Accounting Reform at the German National Railway Company, 1924-1932

Alfred C. Mierzejewski
Athens State College

Business accounting systems reflect the objectives both of the companies that use them and the societies in which they exist. They mediate between the desires of a limited group pursuing private goals and society at large seeking to promote the general well-being. This paper focuses on the accounting reforms implemented by the German National Railway Company (Deutsche Reichsbahn-Gesellschaft - DRG) between its formation in 1924 and the beginning of the Nazi dictatorship in 1933. In this period, the DRG was subjected to intense pressure from foreign supervisory agencies, the German government and the changing transportation market to modernize both its management and financial accounting systems. The result was an accounting apparatus that was a compromise between entrepreneurial and social imperatives.

The DRG was created in an environment steeped in the tradition of state intervention in economic affairs. Public interests, such as promoting the economic development of outlying regions or providing affordable transportation to workers, dominated the tariff setting, line construction, service and vehicle acquisition policies of its predecessors. The cameralistic accounting system that they bequeathed to the DRG was fully adequate for their needs [32, p. 162]. However, the situation that emerged in the years 1919-1924 rendered cameralism obsolete. The railway now faced competition for the first time, the Reich Finance Minister could no longer cover its operating deficits, and, most importantly, the DRG was called upon to pay reparations to the western Allies under their supervision. The Allies' private enterprise concept of railway finances proved to be the catalyst that initiated the process of accounting reform by the Reichsbahn, a reform that clashed with Germany's public service emphasis for its railway and the suspicion of capitalistic gain that existed in many parts of German society.

The Reform of Accounting at the DRG

In compliance with the Dawes Plan, the German parliament passed a new Reichsbahn Law in August 1924. The law removed the railway from government management and placed it in the hands of an operating organization, the German National Railway Company. The DRG was required to pay

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reparations into an account maintained by the newly named Agent General for Reparations, the American Seymour Parker Gilbert. An eighteen member board of directors inclined to reform the old management practices was named by an Allied trustee and the Reich cabinet. Four of the members had to be foreigners. At the same time, the Reichsbahn's operations were supervised by an Allied commissioner named by the trustee. To supply the DRG with capital and to open the door to participation in its affairs by private interests, it could sell two billion Gold Marks in preferred stock on the open market [31]. The law shifted the priorities of the enterprise toward monetary measurements of success compared to the strong public service orientation of its pre-1924 predecessors.

The new accent lead the DRG to operate more efficiently and modernize its accounting practices [44, p. 2]. With the backing of the new board of directors, the DRG's headquarters, the Main Administration (Hauptverwaltung), embarked on a major reform of the railway's accounting system. This discussion will focus on two aspects of the reform: The construction of a management accounting apparatus, and the introduction of a modern annual report. The reform of the statistical reporting system, the creation of financially independent operating divisions, and the reform of the annual budget, although very important, will not be discussed.

It would have been logical for the DRG to have begun by replacing its cameralistic means of recording expenditures and revenues with a modern system designed to reflect the costs and earnings of its various services. This was not done. The cameralistic format with its emphasis on recording monetary outlays in labor and materiel categories according to chapters, titles, numbers, and sub-numbers of an overall budget scheme was retained. This was not because the DRG wanted it. Rather, opposition from the officials (Beamten) schooled in the old system defeated the reform. In April 1924, when double-entry bookkeeping was introduced on a trial basis at the Grunewald Repair Works in Berlin, the officials refused to use it. Therefore, the familiar old forms were hastily restored [44, pp. 162, 164]. The general director of the DRG, Julius Dorpmüller, defended the officials before the board of directors [12, pp. 429-30]. He too supported retaining the cameralistic system because it was familiar and because the alternative came from outside Germany. During the 17 September 1928 meeting of the working committee of the board, Dorpmüller criticized suggestions for introducing double entry bookkeeping saying, "...they came originally from the Agent General for Reparations Payments" [12, p. 431]. Consequently, until 1930, the DRG continued to use the traditional cameralistic system unchanged. The Finance Section of the Main Administration could not correlate current receipts and expenditures in the form that they were reported [63, p. 8; 61, p. 70-71; 23, pp. 194-98; 44, p. 50]. Instead, it was forced to rearrange them using a complex system of keys before posting them in its main account book [44, p. 113-115].

Changes in the cumbersome cameralistic system were begun in a limited way only on 1 January 1930, when a new regulation for booking receipts and expenditures went into effect. It added new methods of labelling bills to make them more easily useable for cost allocation [20; 41, p. 166]. Yet even this limited reform encountered stubborn internal opposition. For example, in

February 1931, the Berlin division discovered that its officials continued to fill out forms using the old categories [40].

Because the cameralistic accounting system was incapable of supporting an analysis of operating and production costs, the DRG incurred the considerable expense of creating a second accounting system [23, p. 197; 28, p. 785; 58, pp. 342-43]. The man charged with building this overlay was Kurt Tecklenburg. He dubbed his system the "operating cost calculation (Betriebskostenrechnung)," or "Beko." To develop his system, Tecklenburg drew upon ideas current in German industrial accounting, and from U.S. railroads [45, p. 177, 54, p. 46]. Both sources were anathema to critics inside and outside the Reichsbahn.

Tecklenburg presented his plan for a cost allocation system to the DRG's board of directors on 20 May 1925. The board approved his proposal and authorized a test of the system at three operating divisions [15]. The success of this trial lead to the issue of a regulation applying the Beko to the entire Reichsbahn on 1 October 1926. As modified in 1930, the Beko functioned as follows:

Information concerning expenditures and revenues obtained from the cameralistic accounting system was converted to modern business accounting categories at the divisional headquarters [55, pp. 7-8]. Tecklenburg identified cost objectives and cost centers throughout the DRG for which he compared inputs and outputs converted into monetary values [50, p. 499]. He divided the Reichsbahn's operations into traffic branches. The most important of these was long distance traffic, since it accounted for the bulk of the DRG's business. Therefore, the Beko was shaped according to conditions in this branch. Long distance traffic was then further subdivided into business on main lines and secondary lines. Each of these categories was in turn broken down into freight and passenger train types. Next, each train type was analyzed in terms of product areas such as loading, train formation, and train movement. To each product area were added administrative, maintenance and renewal costs using statistically derived keys. Finally, production units were selected to measure each type of output. All of these production units, such as the loading of a freight car, or the placing of a car in a freight train, could be converted to monetary values [19]. Overall production costs for each service were then determined by allocating capital costs to cost objectives [52].

The device used by Tecklenburg to depict the component costs of particular services and operations was the "calculation sheet." The total cost of a selected function or product was shown using a pie chart. Each component of the total cost was shown as a slice corresponding to its calculated monetary value. Behind this was a series of computations used to determine the size of the "slices" [23, p. 130; 51, p. 971]. The calculation sheets were especially valuable in determining the profitability of particular types of trains, and identifying wastefulness in running those trains. They were used to compute baseline costs and rates of return for a wide variety of outputs to facilitate comparisons among the divisions [51, p. 971; 53; 55, p. 50; 56, p. 25].

Tecklenburg's cost allocation system was a major step forward for the DRG and was fully recognized as such by its general director. Dorpmüller encouraged the division heads to support the Beko while it matured [27]. In late 1928, Dorpmüller ordered the formation of operations management offices at the divisions and went so far as to name personally the heads of the first five of them [24]. Especially during the Depression, Dorpmüller emphasized how the information provided by the Beko could be used to reduce operating expenses [25].

Yet the opposition to cost allocation and precise accounting remained powerful. The Beko was attacked especially strongly during the Depression by the political press. Some Berlin papers reported that there were actually two cost allocation systems being used within the Reichsbahn, one for management decisions, and Tecklenburg's which was intended solely to justify tariff increases [49, p. 357]. Officials were joined by politicians and cabinet ministers who held that tariffs should be set on the basis of social needs. They argued that revenues should only cover overall expenses and that how much each service contributed to the firm's final result was irrelevant. In their view, tariffs should be highest where they would cause the least pain to consumers. Services could be continued even if they lost money so long as the enterprise as a whole remained solvent [59, p. 951]. Just as important, many officials simply refused to think in monetary terms [38, p.11]. In their view, and they found much support outside of the DRG, since German society needed railway service, the trains would have to be run in any case. Therefore, revenues should only cover direct operating expenses and tariffs should be kept low through frugality at the operating level.

There was also opposition to the Beko on professional grounds. The Association of Higher Technical Officials, for example, protested that cost allocation would improve the career opportunities of finance officials to the detriment of officers with engineering backgrounds [62].

Institutional and social opposition prevented Tecklenburg's cost allocation system from being fully exploited. In particular, social considerations continued to play a decisive role in setting passenger tariffs, as in 1928, and pressure from the Brüning cabinet induced tariff cuts in 1930 and 1931. In June 1933, as a valedictory after he had left the Main Administration, Tecklenburg issued a final plea that throws into bold relief both the status of the Beko, and German attitudes toward operating enterprises for gain:

> In my opinion, it would be desirable to order all important offices to provide proof of the expenditures of the operating facilities and the relationship of costs to output on a continuing basis. In this way, one would move a step closer toward bringing all offices to think more in terms of money than has been the norm [53, p. 507].

In late 1930, Tecklenburg and his office were moved from the Operating Section of the DRG's headquarters to the Finance Section. Shortly afterwards, the leadership of the Finance Section changed. Ludwig Homberger was promoted to head of the DRG's finances after a meteoric rise through the ranks. It was no accident that Tecklenburg was subordinated to Homberger since Homberger was responsible for the reform of the DRG's financial accounting, and the coordination of that effort with Tecklenburg's cost allocation program.

One of Homberger's highest priorities was the recasting of the Reichsbahn's annual report.

The DRG's first annual report covering 1925, although more informative than those of its state operated predecessors, did not meet business reporting standards. It consisted of an operating statement, a balance and a discussion of how management conducted business during the year. New were the profit and loss statement and groups of tables that provided statistical information concerning the Reichsbahn's traffic, operations and finances. Gone was the old extraordinary budget. The operating statement was particularly noteworthy due to flaws attributable to the cameralistic accounting system on which it was based. While it depicted revenues for passenger and freight traffic separately, it continued to show expenditures only for personnel and materiel [7, p. 20]. Expenditures for maintenance, renewal and expansion were not reported clearly [9, p. 14]. In the 1926 report, the separation of personnel and materiel expenses remained, but was modified in an attempt to distinguish expenditures for maintenance from outlays for renewal and expansion [9, p. 14]. This unsatisfactory presentation remained unchanged until its flaws were highlighted in unmistakable fashion by outside criticism. In early 1928, the director of the Reichsbank, Hjalmar Schacht, told Dorpmüller that the DRG should use an auditor to clear up its accounting problems. In March, the Finance Minister, Heinrich Köhler, recommended that the finances of the divisions be examined by the American accounting firm Price, Waterhouse. In July, Parker Gilbert also suggested obtaining the services of Price, Waterhouse, mentioning Joseph Sterrett as one of its partners who was particularly well informed on railway matters [30]. Dorpmüller resisted pointing to how conditions in Germany differed from those prevailing in the U.S. Moreover, Dorpmüller was sure that there were enough qualified auditors in Germany [12, pp. 9-10]. However, the board of directors, lead by its chairman Carl Friedrich von Siemens, endorsed the proposal [45].

Sterrett came to Berlin in early 1929 and produced a final report in May. He noted the split in the DRG's accounting system and recommended introducing a classification system for expenditures that would reflect the services that caused them [1, p. 158]. He stressed that the Reichsbahn's accounting system, with its combination of cameralistic and business practices yielded an operating statement that was "relatively useless." He also recommended that the DRG report spending for maintenance and renewal separately [46, pp. 1, 3-4, 6-8]. Sterrett's recommendations were not acted upon pending the negotiation of the Young Plan during the Spring and Summer of 1929. It was anticipated that the plan would change the DRG's relationship to both the Allies and the German government, with possible implications for the railway's accounting system.

In 1930, once it became clear that the Young Plan would not influence the DRG's cost accounting apparatus, both the operating statement and the balance were remodeled in light of Sterrett's recommendations [13, pp. 612, 642-45]. The operating statement now reported expenditures separately for operations, maintenance and renewal, and for different services within operations. No distinction was made between personnel and materiel costs [10, p. 18]. The balance was also modified to make it resemble more closely U.S. practice [23, p. 173]. Overall, the picture of the Reichsbahn's finances presented to the public became much clearer. However, the DRG continued to conflate maintenance, renewal and expansion spending in its internal accounting. It considered renewal the equivalent of depreciation and spent on it according to traffic volume and to how much cash was available, not according to a prearranged schedule [23, p. 153; 63, pp. 25, 33]. This behavior conformed to the German business tradition of funding expansion as much as possible internally and of manipulating the operating statement to show a surplus low enough to be socially acceptable. Consequently much spending for expansion (capital spending) never appeared in either the capital budget or the balance [32, p. 171; 44, pp. 84, 153; 63, pp. 26, 28, 50].

Conclusions

Tecklenburg's plea for the Reichsbahn to think more in monetary terms was only partially heeded. The decision made in 1924 to leave the old cameralistic system in place due to bureaucratic opposition meant that the DRG never developed a fully business oriented accounting system. The Beko was created to mediate between the antiquated procedures retained at the working level, and the modern methods that were essential at the strategic level. Changes were implemented because demands placed on the Reichsbahn from outside, most notably by the Americans through the reparations system, were irresistible. Reinforcing them were the desires of Germans such as Siemens who had a clear idea of the needs of modern business, and the Reich government that sought information about its property. Opposition from traditionalists and nationalists, professional organizations and social welfare advocates was unable to prevent the DRG from moving to a more money oriented outlook. By the end of the Weimar era, the Reichsbahn was able to allocate virtually all of its costs and associate them with specific sources of revenue. Moreover, the DRG reported its operating and financial results to the public and the German government more accurately than many privately owned German companies. Hidden reserves were far less of a problem with the Reichsbahn than in private sector. The DRG's comparative openness was due to the fact that both the reparations authorities and the German government sought access to the Reichsbahn's operating surpluses, although for different reasons.

The matter of the distribution of the DRG's surplus, indeed whether it should have earned a surplus at all, raises important questions about the German government's position and the sources of opposition to accounting reform. The Reich government strongly supported accounting reform by the Reichsbahn because it could not independently assess the railway's financial performance due to lack of information. Indeed, it relied on the annual report to an even greater extent than the Allies did. The Reich also hoped that improved accounting methods would make the DRG more efficient enabling it to earn larger operating surpluses. The government would then seek to gain access to these funds either in the form of reduced tariffs or as cash transfers to the national treasury. Viewed in this light, the Reich's desire for rigorous accounting and accurate reporting by the Reichsbahn at the same time as it opposed payment of reparations makes sense. The government did not oppose accounting reform at the DRG as part of its effort to demonstrate Germany's inability to pay its reparations annuities. The opposition to accounting reform stemmed from social groups that feared a cash oriented economy based on competition because it was individualistic and un-German. They envisioned the railway as a public utility that should render service at or below cost. Their opposition to reparations was coincidental to their rejection of modern accounting. They would have opposed accounting reform at the Reichsbahn with or without reparations. The fact that cost accounting was promoted by foreigners simply made it easier to criticize.

The accounting reform implemented by the German National Railway Company may be seen as a component of the broader struggle that was waged in German society over modernization and "Americanization" between 1924 and 1932. The railway, occupying a central position in German economic and cultural life, was pushed by reparations to modernize and westernize its management practices. The result, not surprisingly, was a compromise that illustrates the extent to which Weimar business and society were prepared to accommodate change.

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