

The Nickel Plate Railroad – Management Lessons Learned from the Company Built to Be Sold, 1881 – 1916

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Introduction

In the late 1800s, oil, steel, meatpacking, mining, textiles, manufacturing, retail, finance, and railroads began defining big business as it is known today. These industries possessed managers, departments, logistics and organizational structures that shaped the way the world still conducts business over a century later. The emergence of neoclassical business economics during this time not only focused on driving down cost but on managing consumer perceptions and desires. Social and cultural conditions gave rise to new circumstances, products, and services with innovative entrepreneurship driving the way to create, establish, and conquer (Murphy et al., 2006). The invisible hand and free-market concepts of Adam Smith (1776) were no longer entirely applicable. New multifaceted management structures provided a visible hand in large companies (Chandler, 1977) and created an economic system that made it difficult for businesses to fairly compete, especially if it were a small business. This created a natural pathway for the emergence of monopolies. The businesses themselves, as well as the federal government, had great difficulties in balancing the rights of business and the best interest of the nation with that of the populace. This article traces the startup and early development of an American railroad company that did not follow the basic economic model typified by other railroads of the 1800s.

A half-century before the rise of big business across industry sectors, railroads were learning how to manage substantial amounts of capital, large numbers of employees, multiple divisions, and account for large sums of money. The funding of railroads created revolutions in the financial sector such as the development of stock exchanges and related techniques, investment banking, securities brokerage, registration of securities, and agents for capital distribution and interest payments (Jenks, 1944). Unlike other forms of business, railroads were spread nationally with operations and labor dispersed geographically. This new broad-based business structure prompted innovation in management, but also an opportunity for unprincipled conduct (Wren and Bedeian, 1972). This innovation and

conduct at times were used in practices that were not beneficial to society and business commerce in general – such was the case of the Nickel Plate Railroad (NKP).

Railroads by their nature and creation were natural monopolies. By being the first to invest large amounts of capital in one route, a railroad provided a substantial differential advantage and established a natural barrier to entry. Also, large land grants by the government not only for rail track but for much of the adjacent land provided even more of an impediment for competition. While most other businesses of the 1800s were owner-operated using banks as the primary capital sources, railroads, in contrast, required large sums of money that were more than most individual owner's inclination or wherewithal. Because of this, railroads were the first business to encounter agency problems involving stewardship and management of investor resources (Flesher and Previts, 2008). Therefore, railroads acted not only as a catalyst for transportation, commerce, and population growth but in almost every respect, railroads were the first modern business (Chandler, 1965).

The innovation of the creation of the NKP for speculative purposes to support a monopoly was unprecedented and counter to the natural monopoly formations. Being a contrived monopoly made the NKP unique from the beginning. The evidence provided in this study contributes to the literature by providing insight as to the key drivers in the management practices of what eventually became one of the biggest railroad companies in the world. This paper also provides understanding and support as to the type of business practices that led to anti-trust regulation and the inability of the railroad industry and government to effectively respond to the societal needs of the time and keep up with innovation.

Through an overview of a complete set of financial reports, data show that for 35 years (1881-1916), the NKP railroad was run as a control firm for another rail line that was the primary east-west route of the New York Central. Rare NKP financial data provide support that the NKP was used to maintain power to set rates for the NY Central system.

Despite the rationale of railroad management and railway thought leaders of the day such as Albert Fink (Kelly and Hausman, 2011) who espoused a laissez-faire approach toward railroad commerce, the railroad industry and government could not balance the social disruption of the farmers, merchants, and small business with an efficient railroad market and tariff structure. This paper assesses the effectiveness of early regulation, reasons for the advent of populism in the late 19th century and reviews the theory of incentivizing public use of private property (McCraw, 1984).

Bowden (2017), details the works of renowned scholars on the management revolution and notes that “what stands out absolutely clearly is the delineation between management as it existed before the Industrial Revolution and management as a new and revolutionary social force that drove economic progress after the Industrial Revolution.”

Arguably more than any other company during the ‘management revolution’ that Bowden described, the creation of the NKP and its management for the first 35 years of existence exemplifies the dramatic changes of business, cultural climate, the quest for control, and social disorder of American industry.

The Push Westward – Federal Land Grants Stimulate Transportation Advancements though Canals and Railroads

From the very beginning of the United States, a transportation revolution helped form national policy. The strong influence of the Federal Government played a profound role in the development of railroads and canals. George Washington was among the first to bring awareness of the need for transportation networks to move the nation westward (Previts and Samson, 2000). The Federal government saw the west as a way to expand the power and resources of a fledgling nation and thus promoted settlement of the frontier lands.

In 1787, Congress determined the population necessary for statehood at 60,000 (U.S., 1787). By the early 1800s, people were moving toward the west in large numbers and by 1821, eight western states achieved sufficient population to reach statehood. Those were Kentucky (1792), Tennessee (1796), Ohio (1803), Louisiana (1812), Indiana (1816), Illinois (1818), Alabama (1819), and Missouri (1821). With the growth in population, it became increasingly important and necessary to create new and better methods of passage of people and goods to and from the west. First canals and natural waterways, then railroads, became that method of transport.

To promote the growth of transportation systems, the primary method that the federal government used for support was land grants. Canals received 4.5 million acres of land grants, while the railroads received approximately 130 million acres (Rae, 1944). That is more land than the entire state of California. The canal land grants were not only important for the creation of canals, but it provided the mechanism for the birth of a rail system nationwide. By the mid-1800s, new technological advances with steam engines created a means for the unfettered growth of the railroads.

A primary case that illustrates the government / private sector relationship in the development of a major railroad is that of the Illinois Central in 1850. The Federal Government granted 2.5 million acres of land from Chicago to the Ohio River in Cairo, Illinois to an investment group of 13 eastern financiers. These backers only needed to put up \$200,000 which was used for organization costs and surveying of the route. The remaining \$17 million of construction costs (\$600 million in 2019 dollars), was borrowed using federal land grant acres as collateral for the loans (Flesher et al., 2003). Although the Illinois Central was beset with cost overruns, fraud, and funding shortages, it eventually ran its first train from Chicago to Cairo in 1856 opening up the prairies of Illinois for development. With Cairo at the confluence of the Ohio and Mississippi River, the Illinois Central provided an efficient route from Chicago to New Orleans and all points in between.

With the Federal Government's 130 million acres of land grants to railroad investment groups, this was the primary way that helped build the railroad system that in large part is still used today. The Federal Government's quest to open up the west and provide transportation systems to and from the east made many investors very rich and paradoxically fashioned a structure for the creation of monopolies that grew organically. The NKP however, was a significant departure from the conventional creation of railroads in the 1800s.

Setting the Stage – Protection of a Coveted Route

Cornelius Vanderbilt became one of the richest men in the world by building the nation's largest transportation network. He took full advantage of steam technology, operating most every kind of water transportation from ferries to ocean liners. His biggest business segment, however, became railroads and the central piece of his rail empire was the New York Central Railroad which eventually had over forty-two thousand miles of track. Vanderbilt, the NY Central, and its subsidiaries were the dominant force in rail traffic in the northeast until effective anti-trust regulation of the early 1900s. A key piece of the NY Central empire was a line named the Lake Shore and Michigan Southern Railway (LS&MS), with its main track running from Buffalo to Chicago with several extensions. Exhibit 1 shows the LS&MS route and connections with the rest of the NY Central System.

Insert Exhibit 1 about here

In 1869, the eldest son of Cornelius Vanderbilt, William Henry Vanderbilt, became vice president of the NY Central. Upon his father's death in 1877, he became the President of the NY Central. The Vanderbilt rail empire could only be rivaled somewhat by that of Jay Gould, who reigned

over the railways west of the Mississippi River. Gould owned fifteen thousand miles of railway and had a foothold into the east with the Wabash Railroad, which ran from Kansas City to Toledo. Gould also owned several other smaller routes on the east coast. However, he had to deliver much of his cargo to Vanderbilt's LS&MS line in Toledo to get it east. These two men both had a tremendous drive to conquer and control, which created a bitter rivalry. This also made the route between Buffalo, Toledo, and Chicago even more significant. A group of keen speculators in New York quickly realized this and planned a strategy to capitalize on it.

NKP is Created - An Anomaly from the Beginning

From the onset, the establishment of the NKP was unconventional. The creation of the NKP was a departure from the land grant standard that helped form and fund the majority of railroads in the United States. The creation of the NKP used private capital exclusively and utilized no land grants. Moreover, much of the land was purchased at a premium. There was a great push for expediency.

In 1879, an investment faction led by a New York banker named George Seney began planning an east-west rail route in the north. Seney gathered successful speculators from the east and midwest and formed what became known as the 'Syndicate.' This group began buying several small railroads in Ohio and Indiana and formed the Lake Erie and Western Railway. The syndicate was of little consequence to the railroad world until it began planning to create a system that would eventually connect Buffalo, Cleveland, Chicago, and St. Louis. This railroad would be in direct competition with the NY Central system, particularly Vanderbilt's LS&MS railroad which was the only line connecting Buffalo, Cleveland, Toledo and Chicago (Rehor,1965). It would essentially run parallel to the LS&MS in close physical proximity.

In February of 1881, the Syndicate pledged their own money and formed the New York, Chicago and St. Louis Railway. It became known as the Nickel Plate Railway through a reference by an Ohio Newspaper lauding its construction of fine rails as nickel-plated. All the track was acquired or built within 500 days. The speed to market by the Syndicate would prove to be very beneficial to them. Exhibit 2 shows a map of the NKP.

Insert Exhibit 2 About Here

Vanderbilt Monopoly Secured

While the Syndicate was swiftly building its new railway, Vanderbilt was denouncing the construction of the NKP as poor quality. During this time, however, Gould extended his Wabash line to Detroit with a connection to Buffalo through Canada. Although this route moved cargo from point A to point B, Gould could increase its delivery speed with the Nickel Plate by going directly from Toledo to Buffalo by acquiring the new NKP line, or moving the Wabash freight to the Nickel Plate that was previously being delivered to the LS&MS. The NKP route was also superior because it provided access to the major Cleveland connection and all its networks. The Syndicate knew it would be essential for Vanderbilt to acquire the NKP to maintain control of shipping rates. For unspecified reasons, Gould pulled out of negotiations likely due to a lack of funding and issues with his western railroads. Even if the NKP operated as a standalone rail company, separate from Gould, Vanderbilt didn't have an appetite for competition. In October of 1882, two days after the road had been open for business, the Syndicate succeeded in selling to Vanderbilt a 53% controlling interest of the NKP for \$7,205,000. This was an amount that was 10% greater than what the Syndicate had invested. Wall Street accounts concluded that the entire project was designed purposely to sell to the highest bidder (Rehor, 1965). With this purchase by Vanderbilt, it solidified his monopoly of east-west rail traffic through the northern part of the country over the next three decades. William H. Vanderbilt and his eventual successors were in a position to maintain dominance and high rates. Exhibit 3 details a timeline of the NKP's operations.

Insert Exhibit 3 About Here

NKP Strategic Subordinate in NY Central Monopoly

Shortly after the purchase of the NKP, William H. Vanderbilt gave control to his son William K Vanderbilt in 1883. Unlike other railroad pioneers of this time like Henry Plant, who has been recognized to use entrepreneurship and building a strong management team to achieve success in railway progress, the development of central Florida and entire cities like Tampa (Ford and Petersen, 2011), William K. Vanderbilt did not apply similarly to the NKP. Where the traditional ideology of entrepreneurship may have led to Railroad successes of Plant and William K. Vanderbilt's grandfather, the NKP operations were run quite differently. Jenks (1944) noted that the early railroad entrepreneur was not only a political-economic agent, but someone who embodied the dream of developing communities, regions, and the continent (Flesher and Previts, 1999). Those were never the dreams of creators or owners of the NKP. This

railroad appears to be an afterthought in the New York Central System operations.

The disregard after the initial purchase of the NKP led to early problems. Once the deal was consummated, the competitive threat was gone, which was the primary objective in the purchase of the NKP. The NKP quickly fell to neglect with virtually no dividends, little capital improvements, and losses. Exhibits 4 and 5 are taken from the 1884 annual report and express the operating deficiency and that the NKP was going into receivership. By modern accounting standards, the NKP's results would look even worse because of the 'nineteenth-century accounting error' (Brief, 1965), which included the overstatement of income due to the omission of depreciation. The data for the next 33 years is not much better and supports the premise of the NKP being run as a subordinate railroad to the LS&MS. The NKP was used for more specialized transport, for example, the NKP route was referred to as the meat express because it ran direct trains of beef and pork from the Chicago Stock Yards to Cleveland and Buffalo.

Insert Exhibits 4 and 5 About Here

Investors gravitated to big business and advanced tens of millions of dollars into corporations with the expectation of receiving a healthy return on their investment. This era was considered the gilded age because of the economic boom, business growth, the accumulation of wealth, and social status. By 1892, over 4,000 Americans achieved millionaire status (Klein, 1995), which is equivalent to \$30 million in 2020 dollars. Much capital was being invested into railroad stocks in particular in anticipation of generous returns. Also, this was in a time period in which no inflation existed (see exhibit 6). Lack of inflation made returns on investment even more lucrative than today's standards.

Insert Exhibit 6 About Here

The NKP, however, was not participating in the gilded age and common dividend payments were virtually nonexistent and preferred dividends started paying out consistently yet modestly after 15 years. Exhibit 7 details dividend payments of the NKP during this era. Not until 1909, did the NKP pay out its first dividend on common stock – 26 years after its establishment. In addition, very little was being invested back into the NKP. In only two years were there any significant capital investments. In 1884, 1,300 boxcars were purchased and not for another 25 years, in 1910, was there another major purchase or improvement. That year 20 locomotives and 1,800 boxcars and gondolas were bought and with the advent of the automobile, the NKP obtained 200 automobile boxcars. Also,

the NKP's return on assets and return on equity were meager at best hovering near zero for over 30 years. Exhibit 8 lists these ratio trends.

Insert Exhibits 7 and 8 About Here

The intent of operation of the NKP becomes even more evident when comparing dividends of the NKP to that of the industry and in particular, the LS&MS and NY Central. Even when the NKP did start paying dividends, they were de minimis compared to other Railroads. Exhibit 9 evaluates total dividends of the NKP to the industry average of 166 listed railroad companies for a seven-year period from 1890 to 1897 using data from the Investors Supplement (Federal Reserve, 1897). The data show significant differences ($p < .001$) for 6 out of the 7 years. The only year the NKP paid more than the industry average was 1895, however, the NKP had paid no dividends for the previous year and following year. The dividend data also shows that the NKP was paying much lower dividends than its parallel LS&MS railroad ($p < 0.003$) and parent NY Central ($p < 0.022$) (Exhibit 10). Similar to the industry comparison, 1895 was the only year dividends were analogous. It is also important to note that this comparison only takes place after the majority of previous years that the NKP was paying virtually no dividends. This provides further evidence that the NKP was operated as an ancillary line to keep the NY Central's LS&MS dominant.

Insert Exhibit 9 and 10 About Here

The data support the fact that the NKP had been shrewdly constrained throughout this time through financial methods, but it was also limited through the use of obsolete facilities and standards. While its closely associated railroad, the LS&MS, grew a great deal, the NKP was inhibited and waned. Rehor (1965) states:

"The capacity of the LS&MS had been greatly expanded over the years and was as fine a railroad as existed anywhere. The industrial growth of the territory that the two roads served continued unabated, but this benefit had accrued almost entirely to the LS&MS. Little or no attempt had been made to locate new industries on the Nickel Plate and prime industrial sites were allowed to become residential neighborhoods. As a result, the road was almost totally dependent on traffic received from its connections."

Management and Entrepreneurship

The management in the early years of the NKP was competent, respected, and organized. The NKP's first Chief Operating Officer (COO),

Darius Caldwell, had nearly 30 years of experience and had been a general manager for the Pennsylvania system. The Vanderbilt's kept him on as COO and although William K. Vanderbilt held the title as President until 1887, Caldwell was in charge and remained so until he retired in 1895. He took over the title of President after the receivership reorganization and early anti-trust laws of the Interstate Commerce Act of 1887. Also, the Sherman Act of 1890 opened the door for some minor autonomy for the NKP. By 1890, Caldwell had the NKP netting a modest surplus of \$133,000 and paid its first dividends on preferred stock (3.5%). Although dividends were well below its corresponding railroad the LS&MS, NY Central, and the industry, the NKP was keeping its head above water. Samuel Calloway succeeded Caldwell as President and served for three years. He too was an experienced railroad leader and ended up becoming the President of the entire NY Central system.

The NKP experienced high operating ratios throughout the NY Central's ownership, which would indicate that efficiency was not a primary focus. Exhibit 11 details the operating ratios for the NKP. Altman (1971) studied railroad bankruptcies from the 1930s through the 1960s and found that the operating ratios for the bankrupt railroads were significantly higher (.85) than the average of the industry (.75). Extrapolating from that study and applying to the NKP, it would appear that the NKP's operating ratio was an indication that it was functioning on the verge of bankruptcy for most of its early years. However, one NKP President made a conscious effort to improve efficiency and had some freedom to do so thanks to the progressive movement and advocacy for regulation. From 1898 until its sale, William Canniff served as NKP's President. He was a career railroad employee who worked his way up to leadership positions. He focused on employee loyalty and efficiencies. Financial reports show that he was astute in controlling expenses and that the operating ratio was significantly lower ($p < .05$) under his tenure than the previous 15 years of operation.

Insert Exhibit 11 About Here

After review of the NKP's CEOs, evidence shows that overall financial performance issues and low investment returns of the NKP were more driven by the structure, unique business circumstances, and economies of the parent NY Central rather than by the poor performance of managers. Chandler (1977) heralded railroads as a prototypical example of the management revolution with the private sector driving tiered management, which promoted success. Contrary to Chandler, the data of this study support the view of Bowden (2017), who studied railroads of Australia and the American West from 1880-1900. He found that private sector management did not lead to better financial outcomes. Bowden provides

evidence that ownership and organization composition does not necessarily drive financial results, but that structural changes or economic occurrences impact operations and performance. This study offers support for Bowden's findings, but from a different viewpoint - that of the drive for monopolies and business supremacy was the economic phenomena and business structure transformation that led to subpar performance and manipulation of the NKP, not management organization. The competent management and traditional organizational structure of the NKP did not result in the same financial successes of its parent, parallel railway, or the industry as a whole.

It could be considered that the real entrepreneurs in a maladjusted way were the members of the Syndicate. Jenks (1944) goes beyond the traditional definition of entrepreneurship and a "great man" or "better mousetrap," by stating:

"The innovator is a person whose traits are in some part a function of his sociocultural environment. His innovation is a new combination of factors and elements already accessible. It relates in every phase to previously developed business and monetary habits, technological skills, and variable tastes, none of which can be regarded as functions of economic activity alone."

The Syndicate displayed this sociocultural innovation and unique entrepreneurship, albeit not in the most principled manner, by capitalizing on the quest for power and complete control by the Vanderbilt's, which was part of the big business culture of the elite businessmen of the time.

Regulation and Railroads

While the gilded age brought great riches to thousands of individuals, it also created large class differences, social upheavals, and a demand for government intervention against big business. The NKP was created at the dawn of what historians call the regulatory phase of railroad operations. It was a period of controversy in which railroads encountered sunshine regulation, the reporting of information that cast light on the financial and operational concerns of railroads (Flesher and Previts, 2008). Although big business and monopolies dominated commerce in the late 1800s, merchants and farmers still exerted a great deal of political influence with their local public officials. They did not like the high rates being charged on their goods being transported by the railroads. Furthermore, the lavish lifestyles and excessive behaviors of the rich were well known and written about. This did not sit well with the working men and women who represented the other ninety-nine percent of the population. Government officials were under pressure by their constituents to act.

An unlikely player in the railroad movement came from a blueblood aristocrat who did not approve of the overindulgences of the day. A civil war veteran and great-grandson of President John Adams, Charles Frances Adams became an advocate for the average American while recognizing the importance of the railroad movement and the value of private, not public ownership. In the late 1860's Adams began publishing numerous papers on railroad management, operations, and their function in America. McCraw (1984) summarizes four themes that Adams espoused:

1. Industrialization in America had acquired a momentum of its own, a thrust and direction essentially independent of human will. Technology was shaping society as it had never done before.
2. This technological determinism applied not only to the general aspects of the case but especially to one industry--the railroads--whose unique economics of natural monopoly sharply restricted governments' choices in making policy.
3. A serious institutional lag had opened up between corporate development and the public response to it. As a consequence, private and public interests were out of balance.
4. The best solution to the "railroad problem" was not really a solution in the final sense, but rather some means of coping with a situation that was inherently fluid and complex. To perform this function, a new instrumentality of government must be created: an expert, permanent, apolitical body--in brief, a regulatory commission.

Adams very astutely recognized the delicate balance between government intervention and public interest, while grasping the importance of private entrepreneurship. His thoughts laid the foundation of debate and his actions played an important role in the railroad regulation movement. The role of regulation of the railroads had begun and continued to be a key topic of debate until the FTC and Clayton Acts of 1914. Adams work influenced the process throughout this time.

In response to the public and government outcry, an industry-driven solution to the 'railroad problem' from the industry perspective was advocated by a long-time railroad engineer and leader, Albert Fink. He believed in a laissez-faire approach and proposed cartelization as the solution. He envisioned different competing railways banding together to control rates and divide up traffic. Fink put his theories to work and in 1875 to keep rates at high levels for railroads in the south, he formed a cartel of 32 railway lines called the Southern Railway and Steamship Association (Hudson, 1890). In 1877, he helped create and headed a cartel called the Trunk Line Association. It consisted of the four major eastern railways: The

Erie, NY Central, Pennsylvania, and B&O. Charles Frances Adams even accepted a position on the Trunk Line Association and was a Board member.

Fink continued to fight for cartelization. In his testimony before Congress (Fink, 1880), he attested in detail about the perils of government intervention. He thought a government commission would only be good if conducted on an advisory capacity. He argued that the leaders in the railroad industry itself were the only ones that could tackle the 'railroad problem' and that "legislative enactment would simply have the effect of obstructing, not of regulating commerce, and the public would be the sufferers." Though Fink made the effort, his participants in the cartels didn't live up to their end of the agreements. Railroads within the cartels still engaged in rate-cutting by hiding it through rebates and fictitious billings. Despite Fink's efforts to blacklist those engaging in these practices and attempts to implement an inspection system, he couldn't stem the deceptive practices. By 1884, the cartel experiment was a failure. Chandler concluded that even the most carefully devised cartels couldn't control competition and Charles Frances Adams compared the cartels to a boat in the swift water above Niagara Falls (Rothbard, 2017).

However effective Fink's pooling method could have been, non-participators, competitive aspects, and monopolies embodying structural flaws like the operation of the NKP caused the 'railroad problem' to persist. Laissez-faire was not working and the public outcry grew stonger.

Americans simply were not going to allow the imbalance of economic power and wealth to continue. The government, however, acted hastily trying to respond to the deep-rooted mistrust, hatred, and fear of the large railroads rather than stabilize rates and commerce through meaningful regulation. (Martin, 1974). Martin states, "Americans were not going to allow great concentrations of economic power to continue. No matter how much sense it made, no matter how desirable the material results would have been, government-sponsored cartelization of American railroads was ultimately repugnant to the most basic of American ideals."

The demand for action by the public prompted the railroads to be the first industry subject to public regulation through the Interstate Commerce Act (1887). The law created a five-member commission to oversee the regulation – the Interstate Commerce Commission. It also prohibited special rates and Fink's cartelization method. Although the law lacked the strength to be truly effective and did not dramatically change practice, it did exert federal government authority over laissez-faire operations of the railroads and opened the door for further discussion and additional legislation. It also provided a foundation of federal authority over the railroads when they were

nationalized during World War I. In an ironic manifestation, despite the industry's inability to successfully pool rail systems and notwithstanding the ICC Act specifically prohibiting consolidation, railroads did eventually consolidate into a few major lines with not only the blessing of the federal government, but with their urging.

Large horizontally integrated companies like the railroads and Standard Oil operated several different companies like the NKP, LS&MS and New York Central under one system of the parent company. Shares of these individual companies were held under a business methodology called trusts. The term trust became synonymous with monopolies and the term became part of normal business and public vernacular. This name and business operation methodology prompted the next piece of legislation, the Sherman Anti-Trust Act (1890), which makes illegal "every contract, combination, or conspiracy in restraint of trade, and any monopolization, attempted monopolization, or conspiracy or combination to monopolize." Once again, enforcement of the legislation did not occur and it couldn't stand the test of court challenges. It was business as usual for the NKP and other railroads. However, it did provide another opportunity to build upon and use in the future.

The use of trusts as a vehicle for monopolies continued to grow and public sentiment intensified. Newspaper stories and magazine articles fueled the discontent of the American people. Upon the assassination of William McKinley, Theodore Roosevelt made addressing the monopolies a top priority. He took a position of not dismantling monopolies, but of the government more staunchly regulating interstate commerce. He quickly gained a reputation as a trust buster by taking on railroads (see exhibit 12) in court cases and pushing forth new legislation. The first piece of legislation was the Elkins Act (1903). This law amended the ICC Act of 1887 and provided force to that regulation. It targeted price-fixing by eliminating rebates and made officers of the railroads liable for discriminatory practices. The Hepburn Act (1906) further empowered the ICC. It allowed shippers to challenge rates before the ICC. Roosevelt also began the process of investigating Standard Oil. Nevertheless, the public was still not satisfied and large trusts continued to operate. The NKP did experience some autonomy due to many of these regulations and the dividend payout and revenues did improve moderately, however, the NKP was still heavily influenced by what was best for the LS&MS and NY Central.

Insert Exhibit 12 About Here

Trust busting continued to be a major issue in the 1912 Presidential election. Woodrow Wilson won on a platform against what he called the

triple wall of privilege – the tariff, the banks, and the trusts. Unlike his predecessors who used the courts to go after monopolies, he created new laws and strengthened existing acts. In 1914, two major pieces of legislation came forward. One was the Clayton Antitrust Act (1914), which unambiguously detailed illegal business practices such as price-fixing, purchasing of and operating of competitive firms, joint membership on boards of competing companies, and business dealings contingent upon not using competitors. The other major piece of legislation was the Federal Trade Commission Act (1914). With this regulation, the government finally had the tools necessary to fight the monopolies. It created the Federal Trade Commission (FTC) and empowered the FTC to enforce previous anti-trust laws with special attention to the Sherman Act of 1890 and the Clayton Antitrust Act of 1914. Unlike previous legislation, the FTC Act allowed the FTC to investigate organizations, negotiate with companies to never agree in questionable behavior again, fine companies, and issue cease-and-desist orders. Non-cooperation with the FTC could result in a criminal action. The FTC's purpose was and is to prevent unfair competition, stop deceptive business conduct, and promote just commerce. Frances Adams' vision finally came to fruition fifty years after he began writing about such a commission as the FTC.

These acts marked the official beginning of the end of laissez-faire customs for the railroad industry and throughout big business. The will of the people had triumphed over big business. These outcomes support McCraw's theory. It would have been better for the railroads to use their private property in a way that would have been beneficial to the public rather than take advantage of society.

Wren and Bedeian (1972) commented on the unscrupulous behavior and social irresponsibility that was characterized by the big railroad operators but also highlight that the general public gained greater control of their lives and pursued it to the fullest while the industrial revolution was occurring. This friction between the big businessmen and general public was experienced by the railroad industry significantly during the late 1800s. The NKP operations were at the forefront of why this discord was occurring and is a leading illustration of the robber baron mentality, reasons behind social upheaval, the inability of the railroad industry to manage itself, and why the government had such difficulties in realizing a solution to the railroad problem and monopolies in general.

The new 1914 regulatory acts had immediate impact on the NKP's autonomy. In 1914, the NKP experienced a deficit of \$283,000, but in 1915, a profit of \$560,574 was realized and in 1916, income climbed sharply to \$1,032,530. Despite any newfound sovereignty of the NKP, due to

regulation, ownership of the NKP by the NY Central was still in question. The New York Central's leadership clearly understood what was foreshadowing and sold the NKP in 1916 to a pair of brothers from Cleveland, the Van Sweringen's, who although were friendly allies and worked well with the NY Central, eventually operated and grew the railroad in the true spirit of entrepreneurship as espoused by Jenks (1944) and Ford and Peterson (2011).

Opportunities for Future Research

Despite the NKP being left to obscurity in 1916, anti-trust laws created an urgency for the President of the NY Central, Alfred Smith, to address the NKP's nearly parallel route of the LS&MS. This created an opportunity for two brothers from Cleveland, Otis and Mantis Van Sweringen who ended up purchasing the NKP in 1916.

Although the management of the NKP through the NY Central never lived up to Jenks' (1944) vision of the railroad entrepreneur who changed the face of the continent, subsequently, the new owners, the Van Sweringens did provide support for Jenks' definition of the railroad entrepreneur. The Van Sweringens brought much growth, regional development, and innovation to the NKP, the railroad industry, and the regions it served.

Just as Bowden (2017) found that in both the U.S. and Australia, management structures were of such strength that they enabled the railroads to survive. The same premise can be applied to the NKP. It survived and provided an opportunity for future growth through the Van Sweringens. This premise can be used for researching the NKP, its innovations, and major developments along its routes compared to other railroads for years 1916 and beyond.

Another area for future exploration lies in the consolidation of the railroads. Despite the strong public sentiment against and specific language prohibiting pooling in the ICC Act of 1887, market forces resulted in the consolidation of the railways backed by the government. This, therefore, provides credence to revisit Fink's proposition which failed in the 1880s. It may be that the timing wasn't right due to politics, public sentiment and the hubris of big businessmen. Smith's Invisible hand, Chandler's visible hand, and regulation should all be further explored as integral parts of modern business management. Although none of those economic theories individually can account for modern business operations, collectively, the influence remains. The NKP was again at the forefront of these

management practices, economic shifts, and consolidation efforts. The NKP is an excellent subject for this research.

Finally, the advent of the U.S. entering WWI and the dysfunction of the railroads in 1917 led to the railway systems being nationalized and overall management taken over by the Federal government. The NKP and VanSweringens played a major role in the organization and operation of railways during the war and also were heavily involved in the return to private ownership and reorganization of railroads in 1920 and thereafter.

Conclusion

From the very beginning, the NKP was created and designed by a syndicate to be sold knowing that the Vanderbilt's NY Central would need the NKP to keep its monopoly on rail traffic between New York, Chicago and points in-between and to the west. A review of a complete set of financial data from 1883-1916 reveals that the NKP was operated much differently than other railroads. The NKP was not permitted to achieve its potential because it was being used as a control firm from the very beginning. This structure inflated profits for the NY Central Railroad and catered to the monopolistic drive of the Vanderbilts and other business tycoons of the era. Specifically, the NKP paid much lower dividends compared to the industry, had poor returns on income and equity, invested little in itself, and experienced high operating ratios. However, this paper also shows that inferior financial performance and inefficiencies were not the results of poor management, but were from the structure, unique business circumstances, monopolistic structures, and the quest for power.

This age reflects the inability of big businesses to exercise prudence and temperance, the failure of and the ineffectiveness of government interventions and the breakdown of a pure free-market society. The U.S. government, business, and society did not have the wherewithal to deal with the innovations that were occurring and accepted economic theory did not apply to the new age of advances and transformation. Laissez-Faire did not work. Business moguls did not have the public in mind, if they had considered the public benefit of using private property, problems may have been avoided. The operation of the NKP is an example of both the breakdown of both Smith's pure free-market economy and the visible hand espoused by Chandler. The beginning of the NKP is a prime example of why populism became a force. Through 1916, the New York Central System had all but disregarded the NKP as a forgotten railroad to maintain the dominance, growth, and rates of the LS&MS. The NKP and its financial statements serve as a quintessential model of big business beliefs of the late 1800's and why regulation became a necessity.

Exhibit 1
NY Central Railroad System Highlighting the LS & MS Railway
As of 1914

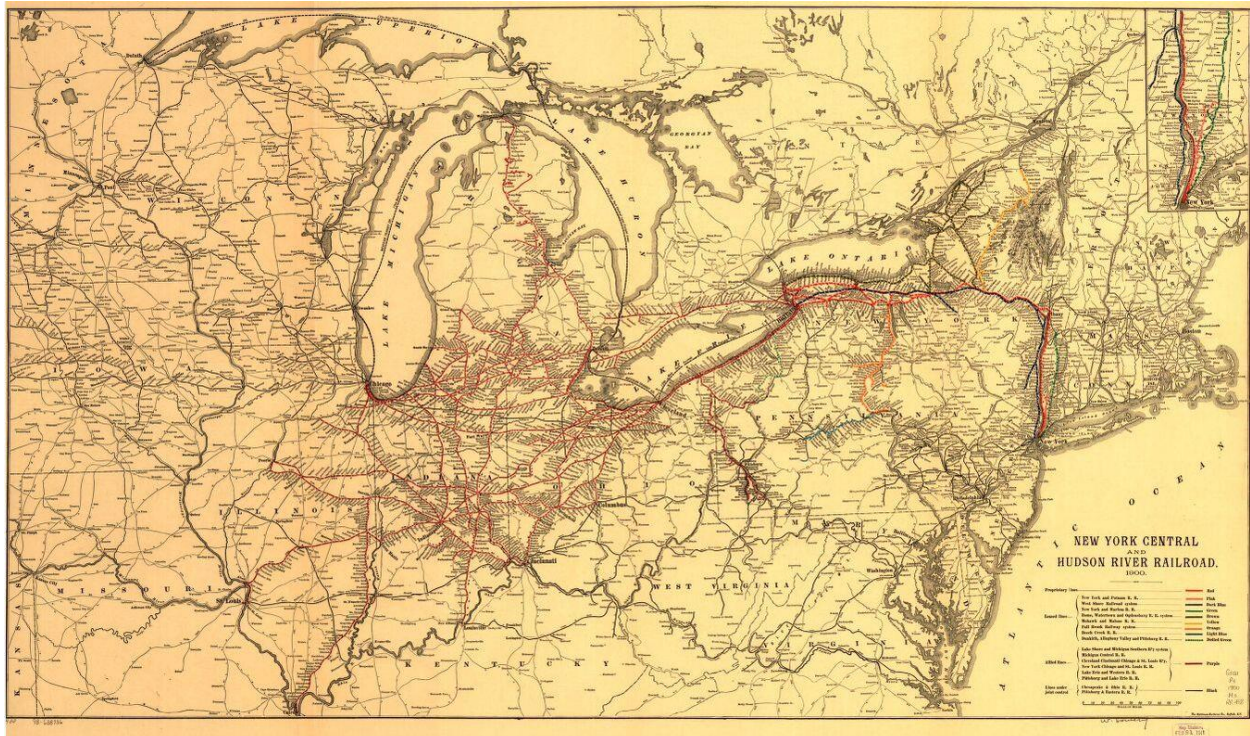


----- LS&MS

----- NY Central

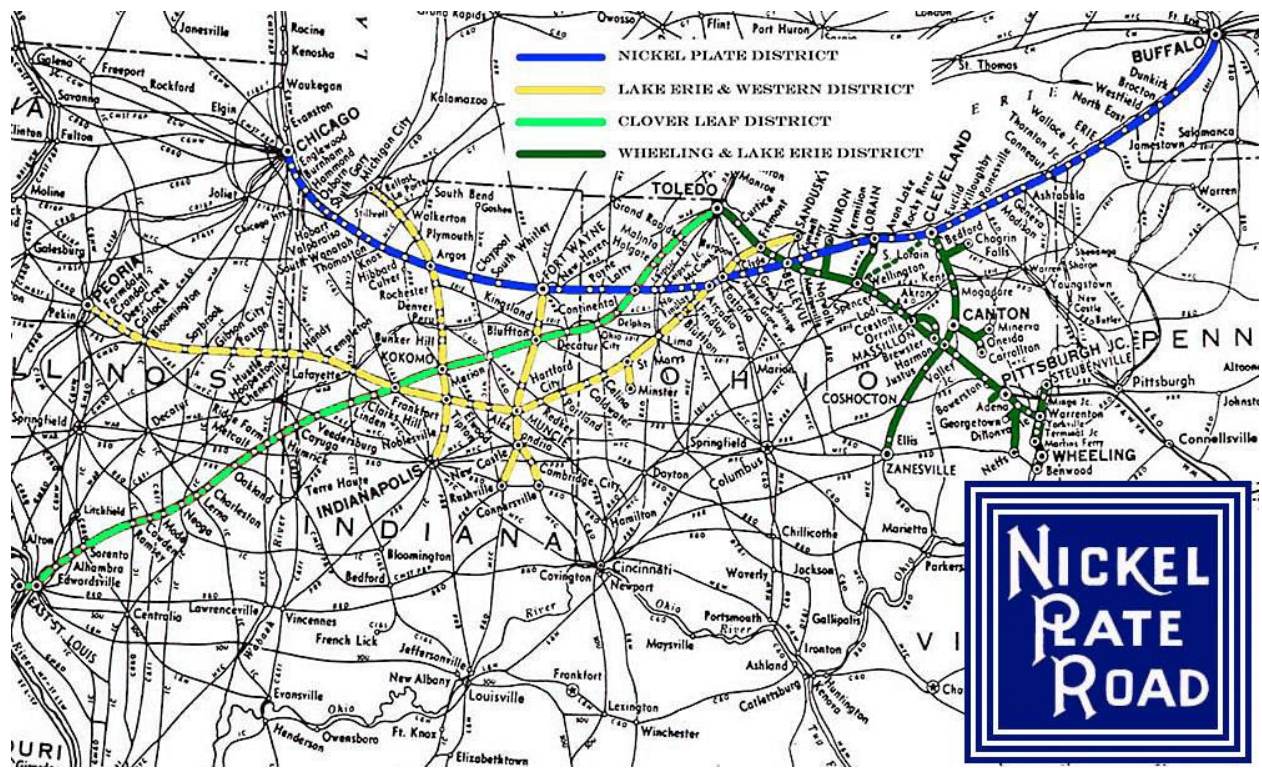
Open Source Public Domain (modified from the Bureau of Transportation Statistics)

Alternate Exhibit 1
NY Central Railroad System Highlighting the LS & MS Railway
As of 1914



Source: Library of Congress

Exhibit 2 Nickel Plate Railway



Source: American-rails.com

**Exhibit 3
NKP Timeline
Through 1916**

Year	Event
1802-1866	Canal Land Grant Era
1850	Land Grant Act of 1850 (opens the door for railway growth)
1879	Seney Syndicate Begins buying linking railroads in Midwest
1880	Albert Fink Testifies before the U.S. House of Representatives and details cartelization as a solution
1881	NY, Chicago, and STL Railway Organized in NY NKP Headquarters Established in Cleveland Norwalk, Ohio - Paper coins the nickname Nickel Plate Railroad – the name stuck till the end in 1964
1882	NY, Chicago and STL Railway Incorporated in Ohio NKP Begins Service William H. Vanderbilt buys a controlling interest in the NKP
1883	William K. Vanderbilt takes over NKP (and LS&MS) NKP Bankruptcy Occurs
1884	Receivership
1887	Interstate Commerce Act passed / ICC established NKP Emerges from Receivership
1890	Sherman Act passed First Dividend Paid by NKP – 3½% on preferred stock
1893	World's Columbian Exposition – Chicago World's Fair
1899-1916	5% dividends paid on NKP preferred stock
1901-1909	Roosevelt grapples with Railroads – Progressive Movement
1903	Elkins Act passed amending the ICC Act
1906	Hepburn Act passed
1909	First Common Dividend Paid 3%
1914	FTC Act passed Clayton Act passed Alfred Smith becomes President of the New York Central
1916	Van Sweringens become owners of the NKP

Exhibit 4
NKP 1884 Annual Report
Operating Deficiency

EARNINGS AND EXPENSES.

	1884.	1883.
From Freight.....	\$2,879,309 47	\$2,000,561 81
Passengers	246,185 71	232,623 52
Express.....	10,207 89	7,802 95
Mails.....	46,967 92	-
Other Sources.....	24,920 52	86,695 64
Total	\$3,207,591 51	\$2,327,683 92
Operating Expenses and Taxes.....	2,389,234 17	1,689,294 61
Net Earnings.....	\$818,357 34	638,389 31
Per cent. of Expenses, including Taxes to Earnings,	74.49	72.58
" " excluding " "	70.01	70.39

DISPOSITION OF NET EARNINGS, 1884.

Interest on Funded Debt.....	\$1,228,368 03
" Unfunded "	123,351 73
Rentals—Terminals	90,000 00
Total	\$1,441,719 76
Net Earnings, 1884.....	818,357 34
Deficiency.....	\$623,362 42

Exhibit 5
Excerpt from NKP 1884 Annual Report Announcing Receivership

OPERATING EXPENSES.

The past year has been one of unusually low rates, owing to the long continued difficulties between the Trunk Lines. The road has been operated at a less expense per ton per mile than any road in the country, owing to the practice of all possible economies, and to the fact that no renewals have been required. In the near future, however, large renewals will have to be made, especially of ties and timber structures.

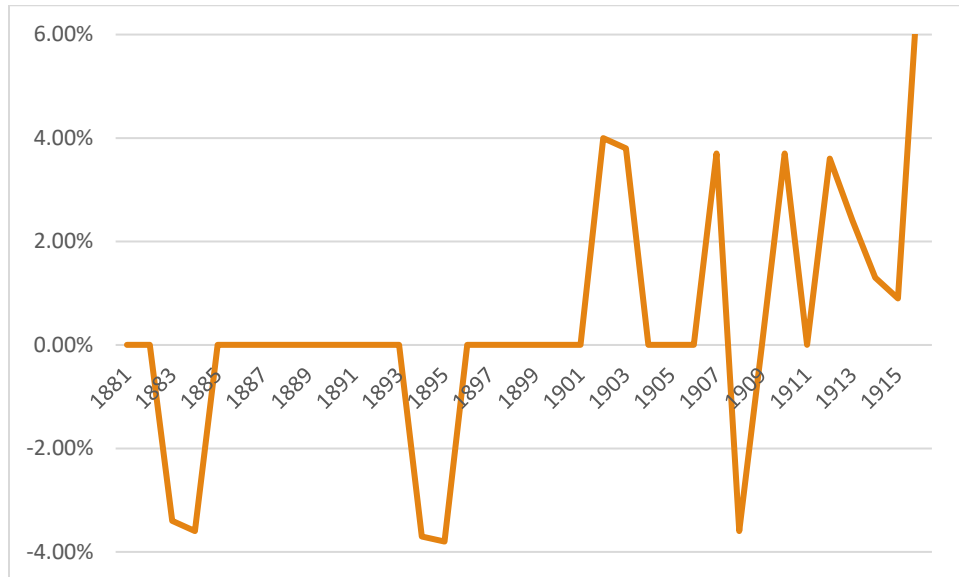
Since the close of the year 1884, the road has been unable to earn sufficient money to pay its fixed charges, and in consequence a Receiver has been appointed for the property.

Respectfully submitted,

W. K. VANDERBILT,

President.

Exhibit 6
The United States Inflation Rates
1883-1916



Source: The Federal Reserve

Exhibit 7
Dividend Payouts of the NKP
1883-1916

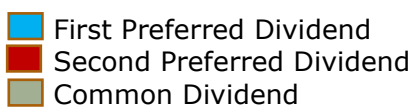
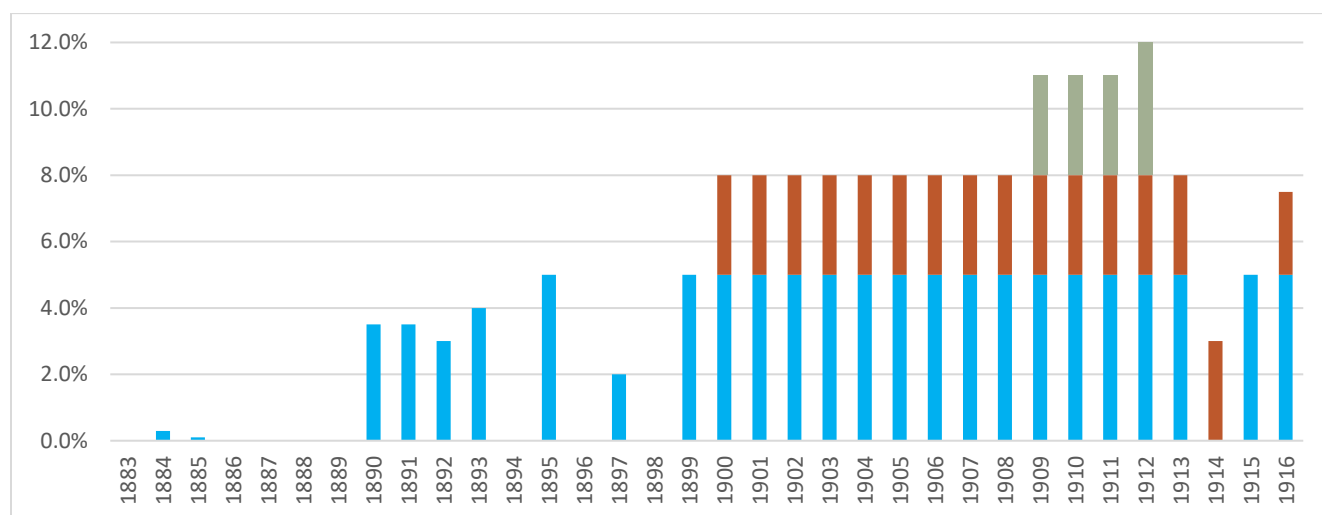


Exhibit 8
NKP Ratio Trends
1883-1916

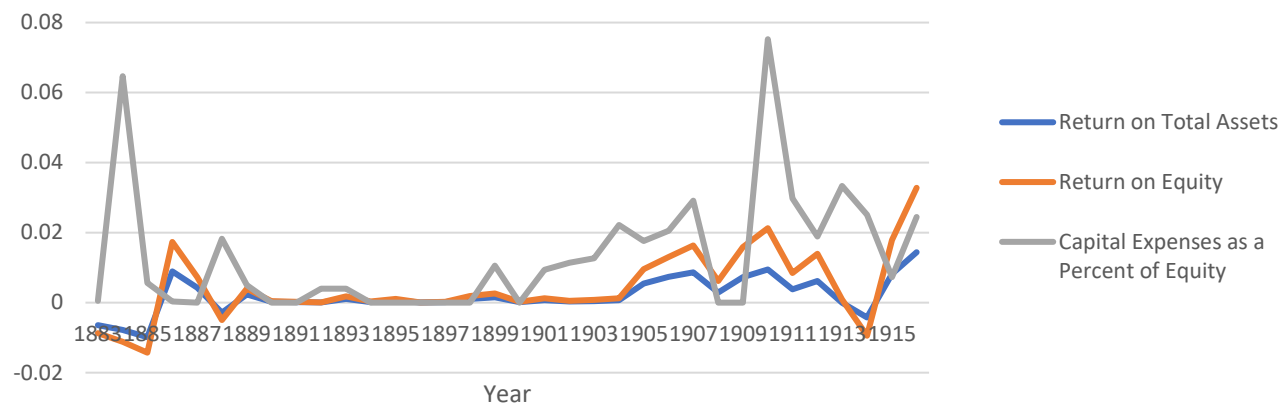
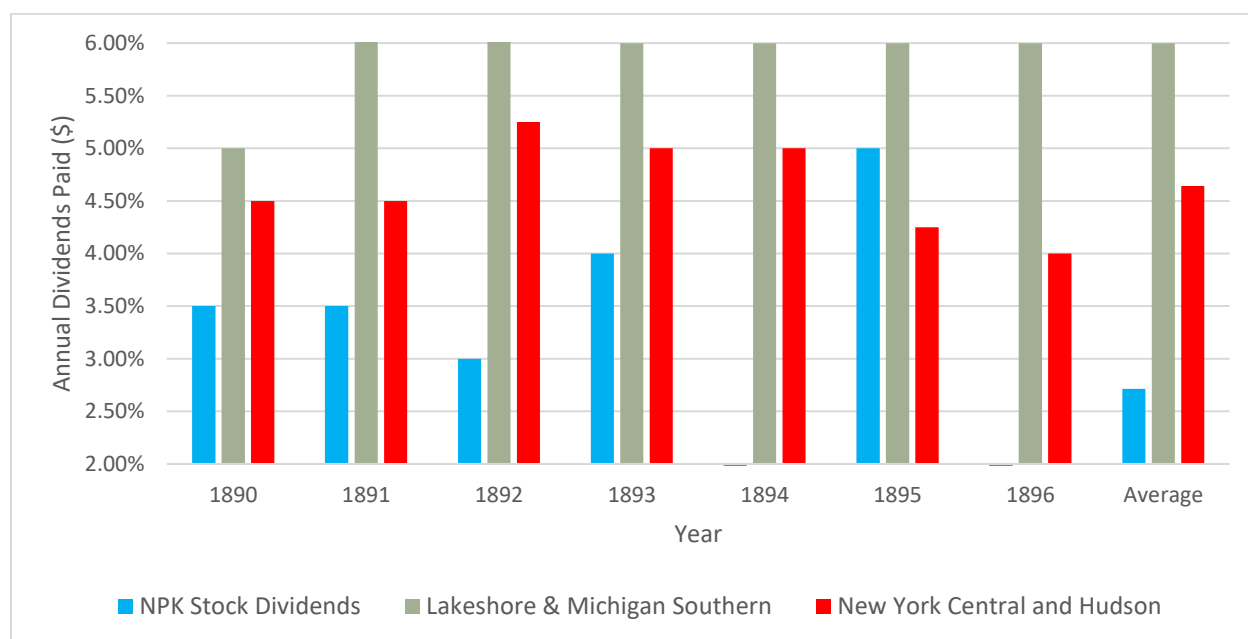


Exhibit 9
NKP Dividend Comparison to Railroad Industry
1890-1896

Year	NKP Dividend %	Industry Average%	Difference%	Significantly Lower?	p-value
1890	3.50	4.82	(1.32)	yes	<0.00001
1891	3.50	5.05	(1.55)	yes	<0.00001
1892	3.00	5.17	(2.17)	yes	<0.00001
1893	4.00	5.05	(1.05)	yes	<0.00001
1894	0.00	4.75	(4.75)	yes	<0.00001
1895	5.00	4.64	0.36	no	0.077281
1896	0.00	4.66	(4.66)	yes	<0.00001
Average	2.71	4.88	(2.16)	yes	<0.00001

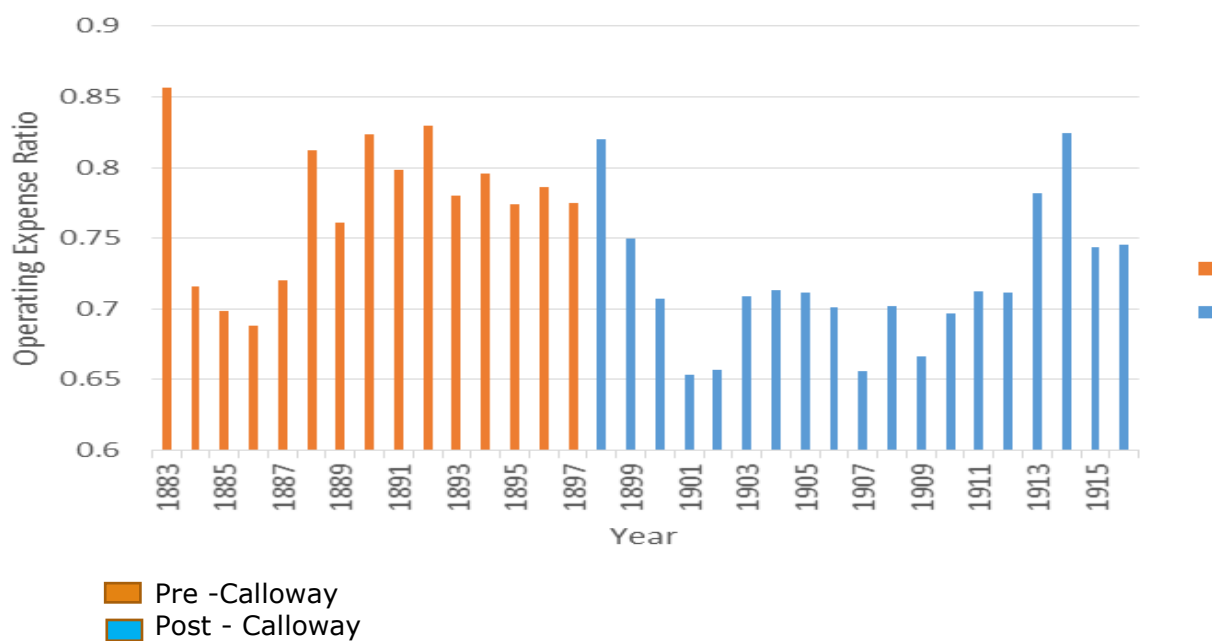
Source: Federal Reserve Archives, *The Investors' Supplement*

Exhibit 10
NKP Dividend Comparison
New York Central and LS&MS
1890-1896



Source: Federal Reserve Archives, *The Investors' Supplement*

Exhibit 11 NKP Operating Expense Ratio 1898-1916



t-Test: Two-Sample Assuming Equal Variances

	Pre	Post
Mean	0.774324402	0.719133
Variance	0.002471524	0.002438
Observations	15	19
Pooled Variance	0.00245246	
Hypothesized Mean Difference	0	
df	32	
t Stat	3.226680094	
P(T<=t) one-tail	0.001443591	
t Critical one-tail	1.693888748	
P(T<=t) two-tail	0.002887183	
t Critical two-tail	2.036933343	

Exhibit 12
Teddy Roosevelt Takes on the Big Business of Railroads



Been Rolling a Little too High.



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