital of the country a much greater value than the amount of debt thereby charged upon them.²⁴

Treasury Secretary Hamilton correctly reported that the government's monetary policies were necessary to attract both domestic and foreign capital. He accurately foresaw that America would need to import European capital.²⁵ Hamilton presaged what happened in the 19th and 20th centuries as America's sound monetary policies and investment opportunities attracted foreign capital to build, sustain, and expand a continental economy.²⁶

B. THE EARLY ROLE OF BANKS AND SECURITIES MARKETS²⁷

The United States restructured its large war debt within five years of the ratification of the Constitution. It introduced the dollar as its currency and created a national banking system. This banking structure linked securities markets and gained the confidence of many European

24. RICHARD HILDRETH, 1 *THE HISTORY OF THE UNITED STATES OF AMERICA* 276 (Harper Bros. 1856) (quoted in *ENTERPRISE*, *supra* note 2, at 129).

25. The aid of foreign Capital may safely, and, with considerable latitude, be taken into calculation. Its instrumentality has been long experienced in our external commerce; and it has begun to be felt in various other modes. Not only our funds, but our Agriculture and other internal improvements have been animated by it. It has already in a few instances extended even to our manufactures. It is a well known fact, that there are parts of Europe, which have more Capital, than profitable domestic objects of employment. Hence, among other proofs, the large loans continually furnished to foreign states. And it is equally certain that the capital of other parts may find more profitable employment in the United States, than at home. And notwithstanding there are weighty inducements to prefer the employment of capital at home even at less profit, to an investment of it abroad, though with greater gain, yet these inducements are overruled either by a deficiency of employment or by a very material difference in profit. Both these Causes operate to produce a transfer of foreign capital to the United States.

ALEXANDER HAMILTON, *Report on the Subject of Manufacturers*, December 5, 1791, in *WRITINGS* 647, 677-78 (Joanne B. Freeman ed., Columbia Univ. Press 2001) (1961).

26. "By 1801 Europeans held \$33 million in U.S. securities, and European capital was helping mightily to build the American economy." HAMILTON'S BLESSING, *supra* note 22, at 39.

27. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 537-39.

investors.²⁸

In 1789, there were only three banks.²⁹ By the 1790s, twenty-eight banks were chartered.³⁰ In the next decade, seventy-three more were chartered.³¹ They were quite profitable and often yielded 8 percent.³² By 1825, it was estimated that English equity was not significantly greater than United States bank equity (the Bank of the United States and state-chartered banks) of \$138 million.³³ The English and American capital markets were about the same size by the mid-1820s, even though the English had a century's lead-time.³⁴

The fact that the United States had the same amount of capitalization with fewer listed firms supports the inference that America was more heavily capitalized. This was a consequence of its lead in chartering banking corporations with limited liability.³⁵ State chartering was liberal and democratic. America had more competition and comparable bank capital by the mid-1820s because legislatures were liberal in their chartering and did not attempt to protect a favored corporation, as Great Britain did with its Bank of England. British legislation prohibited the chartering of banks with more than six investors without special legislation—the intent was to insulate the Bank of England from competitive threat.³⁶ While both capital markets listed utilities, transportation, insurance, and manufacturing companies, the big difference was in bank capital.

28. *Emerging Financial Markets*, *supra* note 22, at 2.

29. *Id.* They were the Bank of New York (New York), the Bank of North America (Philadelphia), and the Bank of Massachusetts (Boston). Their small size, primitive transportation and communication infrastructure, and great distances made efficient intermediation, critical for any growing economy, difficult indeed.

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.* at 12.

34. By 1825, America, with a population still smaller than that of England and Wales (11.1 versus 12.9 million), had roughly 2.4 times the banking capital of the latter This was not entirely the result of the U.S. financial revolution. English policy, and in particular the monopoly privileges of the Bank of England and the restriction of all other banks and unlimited-liability partnerships of six or fewer people, retarded banking development in that country until 1825, when the policy was altered to allow joint-stock banking with unlimited liability.

Emerging Financial Markets, *supra* note 22, at 7-8.

35. State chartering was liberal and democratic. America had more competition and comparable bank capital by the mid-1820s because legislatures were liberal in their chartering and not attempting to protect a favored corporation, as Great Britain was with its Bank of England. British legislation prohibited the chartering of banks with more than six investors without special legislation—the intent was to insulate the Bank of England from competitive threat.

36. English banks were limited to six partners by the legislation, thus restricting the size and geographic scope of banking operations because of the partners' liability. Liam Brunt & Edmund Cannon, *Asset Prices, Banks and Financial Market Integration in the British Industrial Revolution* 3 (Cardiff Bus. Sch. Economic Seminars, 2004), available at <http://www.cardiff.ac.uk/carbs/econ/resources/seminars/archive/liamwheat.pdf>. American banks, had no such limitation on and, in many instances, were protected by limited liability.

America had a lot of money to lend due to its liberal chartering policies.³⁷ In 1840 there were 834 banks; by 1860, the number had nearly doubled again. Bank capital increased from \$3 million in 1790 to an astonishing \$426 million in 1840.³⁸

American enterprise was also given a boost by the development of securities markets. Within two years of the national debt refunding legislation in the 1790s, trading was so great in federal and state securities that brokers formed an exchange under the fabled Buttonwood Tree at the foot of Wall Street. This exchange, of course, later became known as the NYSE. Within 100 years, the NYSE would eclipse London's as the greatest exchange in the world.³⁹ With the 1790 debt refinancing and the creation of the Bank of the United States in 1791, securities markets arose in America's four major cities: New York, Boston, Philadelphia, and Baltimore. These markets gave investors the opportunity to trade both debt and equity issues. They also provided domestic and foreign investors with liquidity, thereby giving them the courage to invest in the new nation. The success of the markets is demonstrated by the fact that Europeans owned more than half of the American federal debt, the Bank of United States stock, and more than half of the listed securities.⁴⁰

Thus, the early securities markets, the Bank of the United States, and the competition of state banks provided a growing pool of capital for businesses that needed it. As corporations evolved and became engaged in larger enterprises, such as canal and rail networks, the capital markets would further the growth of the economy.

That expansion was coming and would build on the capital markets; but the nation was not there yet. American finance and law had first to solve the hold-up and lock-up problems. Then, the railroads, with their massive need of capital would rapidly increase the liquidity of the markets. The next section describes the hold-up problem and discusses its favorable resolution in the large corporation.

III. BREAKING THE HOLD-UP, SELLING SHARES, AND LOCKING UP CAPITAL

This section explains the fragility of partnerships (and other small business forms). Next, it describes how the public corporation was able to lock-in capital, providing a pool of resources to exploit opportunities and expand operations. This section concludes with thoughts on how investments can be broken into discrete bits and pieces—shares to of all us—and sold in a market, offering great liquidity because the market provides freedom from capital lock-in and an efficient exit strategy.

37. *Emerging Financial Markets*, *supra* note 22, at 13.

38. *Id.* at 6.

39. HAMILTON'S BLESSING, *supra* note 22, at 39. As is evidenced in a later section, the monitoring function of the NYSE and of the great investment banks provided a proxy for control that induced domestic and foreign investors to flood the United States with capital in the 19th century.

40. *Emerging Financial Markets*, *supra* note 22, at 8-9.

A. PARTNERSHIPS BEFORE THE ADVENT OF THE RAILROADS⁴¹

Before railroads burst on the scene and knitted the nation together, creating national markets and gigantic businesses, 19th century businesses were predominately proprietorships and partnerships with a smattering of non-banking corporations. Without railroads or canals, business size was also limited. The availability of capital was restricted as proprietors and partners relied on their personal credit and that of friends and neighbors.⁴² Until corporate law solved the lock-up problem, businesses were extremely fragile because the owners could withdraw their personal capital—starting a competitor or just ending the business. Obviously, this fragility made it difficult to raise capital for ventures of any size because the odds were that someone, for any reason, might withdraw funds and set the house tumbling.

Partnerships were relatively small businesses that were owned and controlled by a small number of people. The partners had intensely personal relationships with their employees, community, creditors, and their product. Actually, if one thinks about the law of partnership, the partners were the business. There was a certain transparency in that, if one was a partner, he was the business. His credit was the business's credit; his botched, defective, or dangerous product was his liability. There really was no separation of interest at that particular time. The drawback, of course, was unlimited liability, which hampered credit and the ability to expand. Partnerships had another drawback as well—they typically terminated upon the death, retirement, or withdrawal of partners. The Uniform Partnership Act (1914) codified the common law defaults and practices.⁴³ Indeed, even the most recent version of the Act (1997) still preserves these default terminations but converts them to a more benign dissociation that ends the partner's relationship with the firm without destroying the firm.⁴⁴ Nonetheless, dissociation itself contains some significant problems. The dissociating partner will take her skills and capital with her when she leaves. Further, informal threats of dissociation, while frowned upon if in bad faith, can replicate the earlier problem.⁴⁵

Notwithstanding their fragility, partnerships were frequently chosen for business operations because they “reduced particular classes of transaction costs, mitigated certain types of opportunism, facilitated monitoring,

41. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 539-42.

42. Until corporate law solved the lock-up problem, businesses were extremely fragile because the owners could withdraw capital—starting a competitor or just ending the business. Obviously, this fragility made it difficult to raise capital for ventures of any size because the odds were that someone, for any reason, might withdraw funds and set the house tumbling.

43. See UNIF. P'SHIP ACT (1914).

44. See UNIF. P'SHIP ACT (amended 1997).

45. See UNIF. P'SHIP ACT (1914).

or promoted certain types of direction-taking and giving.”⁴⁶ As we will see with the railroads, their innovative management structure would reduce transaction costs and provide excellent monitoring, going a long way toward solving the agency problem.⁴⁷

In addition, partnerships gave the partners a sense of ownership and control. Indeed, the common default was that all partners managed the business and shared the profits of the enterprise. This was all for the good, but partnerships had another major disadvantage—hold-ups by partners, business suppliers, and creditors.⁴⁸ Since creditors and suppliers were not members of the firm, the partnership had to contract with these important persons to protect its livelihood. Imperfect contracts empowered creditors and suppliers to extort rents from the productive partnership. On the other hand, the modern corporation, with its access to large pools of capital, has the ability to capture these resources through horizontal and vertical integration, eliminating some of these hold-up opportunities.⁴⁹

Hold-ups occurred because, under partnership law of the 19th and most of the 20th centuries, partners could threaten the firm’s existence by withdrawing or threatening to withdraw. Bodenhorn found that partners were sometimes forced to accept disadvantageous terms after they had invested because the partnership relation or specific sunk assets exposed the partners to the opportunistic behavior of their co-investors.⁵⁰

The fear of “hold-up can lead to inefficiently low levels of investment.”⁵¹ Moreover, hold-ups can occur at any time, “from initial negotiations in forming a partnership to one partner threatening premature liquidation if the other refuses to concede a portion of his or her share of the firm’s profits.”⁵² Ultimately, the combination of asset specificity⁵³ and imperfect contracts⁵⁴ will establish the greatest potential for hold-

46. Howard Bodenhorn, *Partnership and Hold-Up in Early America* 16 (Nat’l Bureau of Econ. Research Working Paper No. 8814, 2002), available at <http://www.nber.org/papers/w8814> [hereinafter *Partnership and Hold-Up*].

47. Accurate financial records, pushed for by investors, brokers, and investment bankers would provide greater transparency. Investment bankers, because they represented pools of capital and corporations, could use their market power to enforce norms.

48. *Partnership and Hold-Up*, *supra* note 46, at 8-9.

49. In more modern times, the American conglomerate corporation of the 1960s was able to use its market power and access to credit and markets to hinder hold-ups.

50. *Partnership and Hold-Up*, *supra* note 46, at 7.

51. *Id.*

52. *Id.* at 8.

53. Four types of asset specificity include: site specificity; physical asset specificity; human asset specificity; and dedicated assets. Oliver E. Williamson, *Symposium: 1982 Merger Guidelines: Vertical Merger Guidelines: Interpreting the 1982 Reforms*, 71 CALIF. L. REV. 604, 613-14 (1983).

54. The more complex the transaction, the more likely possible contingencies will not be realized. These unforeseen contingencies could create problems of hold-up after the partnership is formed if partners are not able to reach agreement. For example, if one partner has leverage over the others, he could force them to give into his terms or face dissolution of the partnership.

ups.⁵⁵

Thus, partnerships are generally not found in large businesses where the monitoring of products or services can be quantified by scientific management practices.⁵⁶ Hence, the virtue of partnerships in professional services and other such businesses becomes a drawback when great businesses must be constructed and other methods of monitoring must be employed. "[I]f market monitoring is sufficiently reliable, corporations perform better than partnerships, while if market monitoring is weak, partnerships are strictly more profitable than corporations."⁵⁷

As a result, partnerships, while a natural form of business and one easily adopted, had significant drawbacks related to fragility, hold-ups, and unlimited liability. Large businesses were difficult to construct as a partnership due to liability, monitoring concerns, and the need for capital and liquidity. The hold-up problem and the difficulties entailed in liquidating partnership interests depressed the value of partnership investments. This devalued limited partnership credit, growth, and the size of the business enterprise. The modern business corporation solved many of the problems inherent in partnership enterprises and gave rise to the creation of enormous businesses when investors were able to surrender their need for control, monitoring, ownership, and other partnership attributes, and were willing to trust the capital markets for their investment security.

The history of the Corliss Steam Engine Company is instructive of how the newly fashioned corporate form frustrated hold-ups. While first organized as a partnership in 1847, the venture was reorganized as a corporation in 1857. George Corliss, the inventor, and Nightingale, another investor, owned the bulk of the company's stock. When Corliss sought to have the firm issue more stock to his brother (thereby giving George effective control of the company), Nightingale refused to reduce his holdings and blocked other efforts that would have rendered him a minority owner. Had the company been a partnership, George could have dissolved the venture quite easily.⁵⁸ As it was, George ultimately prevailed

55. Recent studies of corporate governance recognize that stakeholders other than shareholders (i.e., suppliers, customers, neighbors and employees) make investments specific to their relationship with a firm. . . . At the same time, the firm may undertake specific investments to attract and accommodate employees, neighbors, suppliers and customers. In the absence of complete contracts, one party can threaten to terminate the relationship and destroy the value of the sunk asset as a bargaining ploy to capture a greater share of the gains from trade. This is the essence of hold-up.

Partnership and Hold-Up, *supra* note 46, at 8-9.

56. See *supra* Section V discussing modern management techniques and structures pioneered by American railroads.

57. Jonathan Levin & Steven Tadelis, *A Theory of Partnerships 2* (Stanford Inst. for Econ. Policy Research Working Paper No. 244, 2002), available at http://papers.ssrn.com/paper.taf?abstract_id=311159.

58. This might have proven to have been a wrongful dissolution if his dissolution was taken to capture the value of the company, but that is another story.

because he retained personal control of the patents.⁵⁹ Nevertheless, the Corliss tale demonstrates that corporate investors have greater protection against hold-ups and helps to explain why corporations became such an important institution.

B. BUSINESS CORPORATIONS BEFORE THE COMING OF RAILROADS⁶⁰

The business corporation was the unique creation of American lawmakers during the late eighteenth and early nineteenth centuries, made by state legislatures that chartered corporations, the state courts that created a body of decisional law for their internal governance, and the Supreme Court that defined the institution by establishing its relationship to the states. What these lawmaking institutions discovered was that the corporate form, used in England and the colonies to organize charitable and public institutions, could be refashioned to suit the special needs of American entrepreneurs. New production technology, especially in textiles, required large capital investment. In a country where the government did not regularly finance production ventures and where private resources of individuals were inadequate to the need, broad-based stock ownership made imminent sense, especially when it was accompanied by centralized management, a key feature of corporate form. Armed with immortality granted by its charter, unlike the earlier joint-stock companies organized for a single venture, and limited liability, provided gradually during this period of legislative enactment, the corporation was an increasingly attractive investment vehicle for entrepreneurs, provided the investment could be secured against state regulation.⁶¹

While legislatures regularly tried to curb the wealth and power of corporations,⁶² the need for capital and the shift in public attitude away from suspicion of corporations to enthusiasm led to a relaxation of state regulation in the 19th century.⁶³ Legislatures removed restrictions or relaxed them to further the interests of emerging large corporations.⁶⁴ Corporations now possessed the power and legal theory to capture even more power and wealth. With the rise of general incorporation laws (1840-1850s),⁶⁵ the foundation was laid for the rise of Big Business, which

59. Naomi R. Lamoreaux, *Partnerships, Corporations, and the Theory of the Firm*, 88 AM. ECON. REV. 66, 69 (1998).

60. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 542-46.

61. R. KENT NEWMYER, *JOHN MARSHALL AND THE HEROIC AGE OF THE SUPREME COURT* 246-47 (LSU Press 2001) [hereinafter JOHN MARSHALL].

62. *See* Louis K. Liggett Co. v. Lee, 288 U.S. 517, 548-56 (1933) (Brandeis, J., dissenting in part) (discussing various state restrictions upon corporations).

63. Kelvin H. Dickinson, *Partners in a Corporate Cloak: The Emergence and Legitimacy of the Incorporated Partnership*, 33 AM. U. L. REV. 559, 574 (1984); *see also* JAMES W. ELY, JR., *RAILROADS & AMERICAN LAW* 18 (Univ. Press of Kansas 2001) [hereinafter *RAILROADS & AMERICAN LAW*].

64. *RAILROADS & AMERICAN LAW*, *supra* note 63, at 16.

65. Prior to general incorporation laws, investors were required to seek specific charters from the legislature to incorporate. This was a vestige of earlier English practice where the Crown and, later, Parliament chartered corporations. Legislative

would rely on the vibrant and emerging capital markets.

Corporations also spurred industrialization and urbanization. In the first half of the 19th century, America was largely agricultural; in 1850, 65 percent of workers were in agricultural occupations.⁶⁶ Manufacturing was present in small firms. For instance, in 1832, only 106 manufacturers had assets greater than \$100,000.⁶⁷ But industrialization was on the rise, and urbanization was increasing. Reliable transport would accelerate those critical trends.

Before the railroad network created the national market, many firms conducted their business in the partnership form. The advantages of the corporate form were not as clear as they seem now. Fixed capital for manufacturing ventures was not large. Entrepreneurs often could raise funds from neighbors, friends, and family. Firm earnings were also a good source of capital (with no income tax, partnerships could retain earnings and reinvest, something that is rare in modern life due to the biases of the tax code that encourage partnerships to distribute profits). Corporations could raise more capital due to their advantages of limited liability and continuity of life.⁶⁸ But technology had not yet reached the point where economies of scale would be obtained through large enterprises. Nor were there national markets to support large businesses. As a result, manufacturers and other businesses confronted shallow capital markets that posed high risks for business ventures. Stockholders often participated in the firm to maintain control and ensure a distribution of profits.⁶⁹ Indeed, some corporations may have been limited in their search for capital because the limited liability enjoyed by investors took away further sources of collateral.⁷⁰

Without national markets and risky capital pools for their ventures, businesses tended to stay close to home and remained small. The family firm dominated even larger manufacturing enterprises like mills, etc., even if the firm had several manufacturing sites. The family management was close enough to the workers and subordinate supervisors to effectively run these small enterprises without the need for massive amounts

chartering was a check designed to exert political control over potentially dangerous monopolies. In practice it became a cumbersome nuisance, and a procedure susceptible to bribes and logrolling. With general incorporation laws in place, corporations were standard organizations that could be employed by anyone meeting the requirements and agreeing to follow the strictures. Thus, the corporation was democratized and became an excellent vehicle for running businesses.

66. Nonetheless, manufacturing industries "were probably the most important in the United States at the time." William C. Kessler, *A Statistical Study of the New York General Incorporation Act of 1811*, 48 J. POL. ECON. 877, 880 (1940).

67. Edward L. Glaeser & Andrei Shleifer, *The Rise of the Regulatory State*, 41 J. ECON. LIT. 401, 413 (2003).

68. Because corporations were also not subject to any income tax they could retain earnings easily for expansion. The ability to lock in capital was critical. See *Locking in Capital*, *supra* note 9.

69. Naomi R. Lamoreaux, *The Partnership Form of Organization: Its Popularity in Early-Nineteenth-Century Boston*, in *COLOSSUS: HOW THE CORPORATION CHANGED AMERICA* 45, 51-52 (Jack Beatty ed., Broadway Books 2000).

70. *Id.*

of capital or a large number of investors. Consequently, these businesses continued as family corporations with active management by the family member shareholders. In effect, they conducted business like incorporated partnerships.⁷¹

C. CORPORATE LAW LOCKS-IN CAPITAL⁷²

As we have seen, partnerships, by their very nature, permitted investors to pull out capital, even on a whim. This attribute limited the amount of capital that could be raised and thus limited enterprise size.

Corporate law changed all that through the fiction of the corporate personality. Corporations are treated as distinct entities, separate and apart from their owners, the shareholders.⁷³ Corporations enjoy dominion over their assets. The board of directors of the corporation manages the business of the corporation. Directors are neither agents for the shareholders nor can they function individually as agents for the corporation. Directors collectively make investment decisions and decide whether to declare dividends. Neither the directors alone nor the shareholders can liquidate the corporation. They must act jointly. And the law often provided for supermajorities for critical decisions such as mergers and dissolutions.

Thus, once funds were committed to the corporation for investment by purchasing shares, the individual investor, merely as a shareholder, lacked power over the assets at risk. Further, corporation law made it difficult for corporations to be dissolved. Investors could not just pull their money out and leave as they could in partnerships. Indeed, even when the investors were at loggerheads, courts were often reluctant to judicially dissolve the corporations. Taken as a whole, the new corporate structure, with theoretical immortality, could lock-in investors' capital forever. These funds, under the control of the directors, could then be deployed to build great enterprises.

Debt creditors such as bondholders and banks could also rely on the lock-in—they could have reasonable certainty that the enterprise would be operated long enough to retire the debt. Further, the assets provided collateral for the creditor and were not as easily converted by investor-shareholders as they would be in partnerships. The 19th century model

71. Traditionally merchants had used the bonds of kinship and friendship to cement far-flung ventures. The formal organization structures characteristic of twentieth-century businesses were then unknown. Before 1860 even the largest of manufacturing corporations had only one or two factories, normally located in single place. Thus the manager of a cotton mill could view his entire establishment in an hour or two and found no need for elaborate systems to supervise subordinates.

STEPHEN SALSURY, *THE STATE, THE INVESTOR, AND THE RAILROAD: THE BOSTON & ALBANY, 1825-1867* 299 (Harvard Univ. Press 1967) [hereinafter *BOSTON & ALBANY*].

72. *Locking in Capital*, *supra* note 9, describes the history of this important feature.

73. JOHN MARSHALL, *supra* note 61, at 246-47.

thus proved to be a fine vehicle for amassing huge amounts of capital and retaining long-term control over it.

This lock-in of capital would provide the funds necessary to build great industries. But investors would only be willing to part with their money if some reasonable degree of security and liquidity could be obtained. That liquidity would come from general availability of shares at favorable prices, enticing investment, and providing a market for those wishing to dispose of their shares. The key to this liquidity is a capital market that facilitates turnover, and hence, liquidity. Next, the article describes the liquidity found in plutocratic ownership of shares. Then the railroad history will show how plutocratic shareholding spreads liquidity and wealth.

D. PLUTOCRATIC OWNERSHIP FUNDS LIQUID CAPITAL MARKETS

Plutocratic ownership is basically the idea of one vote per share.⁷⁴ This was a marked departure from the initial common law model of one vote per investor (of course, based upon partnership law). Over the first half of the 19th century corporation control evolved from the common law model to the plutocratic model. At first, this seems to subvert the interests of the small investor, making the capital market illiquid, because voting power (for directors), and hence control, is concentrated in the hands of those with the most shares. There is paradox at work here because plutocratic shareholding is a key to deep and broad capital markets.⁷⁵ This section describes briefly the operation of those markets. The next section shows how railroads' massive need of capital created the modern plutocratic market.

The 19th century capital markets of Europe and America were not as deep or broad as modern markets. They were susceptible to major run-ups, crashes, and manipulation. Yet they continued to attract saved

74. See Colleen A. Dunlavy, *Corporate Governance in Late 19th-Century Europe and the U.S.: The Case of Shareholder Voting Rights*, in *COMPARATIVE CORPORATE GOVERNANCE: THE STATE OF THE ART AND EMERGING RESEARCH* 3, 5-39 (Oxford Univ. Press 1998); Colleen A. Dunlavy, *Corporate Democracy: Stockholder Voting Rights in Nineteenth-Century American and Prussian Railroad Corporations*, in *INSTITUTIONS IN THE TRANSPORT AND COMMUNICATIONS INDUSTRIES: STATE AND PRIVATE ACTORS IN THE MAKING OF INSTITUTIONAL PATTERNS, 1850-1900* 33-60 (Sci. History Publications 1999); Colleen A. Dunlavy, *From Citizens to Plutocrats: Nineteenth-Century Shareholder Voting Rights and Theories of the Corporation*, in *CONSTRUCTING CORPORATE AMERICA: HISTORY, POLITICS, CULTURE* 66-93 (Kenneth Lipartito & David B. Sicilia eds., Oxford Univ. Press 2004).

75. English and American capital markets were home to atomistic shareholdings. The result has been a higher market capitalization for firms than those in markets where large block holders—families or corporations—dominate. The dispersed nature of holdings in Anglo-Saxon markets produces greater liquidity, diversification, and, ultimately higher value. Details on the contrasting, bank-based industrial development may be found in Wilfried Feldenkirchen, *Banking and Economic Growth: Banks and Industry in Germany in the Nineteenth Century and their Changing Relationship During Industrialization*, in *GERMAN INDUSTRY AND GERMAN INDUSTRIALIZATION: ESSAYS IN GERMAN ECONOMIC AND BUSINESS HISTORY IN THE NINETEENTH AND TWENTIETH CENTURIES* 116-47 (W.R. Lee ed., Routledge 1991).

money. As Europeans and Americans saved money, they created capital surpluses and invested through developing financial intermediaries.⁷⁶ The capital pools became deeper, wider, richer, and better funded?veritable seas of money. With depth and breadth offered by the variety of instruments and liquidity available to investors, these modern capital pools (both debt and equity securities) provide safety and liquidity while dampening wild fluctuations.⁷⁷

Developed capital markets ultimately reduce the cost of capital. Money is merely a vital and precious commodity and is subject to the same rules as other commodities. In free capital markets, when many investors bring their money to invest, the price of money drops. In this way, investment money may appear to be fungible, like corn, in the classic microeconomics demonstration of supply and demand curves. While it is true that a dollar is a dollar, different investor demands and capital needs will create price differentiation. For example, equity demands a higher return than debt in most instances because equity is subordinate to debt and is subject to the considerable whims of management. Nevertheless, *en gross* the capital markets bring together huge capital pools. Competition for investments among these pools then makes money cheaper and decreases the cost of doing business.

An intriguing and fundamental paradox is that when capital markets are awash with cash, the price of equity and debt capital drops. This liquidity lowers the return on banks and other corporate lenders as they compete to make loans. Yet when technology, innovation, and productivity abound, the lower cost of capital fuels expansion. Equity values rise, yet both debt capital and equity capital remain competitive and can lead to further increases in market value. This rise in equity value expands the capital base and leads to greater competition for both debt and equity investors. Thus, a strong equity and debt market further lowers the cost of capital and continues to lead the economic expansion. Critical to successful capital markets is the fungibility of investments, provided by relatively small denominations of share and bond prices. These are found in plutocratic markets such as those of mid-19th century America. The next section will describe how railroads created these liquid capital markets.

IV. RAILROADS MANDATE THE PLUTOCRATIC MODEL AND ARE BUILT BIT-BY-BIT, SHARE-BY-SHARE⁷⁸

While the railroads' insatiable need of capital dictated the plutocratic model, dispersed shareholding was in evidence before railroads were in

76. Banks, insurance companies, and merchant banks all played major roles as they funded investments from the savings of their clients.

77. Dampening, not eliminating. We still have had the dot-com/September 11 crash (2000-2003), the recent Asian Flu (1997), and the 1987 stock market crash that scared many of us! But the fast recovery of the markets in these instances further proves their depth and strength.

78. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 549-55.

ascendancy. The Boston Manufacturing Company of 1813 was the first important enterprise to be organized along plutocratic lines with the modern separation of ownership from management. Although quite small by modern standards, it had the characteristics of later corporate giants. In 1830, no one held more than 8.5 percent of the stock. By 1850, there were 123 shareholders, the largest owning 8.5 percent. Management as a group only held 11 percent.⁷⁹

American railroads demanded massive amounts of capital and new financing methods were required to build them. While construction was cheaper than canals, their vast size and scope was beyond the resources of families and individuals to fund them.⁸⁰

Canals, and later the railroads, conquered the distances of the continent.⁸¹ That conquest fueled America's industrial revolution and unleashed demands for goods, services, and speed.⁸² With their expansive networks, the management of railroads mandated a departure from the common law and prudent mean models.⁸³ The railroads, by linking the urban areas to the hinterlands and knitting regions together, drastically reduced transportation costs, which in turn led to the growth of large urban areas and gigantic industries to provide for America's burgeoning population.

The histories of the Boston & Albany Railroad (B&A), circa 1825-1867, and the Erie Railroad⁸⁴ demonstrate how the movement toward

79. ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 10-11 (Rev. ed., New York, Harcourt, Brace & World 1932).

80. JOHN STEELE GORDON, *THE GREAT GAME: THE EMERGENCE OF WALL STREET AS A WORLD POWER, 1653-2000* 76 (1999) [hereinafter *THE GREAT GAME*].

81. Jack Beatty, *Toward Scale and Scope*, in *COLOSSUS: HOW THE CORPORATION CHANGED AMERICA* 56, 63 (Jack Beatty ed., Broadway Books 2000).

82. Railroads had a profound influence on all aspects of American law and culture. See *RAILROADS & AMERICAN LAW*, *supra* note 63.

83. The prudent mean model (see *Corporate Governance in Late 19th-Century Europe and the U.S.: The Case of Shareholder Voting Rights*, *supra* note 74; *Corporate Democracy: Stockholder Voting Rights in Nineteenth-Century American and Prussian Railroad Corporations*, *supra* note 74; *From Citizens to Plutocrats: Nineteenth-Century Shareholder Voting Rights and Theories of the Corporation*, *supra* note 74) was a transition method of corporate governance (between the common law model and the plutocratic model) that used proportionate representation to prevent any one shareholder or group of shareholders from dominating the entity. For example, a shareholder might enjoy one vote per share for the first ten shares owned; eleven to one hundred shares might provide one vote for each ten shares; shareholdings greater than one hundred shares might yield one vote for each additional hundred shares. The First Bank of the United States employed such a scheme. ALEXANDER HAMILTON, *Report on a National Bank, December 13, 1790*, in *WRITINGS* 575, 598 (Joanne B. Freeman ed., Columbia Univ. Press 2001) (1961). Modern practice sometimes uses the prudent mean to frustrate takeovers. See *generally* *Providence & Worcester Co. v. Baker*, 378 A.2d 121 (Del. 1977); see also *Stroh v. Blackhawk Holding Corp.*, 272 N.E.2d 1 (Ill. 1971).

84. I will use the Erie Railroad and Erie Railway interchangeably in this article. The corporation used several variations of those names during its storied life. The Erie gives us a type of two-fer because it pioneered modern management. Attacks on the Erie by speculators in the 1860s and 1870s (the Erie Railway and Susquehanna Wars) branded the Erie a harlot and ushered in an era of monitoring by Morgan

plutocratic control⁸⁵ was a result of the immense capital needs of the projects, as well as the need for sophisticated management that could effectively monitor outputs over vast distances. The management revolution that resulted in the modern, hierarchical organization transformed American business and fit exactly within the confines of centralized management, directed by elected boards of directors, who remained responsible to atomistic shareholders through fiduciary duties. First, let us examine the B&A.⁸⁶

The American Revolution had disrupted trading patterns. Americans no longer clung to the seaboard. Port cities like New York, Boston, Philadelphia, and Baltimore sought to maintain their commercial importance with links to the developing hinterlands. New York State built the Erie Canal; Baltimore promoted the Baltimore & Ohio in 1827; and Pennsylvania constructed a railroad and canal system through the Alleghenies by 1834.⁸⁷ With the completion of the Erie Canal, New York State's population doubled from 1 million to 2 million people (1810-1830).⁸⁸ Internal improvements were the crucial 19th century network that connected regions and developed the national economy.⁸⁹

Prior to the Boston & Worcester⁹⁰ charter, major public improvements, such as the Erie Canal, the Pennsylvania system of internal improvements, and the Ohio canals, were publicly financed enterprises. Even the Baltimore & Ohio Railroad Company had substantial government backing.⁹¹

The B&A was representative of the switch from predominately public financing for internal improvements to major reliance on private capital.⁹² This movement to private financing created greater diversification

and others. Without the Erie, modern finance, management, and eventually monitoring would have been very different indeed.

85. See *Corporate Governance in Late 19th-Century Europe and the U.S.: The Case of Shareholder Voting Rights*, *supra* note 74, at 5-39; *Corporate Democracy: Stockholder Voting Rights in Nineteenth-Century American and Prussian Railroad Corporations*, *supra* note 74, at 33-60; *From Citizens to Plutocrats: Nineteenth-Century Shareholder Voting Rights and Theories of the Corporation*, *supra* note 74, at 66-93.

86. The railroads comprising the B&A will be referred to as the B&A, the Boston & Worcester, and the Western Road (the latter two were the predecessors of the B&A rail network).

87. *THE BOSTON & ALBANY*, *supra* note 71, at 1-2; *RAILROADS & AMERICAN LAW*, *supra* note 63, at 1-2.

88. *THE BOSTON & ALBANY*, *supra* note 71, at 2.

89. *Id.*

90. The Boston & Worcester was a component of the B&A.

91. "The city of Baltimore, for instance, invested heavily in the stock of the Baltimore and Ohio Railroad. One authority has estimated that before the Civil War, local governments spent more than \$125 million on internal improvements, the largest share which went for rail projects." *RAILROADS & AMERICAN LAW*, *supra* note 63, at 25 (footnotes omitted).

92. *THE BOSTON & ALBANY*, *supra* note 71, at 80. While reliant upon private capital for railroad construction, a significant public component remained with cities, towns, counties, villages, and states subscribing for shares or bonds. The United States used land grants to foster the transcontinental rails. And, American and British capital markets owe their origin to the monetizing of their respective na-

in the capital markets by offering private securities to complement government bonds, and quickly led to the separation of ownership from management in the great corporations, like the railroads.

The B&A was created to funnel agricultural goods from the west to Boston and preserve its position as a major commercial center and port. When it was finished in 1842, it had a total capitalization of \$9 million (two-thirds provided by the government).⁹³ State support was needed because of the Panic of 1837, a national crisis that crippled credit. While Massachusetts' private capital for the venture was substantial, it was the political power of that private capital that convinced the government to back the project. The B&A proved to be a very good investment; it paid 6 percent within three years of completion.⁹⁴

To continue construction to the west, the Boston & Worcester issued 10,000 shares at \$100 par to bring in small investors.⁹⁵ Prior to this issue, previous large projects like the Lowell and Springfield mills sold shares at \$1,000 par (a substantial amount that limited investments to the very wealthy and made them illiquid). These earlier industrial projects were also governed by the prudent mean.⁹⁶

The B&A's construction broke away from that mold. B&A shares were sold in subscriptions of \$10 and \$20 installments to small investors. The company's charter required annual reports to the General Court and committees of the legislature to protect the public. To further promote construction, promoters sold shares for as little as \$1 down for the first assessment, with subsequent assessments in installments of \$20 or \$30.⁹⁷ Thus, the B&A sought a very broad base of investors, which resulted in widely dispersed holdings. B&A shares were soon dispersed afar as a primitive secondary market developed. By 1835, New Yorkers controlled 45 percent of all shares of the B&A on the NYSE.⁹⁸ The promoters had developed a rate structure that met the investors' needs. Six percent was the annual dividend.⁹⁹ By 1837, the road had already paid two dividends of 8 percent.¹⁰⁰ The road was a stunning success!

tional debts, which achieved fiscal strength for the state as well funding for commercial and industrial enterprises.

93. RAILROADS & AMERICAN LAW, *supra* note 63, at 32.

94. *Id.*

95. THE BOSTON & ALBANY, *supra* note 71, at 81-82.

96. *Id.* The prudent mean was a method of control that utilized proportionate voting. It was a measure between the Common Law model and the plutocratic model. For extensive research on the development of business governance in the 19th century, see *Corporate Governance in Late 19th-Century Europe and the U.S.: The Case of Shareholder Voting Rights*, *supra* note 74; *Corporate Democracy: Stockholder Voting Rights in Nineteenth-Century American and Prussian Railroad Corporations*, *supra* note 74; *From Citizens to Plutocrats: Nineteenth-Century Shareholder Voting Rights and Theories of the Corporation*, *supra* note 74.

97. THE BOSTON & ALBANY, *supra* note 71, at 81-82.

98. *Id.* at 96.

99. *Id.* at 125.

100. *Id.* at 132.

Railroad construction continued unabated. The Western Road was financed with a subscription of 2,800 shares. While there was wide-scale distribution, many investors held less than ten shares; yet, 100 investors owned 40 percent of the stock. The Boston industrial community subscribed heavily and purchased a \$5 million assessment. This permitted the redemption of state financing scrip.¹⁰¹ Contemporaneously, promoters appealed to foreign capital (mainly British). But the state remained involved in this mixed enterprise. The Commonwealth was used to market loans. Private loans in 1838 required 8 percent to 12 percent interest. With Massachusetts' backing, the rate dropped to 5 percent.¹⁰² A sinking fund was established to retire the debt, and the British merchant bankers Baring Brothers invested \$1,890,000 from 1838-1839.¹⁰³ Barings sold part of their investment to subscribers (\$1.2 million at 3.25 percent above par).¹⁰⁴ By 1842, the Western Railroad was capitalized as follows: stock-\$3 million (\$1 million owned by the state) and bonds-\$5 million (\$4 million by the state and \$1 million by the City of Albany). The Boston & Worcester was all stock, privately held, comprising \$2,700,000.¹⁰⁵ Thus, as a corporation imbued with a public purpose, the B&A was successfully financed with a mixture of private and public capital.

These railroads radically increased the wealth of the communities they connected. This in turn increased the frenzy of railroad fever and promotion. Nonetheless, railroads were good investments. In 1841 to 1843, to finance extensive capital improvements, the Boston & Worcester sold \$700,000 worth of stock. Much of the stock was sold above par to investors demanding the stock. The railroad's stock had moved from a speculative investment to a blue chip in a ten-year period.¹⁰⁶ The Western was a great undertaking, greater than other industrial enterprises (save railroads in the 1850s).¹⁰⁷

By 1842, its 160 miles of main line had absorbed more than \$7,000,000, and by 1854 its capital was \$10,000,000. By contrast even the Erie Canal, which was more than 360 miles long, cost only \$7,000,000; and only the biggest industrial concerns had as much capital as \$500,000. Even in 1850 in textiles, the most advanced segment of industry, only forty-one American factories had a capitalization of \$250,000 or more.¹⁰⁸

The Boston & Worcester became a major railroad that spurred the economy of Massachusetts and the region. It met its capital needs by relying on a creative mixture of private and public finance. The venture

101. *Id.* at 140-43.

102. *Id.* at 147.

103. *Id.*

104. *Id.* at 148-149.

105. *Id.* at 32.

106. *Id.* at 215.

107. *Id.* at 299.

108. *Id.*

was so successful that it attracted investors from New England, New York, and Europe within a short period of time.

The B&A's growth also required new management structures that supported the widely dispersed owners and far-flung managers. The directors, president, and chief engineers created a multi-divisional authority to run the railroad. This new-fangled management structure substituted bureaucracy for friendship and kinship. Formal lines of authority were created, as well as elaborate reporting systems that enabled top managers to make efficient and accurate decisions. The informal management practices of the partnership and family-owned businesses had given way to a more scientific, bureaucratic structure that would benefit from the new system of monitoring and controls.¹⁰⁹ The rise of this management model is detailed in the next section where the Erie Railroad's contributions are reviewed.

V. MODERN MANAGEMENT SUPERVISES THE EMPIRE: THE ERIE RAILROAD MODEL¹¹⁰

The Erie Railroad's revolutionary bureaucratic management structure set a precedent for the other railroads. The divisional model paved the way for other great industrial corporations. This shift from hands-on, owner management of industrial enterprise to administration by professional managers supports the shift from the common law model of management to the plutocratic model. The professional managers provided governance and controls that were beyond the ken of the typical, entrepreneur-owned industrial corporation in the mid-1800s. Professional management, informed by agency law and fiduciary duties, was a vital proxy for the remote, dispersed shareholder-owners.

As illustrated above, before the advent of railroads, even corporate industrial concerns were modeled after partnerships. There was a limited need for capital and owner management provided some protections for agency problems. Personal networks of kinship and friendship usually managed these commercial enterprises¹¹¹ and provided the necessary amounts of credit. Most critical was the question of whether or not a particular person could be trusted. By the 1840s and 1850s, industrialization and commercialization were proceeding apace and railroads were the reason. Railroad construction and operations were the foundation. The corporate form was essential for its success:

While the first industrial revolution produced a number of incorporated factories, canals, turnpikes, and banks, many of these enterprises could have been, and often were, conducted successfully as

109. *Id.*

110. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 553-59.

111. RICHARD S. TEDLOW, *THE RISE OF THE AMERICAN BUSINESS CORPORATION* 8-9 (Harwood Academic Publishing 1991) [hereinafter *AMERICAN BUSINESS CORPORATION*].

partnerships or proprietorships. By contrast, during the second industrial revolution, the corporate form proved to be absolutely essential. It was a very useful way to aggregate the unprecedented amount of money required to construct large-scale railroads, factories, mills, refineries, and pipelines, and was also an extremely effective device for administering the affairs of these enterprises. From a primarily legal construct, with quasi-public functions, the corporation now evolved into and inward-looking, private, and very complex organizational hierarchy — a *managerial* revolution within the private sector.¹¹²

Railroads were the first great modern businesses. To manage them properly and to raise the capital needed for their enterprise, complex organizations were created. These enterprises consumed vast amounts of money. By 1859, private railroad securities amounted to \$1.1 billion.¹¹³ In contrast, canals built from 1815-1860 cost about \$188 million and about three-quarters of the investment was public.¹¹⁴ By 1850, railroad securities offered investors in the public markets a degree of security. Railroad finance fueled the volume growth of the exchanges.

The Erie Railroad led the way and spearheaded the managerial revolution. While traditional family businesses, including industrial ones, could rely on history and personal relations for management, railroads had large territories that could only be managed by a complex management structure. By 1855, the Erie was the third-largest road in the United States with operating expenses three times that of the Western (a subsidiary of the B&A). Daniel McCallum, the Erie's very able superintendent, realized that supervision and management of the road would have to be restructured from the traditional model of hands-on knowledge by the manager or superintendent.

McCallum composed his operating principles, set forth below. It is the oldest detailed description of how large corporations must be organized. Here is what he said:

1. A proper division of responsibilities.
2. Sufficient power conferred to enable the same to be fully carried out, that such responsibilities may be real in their character.
3. The means of knowing whether such responsibilities are faithfully executed.
4. Great promptness in the report of all derelictions of duty, that evils may be at once corrected.
5. Such information is to be obtained through a system of daily reports and checks that will not embarrass principal officers, nor lessen their influence with their subordinates.

112. *Id.* at 13 n.40 (quoting Thomas K. McCraw, *The Evolution of the Corporation in the United States*, in *THE U.S. BUSINESS CORPORATION: AN INSTITUTION IN TRANSITION* 1, 6-7 (James M. Gustafson & John R. Meyer eds., Cambridge, Mass.: Ballinger 1988)).

113. *AMERICAN BUSINESS CORPORATION*, *supra* note 111, at 14.

114. *Id.* at 14.

6. The adoption of a system, as a whole, which will not only enable the general superintendent to detect errors immediately, but will also point out the delinquent.¹¹⁵

In order to implement his principles, McCallum created the prototypical division structure: an organization of four divisions (superintendents) and two branches.¹¹⁶ These division and branch line superintendents reported to the general superintendent. The general superintendent then reported to the company's president.¹¹⁷ Superintendents were responsible for the operations and maintenance of their divisions and branches. The Erie management structure revolutionized the railroad business by standardizing procedures and policies. The division heads functioned as subordinate CEOs. As a result, the superintendents could give their attention to problems and bring their personal knowledge to the tasks at hand while resolving issues in accord with Erie's policies and program. (See Figure 1 in the Appendix for a diagram of the Erie management structure.)

The Erie model proved to be so successful that it was copied by other large industries such as iron and steel, the telegraph, and the like. The divisional management structure was a creative method of solving the monitoring problem once businesses reached the size of railroads and steel mills. This solution permitted corporations to grow to gigantic size because management and control could now be professionalized. This professionalism by management proxy spurred the separation of ownership from control in the large, publicly held companies.

Railroads created ancillary industries like iron and steel mills. The success of railroads was linked to American growth and prosperity. Yet these vital companies and their stocks and bonds were prey for capricious and talented Wall Street predators. The next section illustrates the abuses of the mid-century capital markets. Then, the penultimate section shows how the operations of the capital markets monitored the public companies while providing a solution to the partnership and small business hold-up problem that vexed businesses.

VI. THE WILD RIDE OF THE ROBBER BARONS—THEIR MARKETS AND RAMPANT SPECULATION¹¹⁸

It seems almost counterintuitive that large capital markets can provide dispersed investors with a sufficient measure of security to overcome the

115. *Id.* at 17.

116. *Id.* at 17, 18.

117. *Id.* at 18.

118. Portions of the discussion in this section are adapted from *Investor Power*, *supra* note 11, at 92-97. For an excellent discussion of corners in the emerging U.S. market and illiquidity that follows them, see Franklin Allen, Nippon Life Professor of Finance and Professor of Economics, Department of Finance, The Wharton School of the University of Pennsylvania, Lubomir P. Litov, Doctoral Student, Leonard Stern School of Business, NYU, & Jianping Mei, Associate Professor of Finance, Leonard Stern School of Business, NYU, Western Finance Association

hold-up problem and monitoring concerns, but they did in the 19th century, and the success in resolving these issues was followed by massive investment in the United States, tremendous growth of businesses and capital stock, and an increase in the nation's wealth.¹¹⁹

Financial institutions were one key to this transformational growth.¹²⁰ Foreign capital became important in the 1830s. By 1853, approximately \$222 million was due to foreign capital investments (19 percent of American securities).¹²¹ By 1856, the Secretary of the Treasury estimated that foreign investment in railroads amounted to \$83 million.¹²² After 1850,¹²³ railroads were:

able to raise substantial sums in the European market, and the bulk of foreign investment came after the Civil War. To raise large sums of capital, which reached millions of dollars per enterprise, railroad promoters . . . turned mainly to . . . merchant-capitalists (in the United States), who were often to be found among the ranks of their own stockholders. The companies relied on these private capitalists to help them in placing railroad stocks and bonds, which . . . were the first industrial securities to be offered publicly in large volume. Indeed, they were virtually the only ones until the last decades of the nineteenth century: . . . in the United States, it was only in the 1890s that manufacturers turned to the stock exchange for outside funds.¹²⁴

Annual Meetings: Large Investors, Price Manipulation, and Limits to Arbitrage: An Anatomy of Market Corners (June 18-21, 2002).

119. The American investment capital market developed in a form very similar to that of the European system, not only because Americans copied the Europeans, especially the British, but also because the European system served as a template. If the Americans wanted to borrow European finance capital, they would have to offer bonds and other securities similar to those on the European markets. They would have to deal with investment bankers like the Rothschilds or the Barings and conform to the requirements that these conservative bankers proposed.

WILLIAM G. ROY, *SOCIALIZING CAPITAL: THE RISE OF THE LARGE INDUSTRIAL CORPORATION IN AMERICA* 136 (Princeton Univ. Press 1997).

In America, monitoring and trust arising from investment relationships were similar to English practices. Julian R. Franks et al., *Ownership: Evolution and Regulation* (ECGI - Finance Working Paper No. 09/2003; EFA 2004 Maastricht Meetings Paper No. 3205; AFA 2003 Washington, DC Meetings, March 25, 2005) [hereinafter Franks], available at <http://ssrn.com/abstract=354381>. Franks, Mayer & Rossi surmised that the dispersed ownership in the English markets was protected by informal regulation. Modern securities regulation was not introduced until well into the 20th century, yet English capital markets thrived and provided sufficient safety for the dispersed shareholders.

120. Banks, trust companies, insurance companies, investment banks, and brokerages were key intermediaries in the financial markets. Their concurrent development played a major role in the development of America's capital markets. ENTERPRISE, *supra* note 2, at 318-20.
121. MORGAN, *supra* note 10, at 71.
122. *Id.*
123. In the 1850s, railroad investments totaled 6.8 percent of domestic capital stock; by 1860, they totaled 12.7 percent. COLEEN A. DUNLAVY, *POLITICS AND INDUSTRIALIZATION: EARLY RAILROADS IN THE UNITED STATES AND PRUSSIA* 35 (Princeton Univ. Press 1994).
124. *Id.* at 34-35.

The rise of national banks and a financial system that exported capital to regions and industries that used it wisely aided development. The transfer of funds from the capital-rich East to the West contributed to the growth of modern America. Railroads bound the nation together and spurred the growth of great metropolises such as New York and Chicago. The urbanization of great cities further accelerated economic growth and wealth creation as they supported specialization of work.¹²⁵ The capital transfer helped to meet the demand for tools, housing, communication works, and other infrastructure needs.¹²⁶

Of all the burgeoning American industries, railroads profited from economies of scale. But they required high maintenance and high capital costs.¹²⁷ The tremendous financial needs of the railroads mandated public equity markets. And the markets had to be regular or investors would be scared off.¹²⁸

Few protections existed for minority shareholders in railroad corporations.¹²⁹ "Not only did control groups quickly form, but in some cases the objective of these blockholders was primarily to manipulate the stock price of their corporation."¹³⁰ Professor Coffee cites the example of the battle for control of the Erie Railroad—the "Scarlet Lady of Wall Street."¹³¹

125. For a good history of this rail-driven urban growth, see SARAH H. GORDON, *PASSAGE TO UNION: HOW THE RAILROADS TRANSFORMED AMERICAN LIFE, 1829-1929* 267-301 (Ivan R. Dee 1990).

126. *ENTERPRISE*, *supra* note 2, at 312.

127. JOHN STEELE GORDON, *THE SCARLET WOMAN OF WALL STREET: JAY GOULD, JIM FISK, CORNELIUS VANDERBILT, THE ERIE RAILWAY WARS, AND THE BIRTH OF WALL STREET* 124 (Weidenfeld & Nicholson 1988) [hereinafter *ERIE RAILWAY WARS*]. Railroad stocks were also good for Wall Street. By 1856, there were 360 railroad stocks traded, 985 bank stocks, hundreds of corporate stocks and municipals, as well as 75 insurance stocks. *THE GREAT GAME*, *supra* note 80, at 87. The variety of investments permitted diversification and increased liquidity and safety, ultimately lowering the cost of capital. See generally *Investor Power*, *supra* note 11.

128. In the period before the Civil War, many stocks, including industrials, were owned and traded locally. Hugh Rockoff, *Banking and Finance, 1789-1914*, in 2 *THE CAMBRIDGE ECONOMIC HISTORY OF THE UNITED STATES, THE LONG NINETEENTH CENTURY* 679 (Stanley L. Engerman & Robert E. Gallman eds., Cambridge Univ. Press 2000). Regional and local stock exchanges, trading in local companies sufficed for most industrial needs. Bankers and securities dealers in their localities sold new issues. This worked well for the moderate capital needs before railroad construction. CHARLES R. GEISST, *WALL STREET: A HISTORY* 72-73 (Oxford Univ. Press 1997). England, of course, had a number of regional exchanges. There local knowledge was crucial in vetting companies for new issues. Franks, *supra* note 119, at 17-18.

129. During this time frame, English company law also failed to protect minority shareholders. Franks, *supra* note 119, at 12. They cite two important cases: *Foss v. Harbottle*, 67 Eng. Rep. 189 (1843) (restricting minority shareholder suits for damages); see also *Harben v. Phillips*, 23 Ch.D. 14 (1883) (Chancery Decisions) (recognizing no common law right for proxy voting). Both decisions would make it difficult for minority shareholders to vindicate their rights.

130. John C. Coffee, Jr., *The Rise of Dispersed Ownership: The Role of Law and the State in the Separation of Ownership and Control*, 111 *YALE L. J.* 1, 27 (2001).

131. *Id.* at 27-28. For other sources, see CHARLES FRANCIS ADAMS, JR. & HENRY ADAMS, *CHAPTERS OF ERIE AND OTHER ESSAYS* (Jane R. Osgood & Co. 1871) [here-

The Erie Railway Wars were emblematic of the legal, moral, and financial chaos of the times and in the markets.¹³² The battle for control of the Albany and Susquehanna (a road linking Binghamton to the Albany gateway to New England) at the annual board of directors' election featured Cornelius Vanderbilt and his allies against Jay Gould, Jim Fisk, and their associates. A young J. P. Morgan advised the New York Central faction (Vanderbilt's forces).¹³³ Shareholders, lawyers, employees, proxy holders, process servers, and thugs attended the meeting. The company treasurer was arrested for stealing the subscription books. After papers were served and two separate elections held, each with a different victor, the battle moved to the courts. Morgan had the case tried in the friendly confines of Delhi, New York, not Albany or New York City, and the trial judge ruled in his favor on all counts. The Court of Appeals, however, reversed the decision in its entirety, except on the critical issue of who had won the election.¹³⁴ Grievous harm had been done. Jeremiah Black,

inafter CHAPTERS OF ERIE]; see also ERIE RAILWAY WARS, *supra* note 127; see also MAURY KLEIN, *THE LIFE AND LEGEND OF JAY GOULD* 77-98 (Johns Hopkins Univ. Press 1986) [hereinafter JAY GOULD]. While Jay Gould was generally thought of as a villain by most, his control of the Erie was salubrious, however. Before Gould, the physical plant was run-down and the debt was staggering. Gould's astute management rendered the Erie a much stronger property. JAY GOULD, *supra* note 131, at 88-102, 115-16, 119-21.

132. Portions of the discussion in this section are adapted from *Partner to Plutocrat*, *supra* note 8, at 560-64.

133. This may have convinced Pierpont Morgan that internecine warfare like the Erie brawl was no way to run a railroad.

The Morgans [father and son—eds.] hated this kind of warfare, which played havoc with national with national financial markets and left their client-investors holding worthless paper. Hoping to transform railroad securities from high-risk speculations into stable, long-term investments, they and a few other bankers . . . attempted to discipline the industry.

The fact that railroads continually needed huge infusions of capital put the bankers in a powerful position.

MORGAN, *supra* note 10, at 134.

Pierpont "saw himself as a proxy for honorable European and American investors, a tool of transcendent purpose representing the sound men on Wall Street and in the City." RON CHEROW, *THE HOUSE OF MORGAN: AN AMERICAN BANKING DYNASTY AND THE RISE OF MODERN FINANCE* 30, 44, 45 (Atlantic Monthly Press 1990).

Pierpont spent much of his life trying to consolidate railroads, regularize rates, and manage ruinous competition. MORGAN, *supra* note 10, at 198 (The heads of the Wabash, New York Central, and Erie in 1880 met "with a view of making permanent running arrangements"—that is, agreeing to divide up traffic rather than wage war." The Wabash and Erie were Gould roads!) Morgan's quest to rationalize and consolidate the trunk lines was quashed in *N. Sec. Co. v. United States*, 193 U.S. 197 (1907) (applying Sherman Antitrust Act to stock ownership; dissolving Northern Securities Company, which held the stock of three major railroads).

The Erie Wars were costly; they gave all participants a black eye. Finally, they helped to fix the rapacious image of robber barons in the public's eye.

134. The Susquehanna War litigation was both complex and protracted. In *People v. Albany & Susquehanna R.R. Co.*, 7 Abb. Pr., (n.s.) 265, 38 How. Pr. (n.s.) 228, 1 Lans. 308, 55 Barb. 344 (N.Y. Sup. Ct. 1869), Judge Smith sustained the election of the Ramsey board (Vanderbilt/Morgan-backed) and disallowed the election of the Church board (Fisk/Gould-backed) on the grounds of fraud. The Fisk directors appealed Judge Smith's decision. The General Term of the Supreme Court sus-

a former Attorney General of the United States, wrote:

A moment's attention to this will . . . show that the confusion, misapprehension, and total failure of justice which took place in these cases, while they could not possibly have happened in any other country, could scarcely have been avoided in New York . . . all parties were fighting under the ensign of public authority. It was judicial power subverting order and breaking the peace; it was law on a rampage; it was justice bedeviled; in one word, it was the New York Code in full operation.¹³⁵

Harper's Weekly intoned on point that the judiciary must be reformed:

If scenes of anarchy are to be avoided, if New York is to retain its preeminence as the commercial metropolis of the country, if foreign capital is to be retained here, something must be done to prevent, in the future, the unseemly abuses of power into which certain of our state judges have been betrayed in the past.¹³⁶

Thuggery did not end with the Susquehanna War. Consider the plight of foreign investors with the audacity to entertain lawsuits in New York to enforce their rights. English shareholders, who owned 450,000 of the 780,000 shares issued and outstanding (and hence, control of the company in a society ruled by law), were purposely prevented from voting for their slate of directors in the 1870 board election. Gould's forces won by a landslide vote of 304,938 to 3,000!¹³⁷ The English shareholders then went to both state and federal court to overturn the fraudulent election. In July 1871, a year after they began their odyssey, the investors obtained a federal district court judgment in their favor.¹³⁸ But they had to wait

tained the Ramsey Board election and vacated much of the Smith decision on technical grounds dealing with the right to a jury trial and costs. *People v. Albany & Susquehanna R.R. Co.*, 5 Lans. 25 (N.Y. Sup. Gen. Term 1871). Resort by all parties was had to the Court of Appeals, which eventually sustained the Smith finding of fraudulent conduct by the Fisk/Gould faction. *People v. Albany & Susquehanna*, 57 N.Y. 161 (1874). The Susquehanna Wars litigation had come to an end, almost as an anticlimax.

The defeat of Fisk and Gould in the 1869 Supreme Court litigation left the Ramsey board in control. In February 1870 it leased the railroad to the Hudson & Delaware Canal Company (the predecessor to the Delaware & Hudson Railroad), ending the ability of the Erie to mount a challenge at the New York Central's Albany gateway. CHAPTERS OF ERIE, *supra* note 132, at 190.

135. ERIE RAILWAY WARS, *supra* note 127, at 252 n.23 (citing Jeremiah S. Black, untitled article, *GALAXY MAGAZINE*, March 1872).

136. *Id.* at 252-53 (citing *HARPER'S WEEKLY*, Feb. 12, 1870).

137. *Id.* at 299-300. At the time, Gould and his allies controlled the Erie. They accepted the money from the English investors, but never officially transferred the stock on the company's books to the investors or their representatives, leaving them without the right to vote in the election.

138. There are four federal cases in this critical litigation to vindicate the rights of English shareholders. The key case, *Erie R.R. Co. v. Heath*, 8 F. Cas. 762 (S.D.N.Y. 1871) (No. 4514), was decided in July 1871 and ordered Gould's agents to register the stock certificates in the names of their English owners, giving them the franchise. *Erie R.R. Co. v. Heath*, 8 F. Cas. 761 (S.D.N.Y. 1871) (No. 4513) was a mandamus action ordering Gould's agents to produce the stock transfer book and other corporate records. *Erie R.R. Co. v. Heath*, 8 F. Cas. 763 (S.D.N.Y. 1871) (No. 4515) denied the petition of Gould's agents for control of unregistered stock

until December 1871, after yet another fraudulent election, before Gould would finally be compelled to turn over the stock to them. This battle cost the investors \$25,000 and the loss of control for well more than a year. Foreign investors also turned to the corrupt legislature,¹³⁹ which refused to repeal the Classification Act,¹⁴⁰ ostensibly because of the threat of foreign ownership.¹⁴¹ Such shenanigans surely depressed stock prices, harmed all investors, and raised the cost of capital.

In the absence of any federal regulations, different laws and judicial rulings from separate states often came into conflict with one another, "but the real point is that investors were vulnerable less because of the substantive inadequacy of American corporate law itself than because of the lack of enforcement mechanisms and the prospect of corruption."¹⁴² Thus, in the 19th century, it was very difficult for investors to enforce their contract rights through litigation, or even lobbying for regulation.¹⁴³ The transaction costs of a Londoner or San Franciscan litigating in New York or Boston were steep. There was also a substantial home court advantage. With no federal regulation of the capital markets and difficult to enforce substantive rights, another monitoring device was required to at-

certificates. Finally, *Erie R.R. Co. v. Heath*, 8 F. Cas. 766 (S.D.N.Y. 1871) (No. 4516) ordered payment to the master for supervising recording of stock certificates in the names of their rightful owners.

139. *ERIE RAILWAY WARS*, *supra* note 127, at 185. In the Gilded Age, New York legislators were paid the princely sum of \$3.00 per day. These Solons supplemented their salary by taking bribes to pass legislation. The rate on important bills ranged between \$2,000 and \$3,000. Bribes were the only way to do business with such a corrupt legislature and legislation was required for railroad charters and key amendments to charters, such as additional routes, etc.

140. *JAY GOULD*, *supra* note 131, at 98. The Erie Classification Act of 1869 was enacted to make it difficult to dislodge directors by shareholder vote. The act provided for classification of directors into five groups, staggering their election over five years. *Id.* Modern practice permits only three tiers of classification. Management still employs classified boards to thwart hostile takeovers.

Gould's inspiration was the Pennsylvania classification act, created to rebuff his attack on the Pennsylvania Railroad. The Erie Classification Act perpetuated Gould's control at a time when the legislature was poised to remove its stock printing privileges that had been employed to great success in the past. *ERIE RAILWAY WARS*, *supra* note 127, at 228, 230.

141. *ERIE RAILWAY WARS*, *supra* note 127, at 299-300.

142. Coffee, *supra* note 130, at 28.

143. Domestically the nation witnessed a rapid acceleration of the trend to economic concentration that had begun after the Civil War. In the last third of the nineteenth century the corporation emerged as the dominant form of industrial organization in the United States, so that by 1890, 65 percent of the goods manufactured in the country were turned out by corporations, and by 1900, 79 percent were. At the same time that the percentage of corporate producers was thus increasing, the stock of many large corporations became publicly held and the ownership so dispersed that no one stockholder had much of a say in how the corporation was operated. The result of this phenomenon was that a class of corporate managers grew up: While they were legally responsible to the stockholders, that latter body was so numerous that many important corporate decisions were made by the managers themselves without any thought of obtaining advance authorization from the stockholders.

WILLIAM H. REHNQUIST, *THE SUPREME COURT* 103 (First Vintage Books ed. 2002) (1987).

tract capital and bring confidence to investors.¹⁴⁴

VII. NORMS TO THE RESCUE¹⁴⁵

A fair amount of recent corporate governance literature has dealt with norms and other non-legal mechanisms of enforcement and regulation. There is much to be said for their use. An argument can be made that lessons of the 19th century cannot apply to the complex markets of today because of the size and diversity of the community. J.P. Morgan and others could effectively ostracize malfeasors as they were club mates and prep school chums. The community was also more homogenous; the ethics and norms more accepted, less susceptible to challenge. I make the analogy to the ethical rules for lawyers. In early 20th century, the Canons of Ethics promulgated by the American Bar Association had a striking resemblance to the Ten Commandments—they were pretty straightforward, almost biblical in tone. Modern professional responsibility rules found in the Model Rules resemble the Internal Revenue Code and Regulations in style and format. To recapitulate, the norms of the 19th century appear to follow the thou shalt model; modern norms are much more technical with many more loopholes. Perhaps regulation by norms is a lost world.

Perhaps not. For example, if it were easy to fire bad employees who broke the rules without fear of vexatious litigation, society might be able to more easily use social norms as a useful form of regulation. Litigation and due process has forced our ever-more legalistic society to seek to define every possible transgression with exceedingly complex precision. Furthermore, we are also non-judgmental and we do not want to impose our moral values on others. If we can distance ourselves from excessive legalisms and have the gumption to stand in judgment for egregious and antisocial behavior, norms might make an effective comeback. And society and the markets would profit.

A. THE ROLE OF INVESTMENT BANKERS¹⁴⁶

In such a chaotic legal environment filled with corruption, investment banks had to create a system of governance that would assure foreign

144. Substantive enforcement rights were also hard to come by in England. See Franks, *supra* note 119, at 12.

145. Portions of this section were adapted from *Partner to Plutocrat*, *supra* note 8, at 560-68; see Franks, *supra* note 119. Norms, informal markets and monitoring appear to have reined in some of the agency problems in England during the 19th and 20th centuries before the advent of modern securities regulation.

146. Portions of this section were adapted from *Partner to Plutocrat*, *supra* note 8, at 560-68. Until the end of the 19th century, the London capital markets served more sophisticated savers. Bankers like Morgan acted as critical intermediaries. Robert J. Cull & Lance E. Davis, *International Capital Movements, Domestic Capital Markets, and American Economic Growth, 1820-1914*, in 2 *THE CAMBRIDGE ECONOMIC HISTORY OF THE UNITED STATES, THE LONG NINETEENTH CENTURY* 733, 775 (Stanley L. Engerman & Robert E. Gallman eds., Cambridge Univ. Press 2000).

investors that their investments would be secure. J. P. Morgan & Co. pioneered the technique of placing a partner of the investment firm on the board of the corporation.¹⁴⁷ Morgan and other underwriters “first imposed the discipline of both periodic and inclusive financial reports[,]” while, “Wall Street . . . required the accountants to certify these reports.”¹⁴⁸ During the last two decades of the 19th century, virtually every major U.S. railroad developed close ties with one or more U.S. investment banking firms and the practice of partners from investment banks and officers of commercial banks going on the railroad’s board became institutionalized.¹⁴⁹ “[A] major investment banking firm on [a] corporation’s board offered mutual advantages both to the minority investors and to the corporate management by protecting both from the prospect of a stealth attack by a corporate raider seeking to acquire control without paying a control premium.”¹⁵⁰ J. P. Morgan and other investment bankers consequently increased the importance of Wall Street to the world’s economy and provided an atmosphere of solidity and integrity that the markets needed.¹⁵¹

A similar transfer of power to the market did not take place in Europe. In America, one of the practices pioneered on a large scale was underwriting. Jay Cooke & Company employed standard underwriting when it used \$2 million of its funds to underwrite Pennsylvania Railroad bonds. Cooke bought the bonds from the railroad and then sold them to the public, in effect guaranteeing the client the funds it needed. This was the first underwriting of a commercial company. Its ramifications were huge as underwriting guaranteed client firms sources of reliable funds and assured investors frightened by panics.¹⁵²

In Europe, financial institutions like J. P. Morgan either did not exist, or were too small to underwrite such large equity risks. In addition, they represented far fewer foreign and domestic clients.¹⁵³ Moreover, there was no great merger wave as there was in the United States from 1895 to 1903 after the passage of the Sherman Antitrust Act of 1890.¹⁵⁴ The “Act prohibited price-fixing and collusion among competitors, thereby outlawing the cartel-like structure that characterized many American indus-

147. Roy, *supra* note 119, at 133. “In 1879 . . . when William Vanderbilt asked the younger Morgan to help sell some securities necessary to get the New York Central through a financial squeeze, Morgan sold securities in England and obtained the right to select a director, initiating a pattern that would remake the American economic structure.” See also Coffee, *supra* note 130, at 29-30.

148. ERIE RAILWAY WARS, *supra* note 127, at 291.

149. Coffee, *supra* note 130, at 30.

150. *Id.* at 31; e.g., J.P. Morgan in the 1869 Susquehanna War. ERIE RAILWAY WARS, *supra* note 127, at 31-32.

151. THE GREAT GAME, *supra* note 80, at 153.

152. GEISST, *supra* note 128, at 75.

153. Coffee, *supra* note 130, at 32.

154. *Id.* at 33; see also Brian R. Cheffins, *Investor Sentiment and Antitrust Law as Determinants of Corporate Ownership Structure: The Great Merger Wave of 1897 to 1903* 1 (Berkeley Olin Program in Law & Economics, Working Paper No. 77, 2002), available at <http://repositories.cdlib.org/blewp/art77>.

tries.”¹⁵⁵ In order to circumvent this prohibition, companies engaged in horizontal mergers to create monopolies, which could better control prices. For example, in 1901, J. P. Morgan orchestrated the merger of eight competing steel companies to form U.S. Steel, the largest corporation in the world at the time.¹⁵⁶ There was no similar incentive for British companies to merge in the same fashion, especially since British courts were not aggressive in the prohibition of cartels or price-fixing.¹⁵⁷

B. THE NYSE AS GUARDIAN OF THE PUBLIC INVESTOR¹⁵⁸

Three important points should be noted about the early history of the NYSE: 1) activism in governance, such as that of the NYSE, was not the norm for other stock exchanges around the world;¹⁵⁹ 2) the NYSE, unlike with debt securities, “did not possess a de facto monopoly position in trading equity securities as of the late nineteenth century;”¹⁶⁰ and 3) the NYSE’s activism “seems directly attributable to its organizational structure and its competitive position.”¹⁶¹ Before “1900, the Boston Stock Exchange was the principal market for industrial securities,” due to the underwriting of New England textile mills and early railroad corporations.¹⁶²

There were several key differences between the NYSE and the London Stock Exchange (LSE). The first difference was the ability of new companies to be listed on the exchange. The NYSE was a very closed system, while the LSE was wide open.¹⁶³ For example, “[b]etween 1850 and 1905, the membership of the LSE rose from 864 to 5,567. In sharp contrast, the membership of the NYSE stayed constant between 1879 and 1914 at 1100.”¹⁶⁴ A company could only enter the NYSE by buying the

155. Coffee, *supra* note 130, at 33.

156. It is interesting in retrospect to wonder why the creation of the gigantic U.S. Steel Corporation was not challenged under the Sherman Act. Perhaps the best answer is that this combination occurred before the U.S. government began aggressively to use its powers under the Act. President Theodore Roosevelt, the Trust Buster, sought successfully to dissolve the Northern Securities Company, which held the stock of three major trunk lines. *N. Sec. Co.*, 193 U.S., was a 5-4 decision that put teeth into the Act.

157. Coffee, *supra* note 130, at 33.

158. Cull & Davis, *supra* note 146, at 777, 783. Davis and Cull found that investors in companies on the NYSE were buying a signal of quality. The cartel policies made the listed companies more expensive but also provided screening, as did the par value rule. Another paradox found in this interesting market is the NYSE’s use of its monopoly power that ultimately fosters competitive and diversified markets with a high degree of transparency. The exclusive branding described in this section was good for its business. Its salutary side effect was that it raised the quality of the market. The London exchange, as we will see, had the virtue of competition; in practice its standards were considerably lower.

159. Coffee, *supra* note 130, at 34.

160. *Id.*

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.* at 34-35.

[U]p to the twentieth century the fear of being seen as a monopoly and provoking intervention, helped to maintain an open policy on admissions

seat of an existing member. This closed system provided several incentives that the LSE's open system did not: (1) "the growth of large, diversified financial services firms (such as J. P. Morgan & Co.)";¹⁶⁵ (2) the favoring of self-regulation to protect the value of a member's seat; and (3) the fragmentation of U.S. equity markets into higher and lower quality tiers, which promoted competition between exchanges.¹⁶⁶

A second difference between the NYSE and LSE was the membership rules:

NYSE member firms could raise capital from outsiders—known as 'special partners'—and not all partners in a firm were required to be members of the exchange. In contrast, the LSE required all partners in a firm to be members of the exchange and further prohibited every member from engaging in any other businesses.¹⁶⁷

The NYSE's rules allowed American firms to grow much larger, with better capitalization, than their British counterparts (at least five times larger).¹⁶⁸

A third difference was each exchange's position on the issue of "competitive versus fixed brokerage commissions."¹⁶⁹ Into the late 19th century, the NYSE had fixed commissions, while the LSE permitted variable commissions.¹⁷⁰ The NYSE's fixed commission policy increased the cost of trading and generated lower trading volumes, driving the lower priced stocks off of the exchange, which gave the general public the perception that such stocks were lower in quality and higher in risk.¹⁷¹ The policy also forced the NYSE to "limit itself to a high-volume, high-quality busi-

by the London Stock Exchange, along with the interest of the proprietors in increasing income and discouraging competition. Between 1886 and 1903 a total of 3,854 people applied for membership . . . and only 39, or 1 per cent, were rejected.

RANALD C. MICHIE, *THE LONDON STOCK EXCHANGE: A HISTORY* 84 (Oxford Univ. Press 1999). The NYSE used the cost of membership to maintain its exclusivity. In 1904 it cost just £120 to be a member of the London exchange; New York seats were available for \$10,000. Ranald C. Michie, *The London and New York Stock Exchanges, 1850-1914*, 46 J. ECON. HIST. 174 (1986) [hereinafter *The London and New York Stock Exchanges*].

165. Coffee, *supra* note 130, at 35.

166. *Id.* The NYSE specialized in top-tier firms (and still does). Therefore, it vetted the quality of firms for the dispersed investors.

167. *Id.* On the surface, the LSE seems more in tune with contemporary notions of free markets (more access, lower costs of access, competitive commissions, etc.). This notion makes perfect sense in the Information Age with the Internet and federal and exchange disclosure requirements. But one must remember that the 19th century did not have these tools and markets were susceptible to misinformation by sharp operators. Therefore, the monitoring performed by investment bankers and the NYSE was most beneficial.

168. *Id.* at 37.

169. *Id.* at 35.

170. *Id.*

171. *The London and New York Stock Exchanges*, *supra* note 164, at 177-86. Another consequence of the NYSE's fee schedule was that companies with higher par were listed on it. Low par value companies, such as many mining and manufacturing, were thus excluded. Over time, the NYSE's deliberate policy of selection and exclusion resulted in the NYSE companies having market capitalization five times

ness" in order to meet minimum commissions.¹⁷² The limitation also came out of fear that "listing high-volatility stocks would invite predictable insolvencies among its members" (e.g., mining or petroleum companies).¹⁷³ Therefore, the NYSE regularly rejected issuer applications, "either because the issuer lacked an adequate earnings track record, had insufficient assets, or was in a high-risk industry."¹⁷⁴

Finally, one of the most important developments of the NYSE was its mandatory disclosure policy for members, even in the absence of any formal law. In fact, "some financial historians date the advent of modern financial reporting from 1900, not from 1933, when the federal securities laws were first adopted."¹⁷⁵ Serious self-regulation may actually have been inaugurated somewhat earlier following the Erie Wars debacle. Wall Street realized that without supervision and monitoring, it could lose its position in the global capital markets.¹⁷⁶ Its close monitoring acted as a functional equivalent for future securities regulations, something not present with the LSE. One of the most important reforms was proscribing directors from selling their firms short.¹⁷⁷ Short-selling by directors and other insiders personified by the likes of Daniel Drew, the Speculative Director of the Erie, destabilized the market and led reasonable investors to conclude the market was rigged. Honesty and such regulation were good for business—a corrupt market drives away investors who fear losing their investments to fraud, countenanced by corrupt brokers. An honest market boosts sales and commissions and leads to increased liquidity and investment. Self-regulation would help New York to surpass London as the dominant capital market within two generations.¹⁷⁸

Consequently, by the end of the 19th century, the investment banking firms, led by J. P. Morgan & Co. and the NYSE, developed successful methods of monitoring corporate activity and protecting dispersed shareholders from predatory practices of speculators and Wall Street insiders.

Thus corporate investors gladly adopted the plutocratic model because it provided liquidity. Diversified shareholders were able to counteract the hold-up problem because they could diversify and liquidate their investment. America's capital needs were so great for its first major industries (railroads) that local subscriptions and even state subscriptions could not provide enough capital. The United States was fortunate that it lagged behind Western Europe in its development. There was a capital surplus in England and a capital surplus on the Continent because they had already developed their railroads and canals and the rates of return

greater than those on the LSE. Quotation on the NYSE gave listed firms a premium that enabled them to gobble up smaller firms in mergers. *Id.* at 186.

172. Coffee, *supra* note 130, at 36.

173. *Id.*

174. *Id.* at 37.

175. *Id.*

176. ERIE RAILWAY WARS, *supra* note 127, at 212-13.

177. *Id.* at 278.

178. *Id.* at 213.

were lower than what was being offered in the United States. Therefore, the United States enjoyed a flow of surplus capital from Europe to capital centers—Boston, New York, Philadelphia, etc.—and then into the hinterlands to develop infrastructure. In effect, America had people with money, whether they were wealthy Europeans or wealthy Wall Street bankers, putting money at risk in foreign territory.

Economically and politically, these investors demanded the one-share/one vote structure because it provided them with the huge corporation staffed by professional managers. There was no way for investors to do the type of local supervision that had been possible with the small mines, cotton mills, textile mills, and shipping ventures a half century earlier. These investors were too remote from the business, but they accepted the separation of ownership from control because the board could hire professional managers and raise the capital the business required. Investors also demanded and received monitoring through their representatives, their lawyers, and investment bankers. These monitors protected the corporation, and as a result, provided the basis for the liquidity investors called for.

Simultaneously, due to a large amount of money being organized and liquefied, was the development of financial intermediaries—investment banking firms, insurance companies, and a number of other institutions that helped to channel funds and act as guardians. Hence, there was a massive inflow of capital during the 19th century, with a lot of it coming from both Europe and the capital centers of the United States. This flood of money was predicated upon the plutocratic model driven changes in the markets and consequently massively lowered the cost of doing business since money is a commodity that becomes cheaper and leads to even greater investment and economic growth.

VIII. CONCLUSION

The American experience is strong support for the proposition that markets can do a salutary job of developing innovative financing, monitoring themselves, and spurring fabulous growth, without an overlay of state regulation. The United States experience with capital markets demonstrates that vibrant and sound securities markets can arise and prosper without extensive government regulation or oversight.

At the beginning of the Republic, Hamiltonian financial policies established credit and created a strong market for both federal and state securities. This market and liquidity provided by state banks and the Banks of the United States created capital that was employed in the development of transportation and industry.

Before American markets could soar, the problems of business fragility and control had to be solved. The plutocratic corporation offered businesses capable of retaining capital expansion and opportunity. Railroads needed massive amounts of capital, which was raised through a radical

dispersal of ownership. Railroads also pioneered hierarchical management, solving many agency, control, and quality problems.

In the 1860s, the growing securities markets attracted predators and manipulators threatening the funding of railroads. Prosperity and growth was predicated upon a national rail system and the foreign capital necessary to fund it. Investment bankers, such as Morgan, reputable stock brokers, other financial intermediaries, and the NYSE developed norms and methods of operation that ensured the security of the market and provided needed transparency. The result was an era of tremendous prosperity and growth,¹⁷⁹ finally ended by the Crash of 1929 and the Great Depression.¹⁸⁰

179. This article does not make claim that all these good things were caused by the capital markets. Cheap labor (a result of waves of immigration), for instance, held down costs. Farm productivity soared, lowering food costs. There was great technological innovation. All contributed. Clearly, the successful capital markets affected many sectors of the economy and made them more productive.

180. While it is beyond this article, it is the author's contention that the 1929 Crash did not cause the severity of the Great Depression. Repressive trade policies, the Smoot-Halley Tariffs, for example, and catastrophic policies by the Federal Reserve Bank, turned the crash into a near fatal spiral. New Deal policies, while generally believed to have negated the worst aspects of the Great Depression, undoubtedly contributed to its duration and depth. See JIM POWELL, *FDR'S FOLLY: HOW ROOSEVELT AND HIS NEW DEAL PROLONGED THE GREAT DEPRESSION* (Crown Forum 2003).

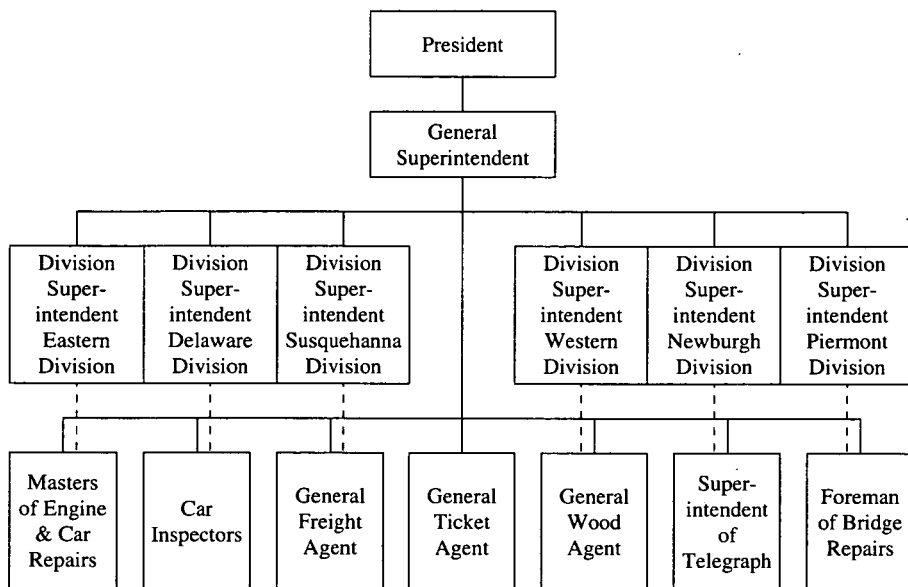


EXHIBIT 1

Erie Organization Chart Prepared by Daniel C. McCallum

Source: Richard S. Tedlow, Case Commentary and Teaching Technique to Accompany the Coming of Managerial Capitalism (Homewood, Ill.: Irwin, 1985), p. 82.