

Railroad Regulatory Accounting in an Era of Rail Deregulation

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Abstract

The environment in which railroads operate has changed significantly over the past century. As the regulation of railroads changed in response to the environment, the requirements of rail regulatory accounting changed as well. This paper discusses these various changes and indicates how rail regulatory accounting has moved in the direction of Generally Accepted Accounting Principles (GAAP) for financial reporting purposes. In addition, significant changes which have taken place in the cost accounting area are addressed. These changes have been made in both the data used and the systems used to process the data.

Introduction

Railroads today operate in a very different environment than existed during the early 1900s. Many of the basic principles and assumptions involved in regulatory accounting for railroads, however, developed during the early 1900s. The Congress recognized this changing environment and deregulated railroads, particularly with respect to rate regulation, during the late 1970s. The nature of railroad regulatory accounting has slowly changed as a result of this deregulation.

This paper will address the environment in which railroad regulatory accounting developed and some of the significant changes which have taken place in that environment. The Interstate Commerce Commission (ICC) made changes in their accounting requirements in response to deregulation. These changes are discussed, as is the structure and work of The Railroad Accounting Principles Board (RAPB.)

The Original Need for Railroad Regulatory Accounting

During the late 1800s and early 1900s, the railroads had a virtual monopoly on the transportation business. While other forms of transportation were in use at the time (such as stage coaches and canals), these tended to be much slower and often less efficient. For the person traveling, railroads also tended to be more comfortable than any of the other means of long distance travel. The railroads eventually took advantage of this monopoly in a number of ways.

Three of the more common criticisms of railroads at the time were (Schnitzer (1983) pp. 57-59 and Jensen

(1975) Chap. 6):

1. The railroads engaged in the oligopolistic practice of dividing traffic between certain points among the carriers serving those points. As an example, Schnitzer (1983, p. 57) discusses the "Saratoga Conference" of 1874 during which the three railroads serving New York and Chicago agreed to share traffic and decide rates between these two cities. These arrangements often proved to be very tenuous and temporary.
2. Unavailability of competitor's fares. Fares of competing railroads could not be matched or beaten because it was not known what the rates were. In addition, fares were changed quite frequently.
3. The long-haul/short-haul rate situation. This problem related to low rates being charged to shippers who were shipping longer distances, usually between large cities where competition existed. The railroad compensated for these low rates by charging higher rates to those shipping shorter distances. This shorter distance travel often originated or terminated in small towns where no rail competition existed. Schnitzer (1983, p. 58) cites an extreme example of this where a railroad charged more for transport from Bessemer to Birmingham, Alabama (11 Miles) than from Bessemer to Pittsburgh, PA (594 Miles.)

In response to these issues, The Interstate Commerce Act was enacted by Congress in 1887. This Act attempted to prevent the situations addressed above from occurring, particularly the long haul/short haul situation. The Act also established The ICC to carry out its

provisions. Due to a variety of factors, The ICC was unable to effectively carry out its objectives.

To revive and strengthen The ICC, The Hepburn Act was enacted in 1906. The Act empowered The ICC not simply to ensure that rates were published, but to actually set rates in many circumstances. This power could be used only when the existing rate charged was considered to be unjust and unreasonable (Schnitzer 1983, p. 60.) To determine whether a rate was reasonable or unreasonable, it was necessary to determine the costs that were associated with the service performed.

To gather the necessary costs, The ICC was authorized to prescribe a uniform chart of accounts (Schnitzer 1983, p. 60.) This chart was necessary due to the widely divergent accounting practices maintained by the various railroads at the time. These differing practices resulted in widely divergent reported expenses which would be inappropriate to use in determining the reasonableness of a rate charged. The ICC issued the first Uniform System (chart) of Accounts (USOA) in 1907 (RAPB, 1987 p. 1.)

In 1939, a costing system, known as Rail Form A (RFA), was implemented by The ICC. Since the railroad industry tends to be quite capital intensive, it was considered important to distinguish between variable and fixed costs to prevent unreasonable rates from being masked by railroads. This could occur by a railroad arguing that a cost will increase with increased traffic when in fact it would not. This would present higher costs than otherwise and would erroneously support the higher rate.

RFA attempted to deal with this issue by determining, for the industry as a whole, which costs tended to be variable and which costs tended to be fixed. Uniformity would be assured due to the USOA. Costs were categorized based on regression techniques. If the coefficient of the cost was determined to be statistically different from 0, and theoretical support existed for its being considered a variable cost, it would be considered a variable cost. Those costs which did not meet the above criteria were to be considered fixed.

The Deregulation of Railroads

The decline of railroads from the dominant position in the American transportation system has been well documented elsewhere (see Jensen, 1975 Chap. 15 for example.) The financial collapse of the newly merged New York Central-Pennsylvania (Penn-Central) system in 1970 heightened public awareness of the deteriorating financial situation in the rail industry.

The U.S. Senate (1979) describes the financial difficulties which rail carriers were having in the postwar period in some detail and provides some of the rationale for rail deregulation. They discuss a cycle in which rail carriers are unable to make an adequate return due to subsidized competition (the trucking industry) and overly burdensome regulation. This lack of an adequate return causes difficulty in obtaining funding which leads to decreased service quality due to "deferred maintenance" on track and equipment. This decreased quality of service leads to even further decreased revenue.

The situation described above led The Congress to enact The Railroad Revitalization and Regulatory Reform Act of 1976 (The 4R Act.) The key provisions for ratemaking are found in Sec. 202 para (b). This paragraph allowed railroads much greater freedom in establishing their own rates for service. This paragraph specified that any rate which was "unjust or unreasonable" was prohibited and unlawful.

A minimum rate and a maximum rate were established by The Act. Rates which fell between these points would be considered "just and reasonable". The floor, below which rates could not fall, was established as 100% of variable costs. The Act states that a rate at least equal to variable costs would "contribute to the going concern value" (US Congress, 1976 p. 35) of the railroad.

A maximum, or ceiling, rate had to be established for the rail carriers because some bulk products could be shipped efficiently only by rail. Two common types of these products were coal, particularly coal destined for inland utility plants, and grains (ICC, 1987 p.52-53.) Congress considered these types of goods to be transported under conditions of "market dominance" by rail carriers. Market dominance was defined as follows: "an absence of effective competition from other carriers or modes of transportation, for the traffic or movement to which a rate applies" (sec. 202(c)(i).) A workable definition of a maximum rate was not established by The Act. The Act only stated that the maximum rate provisions apply only to situations of market dominance (US Congress, 1976 p. 35):

Notwithstanding any other provision of this part, no rate shall be found to be unjust or unreasonable ... unless the Commission has first found that the proponent carrier has market dominance over such service.

In order to implement these new regulations, effective measures of variable costs had to be used. The Congress apparently felt that the RFA was inadequate for this

purpose, since they required that The ICC develop a new costing system (sec. 307(a) and (b).) This new system would be used for both specific shipment costing and revenue adequacy determinations.

Revenue adequacy was addressed by Sec 205. This section specified that if a railroad reached a certain level of revenue, the rail carrier would come under greater regulatory control. This revenue level would be the level adequate to maintain the company and attract the necessary capital, and was to be determined by The ICC.

The Staggers Rail Act of 1980 was, to a certain extent, a modification of the 4R Act. This new Act attempted to operationalize, at least in a negative way, the concept of market dominance by specifying when market dominance did not exist. Market dominance was considered not to exist if the revenue from the shipment would be less than a specified percentage of the variable costs of that shipment. After a phase in period, this percentage was to be between 170% and 180%. Note that what market dominance is still not defined; what market dominance is not is the item defined (See Figure One.) This approach is in keeping with the belief that the ICC was using the market dominance concept to a greater extent than Congress had intended in 1976.

The ICC's Accounting Response to Deregulation

In response to the requirement of the 4R Act to develop a new costing system, The ICC first completely overhauled its Uniform System of Accounts (USOA). This system was largely developed during the first decade of the century. A new Uniform System of Accounts (USOA) was developed in 1977 and implemented in 1978.

This new USOA allowed for the accumulation of data on a more functional basis than before. This functionality was most notable in its attention to the type of rail car used for various activities. The ICC felt that the costs associated with various freight movements would vary depending on the type of car used (ICC, 1981). A flatcar, for example, cost less than a boxcar yet could often carry as many ton-miles as the latter. Similar differentials could be found not only in original cost but in maintenance and useful life of various other classes of rail cars. This breakdown could better help to assess market dominance since costs of specific freight movements could be analyzed in more detail. In addition to the detail required based on rail car type, the entire system of accounts was restructured based on a matrix of classifications. This matrix matches "natural expense" categories with output measures and was designed to

facilitate the development of an improved costing system.

While the Staggers Act was being considered by The Congress, The ICC was developing their new costing system. This system, known as the Uniform Rail Costing System (URCS) was released by The ICC in 1981 (ICC, 1981.) This new system attempted to address the requirements of both the 4R Act and The Staggers Act. The system based its results on a study of 1979 cost data in the western region of The ICC's jurisdiction.

The URCS is a three phase process for developing costs of specific shipments. These three phases are as follows: (ICC, 1981 p. 3-4):

Phase I. Theoretical cost relationships are developed and tested using regression analysis techniques.

Phase II. The relationships developed in Phase I are applied to the costing of a particular type of rail service.

Phase III. The computer is used interactively to develop fully allocated costs of a particular shipment.

These relationships were not based on a simple dichotomy of fixed versus variable costs. The URCS was based on the percentage of a given cost that was variable. For example, Yard Locomotive Repair was determined to be 78% variable (p.52) and Freight Car Repair Expense was 72% variable (p.53). The percentage variable ranged from 0% (totally fixed) to 100% (totally variable.)

The report addresses the improvements that the URCS offered over the RFA. The first item discussed by the report (ICC, 1981 pp. 4-9) is the improvement in the data being used in the system. The 1977 USOA was considered to be a significant improvement over the previous system, and thus would lead to better analysis simply by supplying better input data. Also the URCS used data for more than one year in categories that tended to vary between years. These are such items as track renovations/upgrades and equipment purchases. These items are price level adjusted to reflect the change in earning power for the number of years used. One of the criticisms of the RFA was that it was based solely on one year of data. The ability to frequently update the results for more current periods was also incorporated into the new system. Keyes (1982) provides an example based comparison of the RFA and URCS. What he apparently considers to be the most important improvement contained in the URCS is its ability to be applied to an individual road rather than to the rail industry as

a whole.

In addition to modifications in the cost accounting environment, The ICC began a program of bringing financial reporting by rail carriers on Form R-1 more into conformance with regular business GAAP (ICC, 1987 p. 85.) The R-1 is the railroad's annual report to The ICC. The change of this nature which had the most impact on the financial statements of railroads was the change from RRB (Replacement-Retirement-Betterment) accounting to regular depreciation accounting for railroad track structures which took place in 1983 (ICC, 1983.) Under the RRB method, railroads would expense expenditures for repair or even replacement of track sections and no depreciation would be recorded. The only time the asset account would change was when a new line was built, an old line was torn up, or a significant improvement (not just replacement) was made to an existing line.

Most of the publicly traded railroads decided at this time to use depreciation accounting in their public financial statements also. This change had a significant effect on the net income and retained earnings of these rail corporations (See Exhibit 1.) The RAPB reports that this change increased the asset base of rail carriers by \$7 Billion (Volume 2, p. 49.) The Financial Accounting Standards Board considered it such a significant change that it allowed railroads to restate prior years income statements to reflect the change by issuing Statement of Financial Accounting Standard #73 in 1983. The manner in which this change was handled was criticized in the business press at the time (Rohmann, 1983.)

The Structure and Work of The RAPB

The RAPB was officially authorized in 1980 by The Staggers Act. Funding for the board was not forthcoming, however, until 1984. The board was designed to be a temporary body which would produce its recommendations and then be disbanded. The board was structured to operate under the legislative branch of the Federal Government. The chairman of the board was, as specified by law, the Comptroller General of The United States. The Chairman chose the six other members of the board, who were representatives of the various groups interested in rail rates. The RAPB issued a call for public comment as to issues which it should address in 1985, a discussion memorandum was issued in 1986 and an exposure draft in 1987 (RAPB, 1987 Volume 2 p. 126.) The final report of The RAPB was issued on September 1, 1987.

The RAPB's final report contained eight cost accounting principles. These principles were generally broad

guidelines to which the ICC could refer when preparing and/or updating a costing system for use in its regulatory activities. The principles are presented in Figure 2.

The first four principles are "General Principles." They are very general and it would be difficult to argue for or against a specific procedure to be followed based on these general principles. It would also be difficult to see how the board could have reached conclusions different from those presented. The report addresses some of the specific regulatory activities that would be effected by these principles, but this is done in a very broad and general way. The first three specific principles all deal primarily with revenue adequacy proceedings. The Entity and Asset Valuation principles require the use of GAAP basis accounting for financial reporting purposes. On the entity issue, The ICC had switched to the GAAP basis in 1986, having formerly required reporting based on the legal entity. In the asset valuation area, The ICC had allowed predecessor costs to be used even after a railroad had been purchased. The board felt, however, that GAAP basis accounting was more appropriate from a theoretical viewpoint. In addition, the board felt that bookkeeping costs could be reduced by using one set of methods for both regulatory and financial reporting purposes.

These principles caused criticism of the board and dissension by the board member representing the railroad industry. These critics felt that the board had overstepped its authority in developing principles for cost determinations other than the movement of a particular set of goods. This issue is discussed at length in a memo from the legal counsel of The RAPB to the Chairman. (RAPB, 1987 Volume 2, pp. 124-137.)

The reason for the concern of the railroad industry can be found in the "Separate Statement of Richard E. Briggs, Member, Railroad Accounting Principles Board" (RAPB, Volume 1, pp. 37-40.) This statement is basically a dissenting opinion on the Asset Valuation and Related Expense Principle. His primary concern rests with the use of GAAP as the basis of assets for regulatory purposes. He indicates that many recent rail purchases have resulted in payments of less than the book values of the net assets (the so-called "negative goodwill" or "bargain purchase" scenarios.) This situation is a result of the generally depressed condition of the rail industry in certain geographic areas. He feels that decreasing the basis of assets for revenue adequacy proceedings will defeat the purpose of rail deregulation. These lower valued assets would result in a lower dollar value of allowed return. This lower return would result in lower "adequate revenue," causing increased regulation and the possibility of mandated rate reductions.

Figure 1

Comparison of the rate related provisions of the 4R Act and The Staggers Act.

| | 4R Act (1976) ----- | Staggers Act (1980) ----- |
|--------------------|--|---|
| Rate Floor | 100% of Variable Costs | 100% of Variable Costs |
| Rate Ceiling | None unless "market dominance" exists. | None unless "market dominance" exists. |
| "Market Dominance" | Left to The ICC to decide. | Cannot exist unless revenue > 170% of variable costs. |

Source: Adapted from the Acts.

Exhibit One

Effect of the 1983 Change in Rail Track Structure Accounting.

Percentages of Unadjusted Retained Earnings Balance and Unadjusted 1983 Net Income.

| | 1983 Beginning Retained Earnings | | 1983 Income | |
|---------------------------|-------------------------------------|-------|----------------------|-------|
| | Cumulative Effect (000) | % | 1983 Effect (000) | % |
| | ----- | | | |
| Burlington Northern | \$412,839 | 26.0% | \$86,564 | 26.5% |
| Chicago Northwestern | \$29,409 | 20.0% | \$11,509 | 51.6% |
| CSX | \$128,400 | 5.1% | \$85,900 | 46.3% |
| Kansas City Southern | \$41,584 | 20.1% | \$5,041 | 13.7% |
| Norfolk Southern | \$507,000 | 17.7% | \$41,100 | 13.0% |
| Sante Fe-Southern Pacific | \$281,400 | 8.1% | \$100,400 | 15.7% |
| Soo Line | \$40,839 | 34.0% | \$728 | 5.3% |
| Union Pacific | \$94,000 | 3.3% | \$21,000 | 7.6% |

Figure 2

Railroad Accounting Principles

Source: RAPB (1987, Volume 1)

General Principles

| | |
|----------------|---|
| CAUSALITY | Costs shall only be attributed to cost objectives when a causal relationship exists (the cost would not have been incurred but for the requirements of the cost objective). |
| HOMOGENEITY | Cost information shall be organized into homogeneous cost pools. |
| PRACTICALITY | Cost and related information shall be feasible to obtain, efficiently determined and material in amount. |
| DATA INTEGRITY | Cost and related information should be valid, accurate and verifiable. |

Specific Principles

| | |
|-------------------------------------|---|
| ENTITY | The railroad entity shall comprise the activities of affiliated railroads and their railroad related affiliates. The railroad entity shall measure and report information ... in conformance with generally accepted accounting principles unless otherwise provided by specific Railroad Accounting Principles. |
| COST OF CAPITAL | The cost-of-capital rate shall be a weighted average computed using the proportions of debt and equity as determined by their market values and current market rates. |
| ASSET VALUATION AND RELATED EXPENSE | Assets shall be valued at either the value of the resources forgone by the entity to acquire the assets (GAAP cost) or at the current market value, depending on the regulatory application. |
| PRODUCTIVITY | To measure cost changes accurately, indices used for railroad regulatory purposes shall incorporate changes in productivity as well as changes in input prices. |

He points out that if the GAAP basis had been used, The Boston and Maine Railroad would have had the highest rate of return of all the railroads. The Boston and Maine is, in Brigg's estimation, one of the financially weakest railroads in the nation. It was purchased in 1983 under a "negative goodwill" situation.

The last specific principle was the productivity principle. This principle required The ICC to consider productivity changes as well as price changes in its regulatory activities. The report indicates that The ICC was contemporaneously conducting a study of this type of information.

Concluding Remarks

This paper has attempted to present, in a limited way, how regulatory accounting in the rail sector has responded

to changes in the regulatory environment. In this case, this change has been largely in the direction of GAAP basis accounting for financial reporting purposes. This direction reflects the notion that railroads are no longer significantly different from other types of firms, and therefore the accounting need not be significantly different. In the area of costs accounting, changes were made in the systems used to process cost information, as well as in the cost information itself.

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