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RAILROAD INVESTING AND THE IMPORTANCE OF FINANCIAL ACCOUNTING INFORMATION IN 1880s AMERICA

Abstract: This study has a two-fold purpose. First, it seeks to determine the importance of financial accounting information to railroad investors (and speculators) in 1880s America. Second, a further goal is to ascertain what financial accounting information was readily available for use by these investors. Based on a comprehensive search of books of the era, the 1880s were a time of expanding advice for railroad securities holders that required the use of financial accounting information. Furthermore, new information sources arose to help service investors' needs. *Statistics* by Goodsell and *The Wall Street Journal* were two such sources. This article reviews these publications along with the ongoing *Commercial and Financial Chronicle* and Poor's *Manual of the Railroads of the United States*. Each of these sources helped railroad investors to follow contemporary advice of gathering financial accounting and other information when investing.

INTRODUCTION

This study investigates the importance of financial accounting to railroad investing in 1880s America. It examines railroad investors' information wants as depicted in books and the availability of information in financial periodicals. Hence, it enhances understanding of the evolution of financial accounting and its role in investing in railroad securities.

Financial accounting became important to railroad invest-

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ing in the late 1840s and 1850s as railroads came to rely on securities markets as a source of capital. Initially, periodicals and railroad manuals supplied some rudimentary information to security market participants. In the 1870s, information increased in depth and frequency. Poor's *Manual* became more comprehensive while *Hunt's Merchants' Magazine* published weekly instead of monthly [Thompson, 2008, 2011].

This research examines stock market advice and sources of information in the 1880s. Authors expanded their advice, some of which is still with us today. Financial information on railroads proliferated. Poor's *Manual* and the *Commercial and Financial Chronicle* and *Hunt's Merchants' Magazine (Chronicle)* extended their coverage. *Statistics* [Goodsell, 1883], primarily a railroad manual, began publication as did *The Wall Street Journal* as a daily business newspaper.

To carry out this research, relevant books and serial publications were identified from WorldCat [2007 - 2010] using a comprehensive list of stock and bond market terms. Searching was not restricted to railroad securities, but invariably the sources dealt with railroads, the dominant business of the day. Included are American publications obtainable via interlibrary loan about the New York Stock Exchange (NYSE) or general works on investing and speculation. Excluded are regional and legal publications.

The method employed herein differs from that used by others in studying the financial reporting of railroads in the nineteenth century. Some authors examined the annual reports of specific railroads to learn of financial reporting practices including Boockholdt [1978], Previts and Samson [2000], and Flesher, Previts, and Samson [2006]. Other authors studied railroads in conjunction with a particular accounting issue such as capitalization versus expense [Brief, 1963], early auditing [Boockholdt, 1983], income smoothing [Buckmaster, 1992], and depreciation [Heier, 2006]. Such studies emphasize a preparer's perspective, focusing on descriptions and procedures in financial reports. This research emphasizes a user's perspective, concentrating on what investors wanted to know and what information was available to them. It addresses financial reporting's primary objective of providing information for investing (and creditor) decisions [Financial Accounting Standards Board, 2010].

Organization of this article is as follows. In the first section, I portray the securities markets of the 1880s, the backdrop for the study. In subsequent sections, I review the advice offered

to railroad investors and the contents of those informational sources. The conclusion places railroad investment practices of the 1880s in perspective.

RAILROADS AND THE SECURITIES MARKETS IN THE 1880S

Railroads dominated the American economy in the 1880s. They grew tremendously, adding 73,000 miles of track, more than any other decade of the 19th century.¹ In so doing, they helped spur the doubling, or nearly so, of coal and pig iron production and the tripling of iron ore shipments from 1879 to 1890. By 1890, railroad revenues exceeded \$1 billion compared with about \$400 million income for the federal government. Railroad debt of \$5.1 billion was almost five times that of the federal government [Platt, 1905; Garraty, 1995; Gordon, 2004].

Railroads also dominated the securities markets. Table I shows that the number of railroad securities dwarfed most other types. Moreover, for the week ending July 12, 1889, for example, active railroad stocks accounted for 71% of the shares traded on the NYSE [*Chronicle*, 1889b].²

Several events affected the securities markets in the 1880s. The most notable was the Grant & Ward panic of 1884.³ This incident illustrates that investors had to be wary of fraudulent manipulations. Ferdinand Ward conducted a Ponzi scheme that unraveled on May 6, 1884 when he could no longer raise funds to pay off old lenders who wanted their money back.⁴ Marine National Bank failed that same day as it had advanced over \$4 million to Grant & Ward. Other banks and brokerage firms followed. Stock prices faltered. Six actively traded stocks declined more than 50 percent from their March 1884 highs to their June

¹ Much of the impetus for this new construction was competition among the railroads. After the failure of pooling agreements like that of Albert Fink's Eastern Trunk Line Association, railroads resorted to building their own large independent systems in order to ensure adequate traffic and rates [McCraw, 1984; Chandler, 1977].

² Trust stocks accounted for 25% of the trading volume with National Lead Trust accounting for 18% of the total volume. For the year 1889, overall trading volume on the NYSE was about 72 million, including 11 million for unlisted shares [Platt, 1905].

³ Although not as severe as the panics of 1873 and 1893, contemporary writers of the time [Clews, 1887; Stedman and Easton, 1905] considered 1884 a panic year.

⁴ Ponzi schemes remain common as demonstrated by Bernie Madoff and Allen Stanford [Waggoner, 2009; Associated Press, 2012].

lows [Stedman and Easton, 1905]. Moreover, 51 of 54 stocks reported in the *New York Times* (NYT) on May 6 declined an average of nearly 30 percent by June 28 [NYT, 1884a, b]. Prices recovered somewhat in the second half of 1884 and even more so in the bull market of the following year as railroad earnings, prices of steel rails and coal, and retail trade all improved [Stedman and Easton, 1905].

TABLE I
Number of Security Quotations in the *Chronicle*

Category	Number	Percentage
United States Bonds	9	.4
State Securities	85	3.6
City Securities	241	10.2
Railroad Bonds	1,023	43.2
Railroad Stocks	316	13.3
Canal Bonds	13	.6
Canal Stocks	5	.2
Miscellaneous Bonds	28	1.2
Miscellaneous Stocks	35	1.5
Coal & Mining Stocks	19	.8
Express Stocks	4	.2
Trust Stocks (pre-holding companies)	8	.3
Telegraph	16	.7
Telephone	8	.3
Electric Light Stocks	22	.9
Trust Companies (financial institutions)	19	.8
Gas Stocks	37	1.6
Mining Stocks (New York and San Francisco)	67	2.8
Boston Mining	16	.7
Manufacturing (mostly New England)	80	3.4
Bank Stocks	260	11.0
Fire Insurance Stocks	54	2.3
Marine Insurance Scrip	6	.3
Totals	2,371	100.0*

*rounded

Source: *Chronicle* [1889c]

A significant event in 1885 was the beginning of the “un-listed department” on the NYSE where shares of corporations

making manufactured products, eventually known as industrials, traded. Many of these industrials organized as trusts.⁵ The NYSE did not require financial information from these organizations and they provided little information to their shareholders. This contributed to the prominence of railroads not only in financial publications, but also in the securities markets as well [Stedman and Easton, 1905; Navin and Sears, 1955; Hawkins, 1968; Chandler, 1977].

Another important event in the 1880s was the passage of the Act to Regulate Commerce in 1887. Through this Act, Congress reacted to the U. S. Supreme Court's decision to overturn an Illinois law that prohibited the Wabash, St. Louis and Pacific Railroad from charging different rates for long versus short hauls. They ruled that Illinois could not regulate interstate commerce [Garraty, 1995].

Provisions of the Act prohibited rebates, drawbacks, and traffic-sharing (pooling) agreements. Railroads had to publish their rates and could not change them without public notification. The Act also created the first federal regulator, the Interstate Commerce Commission (ICC). Initially, the ICC had limited powers as they could not set rates, but only take railroads to court when they thought the rates unreasonable. Hence, it was not very effective in its early years [Merino and Coe, 1978; Garraty, 1995].

By this Act, Congress began the process of standardizing financial reporting by railroads. It required financial accounting information on capital stock, dividends, surplus, funded and floating debts, interest, property, franchises, equipment, salaries, improvements, earnings and receipts, operating and other expenses, profit and loss balance, and financial operations including a balance sheet. It also permitted development of a uniform system of accounts and methods [Forty-Ninth Congress of the United States of America, 1887]. While the type of required information was similar to that provided previously in railroad manuals for many years, railroads did not follow uniform procedures. The ICC's attempt at uniformity in 1894, *Classification of Operating Expenses*, largely failed as both railroads and state railroad commissions resisted. Railroad accounting methods

⁵ Trusts allowed their trustees to control corporations in multiple states. By the 1890s, about fifty trusts were in existence. However, when New Jersey's 1889 law allowed the formation of holding companies, trusts began to convert to that form. Most trusts converted in the early 1890s though Standard Oil, having started the trust organization in 1882, converted in 1899 [Navin and Sears, 1955; Geisst, 1997].

were not standardized until the passage of the Hepburn Act in 1906 [Baskin and Miranti, 1997; Heier, 2006].

With respect to accounting standards, the accounting profession lacked sufficient influence to develop them in the 1880s.⁶ As an example of the need for standards, replacement accounting for property and equipment provided wide discretion by railroad managers for capitalizing or expensing expenditures. This likely led to confusion for investors and speculators.⁷ Moreover, railroads often acted in their self-interest whether capitalizing assets to increase their base for rate setting or expensing costs to lessen income in order to avoid excess profit taxes [Brief, 1963; Boockholdt, 1978; Previts and Merino, 1998].

ADVICE FOR RAILROAD INVESTORS FROM THE 1880S

Clews [1887] stated that there were two controlling factors to the market – intrinsic and external.⁸ The intrinsic factor included the operations of cliques and large operators, the over-bought or over-sold state of the market as reflected by the interest rate on loans for stocks, influential stocks, margin amounts, and short sales. The external factor related to the general state of the country including crops, manufacturing, trade, transportation companies' earnings, imports and exports, appeal of securities in foreign countries, precious metals, money markets, laws, courts, labor, and political and social considerations. Hence, Clews recognized that railroad earnings mattered to the stock market.

Clews considered reasons for losses in speculation. Speculators should not have [pp. 201-202] “any natural idiosyncrasies” such as extremes in terms of knowledge, boldness, confidence, action, self-esteem, or credulity. He added that “Many speculators lose because the information on which they base their

⁶ Public accounting began in America only in the early 1880s with the American Association of Public Accountants incorporating in 1887. However, bankers, lawyers, and executives did not generally recognize public accounting as a profession until after 1893 [Anyon, 1925a, b, c].

⁷ Littleton [1933] noted that depreciation expense was not included in railroad reports submitted to the ICC in the late 1880s.

⁸ Henry Clews was a banker/broker on Wall Street, having joined the NYSE in the late 1850s. By 1887, he owned the Banking House of Henry Clews & Co that had offices opposite the NYSE and six branches in New York. His firm held memberships in the NYSE, New York Produce Exchange, New York Cotton Exchange, New York Coffee Exchange, and the Chicago Board of Trade [Clews, 1887]. His book contained over 700 pages of his recollections of people and events in Wall Street.

operations is *insufficient*; more because it is *false*; and others because, while their information is correct, they do *not know how to turn it to account*" (all italics are in the original text). Furthermore, many lost because they did not take the time to find out the full story or because of faulty reporting in the financial press. Thus, Clews acknowledged the importance of complete and reliable information.

Others essentially echoed Clews' comments. The stock market participant of the 1880s had to be wary of manipulators including directors of railroads that sometimes operated in their own best interests. For example, they might sell their own company's stock short and then release statements belittling their railroad in order to drive the price of the stock down. Once driven down, they would cover their shorts and go long. Their assessment of the railroad then became positive, driving prices up [Swann, 1886].⁹

These traps often caught inexperienced stock traders. Many such novices bought high and sold low, leading to their dismal failures. Although forewarned, many such operators could not resist the temptation of possibly becoming rich quickly, using the stock market as a casino. This was possible by buying stock on margin of 10% of par value. Hence, \$1,000 controlled 100 shares of \$100 par value stock. An increase in the market value of the stock of \$10 per share generated \$1,000 in profit and doubling one's initial investment, not counting brokerage commissions and interest.

Despite the dangers of manipulation and the excitement of a casino, some writers of the time considered earnings, dividends, and other information valuable in investment decisions.¹⁰ Recipes for success included information along with advice such as buying after a panic and selling while prices were high, using high margins, not trading too often, and being aware of railroad rate wars and competition. For example, Davis & Co. [1888, pp. 52-53] commented that when assessing a stock:

A more vital question is whether the condition of the

⁹ Stock manipulators still exist. Recently the Securities and Exchange Commission suspended the trading of 379 over-the-counter stocks because of the probability of "pump-and-dump schemes." In these schemes, the stockowners use press releases to tout the prospects of their companies enticing gullible investors to buy the stock. Once the price has risen sufficiently, the original owners sell their stock at a profit. These schemes succeed because the companies do not provide any financial information [Krantz, 2012].

¹⁰ As will be discussed in conjunction with Poor's *Manual*, by 1889 most railroads provided earnings (operations data). Industrials did not usually do so.

property, its freedom from disastrous competition, the permanence of its earning capacity, the cost of its operations, the proportion of fixed charges to net earnings, the character of its officers and management, the priority of obligations, the facility or the difficulty of enforcing the rights of the security holders, etc., are all such that the investor may count upon *continued* satisfaction and profit.

Swann [1886, p. 79] added that while some debt helped, “A railroad which is hopelessly overburthened (sic) must some day or other face the axioms of the multiplication-table, and recognize that two and two make four, and not five.” Such railroads likely struggled and “tempted to disguise to a greater or less extent its floating debt, and to ignore engagements on paper which have not matured.” Hence, both Davis & Co. and Swann recognized the vital importance of accounting data in assessing companies for investment. Noteworthy, Davis’s “earning capacity” currently corresponds with future earnings analysis and the relationship of fixed charges to net earnings essentially mirrors a margin of safety analysis.

One author [Anonymous, 1881] gave the following rules:

- Buy stocks once a year; sell them once a year.
- Buy when the market has decreased.
- Do not operate for a decline.
- Patiently wait for a decline in stocks and hold stocks once purchased.
- Know what you are buying.
- “Property that is not open to the ready inspection of all is the best property in the world to let alone.” [p. 64]

In the latter case, the author emphasized having readily assessable information.

Samson [1884, pp. 150, 153-154] advised, “Get all possible information but do not borrow judgment” and buy dividend paying stock as “any business enterprise which earns a net profit is worthy of more confidence than one which does not.” In contrast, “Fancy, or non-dividend paying stocks, often times pay a large profit, it is true, but they are subject to violent fluctuation.” Smith [1887] also recommended being an investor for dividend income. He considered crops and their potential for export, export and import of gold, railway earnings and changes, and railroad conflicts. Note that both Samson and Smith considered

earnings important when selecting investments.

Dando [1885] advised ascertaining the highest and lowest price of a stock during the last three years. Next, he determined the dividends that had been paid [pp. 63-64] “and, as far as possible, the present earning capacity and condition of the properties.” The author suggested buying the stock at three or four percent less than its middle value over the last three years. If prices fall, buy more stock: “This system is termed averaging, and is adopted universally by the most distinguished financiers.” He sold when the stock price reached three percent above the middle value. Such an “averaging down” strategy endures on Wall Street [Downes and Goodman, 1991].

Dando illustrated operating for a fall using Lake Shore stock [pp. 68 and 70]:

Looking at the condition of the road at that period, the traffic receipts and expenses for a few months previously, and having regard to the fact that the Stock had risen seventeen per cent., it would have appeared a safe sale for a reaction of at least three or four per cent.

Conversely, operating for a rise was also possible: “As a rule, a fall of ten or fifteen per cent. is followed by a sharp rally; through which moderate profits can be secured by an operator.” One must try to find the causes of the fall such as “traffic receipts and expenditures, and the condition of trade generally.” Among his rules he included [pp. 118 – 121] “Sound and reliable information should be sought after,” but “Information volunteered, should be received with reserve.” In modern terms, Dando’s strategy combined technical analysis and fundamental analysis, with earnings capacity, traffic receipts, and expenses playing a prominent role.

As for the prospects for the stock market, Kosboth [1880], in his solicitation of investors for his mutual fund, thought that prices would go higher and that it was the best time to invest since prior to the panic of 1873. He expected a record grain crop and increases in manufacturing, merchandise sales, and immigration resulting in “*unparalleled earnings*” for the railroads in 1880. Obviously, Kosboth considered earnings a key to investment. He also advised that [p. 7] “an operator in stocks and bonds will be safe upon every good fair decline in prices, in purchasing the securities of our good steady dividend paying roads, or those that have recently entered the dividend lists.”¹¹

¹¹ As it turned out, stock prices did improve in 1880. In a study of the prices

Interestingly, Cramer & Co. [1881, p. 13] emphasized that large price changes are advantageous as “Profits are made when fluctuations occur in the market.” Cramer & Co. explained that price declines were due to events such as the assassination of the President, bank failures, and stringency in the money market. Price increases were caused by events such as declaration of dividends, advantageous railroad combinations, election of “strong men to Directorships,” “large reported earnings,” good crop reports, and the United States’ government purchasing bonds. Again, accounting earnings played an important part of successful investing.

Ross [1888, pp. 60-62] commented that “The successful operator requires a mind of crystal, a heart of adamant, and a will of iron; these, when combined with a mind indifferent to the rumor of the gossipmongers, or to the temporary shrinkage of the price of securities, will bring safety and profit.” Operators succeeded by gathering information about a dividend paying stock, buying, waiting for a sufficient price rise, and selling. Hence, although more general, Ross remarked on the crucial role of information. He added, with modern insight, “The greater the risk the greater the profit seems like a paradox, but it is generally true.” The author noted, “A most weighty maxim, verified by Wall Street experience, is to ‘cut short losses and let your profits run’.” In the end, though, the hope of gain and the fear of loss drove the stock market: “The fluctuations of the stock market represent in a great measure a strife between hope and fear.”

SOURCES OF INFORMATION IN THE 1880S

As shown in the previous section, many authors recommended the acquisition of company information, including earnings and other accounting information, before investing or speculating. This section investigates sources of information routinely and readily available. The *Commercial and Financial Chronicle* and *Hunt’s Merchants’ Magazine*, the premier source for securities, published security descriptors and prices on a weekly basis. Poor’s *Manual of Railroads of the United States*, the premier manual for railroads, described railroad physical operations and financial results.¹² In addition to these continuing

of 60 railroad stocks, Grosvenor [1885] reported that prices improved by about one third in 1880.

¹² Another popular investment journal in the mid-nineteenth century, *American Railroad Journal*, went out of existence in 1887. Henry V. Poor edited this journal for a time. It merged to become *The Railroad and Engineering Journal*

sources of information, this study reviews two new information sources: *Statistics* by C. M. Goodsell and *The Wall Street Journal*. These sources were extremely important as investors and speculators did not typically examine available annual reports even as late as the 1920s [Lyon, 1926].¹³

Commercial and Financial Chronicle and Hunt's Merchants' Magazine (Chronicle): The 1889 *Chronicle*, like its 1879 issues [Thompson, 2011], had three key parts - the weekly issues, the monthly "General Quotations of Stocks and Bonds," and the bi-monthly *Investor's Supplement* [*Chronicle*, 1889a, b, c, d, e].¹⁴ Although the 1889 weekly issues were only slightly longer than those in 1879, the *Investor's Supplement* grew to about 150 pages from 30.

The 1889 weekly issues of the *Chronicle* were better organized and more thorough than their counterparts were in 1879. They began with "Clearing House Returns," "The Financial Situation," and several articles (often on recent railroad earnings). Following these, a table provided the highest and lowest monthly prices of railroad and other stocks on the NYSE. Economic data such as imports, exports, and conditions on Wall Street was offered as well as recent daily or weekly security price information.

Not surprisingly, given the investment advice discussed in the previous section, accounting earnings also played a prominent role. One table, "Railroad Earnings," gave the latest weekly or monthly comparative gross earnings for railroads and comparative year-to-date results. Figure 1 shows an excerpt from the July 6 issue that covered 231 railroads. Subsequent tables reported comparative gross earnings for the fourth and third weeks of June and the month of June. Another table presented comparative monthly and year-to-date gross and net earnings. Hence, the *Chronicle* published several tables of both weekly and monthly earnings as soon as possible, updating their previous results as time passed.¹⁵ It also provided one or two annual reports

[January 1887]. However, it had stopped publishing bond and stock lists in October 1881.

¹³ In addition, railroads such as the New York Central in the 1870s and 1880s did not always provide annual reports to stockholders [Previts and Merino, 1998].

¹⁴ The August - December 1889 issues of the *Chronicle* were similar.

¹⁵ Neither the state railroad commissions nor the ICC required railroads to provide monthly data to periodicals. As far back as the 1850s, railroads willingly provided information directly to periodicals such as Henry V. Poor's *American Railroad Journal*. Chandler [1956] attributed this willingness to the railroad's desire for capital and their need to maintain confidence and value in their securities. Moreover, the financial accounting information collected by the state railroad commissions and the ICC, at least initially, was annual rather than monthly or weekly [Railroad Gazette, 1883; Forty-ninth Congress of the United States of America, 1887].

followed by “General Investment News” that described individual company’s security issues, defaults, mergers, organizations, etc.

FIGURE 1
Railroad Earnings in the *Chronicle*

RAILROAD EARNINGS.					
ROADS.	Latest Earnings Reported.	Jan. 1 to Latest Date.			
		1889.		1888.	
		Week or Mo	\$	Week or Mo	\$
Allegheny Val. May.....		178,183	163,311	852,781	798,165
Ashy & Spofford May.....		7,600	8,540	45,129	42,837
Atch. T. & S. Fe. 3d wk June		311,552	361,541	3,643,972	.....
St. L. K. C. & O. 3d wk June		1,208	1,180	20,973	.....
Gulf. C. & S. F. 3d wk June		59,226	49,056	1,518,286	1,117,154
Califor'n Cent. 3d wk June		15,225	12,785	497,114	.....
Califor'n Sou. 3d wk June		12,225	29,444	334,607	871,903
Total system. 3d wk June		457,192	483,040	11,775,506	.....
Atlanta & Clar. April.....		109,423	98,437	509,019	457,198
Atlanta & W. Fl. May.....		25,547	23,237	378,145	171,311
Atlan. Is. & Pac. 3d wk June		51,233	51,636	1,314,732	1,270,701
B. & O. East Lines May.....		1,856,169	1,357,691	6,235,449	5,354,071
Western Lines Mar.....		404,553	411,521	1,888,298	1,908,193
Total..... May.....		1,766,713	1,769,184	8,173,774	7,857,264
Balt. & Potomac May.....		148,839	131,386	685,228	611,562
Beech Creek..... May.....		69,782	68,918	332,710	407,251
B. of Roch. & P. 1th wk June		47,342	45,424	907,623	941,797
Bur. C. Rad. & N. Y. May.....		217,716	194,501	1,037,334	1,026,533
..... May.....		13,293	11,201	312,031	313,535

Source: *Chronicle* [1889a, p.19]

The *Chronicle* also featured security prices. Figures 2 and 3, respectively, display portions of the weekly tables of NYSE stock and bond prices. Note that for stocks, the *Chronicle* reported shares sold along with daily high and low prices as well as the year-to-date price range. For bonds, it presented weekly closing prices and year-to-date price range. In its third issue of the month, the *Chronicle* provided “General Quotations of Stocks and Bonds.” These tables gave bid and ask quotations for a multitude of securities (as summarized in Table I), and filled six pages of the *Chronicle*. Investors needed reliable pricing information.

FIGURE 2
NYSE Stock Prices in the *Chronicle*

STOCKS—PRICES AT N. Y. STOCK EXCHANGE FOR WEEK ENDING JULY 19, AND SINCE JAN. 1, 1889.																			
STOCKS.	HIGHEST AND LOWEST PRICES.										Sales of the Week.	Range Since Jan. 1, 1889.							
	Saturday, July 13.	Monday, July 15.	Tuesday, July 16.	Wednesday, July 17.	Thursday, July 18.	Friday, July 19.	Lowest.	Highest.											
Active 1000 Stocks.	377	387	384	393	38	355	373	346	368	346	37	3	95019	367	July 7	33	220	2	
Atchafalaya & Santa Fe.....	571	594	592	7	584	68	584	7	584	68	57	3	21	100	13	37	220	11	
Atchafalaya & Pacific.....	336	354	352	7	334	26	334	26	334	26	336	3	515	47	344	13	57	440	9
Canada Southern.....	336	304	292	22	312	22	312	22	312	22	312	3	4710	502	Jan. 21	308	Feb. 11	1	
Central of New Jersey.....	113	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	18
Central Pacific.....	344	35	314	37	314	37	314	37	314	37	314	37	153	33	Mar. 22	34	481	16	
Central Pacific.....	204	204	204	204	204	204	204	204	204	204	204	204	1793	108	Mar. 22	228	June 3	3	
Casqueville & Vt. Transp.....	992	87	87	87	87	87	87	87	87	87	87	87	8822	644	Feb. 22	61	Mar. 7	7	
Do.....	31	30	31	31	31	31	31	31	31	31	31	31	179	204	Feb. 22	37	Mar. 3	3	
Do.....	31	30	31	31	31	31	31	31	31	31	31	31	179	204	Feb. 22	37	Mar. 3	3	
Chicago Burlington & Quincy.....	992	1094	1003	1013	1068	1003	993	1003	993	1003	993	1003	993	1003	307	Mar. 22	33	1112	13

Source: *Chronicle* [1889c, p.72]

The *Investors' Supplement* in September and November [Chronicle, 1889f, g] essentially followed July's format. However, these issues also reported "Monthly Earnings of Principal Railroads" for about 58 railroads, presenting gross earnings (revenues). Figure 5 exhibits part of this table. Overall, the *Investors' Supplement* supplied comprehensive pricing, gross and net earnings, and other information.

FIGURE 5
Monthly Earnings of Principal Railroads in the
Investors' Supplement

MONTHLY EARNINGS OF PRINCIPAL RAILROADS.													
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama Great Southern—													
1887..... (340 m.)	\$ 41,55	\$ 63,80	\$ 88,89	\$ 8,97	\$ 78,97	\$ 8,34	\$ 52,91	\$ 97,70	\$ 10,42	\$ 121,07	\$ 131,97	\$ 121,53	\$ 1,215,195
1888..... (340 m.)	247,70	241,00	152,91	152,91	117,04	117,04	115,77	152,91	152,91	152,91	165,14	152,91	\$ 1,575,263
1889..... (340 m.)	195,44	195,44	195,44	195,44	195,44	195,44	195,44	195,44	195,44	195,44	195,44	195,44	\$ 1,575,263
Atlantic Coast & North P.													
1887..... (2,403 m. 2,537 m.)	\$ 692,90	\$ 1,037,407	\$ 1,260,252	\$ 1,391,474	\$ 1,063,173	\$ 1,066,184	\$ 909,119	\$ 1,041,042	\$ 1,066,184	\$ 1,066,184	\$ 1,066,184	\$ 1,066,184	\$ 10,964,807
1887..... (2,403 m. 2,537 m.)	1,071,482	1,390,123	1,283,228	1,395,270	1,066,912	1,206,411	1,043,845	1,217,714	1,217,714	1,217,714	1,217,714	1,217,714	\$ 12,813,896
1889..... (4,601 m.)	1,414,555	1,776,947	1,484,490	1,484,490	1,066,537	1,066,537	1,066,537	1,066,537	1,066,537	1,066,537	1,066,537	1,066,537	\$ 10,919,913
Baltimore & Ohio—													
1887..... (1,774 m.)	\$ 1,851,690	\$ 1,570,173	\$ 1,603,648	\$ 1,641,861	\$ 1,655,239	\$ 1,681,881	\$ 2,004,050	\$ 1,948,297	\$ 1,799,587	\$ 1,690,251	\$ 1,742,932	\$ 20,344,012	
1888..... (1,774 m.)	1,494,270	1,481,543	1,573,129	1,599,510	1,700,154	1,702,280	1,657,259	1,665,450	1,665,450	1,665,450	1,665,450	1,665,450	\$ 16,665,450
1889..... (1,774 m.)	1,008,670	1,002,227	1,011,117	1,029,821	1,045,312	1,064,427	1,090,011	1,090,011	1,090,011	1,090,011	1,090,011	1,090,011	\$ 10,900,011
Baltimore & Annapolis													
1887..... (600 m.)	\$ 177,503	\$ 207,548	\$ 241,045	\$ 260,100	\$ 271,350	\$ 218,124	\$ 200,125	\$ 216,420	\$ 267,853	\$ 216,024	\$ 200,570	\$ 200,570	\$ 2,005,570
1888..... (600 m.)	330,238	330,238	330,238	330,238	330,238	330,238	330,238	330,238	330,238	330,238	330,238	330,238	\$ 3,302,380
1889..... (600 m.)	270,544	270,544	270,544	270,544	270,544	270,544	270,544	270,544	270,544	270,544	270,544	270,544	\$ 2,705,440
Central New Jersey													
1887..... (1,474 m. 1,474 m.)	\$ 600,858	\$ 680,458	\$ 673,700	\$ 690,543	\$ 677,496	\$ 660,650	\$ 669,348	\$ 622,238	\$ 600,398	\$ 577,000	\$ 577,000	\$ 577,000	\$ 6,000,000
1888..... (1,474 m. 1,474 m.)	615,490	615,490	615,490	615,490	615,490	615,490	615,490	615,490	615,490	615,490	615,490	615,490	\$ 6,154,900
1889..... (1,474 m. 1,474 m.)	587,925	587,925	587,925	587,925	587,925	587,925	587,925	587,925	587,925	587,925	587,925	587,925	\$ 5,879,250
Central of New Jersey													
1887..... (600 m.)	\$ 790,301	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 605,885	\$ 6,058,850
1888..... (600 m.)	600,800	600,800	600,800	600,800	600,800	600,800	600,800	600,800	600,800	600,800	600,800	600,800	\$ 6,008,000
1889..... (600 m.)	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	1,041,918	\$ 10,419,180

Source: *Chronicle* [1889e, p.150]

Manual of the Railroads of the United States (Manual): In its twenty-second year, over a thousand pages of Poor's [1889] massive volume provided information on individual railroads in the United States, Canada, and Mexico. It also included supplemental information on "auxiliary" companies (e.g., communication companies such as Western Union Telegraph Co. and American Bell Telephone Co.) as well as appendices on states' debts and liabilities, dividends, other railroads (e.g., street), and railroad commissioners and officers. Twenty-one regional foldout maps showed railroad routes.

The introduction comprised numerous tables and commentary. Significantly, Poor presented operating results for railroads covering about 145,000 miles of the 154,000 miles of track completed by the latest fiscal year end, with most of the difference due to the fact that not all newly constructed track was yet in operation. In other words, unlike the 1879 *Manual* [Poor, 1879], Poor obtained financial information from most railroads. This could have been due to the influence of the newly formed ICC as well as greater diligence on the part of the older state railroad commissions.

In the introduction, Poor provided overall results and regional breakdowns of track mileage, operating data, balance sheet accounts, and income information. Interestingly, the “Comparative Statement” for each of the years from 1883 through 1888 gave various per mile calculations for the overall rail system such as capital stock per mile of completed road and freight earnings per mile of road in operation. Also included were operating data such as average distance per passenger and average haul per ton. Tables included freight and freight rates, passengers and passenger rates, rolling stock, and types of rails. Poor also commented on railroad issues such as the wisdom of recent expansions given the decline in railroad rates and dividends; so he did not restrict himself to merely presenting facts.

The main purpose of the *Manual* was to provide physical operating and financial information on individual railroads. Illustrative of the longer entries is the one for the New York Central and Hudson River Railroad Company. Exhibit A, organized by subheadings, lists most of the types of information presented. Especially noteworthy, are the number of per mile calculations such as earnings, debt, and passengers. These allowed ready comparisons between railroads.¹⁶ Hence, Poor did not just collect and present accounting and other data, but included analyses. In addition to the information described in Exhibit A, he gave data on the “allotment” of expenses to passengers and freight, the number of employees, wages, the percent of wages to total expenses, annual stockholders’ meeting date, dates for opening and closing books for the annual meeting and dividends, and where the stock and bonds were listed.

EXHIBIT A

Poor's Entry for the New York Central and Hudson River Railroad Company

Main line of road: terminus and distance of lines (main, branch, leased); gauge and rail types.

History: lease terms, acquisitions of more recent lines, reference for prior history, track mileage table (main and additional); steel and iron track mileage.

Rolling and Floating stock: numbers of engines, cars, ships, and barges.

¹⁶ Balfour [1848] made railroad per mile calculations. They also appeared in the Baltimore and Ohio Annual Report for 1848 [Previts and Samson, 2000].

Operations (year ending Sept. 30, 1888): gross earnings (passenger, freight, and four other types), expenses (maintenance of way, transportation, and four other types), net earnings, payments (interest, dividends, and three other types), and surplus for the year; adjustments to surplus, total surplus; per mile amounts for gross earnings, expenses, and net earnings.

General Balance Sheet (Sept. 30, 1888): Assets (cost of road and equipment and six other accounts) and Liabilities (capital stock, funded debt, and nine other accounts); schedule of stocks and bonds of other companies including dividends or interest received.

Summary of Financial Transactions (current year): Resources (cash balance at beginning of year, surplus for the year, issues of stocks and bonds, and two other amounts) and Appropriations of Resources (construction accounts, three other amounts, and cash balance at year-end).

Statement of Capital Account (1870 through 1888): capital stock, funded debt, cost of road and equipment, number of stockholders, and miles of track operated; statement of funded debt at September 30, 1888 including the average funded debt per mile of road and details of debt.

Statement of operations, capital account, etc. (1882 through 1888): railroad and track mileage, rolling stock, balance sheet information, per mile amounts for gross earnings, expenses, and net earnings, and percentage of expenses to gross earnings.

Leased lines: date of lease, road miles, track miles, stock, bonds, cost of roads, rental payments (interest, dividends, state tax, and organization expenses).

Other tables: mileage (e.g., passenger trains) with averages (e.g., passengers per train mile), freight (e.g., moved one mile, profit per freight train mile), earnings (gross, etc.,) with calculations (profit per passenger train mile), freight descriptions (type, tons, and percentage).

Railroads leased and owned: history, terms of agreements, and some financial information.

Other: board of directors, officers, principal office.

Source: Poor [1889]

Figure 6, showing the table for the subheading “Statement

of operations, capital account, etc,” demonstrates the extensive comparative details provided by Poor. Note the various per mile calculations and the ratio of expenses to earnings reported at the bottom of the table. Again, such calculations enabled comparisons among railroads.

FIGURE 6

Poor's Statement of Operations for the New York Central & Hudson River

Statement of operations, capital account, etc., for seven years :

	1882	1883	1884	1885	1886	1887	1888
Miles of Road Owned...	748.74	748.74	748.74	748.74	748.74	748.88	781.97
Miles of Track Owned...	2,334.54	2,591.11	2,377.74	2,805.12	2,406.55	2,425.66	2,432.90
Miles of R.R. Operated...	953.36	953.00	953.00	953.00	953.00	1,529.31	1,420.64
Miles of All Tracks.....	2,677.57	2,684.88	2,702.90	2,730.45	2,449.28	3,732.58	3,739.51
Locom. and Durm's...	693	655	657	657	853	855	888
Pass. and Emig't Cars...	488	480	455	405	797	772	792
Bagg. Mail, etc. Cars...	188	176	184	194	202	209	215
Freight (c-b-wh.) Cars...	33,391	24,242	22,569	23,595	31,092	31,072	32,629
	\$	\$	\$	\$	\$	\$	\$
Capital Stock.....	80,428,300	80,428,300	80,428,300	80,428,300	80,428,300	80,428,300	80,428,300
Unpaid Divid.	48,473,033	49,907,323	56,497,233	56,424,353	56,334,333	59,421,333	56,183,333
Real Est., Mortg's, etc.	218,537	229,995	124,975	171,853	120,353	167,603	307,000
Total Capital Acct...	138,119,869	138,725,528	146,950,208	146,927,483	146,972,988	145,959,633	146,218,633
Current & Other Liabli's	5,085,813	4,289,248	3,089,957	5,696,234	6,576,120	6,615,229	6,771,526
Income Balance.....	15,241,056	16,127,295	12,303,105	10,503,532	11,472,469	12,385,992	12,754,230
Total Liabli'ties.....	158,446,739	160,241,975	162,252,570	162,242,154	165,961,617	164,959,853	165,884,700
Grating and Masonry...	30,410,552	30,766,610	30,826,570	30,989,057	30,961,051	30,969,051	29,969,051
Bridges.....	2,700,114	2,827,028	2,827,285	2,830,314	2,913,698	2,913,668	2,913,668
Superstructure.....	20,600,161	20,735,927	20,572,794	20,916,574	20,823,404	20,929,404	20,823,404
Stations, etc.....	14,237,970	14,507,112	14,027,954	14,377,982	14,740,904	14,801,822	14,901,078
Land and L'g Damages.	14,974,945	13,951,222	15,017,366	15,002,771	15,082,472	15,302,962	16,023,740
Locomotives.....	6,504,237	8,211,727	4,322,477	6,322,477	6,322,477	6,322,477	6,426,154
Pass and Baggage Cars.	1,329,208	1,557,694	1,540,323	1,546,323	1,706,592	1,706,963	1,826,547
Freight Cars.....	14,913,407	15,406,049	15,184,065	15,105,066	15,171,536	15,171,536	15,337,024
Engineering, etc.....	3,012,229	3,017,838	3,018,529	3,018,265	3,018,269	3,018,269	3,018,269
Floating Equipment.....	246,616	239,010	277,743	277,743	277,743	277,743	277,743
Total N. Y. C. & H. R.R.	108,699,816	120,570,798	110,650,119	110,725,818	111,311,659	111,723,850	112,994,129
Rochester & L. O. R.R.	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Buffalo & N. E. R.R.	658,922	658,922	658,922	658,922	658,922	658,922	658,922
Leviston R.R.	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Saratoga & H. R. R.R.	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Syracuse Junction	732,228	732,228	732,228	732,228	732,228	732,228	732,228
Junction, Buffalo.....	219,900	219,900	219,900	219,900	219,900	219,900	219,900
Total Penn't Invest.	119,756,836	114,721,918	114,801,229	114,916,922	115,472,778	115,980,260	117,125,259
Excess of Capital Acct. } over Permanent Invest. }	25,262,934	24,603,610	31,248,979	31,110,556	31,500,210	30,969,564	28,759,720
Consolidat'n Cert. of 1889	31,157,904	31,157,904	31,157,904	31,157,904	31,157,904	31,157,904	31,157,904
Other Lines Owned.....	5,085,267	5,167,488	5,225,124	5,225,124	5,225,080	5,224,961	5,224,961
Other Investments.....	4,615,227	4,571,412	4,222,127	4,747,545	4,308,163	4,222,070	6,815,023
Cash and Cash Assets	5,466,075	4,613,272	7,607,158	6,168,722	7,189,983	7,855,609	10,786,543
Total Prop. & Assets.	154,493,753	160,241,975	162,252,570	162,242,151	165,961,617	164,959,853	165,884,700
* Gross Earnings p. Mile	22,873.47	22,620.78	27,711.29	22,529.24	21,075.05	22,928.31	23,771.44
* Gross Expenses p. Mile	20,274.90	2,273.97	18,729.60	17,324.21	14,000.02	15,470.93	17,232.88
* Net Earnings p. Mile..	2,598.57	11,346.81	8,981.69	5,205.03	7,075.03	7,457.38	6,538.56
* Expenses to Earnings.	67.87 p. c.	66.19 p. c.	67.59 p. c.	72.80 p. c.	64.53 p. c.	63.43 p. c.	69.19 p. c.

* On the basis of transportation earnings.

Source: Poor [1889, p.196]

The entry for the New York Central in the 1889 *Manual* (nine pages) was almost twice as long as the entry in the 1879 *Manual*, including a greater number of tables covering more years. The earlier entry gave an extended history of the railroad, but, unlike the 1889 entry, described the leased lines under their own headings. In 1889, the entry included a "Summary of

Financial Transactions,” essentially a cash flow statement, and more averages such as “average number of miles each passenger carried.”¹⁷

Other longer entries were similar to that for the New York Central, generally differing in only the extent of details provided. Occasionally, additional information presented included the changes in the income account, cost of maintenance, and a multi-year table on capital structure as for the New York, Lake Erie and Western.

Shorter entries in Poor’s 1889 *Manual* were very similar in organization, though usually more detailed than those of the 1879 *Manual*. Headings included main line of road, history, rolling stock, operations, financial statement, and directors. The caption of “history” was new, but Poor had presented a brief history under “line of road” in the earlier *Manual*. Poor added the annual meeting date and sometimes the listing exchange and registrar.

There were fewer entries in the 1889 *Manual* than in the 1879 *Manual* due to the consolidation of railroad systems in the 1880s and a change in the *Manual’s* organization; leased or operated lines were included under the heading of the operating railroad rather than separately. Poor’s *Manual* continued to be the quintessential source of railroad information of the time.

Statistics: Statistics by C. M. Goodsell [1883] was a collection of financial data on railroads and other companies along with economic data on commodity prices, bank information, exports and imports, and public debt. This annual volume was a part of a series that eventually became *The Manual of Statistics* running from 1879 into the 1920s. The 1883 volume was the oldest conveniently obtainable.¹⁸ With respect to railroads, Goodsell intended [pp. 124-125] “to present the latest attainable information in a condensed form, uniting brevity and clearness.” The railroad information was from company and State Commission reports with some numbers adjusted “owing to obscure or vicious methods of accounts”¹⁹ Goodsell made a special effort to provide the most recent information, especially for the

¹⁷ Other railroads had reported what were essentially cash flow statements earlier and some had transitioned to a working capital funds flow statement by the 1880s [Boockholdt, 1978].

¹⁸ No library could be located that had the initial 1879 edition.

¹⁹ Goodsell does not explain what he meant by “vicious.” For the most part, states that required annual reports from railroads made their own rules. Apparently, Goodsell took exception to some of the formats/methods.

tardy reports from New York. The author proudly stated his data “brought up to a year later than can be found in *Poor’s Manual*, or any other reliable publication.”²⁰ Obviously, more timely information benefited railroad investors.

About two-thirds of the 184 pages in this volume covered individual railroads. The entries were relatively brief with only 9% of the railroads allotted more than one page. Exhibit B is the New York Central and Hudson River Railroad entry. Included are terminus and length, rolling stock, stock, funded debt, earnings, and disposition of net earnings. Observe the conciseness of this entry compared to that of Poor’s [1889]. However, unlike Poor, Goodsell did not include any per mile calculations or other ratios.

EXHIBIT B

Reproduction of Goodsell's Entry for New York Central & Hudson River

Road owned, New York to Buffalo, 442 miles; branches, 307 miles; leased and chiefly owned, 110 miles; leased, 134 miles; total worked, 993 miles. There are 508 miles of second track, 316 miles third track, and 296 miles fourth track. Locomotives, 646; passenger cars, 588; freight cars, 22,465.

Stock	\$89, 428,300
Funded Debt.	
Premium Bonds, 6 per cent., 1883	\$6,632,300
Bonds of 1854, 6 per cent., 1883	74,500
Bonds of 1853, 6 per cent., 1883	592,000
Real estate bonds, 6 per cent., 1883	162,000
Renewal bonds, 6 per cent., 1887	2,391,000
Hudson River 2d mort., 7 per cent., 1885	1,492,900
New mort., 7 per cent., 1903	22,465,000
“ “ 6 per cent., 1903	<u>14,733,333</u>
Total	\$48,473,033
Annual interest charge	2,847,261

Last dividend, 2 per cent., quarterly, January 15, 1883. Regular dividends (8 per cent. yearly) are paid.

There were \$5,000,000 new bonds issued last year and the proceeds applied to permanent improvements.

²⁰ The New York Commission was not only slow in providing information, they were not required to share information on a railroad’s condition or management unless they thought it served a public interest [Railroad Gazette, 1883].

Earnings
Year ending Sept. 30.

	Gross.	Net.
1878-79	\$28,398,584	\$12,273,511
1879-80	33,175,913	15,320,019
1880-81	32,348,397	12,883,610
1881-82	30,628,781	11,232,807

All miscellaneous receipts are included in earnings. The disposition of net earnings was as follows:

	Net earnings.	Charges.	Surplus.	<u>Dividends</u>	
				Amount	Pr. ct.
1878-79 . . .	\$12,273,511	\$4,679,025	\$7,594,486	\$7,139,528	8
1879-80 . . .	15,326,019	4,756,799	10,569,220	7,141,513	8
1880-81 . . .	12,883,610	4,990,783	7,892,827	7,138,344	8
1881-82 . . .	11,232,807	5,488,903	5,743,904	7,145,513	8

In 1881-82 the dividends paid exceeded the surplus by \$1,401,609, leaving a deficit to that amount.

Source: Goodsell [1883, pp. 71-72]

The entries for the other railroads were similar though typically shorter with less than four years of data or earnings information included with the leasing railroad's results. For many companies, a single table gave all the earnings information under the headings gross, net, charges, and surplus. A sentence stated the percentage of any dividends. Notes on capital structure covered items such as interest payments by receivers and their plans while notes on earnings discussed issues such as reasons for a deficit.

A few entries had information on non-railroad companies including Wells, Fargo Express Co., Western Union Telegraph Company, and coal and mining companies. Goodsell published far less information for companies outside of railroads.

In summary, for the dominant industry of the time, Goodsell provided information for railroads including route, rolling stock, capital structure, and earnings.²¹ He emphasized concise-

²¹ In 1889, Henry Wallace took over this work after the death of Goodsell. Wallace expanded the work to include up to ten years of earnings data as well as additional information on gross earnings per mile, expenses as a percent of gross earnings, net earnings per mile, maps, and administration such as name of officers [Janson and Thompson, 2005]. This expanded volume with 241 pages devoted to railroads was still far shorter than Poor's *Manual*.

ness and up-to-date information. Goodsell also presented annual price range information for both stocks and bonds, something apparently not readily available.

The Wall Street Journal (WSJ): Volume I, No. 1 of the *WSJ* appeared on Monday, July 8, 1889. An editorial explained [*WSJ*, 1889a, p. 3] that “Its object is to give fully and fairly the daily news attending the fluctuations in prices of stocks, bonds and some classes of commodities.” It focused on news, not opinions, with “a faithful picture of the rapidly shifting panorama of the Street” along with “the events which have moved or are moving prices, together with the drift of opinion in the Street.” The editorial also referred to Dow Jones & Co. news service that began in November 1882. It had correspondents in major cities in the United States and Europe that provided news to New York by telegraph. Dow Jones & Co.’s “fundamental principles” were “To get the news. To publish it instantly, whether bull or bear.” The overriding policy was “to have the news always honest, intelligent and unprejudiced.”

The first article in the first issue of the *WSJ*, “Average Movement of Prices,” reported the average price of 12 stocks along with the turning points since July 2, 1885. A daily feature, subsequent editions typically placed this column later in the paper. The next article, “The Market To-Day,” discussed general trends as well as specific events. For example, it claimed that bear traders had sent sell orders to London to depress the prices of American securities before the New York market opened and that New York bankers were pressuring the railroads to settle their differences. The “Market To-Day” column became the lead article starting on July 10 [*WSJ*, 1889c].

The following describes those columns published during 1889 that focused upon financial accounting and corporate securities. Security prices were a daily feature showing the familiar opening, high, low, and closing prices. In the “General List” for stocks from July 12 [*WSJ*, 1889e], all but two of the 30 stocks appear to be railroads with the exceptions being Chicago Gas and Western Union. This list grew to 45 active stocks by the end of the year [*WSJ*, 1889q]. There were three “Unlisted” stocks at the end of the list. The *WSJ* also published total shares traded. “Bond Quotations” included almost all bonds listed on the New York Stock Exchange, excluding those that were inactive. Similar to today, the table from July 12 [*WSJ*, 1889e] reported maturity date, last prices, and yield-to-maturity, a ready method of comparing bonds. It contained about 320 bonds, growing to

over 400 bonds by year-end.

“Railroad Net Earnings” presented the most recent year-to-date results along with the changes. Figure 7 shows three railroads for the Jan. 1 to June 30, 1889 period. Additional railroads were reported under the Jan. 1 to May 31 and Jan. 1 to April 30 headings. In all, the column covered about 50 railroads, with a similar number covered at year-end.

FIGURE 7

Railroad Net Earnings in the *WSJ*

Railroad Net Earnings.		
Following is a statement of the net earnings of railroads to the latest dates for which reports have been made:		
Net earnings Jan. 1 to June 30, 1889:		
	1889.	Changes.
N. Y. Cent....	\$5,400,751	Inc. \$385,507
Lake Shore...	2,918,130	Dec. 424,825
Mich. C. & C. S. .	1,809,000	Inc. -- 1,000

Source: *WSJ* [1889e, p.4]

Starting on July 9 [*WSJ*, 1889b], the *WSJ* often printed “Railroad Earnings” showing comparative earnings for various periods (week, month, or quarter) and their increase or decrease from the prior period. Figure 8 displays “Railroad Earnings” from July 11. A column on “Railroad Fixed Charges” reported annual payments such as interest, taxes, and rents (Figure 9). The introductory note stated that with these fixed charges and the net earnings for these railroads, “calculations can be readily made,” apparently alluding to a margin of safety type calculation. “Dividends and Dates” first appeared on July 31 (Figure 10). Presumably, “Books Close” and “Books Open” warned of ex-dividend dates. The *WSJ* also publicized companies seeking listing in “Applications to the List.” It published “Transfer Offices” (stock transfer agents) and various analyses of price changes including “Movement of Stocks” [*WSJ*, 1889k], “Decline in Stocks” [*WSJ*, 1889l], and “Twelve active stocks yesterday” [*WSJ*, 1889m].

FIGURE 8
 Railroad Earnings in the WSJ

Railroad Earnings.				
New York Central	1889.	1888.	Inc.	Dec
Period.				
Month June	\$3,111,443	\$2,896,216	\$215,226	....
Quar. end. June 30	\$8,746,666	\$8,469,837	\$276,829	....
Buff., Roch. & Pitts.				
1st week July	\$35,692	\$35,481	\$210	....
St. Louis, Ark. & Texas				
1st week July	\$51,437	\$47,129	\$4,308	....
Mexican Central				
1st week July	\$103,765	\$87,292	\$16,473	....
Western New York & Pennsylvania				
1st week July	\$67,000	\$60,000	\$7,000	....
Canadian Pacific				
1st week July	\$285,000	\$261,000	\$24,000	....
Toledo & Ohio Central				
1st week July	\$20,061	\$16,229	\$3,832	....
Denver & Rio Grande Western				
4th week June	\$41,475	\$30,475	\$11,000	..
Month June	\$114,875	\$97,250	\$17,625	....
Milwaukee & Northern				
1st week July	\$21,300	\$21,049	\$251	....
Evansville & Indianapolis				
1st week July	\$4,512	\$3,721	\$790	....
Evansville & Terre Haute				
1st week July	\$14,619	\$14,594	\$24	....
Peoria, Decatur & Evansville				
1st week July	\$11,234	\$10,696	\$537	....
Memphis & Charleston				
4th week June	\$25,144	\$20,616	\$4,527	....
Month June	\$110,956	\$107,636	\$3,320	....
East Tennessee, Va. & Ga.				
4th week June	\$121,240	\$131,594	....	\$10,354
Month June	\$433,752	\$431,623	\$2,128	....
Texas Pacific				
1st week July	\$97,145	\$96,843	\$302	....

Source: *WSJ* [1889d, p.1]

FIGURE 9

Railroad Fixed Charges in the WSJ

RAILROAD FIXED CHARGES.

A Table Which is not Absolutely Correct, but is Within a Few Dollars.

We shall publish the following table from time to time. It will be of great value in determining what a property is doing. The figures are as nearly correct as can be made, and vary only slightly from the actual. The issues of bonds at different periods prevent absolute accuracy. The net earnings of many roads will be found in another column, and with them and this table, calculations can be readily made. In some cases charges include taxes and rentals, and in others they do not:

	Annual Charges.	Per Mo.	Remarks.
Atchison.....	\$10,918,558	\$909,880	Tax., rentals, etc.
Baltimore & Ohio..	6,246,553	520,546	" "
Canadian Pacific..	3,544,351	278,696	Fixed charges.
*C. B. & Q. system..	8,844,000	737,000	Tax., rentals, etc.
C. B. & N.....	695,075	57,900	Interest.
Denver & R. G.....	1,878,716	156,560	Tax., int., etc.
*East Tennessee....	1,086,993	90,580	Interest.
Erie.....	6,708,330	559,030	All charges.
Erie & Western....	296,000	24,666	Interest.
Ft. Worth & Denver	485,160	40,430	"
Hocking Valley....	961,000	80,083	"
Jersey Central.....	4,722,440	395,533	Int. and rentals.
*Louis. & Nashville	4,770,370	397,530	Int., rent. & taxes.
Lake Shore.....	3,828,283	319,023	" & guarant's
Mich. Cen. & Ca. So.	2,521,092	210,091	Int. and rentals.
*Northwest.....	5,215,156	434,588	Interest.
New York Central.	7,831,164	652,597	Int, rentals & tax.
*Northern Pacific..	7,826,744	652,228	Charges.
Ohio & Mississippi.	1,042,530	86,877	Interest.
Oregon Short Line.	895,860	74,655	Interest.
*Penn. (East. lines)	13,277,993	1,106,500	Int., guar., etc.
R., W. & Ogdens..	884,142	73,678	Int. & rentals.
*Reading.....	8,233,887	686,157	Fixed charges.
do.....	11,169,887	930,182	All interest.
*St. Paul.....	7,050,000	587,500	Interest.
South. Pac. system.	9,920,820	826,735	Interest.
St. L. & San Fran..	2,382,157	198,510	Int., rent, etc.
St. Jo. & Grand I.	420,000	35,000	Interest.
Texas & Pacific...	1,287,840	107,320	Fixed charges.
Toledo & O. Cent..	178,000	14,800	All charges.
Union Pac. proper.	7,361,540	613,460	All payments.
* do.....	9,459,596	788,290	All payments.

* Have increased since last reports.

Source: WSJ [1889f, p.3]

FIGURE 10

Dividends and Dates in the *WSJ*

Dividends and Dates.

This article will be changed daily, if necessary, in order to give a complete record of the opening and closing of books, the amounts of dividends, dates of annual or special meetings, etc., etc. We shall be pleased to have any missing data sent to us:

COMPANY	BOOKS CLOSE	BOOKS OPEN	DIV.	PAYABLE	MEETING
Boston & Montana	July 31	Aug 15	1%	Aug 20	....
Canadian Pacific	July 27	Aug 19	1½%	Aug 19	....
Canada Southern	July 15	Aug 15	1½%	Aug 15	....
Central Ohio	.....	.....	3%	July 31	....
Central Pacific	July 20	Aug 1	1%	Aug 1	....
Cleve. & Mahon, V.	June 27	Aug 7	.....	.....	Aug 7
Distillers & C. F.	July 22	July 26	½%	Aug 1	....
Flint & Pere Marq.	July 19	.....	3%	Aug 15	....
Housatonic	July 13	Aug 14	.....	.....	Aug 13
Illinois Central	Aug 13	Sept 4	3%	Sept 3	....
Jersey Central	July 16	Aug 1	1½%	Aug 1	....
Lake Shore	July 15	Aug 19	2%	Aug 15	....
Long Island	July 10	Aug 2	1%	Aug 1	....
Louis. & Nashville	Aug 6	Aug 21	3%	Aug 19	....
Michigan Central	July 15	Aug 19	2%	Aug 15	....
Mahoning Coal R. R.	July 30	Aug 2	1½%	Aug 1	....
Manitoba	July 21	Aug 1	1½%	Aug 1	....
M. L. S. & W.	July 20	Aug 16	3½%	Aug 15	....
N. Y., Prov. & Bos.	July 27	Aug 10	2½%	Aug 10	....
Oregon Improvem't	July 20	Aug 2	1%	Aug 1	....
Pullman	July 28	July 30	1%	Aug 1	....
Provid. & Ston. S.S.	July 27	Aug 10	2½%	Aug 10	....
Quincy	July 20	Aug 5	2%	Aug 15	....
Rome, W. & O	Aug 1	Aug 15	3%	Aug 15	....
Rock Island	June 28	July 30	1%	Aug 1	....
S. L. & S. F.	July 27	Aug 12	3½%	Aug 19	....
Terre Haute & Ind.	.....	.....	3%	Aug 1	....
United States Ex.	Aug 1	Aug 16	.....	.....	....
Wheeling & L. E.	Aug 2	Aug 15	1%	Aug 15	....

Source: *WSJ* [1889g, p.3]

The “Average Movement of Prices” column changed to “The Course of the Market” on September 24 [*WSJ*, 1889j]. For over a year, the *WSJ* based average prices on 12 stocks. However, in response to criticisms that this was too small a number to be meaningful, the *WSJ* expanded the average to 20 stocks. Not only did the two averages have essentially the same turning points, so did an average comprised of most of the stocks on the NYSE. The 12 companies in the averages, comprised of ten rail-

roads, one telegraph company, and a steamship company, were:

- St. Paul
- Lake Shore
- Northwest
- New York Central
- Lackawanna
- Delaware & Hudson
- Northern Pacific preferred
- Western Union
- Union Pacific
- Pacific Mail
- Missouri Pacific
- Louisville & Nashville

Eight additional railroads were included in the average of 20: Canadian Pacific, Omaha common, Oregon Transcontinental, Richmond Terminal, Kansas & Pacific, Erie, Texas Pacific, and Jersey Central.

“The Market To-Day” column on December 10 [WSJ, 1889n] analyzed the 12 stocks in the average. It reported their respective prices on December 7, 1886, the dollar amount of their decline in prices through April 2, 1888, and the dollar amount of their recovery to December 7, 1889. It concluded that [p. 1] “This table shows how merit controls prices in the long run.” A brief synopsis followed for some of the companies that reflected stock analysis thinking of the time. Louisville & Nashville and Northern Pacific increased in value since December 7, 1886 because they started paying dividends while St. Paul declined since it stopped paying dividends. Similarly, Lake Shore increased in value as it paid an extra dividend and had accumulated surplus. Delaware & Hudson increased because of retiring bonds. On the other hand, New York Central declined due to its acquisition of West Shore, Missouri Pacific because it might need reorganization, and Pacific Mail since it was not “active.”²² Consequently, the *WSJ* advised stock investors to (p. 1) “find properties not too

²² The *WSJ* did not provide further details. New York Central likely had too much capacity as the West Shore line paralleled the original New York Central line, Missouri Pacific probably had excessive debt, and Pacific Mail had not paid a dividend since 1885 [Poor, 1889].

high, of real merit and likely to be situated so as to be able to exhibit that merit a little later." Buffet [2001] gives similar advice.

The *WSJ* also frequently published financial and other results for individual companies. Figure 11 displays the results for New York Central that included more information than for most companies. In addition to a straightforward comparative income statement of sorts (including dividends), the column also presented information on freight and passengers, changes in funded debt, floating debt, and other selected asset and liability accounts, dividends and interest received (apparently not included on its income statement), and payroll.

FIGURE 11
New York Central in the *WSJ*

New York Central.			
The pamphlet report for the year ending Sept. 30, 1889.			
was issued to-day.		It shows:	
	1889	1888	Changes.
Gross.....	\$35,696,236	\$36,132,920	Dec. \$436,684
Op. expenses.....	23,710,543	24,626,338	Dec. 915,795
Net.....	\$11,985,693	\$11,506,582	Inc. \$479,111
Int. rent. and taxes.	7,868,061	7,831,463	Inc. 36,598
Dividends.....	\$4,117,632	\$3,675,119	Inc. 442,513
	4,024,273	3,577,132	Inc. 447,141
Surplus.....	\$93,359	\$97,987	Dec. \$4,628
Freight tons.....	15,112,235	15,262,873	Dec. 150,638
Rate.....	.76	.77	Dec. .01
Passengers.....	18,185,047	17,998,558	Inc. 186,489
Rate.....	1.9	1.91	Dec. .01
The only charge to construction and equipment account this year was \$20,886.			
The funded debt was increased \$1,000,000 by the sale of 5% debentures, with which the Niagara Bridge and Canandaigua R. R. were bought. The rental for this had been \$60,000 per annum.			
The Company owns \$17,157,100 stocks of other companies, ledger value \$4,925,997, on which it received \$280,578 dividends. In 1888 the amount owned was \$15,968,100 and it paid \$510,311.			
The bonds owned amount to \$2,846,916 and paid \$193,760. In 1888 the amount was \$2,848,916 and interest \$190,330.			
The company owns floating debt \$7,818,147 against \$6,771,856 a year ago.			
It has in cash assets \$5,628,308 against \$5,436,239 a year ago.			
Then it has supplies on hand \$2,051,771 against \$1,997,519 a year ago and the West Shore construction account \$352,177 against \$276,858 a year ago.			
The company employs 20,944 people and paid them \$12,796,543.			
The principal items of the company's freight tonnage compare:			
	1889.	1888.	Changes.
Coal and coke.....	3,853,606	4,333,745	Dec. 480,139
Grain.....	1,702,976	1,797,540	Dec. 94,564
Flour.....	658,629	873,625	Dec. 214,996
Lumber.....	1,390,607	1,100,500	Inc. 290,107
Iron and steel.....	402,210	401,638	Inc. 572

Source: *WSJ* [1889p, p.1]

Contrast New York Central's income statement with the one reported for St. Paul given in Figure 12. Note that after "net," St. Paul included "other income," "interest," and "old accounts charged off." Clearly, generally accepted accounting principles were lacking. The column also calculated earnings and surplus as a percentage of common stock (apparently book value), an early example of ratio analysis.²³

FIGURE 12
St. Paul in the WSJ

St. Paul.	
Vice-President Bond says that the St. Paul dividend of 2½% on the preferred, declared yesterday, is for the new fiscal year ending June 30, 1889, and makes the full 7% on the preferred stock for that year. The statement for the new fiscal year shows:	
Gross.....	\$25,422,559
Oper. expenses.....	16,548,385
Net.....	\$8,874,174
Other income.....	225,777
Total.....	\$9,099,951
Interest.....	7,054,470
Balance.....	\$2,045,481
Old accounts charged off.....	234,126
Balance.....	\$1,811,355
Div. Oct., '88, 2½%, Div. April, '89, 2%, Div. Oct. 21, '89, 2½%.....	1,512,762
Surplus.....	\$298,593
Credit balance, July 1, 1888.....	699,818
Credit balance, July 1, 1889.....	\$998,411
This shows earnings on the common stock of .76% and a book surplus equal to 2.52% on the common stock.	
On July 29 we estimated that St. Paul in the new fiscal year had earned over 7% on the preferred stock, \$530,452. We could have no knowledge of the item "old accounts charged off, \$234,126," but deducting that from \$530,452, our estimate was within \$2,267 of the actual facts.	

Source: *WSJ* [1889i, p.2]

The article for Western Union (Figure 13) gave quarterly information (partly estimated). Again, observe the calculation of

²³ Stow [1859] made similar ratio calculations in his short-lived railroad manual.

the ratio of earnings to stock, for both the quarter and year. The final sentence stated, "The surplus is expended on the property each year, and is capitalized occasionally." Apparently, surplus absorbed certain property (presumably, equipment and railroad) payments. In turn, the company sometimes increased the recorded value of property, although the offsetting increase is unclear (capital stock through stock watering?).

FIGURE 13
Western Union in the *WSJ*

Western Union.				
The statements for the Sept. 30 quarter are partly estimated:				
	1889.	1888.	1887.	1886.
Net revenue...	\$1,750,000	\$1,550,000	\$1,400,000	\$1,200,000
Int. & S. F.	210,000	204,802	142,500	143,615
Balance.....	\$1,540,000	\$1,345,198	\$1,257,500	\$1,056,485
Div.....	\$1,077,385	1,077,366	812,000	
Surplus.....	462,615	\$267,832	\$445,500	\$1,056,485
Surplus July 1.	8,611,401	7,498,548	7,002,185	4,309,833
Sur. Oct. 1..	\$9,074,016	\$7,766,380	\$7,447,685	\$5,366,318
Net revenue in 1885 was estimated at \$1,450,000; 1884, \$1,750,000; 1883, \$1,650,000.				
The exact figures for the year ending June 30 are now furnished and the annual report for 1888-9 will show:				
	1889.	1888.	1887.	1886.
Net.....	\$6,218,039	\$5,070,570	\$4,037,280	\$3,919,856
Charges.....	836,215	570,258	563,880	534,452
Balance.....	\$5,381,824	\$4,500,312	\$3,473,400	\$3,385,404
Dividends.....	4,309,519	4,043,949	812,000	3,399,573
Surplus.....	\$1,072,305	\$456,363	\$2,661,400 def.	\$14,169
Price stock in				
September..	87 85½	85½ 83½	79½ 70½	74½ 67½
The actual net revenue for the June 30 quarter exceeded the estimate by \$11,041.				
The regular dividend of 1½% was declared payable Oct. 15.				
Books close Sept. 20 and remain closed, for the annual meeting Oct. 9, until Oct. 10.				
The earnings on the stock for the Sept. 30 quarter were 1.78%.				
For the fiscal year there was earned on the stock 6.24%.				
The surplus is expended on the property each year, and is capitalized occasionally.				

Source: *WSJ* [1889h, p.1]

Interestingly, the lead article on December 13 [WSJ, 1889o] published the financial results for Missouri Pacific. The source of this official statement was not the “Kansas report,” referring to the tardiness of the Kansas Railway Commission in providing reports to the public.

Thus, the *WSJ* played a role in disseminating company financial information. This not only included comparative earnings information, but also balance sheet amounts as well. Among these were comparative analyses of both funded debt and floating (short-term) debt. It also reported various ratios including earnings or surplus as a percentage of common stock along with traditional calculations such as freight rates per mile. This reflected growth in the sophistication of financial analysis.

RAILROAD INVESTMENT PRACTICES OF THE 1880S IN PERSPECTIVE

Elements of railroad investment practices of the 1880s appear in the more advanced analyses developed later. For example, Earling [1890], in his primarily qualitative work, considered the ability of companies to pay their floating debt an important theme. Woodlock [1895] also emphasized floating debt, but added some quantitative analyses such as net earnings per mile and the operating ratio of operating expenses to gross earnings to gauge whether a railroad capitalized operating expenses as assets [Janson and Thompson, 2005]. As shown, in the 1880s publications reported floating debt, various per mile calculations, and the operating ratio.

Selden [1913] and Escher [1914] also espoused the benefits of the operating ratio and net earnings as a percentage of stock value, the same as the *WSJ*. Furthermore, they quantified the margin of safety as excess of net earnings over interest payments (recall Davis & Co. and *WSJ*'s suggestions of comparing earnings to fixed charges) and dividend yield (dividends as a percentage of stock prices). Malkiel [2007] noted the continued importance in bond investing of yield-to-maturity reported in the *WSJ*. Others like Clay [1915] classified the riskiness of securities based on the relative value of pledged assets to the amount of a bond issue. Again, 1880s financial periodicals prominently reported these measures or their components such as dividends and stock prices.

Similarly, the common advice from the 1880s of buying stock of dividend payers persisted into the next century and beyond. Seyler [1919], for example, recommended buying dividend pay-

ers subject to his danger signals such as companies not providing financial statements. Cramer [2005] claims that the best investments over the long-term are high quality dividend paying stocks.

By the 1880s, railroad investment considerations required knowledge of earnings. Clews [1887] included railroad earnings as part of his external factor affecting the stock market. Many other advisors of the 1880s commented on the importance of railroad earnings and other financial information in making investment and speculation decisions. Earnings mattered. They still do; as Cramer states [2006, p. 30]: “value companies based on their earnings, their future expected earnings, and their growth.”

Each of these authors, past and present, needed reliable financial accounting information. However, the information in the 1880s lacked standardization. As early as 1873, Vernon [1873] wanted better rules for determining operating expenses for railroads. Perhaps, this also bothered Goodsell in his reference to “vicious” accounting methods. Moreover, as shown, the income statements in the *WSJ* in 1889 used a variety of formats. Woodlock [1895] complained about not only the lack of comparability between railroads, but also the lack of consistency for the same railroad over time. However, as mentioned, the ICC grappled with standardization, but failed to achieve it until the passage of the Hepburn Act in 1906. Improvements in generally accepted accounting principles for general corporate reporting awaited the formation of the Securities and Exchange Commission and the subsequently developed financial reporting rule-making bodies such as the Committee on Accounting Procedure and its successors.

Investors wanted timely information and the newer sources were timelier than Poor's *Manual* and the weekly *Chronicle*. Goodsell's *Statistics* prided itself on more up-to-date information than Poor's. The *WSJ* gave stock market results on a daily basis. It also employed telegraph correspondents around the country and in Europe to provide breaking news.

In the 1880s, Poor's *Manual* published the most comprehensive railroad information. It covered both physical operating and financial information, sometimes in calculations with each other.²⁴ The *Chronicle* presented the most thorough security

²⁴ The Quincy Mining Company included non-financial operating data in their annual reports in the 19th century, but abandoned the practice [Michael, 1996]. The AICPA's Special Committee on Financial Reporting [1994] recently revived the idea of reporting non-financial operating data.

pricing information and earnings reports. Goodsell in *Statistics* focused on a railroad's capital structure, earnings, interest and dividend payments, and surplus.

Less systematically, but more frequently, the *WSJ* provided railroad information. This information went beyond earnings to include comparative analyses of floating debt and other balance sheet amounts. It also sometimes published novel ratios such as net earnings as a percent of common stock in addition to the traditional calculations of freight and passenger rates per mile. The *WSJ* periodically included columns on company earnings, dividends, and fixed charges.

In summary, railroad investment advice and the amount and frequency of readily available information grew in the 1880s. Yet, market participants had to be leery of insiders and other manipulators, misleading newspaper articles, small margins, trading too frequently, and buying high and selling low. As earlier, a rigged casino atmosphere continued to prevail in the stock market. Nevertheless, publications made strides informing investors and speculators as to what they were buying. The financial accounting and other information published by Poor in his *Manual*, the *Chronicle*, Goodsell in *Statistics*, and Dow Jones in the *WSJ* helped meet investors' needs for information to make rational decisions.

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