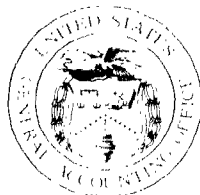


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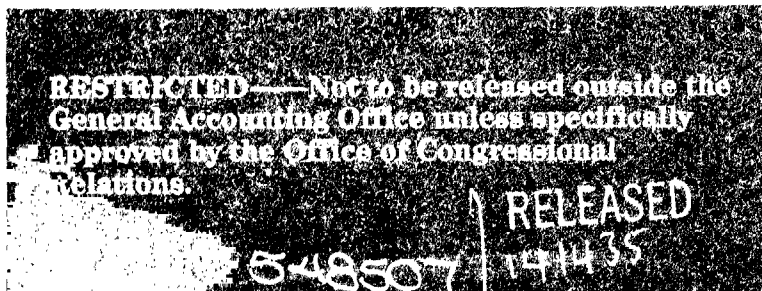
# RAILROAD REGULATION

## Economic and Financial Impacts of the Staggers Rail Act of 1980



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United States  
General Accounting Office  
Washington, D.C. 20548

**Resources, Community, and  
Economic Development Division**

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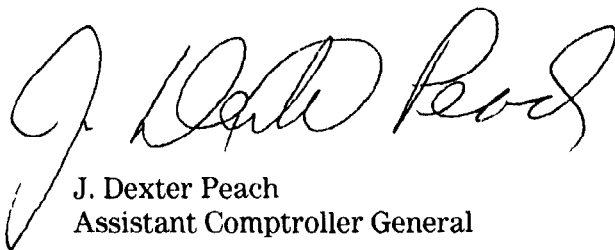
The Honorable Ernest F. Hollings  
Chairman, Committee on Commerce,  
Science, and Transportation  
United States Senate

The Honorable John C. Danforth  
Ranking Minority Member,  
Committee on Commerce,  
Science, and Transportation  
United States Senate

In response to your request and subsequent agreements with your offices, this report presents our analysis of the Staggers Rail Act of 1980. The report details the economic and financial impacts of the Staggers Rail Act on railroads and shippers, analyzes the financial performance of the railroad industry, and compares railroads' financial performance with that of other transportation modes.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the appropriate congressional committees, the Chairman of the Interstate Commerce Commission, and the Secretary of Transportation. We will also make copies available to others upon request.

This work was performed under the direction of Kenneth M. Mead, Director, Transportation Issues, (202) 275-1000. Major contributors are listed in appendix III.



J. Dexter Peach  
Assistant Comptroller General

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# Executive Summary

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## Purpose

The Congress passed the Staggers Rail Act of 1980 to improve the financial health of the nation's railroads. While reducing regulation of the railroad industry, the act continued Interstate Commerce Commission (ICC) regulation in areas where competition was absent.

At the request of the Senate Committee on Commerce, Science, and Transportation, GAO identified how the Staggers Rail Act has affected railroads and shippers, determined whether the railroads' financial performance has improved since the act's passage, and compared the railroads' financial performance with that of other transportation modes.

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## Background

During the 1970s, the profitability of Class I railroads—the nation's largest railroads—was among the lowest of major industries. A number of railroads had gone, or were on the verge of going, bankrupt, and railroads had accumulated over \$4 billion in deferred maintenance and delayed capital spending. The constraints of regulation, development of competing transportation modes that enjoyed subsidized rights-of-way (such as trucks and barges), changes in the industries that use railroads, and inefficient labor practices all contributed to the railroads' decline.

Before 1980, almost all rail rates were regulated and published in public tariffs (a schedule of rates, practices, and services). In contrast, the Staggers Rail Act made it federal policy to rely on competition and the demand for rail services, rather than on regulation, to establish reasonable rates. In addition, the act (1) allowed railroads to enter into confidential contracts for their services with shippers, (2) permitted railroads to cancel joint rates—single rates for the movement of goods over two or more railroads—that did not earn certain minimum revenue levels, and (3) set time limits on the line abandonment process. ICC was to regulate how high rail rates could be when effective competition was absent.

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## Results in Brief

Overall, the Staggers Rail Act has helped improve Class I railroads' financial health and rehabilitate rail facilities—the legislation's two primary purposes. For example, profitability increased during the 1980s compared with the 1970s, and increased capital spending on track and structures, in combination with declines in accidents caused by track defects during the 1980s, suggests improvement in the condition of rail facilities. In addition, the shipping industry has gained from lower rail rates and improved service. However, not all shippers have benefited because rates have not changed to the same degree for all commodities.

Moreover, some shippers have complained about ICC's relief procedures and questioned whether ICC has adequately protected their interests. In response to shippers' concerns, ICC has adopted new policies and procedures since 1985.

By most measures, Class I railroads' financial health has improved since 1980. Profitability, as measured by return on investment, averaged 4.9 percent during the 1980s, compared with 2.5 percent during the 1970s. In addition, debt has generally declined from about 36 percent of capital in 1980 to about 24 percent in 1988, and the ability to pay long-term obligations has improved. Cost reductions and increased efficiency contributed to improved financial health. However, the railroad industry is still not in robust health. Financial improvements have not been shared industrywide, and most railroads have not achieved revenue adequacy—that is, their return on investment has not equaled or exceeded the current cost of capital.

The railroad industry continues to lag behind other transportation modes in profitability. GAO compared railroads' financial performance with that of the trucking and natural gas pipeline industries—the two transportation industries for which sufficient financial information was available for analysis. Both the trucks and gas pipelines selected provided transportation services for others. Between 1980 and 1988, returns on investment for the trucking and gas pipeline industries ranged between 8.0 and 17.0 percent, while the railroad industry's returns ranged from 3.5 to 5.9 percent. Two factors contributed to these results: railroads must build and maintain their own rights-of-way, while trucks do not, and railroads have higher cost structures than gas pipelines.

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## GAO's Analysis

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### Impact of the Staggers Rail Act

By exercising the new flexibilities the Staggers Rail Act provided—in particular, greater rate-setting and contracting freedoms—the railroads have become more competitive. Cost reduction measures—including abandonments, sales of unprofitable lines, and productivity improvements, all at least partially attributable to the act—also played a role. Improved competitiveness has allowed the railroads to stem the decline in their share of the intercity freight transportation market.

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Shippers have benefited from reduced railroad regulation. Since 1980, rail rates, adjusted for inflation, have declined an average of about 22 percent. In addition, service has improved: train reliability has increased and freight car shortages, which might interrupt a shipper's business, have declined. Shipper trade associations GAO contacted said that, in general, the Staggers Rail Act had improved shippers' competitiveness and, in particular, opened new markets for some of their members.

The transition to a more market-oriented system under regulatory reform was not expected to affect all shippers the same. In keeping with this expectation, GAO found that rates have not changed to the same degree for all shippers and that, because of line abandonments and joint rate cancellations, some shippers have experienced increased costs or reduced rail service.

Some shippers have expressed dissatisfaction with ICC's relief procedures and questioned whether ICC has adequately protected their interests. For example, all five of the shipper trade associations GAO contacted criticized ICC's relief procedures as being burdensome, time-consuming, and expensive. Four of the five trade associations also told GAO that ICC's implementation of the act's provisions designed to protect captive shippers—shippers that must use rail to transport their goods—or promote railroad competition have been the most detrimental aspect of the change in railroad regulation. GAO found that since 1985, in response to shippers' concerns, ICC has adopted new policies and procedures for mediating rates and other disputes.

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## Railroads' Financial Performance Since 1980

By most measures, the railroads' financial condition has improved since enactment of the Staggers Rail Act. By reducing costs and increasing efficiency, the nation's largest railroads have increased their profitability, improved their ability to pay long-term obligations, and reduced their debt levels. Their short-term solvency generally improved through 1984, but then began to decline because of changes in tax laws and reduced cash flow. Since 1980, railroads' return on investment has averaged about 4.9 percent, up from the 2.5-percent average during the 1970s. Debt has generally declined from about 36 percent of total capital in 1980 to about 24 percent in 1988.

These financial gains have been concentrated among the five largest Class I railroads. Since 1980, the average annual return on investment for the other 11 Class I railroads has been about 2 percentage points less

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than that of the larger railroads—3.5 percent compared with 5.7 percent—although 2 of these 11 railroads improved their returns. In addition, while ICC has deemed some individual railroads to be revenue adequate, the railroad industry as a whole has not achieved revenue adequacy—that is, its return on investment has not equaled or exceeded the current cost of capital.

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### Railroads' Performance Compared With That of Other Transportation Modes

GAO compared the financial performance of railroads over the 1980-88 period with the financial performance of the trucking and natural gas pipeline industries—the two transportation industries for which sufficient financial information was available for analysis. Both the trucks and gas pipelines selected provided transportation services to others.

Railroads lagged behind both trucks and natural gas pipelines in profitability. Returns on investment for trucks and natural gas pipelines ranged between 8.0 and 17.0 percent, whereas railroads' returns ranged from 3.5 to 5.9 percent. Railroads must build and maintain their own rights-of-way, while trucks do not, and railroads have higher cost structures than gas pipelines. Both factors contributed to the railroads' inability to match the financial performance of these other transportation modes. In addition, GAO found that since the 1981-82 recession railroads have improved their average annual return on investment by only about 3 percent, compared with 16- and 6-percent improvements for trucks and gas pipelines, respectively.

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### Recommendations

This report makes no recommendations.

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### Agency Comments

GAO met with ICC to discuss the contents of this report. ICC generally agreed with both GAO's findings and conclusions. However, as requested, GAO did not obtain official agency comments on a draft of this report.

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**Abbreviations**

AAR	Association of American Railroads
COFC	container-on-flatcar
DOD	Department of Defense
DOT	Department of Transportation
FRA	Federal Railroad Administration
GAO	General Accounting Office
GNP	gross national product
ICC	Interstate Commerce Commission
TOFC	trailer-on-flatcar



# Introduction

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Railroads are a principal mode of transportation for many bulk commodities, such as coal and grains. In 1988, railroads carried about 37 percent of all intercity freight revenue ton-miles—more than any other transportation mode.<sup>1</sup> However, between the 1930s and the 1970s the long-term viability of the railroad industry was in serious jeopardy because its financial health was in decline. Return on invested capital was among the lowest of major industries. Earnings were insufficient for necessary capital improvements, and plant and equipment had deteriorated because of deferred maintenance. The causes of these problems were many, including regulatory constraints that hindered management's ability to change rates and reduce costs, changes in industries that traditionally depended on railroads for transportation, the development of competing transportation modes, and poor labor productivity.

In 1976 and 1980, the Congress passed legislation to reform railroad regulation. The 1976 legislation encouraged railroad competition and allowed railroads greater freedom to change rates. The 1980 legislation also encouraged railroad competition and made it government policy to have railroads rely more on competition and the demand for services, rather than on regulation, to establish reasonable railroad rates. However, the Interstate Commerce Commission (ICC) continued to play a role in protecting shippers and the public against unreasonable rail rates and practices.

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## Railroads' Status Before 1980

The financial status of the railroad industry before 1980 was poor and seemingly getting worse. The railroads' share of intercity freight traffic declined from about 75 percent in 1929 to about 38 percent in 1980. Furthermore, during the 1970s the profitability of Class I railroads—the nation's largest railroads—was among the lowest of major industries. According to the Association of American Railroads (AAR), a railroad trade association, railroads' 1975 rate of return on net investment—the relationship of net railway operating income to average net investment in transportation property—was only 1.2 percent, and return on shareholders' equity was only about 1.9 percent. From 1975 to 1979, we found that return on equity averaged only about 2.5 percent. By contrast, manufacturing companies and utilities earned rates of return of

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<sup>1</sup>Railroad Facts, Association of American Railroads, 1989 Edition. A revenue ton-mile is 1 ton carried 1 mile for which a fee is charged. Except where noted otherwise, in this report "railroads" refers to Class I railroads. ICC uses three classifications of railroads based on annual operating revenues.

about 15 and 12 percent, respectively.<sup>2</sup> In 1976, according to the Department of Transportation (DOT), railroads that were earning returns on investment of more than 6 percent accounted for only about 30 percent of the industry's revenues.<sup>3</sup> The railroad industry also faced cash flow difficulties, marginal credit ratings, and concern within the financial community about its long-term viability.

Many railroads had gone, or were on the verge of going, bankrupt. In a 1978 report to the Congress on the status of the railroad industry, DOT indicated that in 1976 about one-third of Class I railroads (11 of 36) were earning a negative return on investment and that at least three companies—Boston and Maine; Chicago, Rock Island, and Pacific; and Chicago, Milwaukee, St. Paul, and Pacific—were in bankruptcy reorganization.<sup>4</sup> In addition, several northeast railroads, which eventually became the Consolidated Rail Corporation (Conrail), had entered bankruptcy in the early 1970s. Because shipments of goods frequently travel over more than one railroad, railroad failures have the potential to affect the financial condition and performance of other railroads.

Not only were railroads going bankrupt, but the condition of rail plant and equipment was poor. Years of declining profits led to deferred maintenance of rights-of-way, and over time plant and equipment deteriorated. Prolonged deferrals in maintaining and replacing worn-out capital stock affected safety and the quality of rail service. According to the 1978 DOT report, by June 1976 the nation's Class I railroads had accumulated over \$4 billion in deferred maintenance and delayed capital expenditures. The Federal Railroad Administration estimated that if poor financial performance continued, the industry would accumulate a capital shortfall of between \$13 billion and \$16 billion by 1985.

## Causes of Railroads' Problems

Regulation, demographic and economic changes, the development of competing transportation modes, and poor labor productivity were some of the reasons for the railroads' deteriorating financial health. Regulation reduced the managerial control and flexibility the railroads needed

<sup>2</sup>These returns may not be directly comparable because before 1983 the railroad industry used the retirement-replacement-betterment accounting system for reporting on rail track and structures. In 1983, ICC adopted the depreciation basis of accounting for these items.

<sup>3</sup>A Prospectus for Change in the Freight Railroad Industry, DOT (Oct. 10, 1978).

<sup>4</sup>Reorganization permits a bankrupt railroad to prepare a plan for court acceptance showing, among other things, all payments to be made; assets to be sold; and the extent to which, as well as the means by which, the railroad will continue service.

to react to changing market conditions. Rate changes—whether increases or decreases—were sometimes subject to lengthy ICC review and possible suspension.<sup>5</sup> Rate bureaus were often used to set rates,<sup>6</sup> a practice that inhibited individual railroads from setting rates in a timely manner and in response to marketplace demands. Furthermore, from 1962 until 1978 ICC policy prevented the railroads from negotiating contract rates with shippers. This restriction limited the ability of railroads to effectively market their services through tailor-made rates and services. Railroads tried to reduce costs by abandoning unprofitable lines. However, ICC's abandonment procedures were often lengthy; it was not unusual for an abandonment proceeding to last several years. In addition, before 1976 ICC routinely suspended the cancellation of joint rates—single rates applicable to the movement of goods over two or more railroads—and reciprocal switching agreements,<sup>7</sup> thereby inhibiting the elimination of uneconomic rates and routes.

Demographic changes, a growing reliance on imports, and a move towards smaller, lighter, and lower-cost products also affected the railroad industry. Shifts in population and manufacturing activities from the northeast and north-central sections of the United States to the west and south, as well as shifts in population from rural to urban areas, hurt the railroads by making portions of the rail network obsolete and altering the balance of commodity flows between areas of the country. In addition, population shifts from central cities to suburban areas, where greater reliance is placed on highway access, hurt the railroad industry. Firms no longer wanted to locate on rail rights-of-way but near highways. The growth of imports and the move towards smaller, lighter products whose values by weight are relatively high also reduced the demand for rail transportation services. While domestic production and consumption may require several shipments by rail, imports generally require transportation only from a port to a point of sale. Likewise, smaller, lighter products require less transportation of raw materials and finished goods.

The development of the interstate highways and inland waterway systems helped the trucking and barge industries grow. Both industries

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<sup>5</sup>Suspension prevents a tariff action from taking effect pending the results of an investigation. A tariff is a schedule of rates, practices, and services.

<sup>6</sup>Rate bureaus allowed railroads, under an ICC-approved grant of antitrust immunity, to collectively discuss and, among other things, set railroad rates.

<sup>7</sup>Reciprocal switching agreements allow railroads, for an agreed-upon charge, to interchange cars originating or terminating on their track.

have also benefited from less regulation than railroads. The Transportation Association of America estimated that in 1975 all railroad activities were regulated, compared with only about 44 percent of truck activities and 15.5 percent of inland waterway activities. Furthermore, the cost structures of these industries give them a competitive advantage over railroads. In particular, while railroads build and maintain their own rights-of-way with minimum federal aid, highways and waterways are built and maintained by federal and state governments. Before 1978, waterways operators paid none of the costs of using the inland waterway system.<sup>8</sup> While trucks contribute to building and maintaining highways through license fees and taxes, DOT has reported that large trucks may pay less than their full share of costs.

Finally, poor labor productivity also played a role in the problems railroads faced. In the 1970s, labor costs constituted more than 50 percent of total railroad operating expenses. However, during the 1970s labor productivity was often governed by such factors as narrow craft and class divisions among unions, work rules that based compensation on the distance traveled, and restrictions on the tasks various types of employees could perform. These factors detracted from efficient deployment of the work force, increased costs, and prevented more efficient operations. Safety and job security concerns, however, led organized labor to oppose changes in these practices.

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## Reduction in Railroad Regulation

In 1976, the Congress sought to eliminate needless or harmful regulation of railroads by enacting the Railroad Revitalization and Regulatory Reform Act (4R Act). Its purpose was to restore the financial stability of the rail system and to improve the operation and structure of the railroad industry through rate-making and regulatory reform. In particular, the 4R Act encouraged greater railroad competition, allowed railroads greater freedom to change rates, and, in general, reduced ICC's regulation of the industry.

Before 1976, ICC regulated almost all rail rates. The 4R Act allowed ICC to regulate rates only where there was an absence of effective competition (called "market dominance").<sup>9</sup> The 4R Act also required ICC to exempt any person or class of persons, or any services or transactions of

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<sup>8</sup>In 1978, legislation was passed imposing a tax of 4 cents per gallon on fuel used by inland waterways carriers.

<sup>9</sup>This applied to rates equal to, or exceeding, variable costs (called "going concern value"), which were presumed to be reasonable.

railroads from regulation where such regulation was not necessary to implement the national transportation policy, represented an undue burden, and served little or no useful public purpose. Finally, ICC was required to develop standards for determining whether railroads were earning revenues adequate to cover their operating costs and provide a reasonable return on capital (called "revenue adequacy"). The 4R Act did not directly link the determination of revenue adequacy to the rate-making process, but rather encouraged ICC to assist railroads in attaining adequate revenues.

Despite the reforms of the 4R Act, the Congress found in 1980 that railroad industry earnings were still insufficient to generate the funds necessary for capital improvements. Consequently, it enacted the Staggers Rail Act, which further deregulated the railroad industry and made it federal policy to have railroads rely, where possible, on competition and the demand for services (called "differential pricing"), rather than on regulation, to establish reasonable rates.

The Staggers Rail Act maintained ICC regulation over how high rail rates could be when effective competition was absent or inadequate. While the 4R Act restricted ICC's review of how high rail rates could be to situations in which a railroad was market dominant, the Staggers Rail Act tied market dominance to rail rates exceeding a specified threshold.<sup>10</sup> The Staggers Rail Act also elevated the importance of revenue adequacy. Whereas the 4R Act required ICC to develop revenue adequacy standards, the Staggers Rail Act required ICC to use these standards to determine annually which railroads were earning adequate revenues. The Staggers Rail Act also required ICC to consider revenue adequacy when it reviewed the reasonableness of rates. Finally, the Staggers Rail Act maintained ICC's authority to exempt portions of the industry from regulation.

The Staggers Rail Act went beyond the changes contained in the 4R Act. It restricted the role of rate bureaus by limiting collective rate-setting to only those railroads actually participating in the joint movement of goods. It permitted railroads to automatically change their rates, without challenge, in accordance with a rail cost adjustment factor—an inflation-adjusted index of rail costs. Furthermore, revenue-inadequate

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<sup>10</sup>The Staggers Rail Act specified revenue-to-variable-cost thresholds for establishing ICC jurisdiction over maximum rail rates. Variable costs are costs that change according to the quantities shipped. The current threshold is 180 percent.

railroads could increase their rates—including rates on market-dominant traffic—an additional 4 percent each year over the rail cost adjustment factor. ICC could not suspend zone-of-rate-flexibility increases, but such increases could be protested by shippers and investigated by ICC. Revenue-inadequate railroads could also add surcharges to light-density rail lines—lines carrying small amounts of traffic.

To allow railroads to more effectively market their services, the Staggers Rail Act permitted railroads to negotiate shipper contracts with confidential terms and conditions. The railroads were to file such contracts with ICC. The Commission was required to approve them unless they unreasonably discriminated against certain agricultural shippers or particular ports, or unduly impaired a railroad's ability to perform its common carrier responsibilities.<sup>11</sup> Once ICC approved a contract, only courts had jurisdiction to hear breach-of-contract disputes.

The Staggers Rail Act imposed time limits on the line abandonment process by requiring ICC to approve uncontested abandonment applications within 45 days of filing. The act also set an overall time limit of 255 calendar days on the abandonment process. The time limits helped speed abandonments and therefore helped railroads reduce costs. Before 1980, no time limits on the overall abandonment process existed. The Staggers Rail Act also contained new provisions allowing railroads to cancel joint rates that did not achieve certain minimum revenue-to-variable-cost levels. These provisions sought to ensure that railroads earn certain minimum revenues on their joint rates.

ICC maintains a role in protecting shippers against unreasonable rates and practices. To implement its authority, ICC has established procedures for filing protests and complaints. According to ICC officials, protests are generally filed before a rate or practice change has taken effect and are designed to prevent the change. Complaints are generally filed after the effective date of a change and are designed to overturn the change. Either railroads or shippers may file protests or complaints. In deciding protests, ICC can suspend and investigate a change, investigate but not suspend a change, or take no action. According to ICC officials, ICC must act on complaints and, after investigating, can award damages to the complainant, request that rates be changed (if rates are found unreasonable), or allow the rate to remain in effect.

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<sup>11</sup> Railroads, as common carriers, are required to provide rail services to any shipper upon reasonable request.



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## Objectives, Scope, and Methodology

The Chairman and Ranking Minority Member of the Senate Committee on Commerce, Science, and Transportation asked us to review certain aspects of the railroad industry, including the financial and competitive conditions within the industry. As agreed with the Committee's office, we

- identified the economic and financial impacts of the Staggers Rail Act on railroads and shippers,
- determined how the financial performance of the railroad industry has changed since passage of the Staggers Rail Act, and
- identified how the railroads' financial performance compares with that of other transportation modes.

To identify the Staggers Rail Act's economic and financial impacts on railroads and shippers, we reviewed (1) legislation enacted in 1976 and 1980, (2) selected ICC policies issued since 1980 on rail rates, (3) literature available in professional and trade journals dealing with railroad deregulation and the economic and financial impacts of the Staggers Rail Act, and (4) studies and/or congressional testimony on railroad deregulation prepared by ICC; DOT; the Departments of Energy, Justice, and Agriculture; the Federal Trade Commission; and the Congressional Research Service. In addition, we used reports we had previously issued on various aspects of the railroad industry and the Staggers Rail Act and reviewed selected position papers railroad and shipper trade associations had prepared.

We also interviewed officials of 11 railroads (7 Class I and 4 Class II and Class III railroads)<sup>12</sup> and 5 shipper trade associations about the economic and financial impacts of the Staggers Rail Act on them or their members. We selected the railroads and trade associations to obtain a cross section of organizations. The railroads were a mix of large and small carriers, carriers operating in different areas of the country, and carriers established both before and after passage of the Staggers Rail Act. The trade associations represented shippers that were diverse in terms of size, their level of dependence on rail transportation, and the type of goods transported (agriculture, manufacturing, coal, etc.).

To determine changes in the railroads' financial performance over the last two decades, we (1) collected financial information for the years

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<sup>12</sup>In 1988, Class I railroads earned annual revenues of \$92.0 million or more for 3 consecutive years, Class II railroads earned between \$18.4 million and \$92.0 million, and Class III railroads earned less than \$18.4 million.

1970 to 1988 from ICC's publication Transport Statistics for both the railroad industry and individual Class I railroads; (2) selected—in consultation with ICC, the Federal Railroad Administration, AAR, the American Trucking Associations, and the Federal Energy Regulatory Commission—measures of financial performance; and (3) discussed the financial performance of both the industry and individual railroads with the railroads included in our study. ICC used to require the retirement-replacement-betterment accounting system to account for rail roadways and structures, but in 1983 it adopted depreciation accounting. Using data the railroads prepared, ICC developed financial data adjusted to the depreciation accounting basis for the 1978-82 period.<sup>13</sup> According to ICC officials, financial data based on depreciation data were not available before 1978. As a result, the data we used for the 1970s are not strictly comparable to the data we used for the 1980s. We included 1988 information where available.

Since ICC reclassified several railroads from Class I to Class II between 1978 and 1986, we excluded these railroads from our financial totals for the industry. We also excluded railroads comprising Guilford Transportation Industries because ICC was unable to develop depreciation data before 1983 for these railroads. Some of the remaining Class I railroads were acquired by, or merged into, other railroads during our analysis period. We asked representatives of these railroads to review the data we had developed and, to the extent possible, made adjustments based on these reviews.<sup>14</sup> However, we did not verify the accuracy of this supplemental information.

To compare the railroads' financial performance with that of trucks and natural gas pipelines, we (1) collected annual financial information from the American Trucking Associations' publications Financial Analysis of the Motor Carrier Industry and 1988 Motor Carrier Annual Report and from the Energy Information Administration's publication Statistics of Interstate Natural Gas Pipelines Companies; (2) compared financial ratios for the railroad industry with those for the trucking and natural

<sup>13</sup>ICC provided us restated financial information for both the railroad industry and individual railroads for the 1978-82 period. The 1983 ICC Form R-1, Annual Report, included for each railroad a schedule restating financial information from the retirement-replacement-betterment to the depreciation accounting basis for the preceding 4 years. Using this schedule ICC developed data for 1978.

<sup>14</sup>The following railroads acquired subsidiary railroads during the study period: Burlington Northern Railroad, CSX Transportation, Grand Trunk Western Railroad Company, Norfolk Southern Corporation, Soo Line Railroad Company, and Union Pacific Railroad Company. We treated the Missouri-Kansas-Texas Railroad Company as a separate entity because it was not acquired by Union Pacific until 1988.

gas pipeline industries; and (3) discussed the results of our analysis with ICC, the American Trucking Associations, AAR, and the Federal Energy Regulatory Commission. Each of these organizations provided opinions about differences in financial performance between railroads and the trucking and natural gas pipeline industries.

We included in our analysis only ICC-authorized motor carriers with annual revenues of \$1 million or more. These carriers included general freight carriers as well as specialized carriers that typically carry freight in full truckloads from shippers to receivers. Excluded from the analysis were (1) motor carriers with annual revenues of less than \$1 million, since they are not required to file annual financial reports with ICC; (2) firms excused by ICC from filing annual reports; and (3) firms that the American Trucking Associations found filing incomplete, inconsistent, and/or inaccurate data. We also included in our analysis only natural gas pipelines that derived at least 75 percent or more of their revenues from transporting gas for others. Our aim was to focus on gas pipelines providing transportation services for others and eliminate pipelines with primarily production and/or merchandising functions—activities that have no counterpart in the railroad industry. We attempted to include the barge, air cargo, and oil pipeline industries in our analysis, but the financial information available did not provide a representative overview of these industries.

Appendixes I and II contain profiles of the railroads and trade associations included in our study. “Related GAO Products” includes a list of reports we have issued on the railroad industry and the Staggers Rail Act of 1980.

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## Data Limitations

The information presented in this report represents our analysis of available data and may not identify all the individual economic and financial impacts on railroads and shippers. We did not attempt to measure the economic and noneconomic effects of the Staggers Rail Act or establish cause-effect relationships. Factors other than regulatory reform may have contributed to the reported effects. To the extent possible, we tried to acknowledge these other factors.

We also did not contact all railroads and/or shippers potentially affected by the Staggers Rail Act. Instead, we selected a sample of railroads and shippers to obtain a wide spectrum of views. Their views and experiences, however, may be different from those of other railroads and

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shippers. As a result, the information we obtained cannot be projected to the universe of railroads and shippers.

We conducted our work between August 1988 and February 1990. GAO met with ICC to discuss the contents of this report. ICC generally agreed with both our findings and conclusions. However, as requested, GAO did not obtain official agency comments on a draft of this report.

# Railroads Are More Competitive and Have Stabilized Their Market Share

The freedoms railroads gained under the Staggers Rail Act have enabled them to become more competitive in the 1980s. By exercising greater control over rate-making and the ability to offer contracts, railroads have become more responsive to the marketplace and have exploited new business opportunities. Faced with growing traffic since 1982 but declining rates and revenues, railroads were successful in reducing costs more than revenues declined by abandoning or selling lines, reducing their work force, and improving productivity. Such measures were necessary for railroads to become more profitable. In addition, the evidence suggests that railroads increased capital spending and improved the condition of their track and structures in the 1980s. By becoming more competitive, railroads have been able to stem the decline in their share of the intercity freight transportation market.

## Competition Among Transportation Modes Increased in the 1980s

The transportation market became increasingly competitive in the 1980s. The railroads faced two major rivals—trucks and barges—both of which underwent changes that increased their competitiveness.

The Motor Carrier Act of 1980 substantially reduced federal regulation of the trucking industry. It eased entry restrictions for new firms, eliminated restrictions prohibiting a motor carrier from operating as both a common and contract carrier, increased the number of exempt commodities,<sup>1</sup> and eliminated certain operating restrictions placed on regulated carriers (such as route restrictions and the number of shippers they could serve). This act also encouraged greater price competition among motor carriers in general by phasing out ICC's authority to grant anti-trust immunity for certain rate-setting activities. The Surface Transportation Assistance Act of 1982 also increased competitiveness by allowing the use of both heavier truck trailers and two trailers per truck on interstate highways. As a result of these changes, new trucking companies entered the business, existing firms expanded their markets, and price competition intensified in the 1980s.

The barge industry is largely unregulated. As of 1987, only about 8 percent of the ton-miles handled by barges was subject to ICC regulation. Barges tend to have lower unit costs than the competing intercity freight transportation modes, and they became even more competitive in the early 1980s, when a grain embargo and overinvestment in barges created overcapacity in the industry; consequently, rates fell. Although the

<sup>1</sup>Truck transportation of some agricultural products is exempted from ICC's jurisdiction. These products include livestock, feed, seeds, and unprocessed agricultural commodities.

overcapacity situation eased toward the end of the decade, railroads still compete vigorously with barges for such commodities as coal and grain.<sup>2</sup>

Competition among railroads also increased after passage of the Staggers Rail Act. Before 1980, railroads knew what their railroad competitors were charging for their services, since rates were published in tariffs and rate bureaus frequently set the price for shipping goods by rail. According to railroad officials we spoke with, having to go through rate bureaus often delayed the establishment of new rates, and certain railroads could block rate changes they did not consider favorable to them or the industry.<sup>3</sup> For example, one official told us that rate changes—even increases—were often blocked by railroads wanting to keep their shippers competitive. Documents from another railroad indicated that because ICC wanted to avoid price competition among railroads offering alternative routes between a particular origin and destination, rates were collectively set to ensure equal rates over all routes. If a railroad tried to reduce rates to capture traffic, it would be blocked by potentially disadvantaged railroads. The Staggers Rail Act restricted collective rate-setting by these bureaus and allowed railroads to negotiate shipper contracts with confidential terms. As a consequence, railroads were forced to compete harder among themselves to attract and/or retain business.

At the same time that the transportation sector was becoming more competitive, the economy was expanding. After a recession in 1981-82, real gross national product (GNP)—an inflation-adjusted measure of the value of the output of all goods and services produced by the economy—increased at an average annual rate of 4.2 percent between the fourth quarter of 1982 and the third quarter of 1988. In comparison, GNP grew at only a 2.2-percent average annual rate between the fourth quarter of 1973 and the third quarter of 1981. An expansion in industrial production also required more intercity movement of freight, offering new business opportunities to all transportation modes—including railroads. Between 1982 and 1988, intercity freight transportation tonnage grew, on average, about 3.7 percent annually, compared with an average

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<sup>2</sup>Bulk commodities, such as coal and grain, have low value-to-weight ratios and are often transported over long distances. Principal commodities carried by barges include coal, grain, and chemicals.

<sup>3</sup>Regardless of rate bureau actions, railroads maintained a right of independent action in setting rates. However, several railroad officials told us that rate bureaus still hindered railroads from setting their own rates.

annual decline of about one-tenth of 1 percent between 1973 and 1981 (see table 2.1).<sup>4</sup>

**Table 2.1: Average Annual Growth Rates of Intercity Freight Tonnage**

Period	Percent growth in tonnage	
	All modes	Railroads <sup>a</sup>
1973-81	-0.12	-0.45
1982-88	3.67	3.00

<sup>a</sup>Includes all classes of railroads.  
 Source: GAO analysis of Transportation in America data.

## The Staggers Rail Act Enabled Railroads to Become More Competitive

Faced with an increasingly competitive transportation market, railroads have taken advantage of the new flexibilities created by the Staggers Rail Act to enhance their own competitiveness. Through greater rate-making freedoms and the ability to offer contracts for their services, railroads have become more responsive to the market. This has resulted in both reduced rates and contracts with rate and service packages tailor-made to shippers' needs. Consequently, railroads have been better able to retain business and exploit new market opportunities.

## Reduced Regulation Enhanced Rate-Making Freedoms

The Staggers Rail Act has allowed railroads to charge more competitive rates. In April 1989, ICC reported that average real rail rates had declined 22.4 percent between 1980 and 1987.<sup>5</sup> In contrast, real rail rates had increased about 9 percent between 1978 and 1980. ICC figures indicated that the declines affected rates for transporting a number of commodities—including farm products, coal, and chemicals—and ranged from about 10 percent for coal to about 44 percent for farm products. Representatives of the eight railroads we contacted that were in existence before 1980 said that their firms have set more competitive rates since passage of the Staggers Rail Act. One railroad representative told us that before 1980 rates were always raised but, at least in his opinion, never lowered.

The ability to offer more competitive rates has helped railroads take advantage of market opportunities, such as the trailer-on-flatcar (TOFC)

<sup>4</sup>Except where noted, averages discussed in this chapter are average annual rates of change calculated by dividing the total value of unweighted rates of change for individual years by the total number of years indicated. While this approach may mask changes in any specific year, it allows comparisons of the average annual rates of change from one period to another.

<sup>5</sup>ICC put rail rates in 1987 dollars to determine real rate changes.

and container-on-flatcar (COFC) markets—one of the fastest-growing segments of the railroad business. Goods not carried in TOFC/COFC service would likely be carried by trucks.<sup>6</sup> Spurred in part by greater rate-making flexibility and ICC's exemption of this traffic from regulation under the Staggers Rail Act,<sup>7</sup> railroads were able to design price packages that made this business attractive to shippers and others. As a result, this business has grown steadily during the 1980s. In 1988, railroads loaded about 5.7 million trailers and containers, compared with only about 3.1 million in 1980.

Railroad boxcar service also illustrates how competitive rate-making has allowed railroads to take advantage of increased pricing flexibility to retain and/or regain business. In May 1983, ICC used its Staggers Rail Act authority to exempt boxcar traffic from regulation. In November 1988, ICC's Office of Transportation Analysis reported that aggressive pricing had enabled railroads to retain boxcar traffic they otherwise would have lost to trucks.<sup>8</sup> Some small railroads, by being responsive to the market, have even been able to regain some lost boxcar traffic. Although the boxcar business continues to diminish, according to ICC, it retains a role in the transportation marketplace because of the railroads' pricing flexibility.

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## Contracts Permit Tailored Rates and Services

Railroads have also increased their competitiveness by negotiating contracts with rates and services tailored to customers' needs. According to one railroad official we spoke with, contracts are useful business tools because they can specify not only rate levels, but also such items as claims, damage reporting, service standards, and service guarantees, none of which are published in tariffs. ICC's Office of Transportation Analysis found in March 1984 that contracts filed with ICC covered almost all commodities and included a variety of rate and service provisions.<sup>9</sup> The majority of the contracts, according to ICC, involved reduced rates or allowances in exchange for volume commitments.

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<sup>6</sup>Although a large portion of TOFC/COFC traffic is diverted from highway transportation, some portion of this traffic may also be diverted from other types of rail transportation.

<sup>7</sup>The Staggers Rail Act required ICC to exempt persons, a class of persons, or a railroad transaction or service from regulation when ICC found that such regulation was not necessary to carry out the transportation policy of the act and regulation was not necessary to protect shippers from the abuse of market power.

<sup>8</sup>Effects of the Boxcar Exemption, ICC, Office of Transportation Analysis (Nov. 1988).

<sup>9</sup>Report on Railroad Contract Rates Authorized by Section 208 of the Staggers Rail Act of 1980, ICC, Office of Transportation Analysis (Mar. 13, 1984).



Railroads have made widespread use of contracts. According to an AAR official, AAR's 1989 survey of eight Class I railroads found that in 1988 about 60 percent of all these railroads' shipments moved under contract rates. Officials of all 11 of the railroads we contacted said their firms have used contracts and expect to make equal or greater use of contracts in the future. Some of these officials said, among other things, that contracts provided railroads both greater flexibility in setting rates and guaranteed volume. Ten of the 11 officials also believe that contracts made their railroads more competitive.<sup>10</sup>

Contracts have been important tools in attracting and retaining business. ICC's survey of 11 railroads for its March 1984 report on contracts (see above) found that 10 of the 11 railroads had been successful in using contracts to attract business from other transportation modes. Traffic gains for four of the railroads were estimated to range from 5,400 to 65,000 carloads annually.<sup>11</sup> All 11 railroads also reported both gaining and losing traffic to other railroads because of contracting, although ICC was unable to gauge the extent of intramodal shifts in traffic. ICC also found that contracts (1) helped railroads weather the 1981-82 recession by enabling them to obtain volume commitments in return for rate concessions, (2) helped railroads to quickly meet market conditions by providing flexible pricing, and (3) allowed railroads to develop innovative rate features, such as short-term "economy specials," to stimulate movements of certain commodities.

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## **Railroads Have Had to Cut Costs**

Faced with growing traffic since 1982 but falling rates and revenues and a desire to remain profitable, railroads have reduced costs by abandoning lines, selling lines to other operators, reducing employment, and increasing productivity. Using such measures, the railroad industry has been successful in reducing costs at a faster pace than revenues have declined. Between 1981 and 1988, the inflation-adjusted operating revenues of Class I railroads included in our analysis declined, on average, about 4.3 percent annually, whereas operating expenses declined, on average, about 4.8 percent annually.<sup>12</sup>

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<sup>10</sup>One official did not discuss the matter.

<sup>11</sup>Information was not available for the other railroads.

<sup>12</sup>Not all railroads were included in our analysis. See chapter 1 for more information.

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**Lines Have Been  
Abandoned or Sold to  
Reduce Costs**

To reduce costs, railroads abandoned lines that were unprofitable or duplicative. As mentioned in chapter 1, the Staggers Rail Act imposed time limits on ICC's processing of abandonment applications. These time limits helped speed abandonments and, therefore, cost reduction. Between 1981 and March 1989, railroads—excluding Conrail and certain exempted railroads<sup>13</sup>—applied for approval to abandon about 16,000 miles of line—about 6 percent of the track they owned in 1980. ICC approved the abandonment of about 15,800 miles.<sup>14</sup> Between 1982 and March 1989, Conrail filed applications to abandon about 4,600 miles. ICC approved about 3,900 miles—about 12 percent of Conrail-owned track.<sup>15</sup>

Abandonments reduce costs by eliminating the maintenance and operating expenses associated with continuing service on a line. Railroads find abandonment attractive when the revenues a line generates fall short of the costs incurred to serve it. Officials of five of the railroads we contacted said abandonments had played an important role in reducing costs since 1980. Two officials said abandonments were critical to the survival of their railroads. Another said profitability increased significantly because abandonments eliminated unproductive and redundant track. Documents from this railroad indicated that abandonments would play a key role in its financial planning because of their significant value in reducing costs.

Sales of lines to other operators, instead of abandonments, have enabled railroads to reduce costs while maintaining traffic. Once a line is sold, the previous owner generally no longer incurs the operating and maintenance costs associated with the line. Should the line continue to be viable, it may continue to provide traffic to the previous owner. Since 1980, approximately 200 new shortline and regional railroads<sup>16</sup> have come into

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<sup>13</sup>The 4R Act gave ICC authority to exempt carriers from the routine abandonment process. ICC procedures permit abandonment approval when no traffic has moved over the line for at least 2 years and ICC finds no valid user complaints. Between 1984 and March 1989, railroads filed to abandon about 7,600 miles under the exemption authority. ICC granted approval for about 5,900 miles. ICC did not accumulate data on exemption authority abandonments until fiscal year 1984.

<sup>14</sup>The mileage granted in any 1 year may not be the same as the mileage filed for abandonment because of delays in the abandonment process and appeals of previous ICC decisions.

<sup>15</sup>The Northeast Rail Service Act of 1981 established different abandonment procedures for Conrail. ICC was required to approve Conrail abandonment applications filed on or before October 31, 1985, unless the lines were purchased or received a subsidy for continued operation.

<sup>16</sup>There are no strict definitions of the terms "shortline" and "regional." ICC defines these railroads as being similar to Class III and Class II railroads, respectively. However, a joint Federal Railroad Administration and ICC report defined shortline railroads as operating less than 250 miles of track and regional railroads as operating 250 miles or more of track.

existence from such sales, compared with only 56 between 1970 and 1980. A 1987 ICC survey of shortline and regional railroads formed since 1980 found that, for the most part, these railroads started by taking over track that had been abandoned or was targeted for abandonment. According to ICC, most of these railroads were operating as low-cost feeder and distribution systems connecting with larger railroads.

ICC helped create these railroads by exempting most line sales from its approval. In January 1986, ICC adopted new procedures to expedite purchases of shortline and regional railroads. These procedures required a potential purchaser to file with ICC only a brief notification of purchase. A sale could be consummated in as little as 7 days after this notice.<sup>17</sup> Previous regulations required potential purchasers to file more information and generally took longer to process. Eighty-nine of the estimated 200 new shortline and regional railroads that have come into existence since 1980 were created under the new procedures. ICC believes its exemption policy has been beneficial in preserving rail service as well as railroad jobs and investment.

## Work Force Declines Have Further Reduced Costs

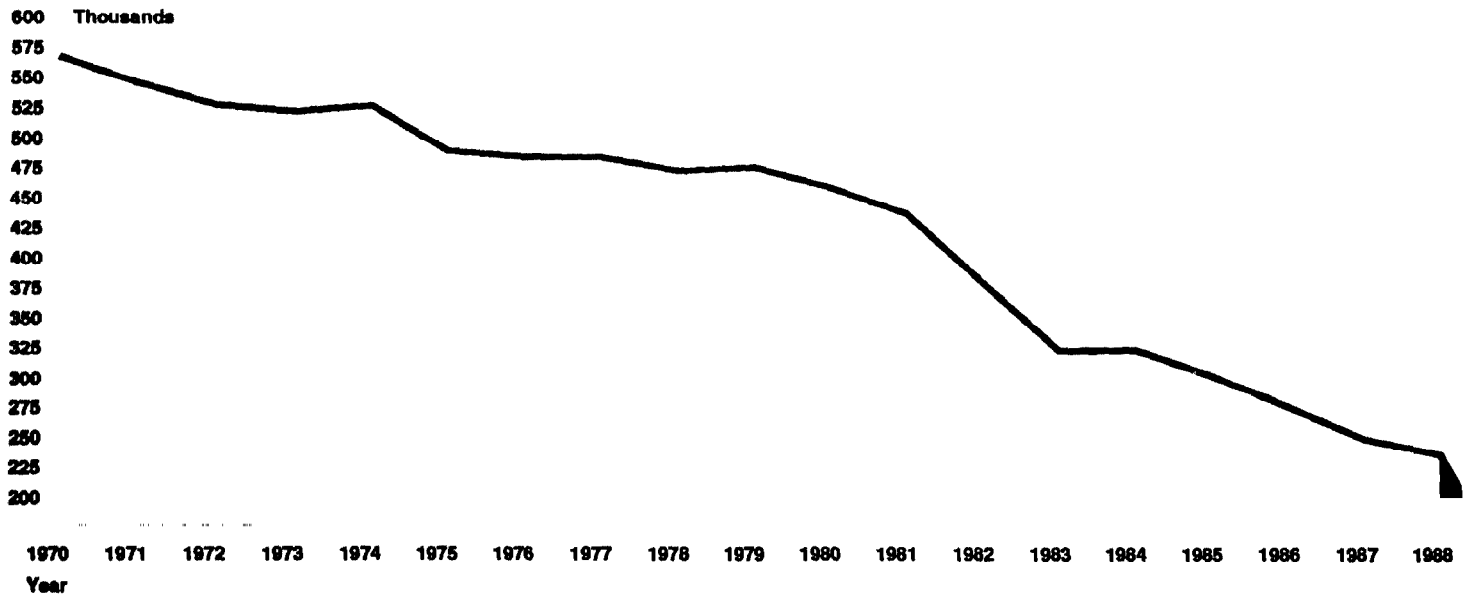
In response to falling rates and revenues, railroads have reduced the size of their work force to reduce costs. According to AAR statistics, employment for Class I railroads (excluding Amtrak) fell more than 48 percent between 1980 and 1988—from about 458,000 employees to about 236,000. In contrast, employment declined by only about 16 percent during the 1970s—from about 566,000 in 1970 to about 475,000 in 1979 (see fig. 2.1).<sup>18</sup> As our April 1989 report discussed, there were many reasons why railroad employment declined.<sup>19</sup> Before 1980, the loss of freight traffic to trucks and changes to a more service-oriented economy contributed to employment declines. Since 1980, however, factors associated with regulatory reform, the 1981-82 recession, organizational changes resulting from mergers and consolidations, management initiatives (such as buyouts of employees and outside contracting for services), and technological changes have played a role.

<sup>17</sup>In February 1988, ICC again modified its procedures for Class I and Class II railroad acquisitions to require a 21-day, rather than a 7-day, delay after notification before the acquisition would be effective. The additional time was to allow a more in-depth evaluation of the transaction.

<sup>18</sup>Railroad employment, in general, has been declining since about 1929, when employment was about 1.7 million employees. However, the periods in the text were selected to indicate the impacts of regulatory reform.

<sup>19</sup>Railroad Retirement: Future Rail Employment and Trust Fund Solvency (GAO/HRD-89-30, Apr. 5, 1989).

Figure 2.1: Class I Railroad Employment (Without Amtrak)



Source: AAR.

Railroads have reduced employment in order to cut their labor costs. Since 1981, Class I railroads have reduced their real labor costs (total wages and fringe benefits), on average, about 6.1 percent annually. In 1987, real labor costs of Class I railroads were about \$10.7 billion, compared with about \$16.3 billion in 1980. However, labor costs still comprise almost half of operating expenses—only marginally below the proportion they accounted for in 1980. This small decline reflects the fact that average annual earnings per employee have increased from about \$24,700 in 1980 to about \$39,400 in 1988.

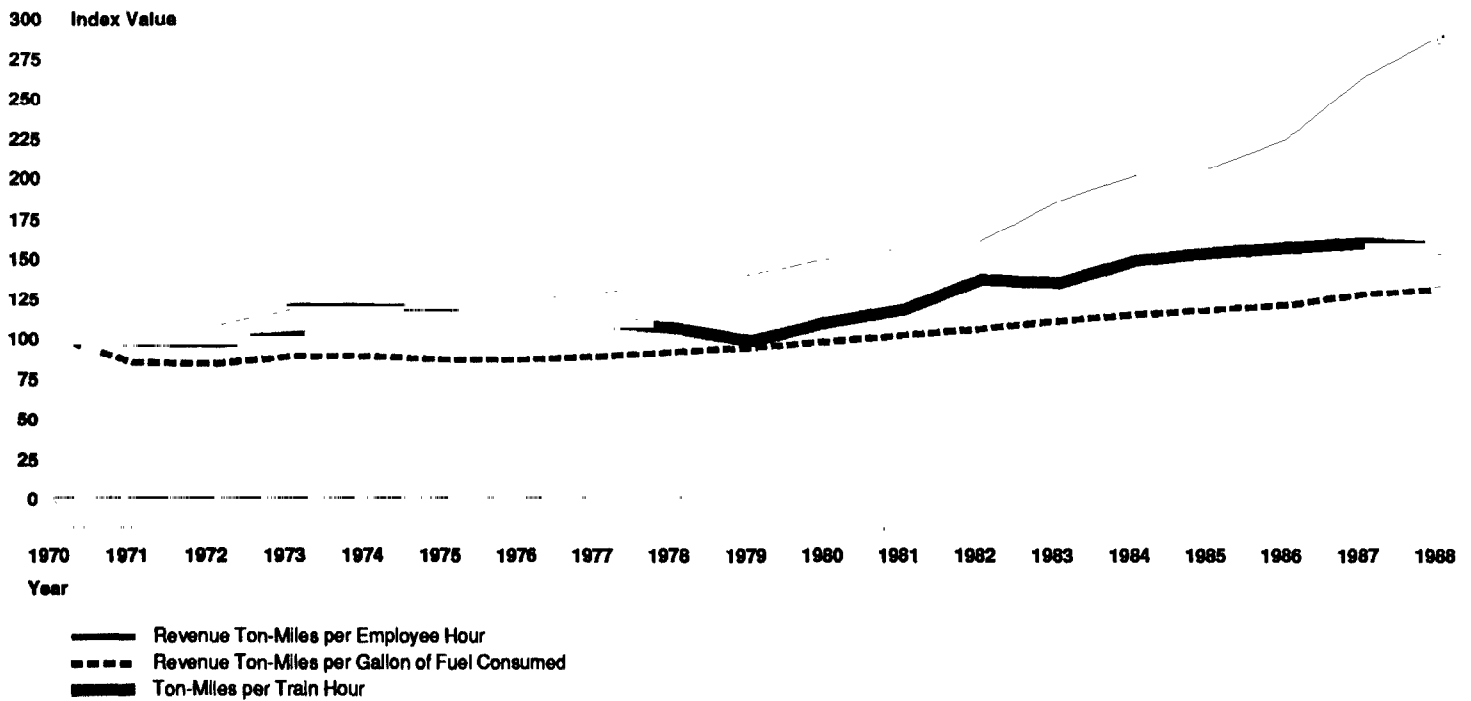
Further employment reductions are likely. Employment could fall from about 300,000 employees (including all classes of railroads and passenger employees) at the end of 1988 to between 71,000 and 185,000 employees by the year 2010. AAR has estimated that about 50,000 employees are unneeded but have been retained because of outmoded labor agreements, changes in technology, or other factors.

## Productivity Has Improved

Railroads registered substantial productivity gains in the 1980s. Fewer employees, lower fuel costs, increased abandonments and line sales, technological advances, and a more competitive environment have all

contributed to productivity growth. Based on numbers indexed to 1970, between 1980 and 1988, revenue ton-miles per employee hour increased from 148 to 288 and revenue ton-miles per gallon of fuel consumed increased from 98 to 131 (see fig. 2.2). Net ton-miles<sup>20</sup> per train-hour has also generally increased during the 1980s. While not all productivity gains are attributable to changes from the Staggers Rail Act, the increasingly competitive environment the act encouraged put pressure on railroads to increase productivity to remain profitable. Productivity gains were not as great in the 1970s.

**Figure 2.2: Class I Railroad Productivity**



Source: GAO analysis of AAR data.

<sup>20</sup>Net ton-miles is the movement of revenue freight or non-revenue freight, or both, a distance of 1 mile.

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## Railroads Have Improved Their Facilities

A stated purpose of the Staggers Rail Act was to improve rail plant and equipment. The evidence suggests that the condition of rail facilities has improved. Railroads have increased their capital spending on track and structures. AAR figures show that railroads increased spending for track and structures from approximately \$950 million in 1980 to about \$3.5 billion in 1985.<sup>21</sup> Since 1985, capital spending for these items has declined, but it is still above the average spending levels of the 1970s.

Small railroads could be expected to have deteriorated physical facilities because many small railroads took over lines that had been, or were scheduled for, abandonment. However, in February 1989 the Federal Railroad Administration (FRA) reported on a survey of the deferred maintenance and delayed capital spending of 458 regional, local, and switching and terminal railroads.<sup>22</sup> More than half had begun operations since 1970. Of the 458 surveyed, 358 responded, listing grain, coal, and lumber as their principal commodities. FRA found that most of their track did not require substantial repair, replacement, or improvement. In addition, railroads reporting no need for rehabilitation to correct deferred maintenance handled the majority of traffic.

According to the Department of Defense (DOD), track necessary to meet national defense purposes is in very good condition. In April 1989, an official with DOD's Military Traffic Management Command said he believed track condition was the best it had been since the 1920s. In January 1988, DOD informed the Congress that "the rail network was in its best readiness condition in two decades." DOD attributed this condition to the railroads' improved financial health, the Staggers Rail Act, and railroad deregulation in general.

FRA safety statistics also indicate that rail facilities have improved since 1980. The number of accidents caused by track defects declined almost

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<sup>21</sup>These figures are not completely comparable because in 1983 ICC adopted depreciation accounting for track and structures.

<sup>22</sup>Deferred Maintenance and Delayed Capital Improvements on Class II and Class III Railroads, A Report to Congress, DOT, FRA (Feb. 1989).

AAR defines switching and terminal railroads as companies performing switching services; furnishing terminal trackage, bridges, or facilities, such as union passenger or freight stations; and/or operating ferries.

FRA defines deferred maintenance as a reduction in maintenance below the level necessary to meet annual replacement requirements for rails, ties, and other track materials. Delayed capital spending is defined as any expenditure on any addition to, or betterment of, the physical plant that is not undertaken at the time it becomes necessary to keep the track and structures in the desired operating condition.

50 percent between 1982 and 1987. Such accidents increased in 1988; however, they were still well below the levels in the early 1980s. FRA cited railroad deregulation—in particular, its impact on cash flow—as a major reason for the improved condition of rail facilities. Nevertheless, defective track still accounted for nearly one-third of all train accidents in 1988, down only slightly from about 39 percent in 1982.

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## Railroads Have Stemmed Their Decline in Market Share

Increased competitiveness has enabled railroads to stem the decline in their share of the intercity freight transportation market. By offering better rates and improved service to shippers, as well as by taking advantage of greater market opportunities from an expanding economy, railroads have maintained their share of traffic volume (tonnage) during the 1980s. However, because other modes offer better prices and service, railroads have not fared as well in market share as their major transportation competitors. Both trucks and barges increased their market share in the 1980s.<sup>23</sup>

Between 1980 and 1988, railroad tonnage (tons carried) grew at the same rate as in the 1970s. However, railroads were able to stem the decline in their share of the intercity freight transportation market. From 1929 to 1980, the railroads' market share generally declined from about 75 percent to about 38 percent (see fig. 2.3). But after dropping so dramatically, railroads' average market share in the 1980s was only slightly below its average in the 1970s. (See table 2.2.)

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<sup>23</sup>As table 2.2 illustrates, the intercity freight transportation market primarily comprises railroads, trucks, oil pipelines, and barges. Great Lakes shipping and airplanes play lesser roles.

**Chapter 2  
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**Table 2.2: Tonnages and Market Shares  
of Selected Transportation Modes**

Transportation mode	Average annual growth rate in freight tonnage (percent)		Market share (percent) <sup>a</sup>	
	1970-79	1980-88 <sup>b</sup>	1970-79	1980-88
Railroads	0.3	0.3	37.3	36.7
Trucks <sup>c</sup>	2.5	2.8	22.9	24.0
Oil pipelines	2.5	1.0	23.3	23.2
Barges <sup>d</sup>	1.4	1.5	11.4	12.7
Great Lakes shipping <sup>e</sup>	-0.1	0.4	5.0	3.1
Airplanes	3.0	6.2	0.2	0.3

<sup>a</sup>Average percentage of intercity revenue ton-miles during the period. Market share numbers may not add to 100 because of rounding.

<sup>b</sup>1988 numbers are preliminary.

<sup>c</sup>Includes regulated and unregulated motor carriers of freight.

<sup>d</sup>Includes all river and canal water carriers of freight.

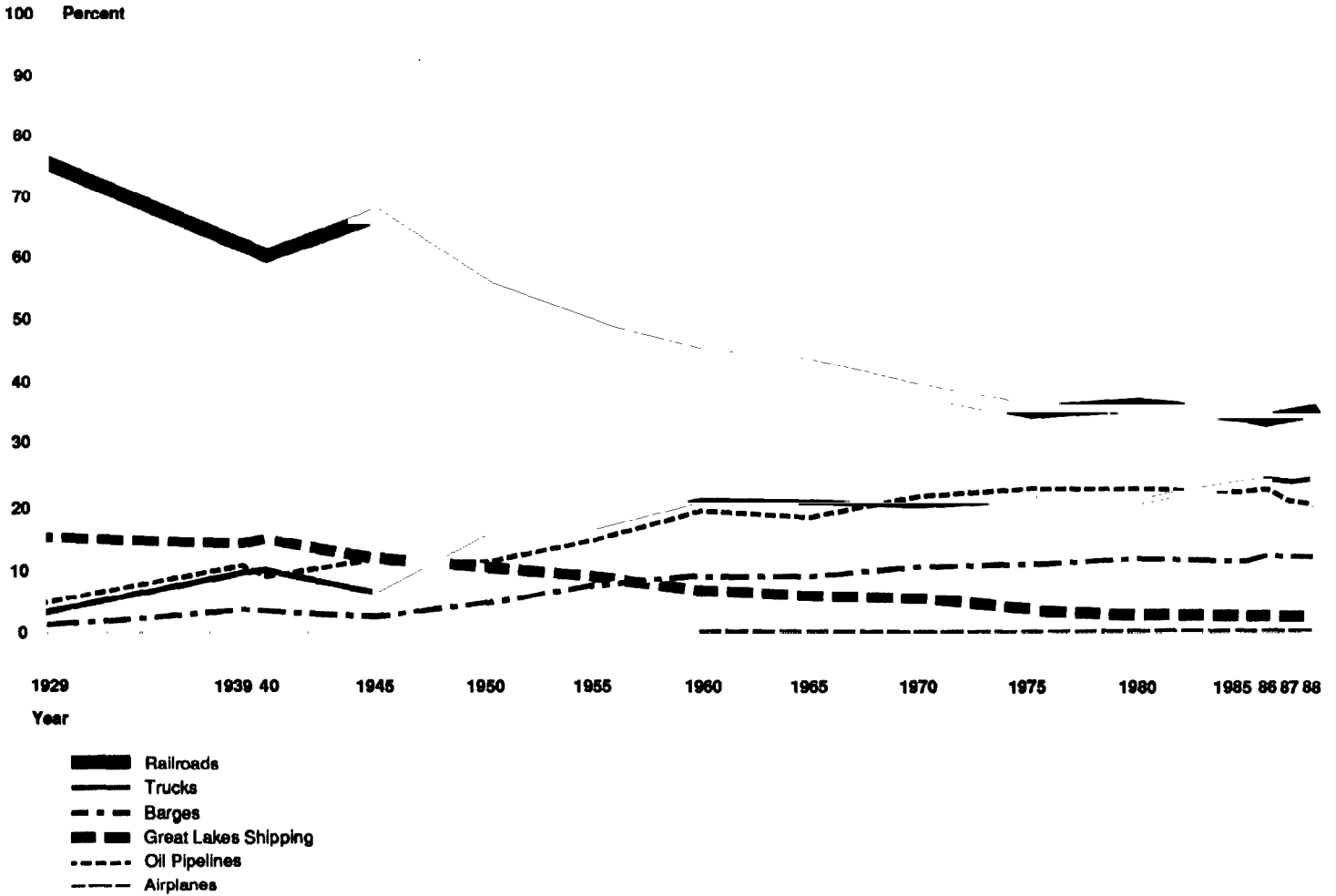
<sup>e</sup>Domestic and foreign U.S. traffic moving on the Great Lakes.

Source: GAO analysis of Transportation in America data.



**Chapter 2**  
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**Figure 2.3: Market Shares of Selected Transportation Modes**



Note: Figures for 1988 are preliminary.  
 Source: Transportation in America and AAR.

Despite the growth in the freight transportation market and railroads' static growth in tonnage during the 1980s, railroads could not cut into their competitors' market shares. Trucks and barges have been aggressive competitors during the 1980s and have fared better than railroads in terms of increasing market share (see table 2.2). The growth rate in truck freight tonnage during the 1980-88 period was about 5 percent higher than during the 1970s, and the trucking industry's market share increased from 22.9 to 24.0 percent. Barges also increased both their tonnage growth rate and market share in the 1980s.

A closer analysis reveals that railroads are more competitive in some markets, but not in others where trucks and barges offer better prices and/or services. Railroads have maintained or increased their market share in shipping commodities such as finished motor vehicles and some bulk products (e.g., coal), but have lost relative market share in shipping other commodities.

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## Conclusions

Faced with an increasingly competitive transportation market in the 1980s, railroads have used the additional flexibility the Staggers Rail Act provided to become more competitive. Exercising the increased rate-making freedoms and the ability to contract for their services, railroads have attracted more business and exploited new market opportunities. Consequently, they have been able to stem the decline in their share of the intercity freight transportation market, although they have not been able to increase their share relative to that of other transportation modes.

Improvement in the condition of rail facilities has also been achieved, in part through the railroads' improved financial health and increased capital spending. The Federal Railroad Administration reported that most of the track covered in its survey of Class II and Class III railroads did not require substantial repair, replacement, or improvement to meet operational needs. The Department of Defense believes track conditions are the best they have been in decades. In addition, safety statistics indicate that the number of track-caused accidents has generally declined, although track defects continue to account for a significant portion of accidents.

# Railroads' Financial Health Has Improved, but Most Railroads Are Not Revenue Adequate

The overall financial health of the railroad industry has improved since 1980. Profitability has increased, and railroads are generally better able to meet their long-term obligations. Short-term solvency improved during the early 1980s, although it began to decline later in the decade as cash flow decreased. Despite these improvements, most railroads still do not earn sufficient revenues to generate a rate of return that equals or exceeds the current cost of capital. Furthermore, the five largest railroads generally have shown greater financial improvement than the rest of the industry, and railroads continue to lag behind other transportation modes in profitability.

## Industry Financial Health Has Improved

As a number of financial indicators demonstrate, the railroad industry's financial health has improved since 1980. Profitability is higher, and railroads are better able to pay their long-term obligations than they were in the 1970s. Railroads' short-term solvency improved in the early 1980s, although it later began to decline and, on average, was generally lower than in the 1970s. The Staggers Rail Act, modifications in the tax law, and other factors contributed to the overall improvements.

## Industry Profitability

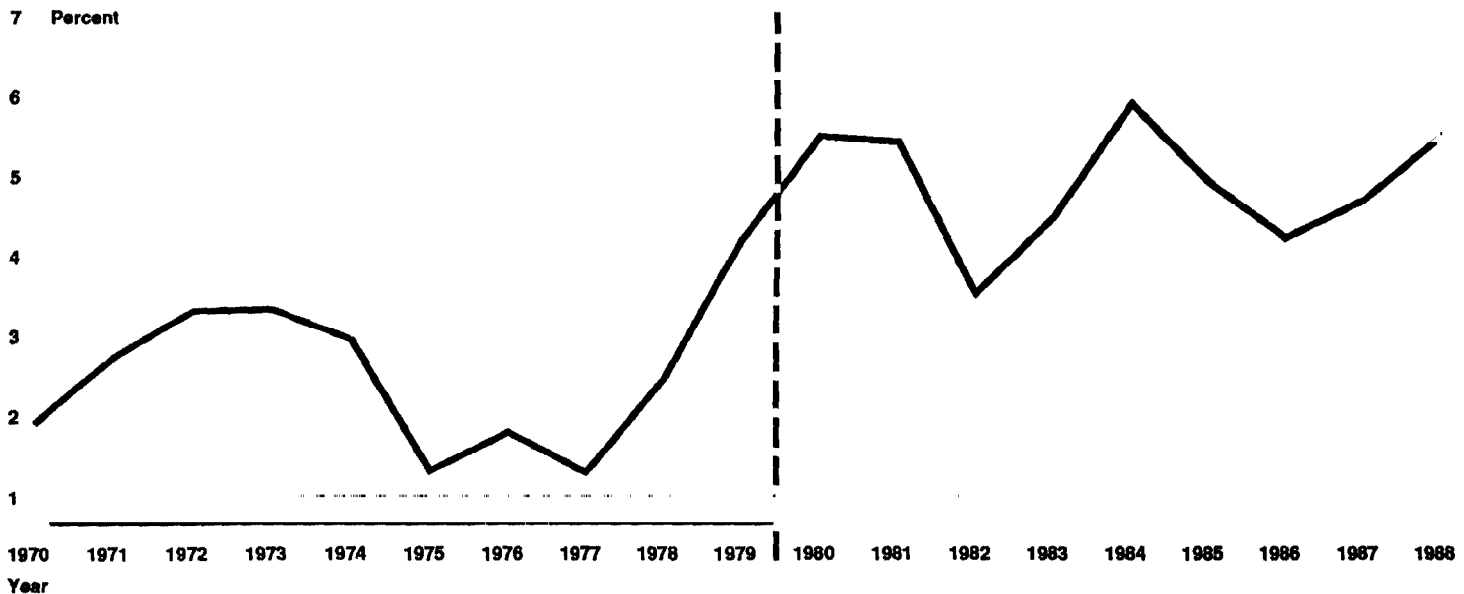
Railroads' return on investment and return on equity—key indicators of profitability—were higher in the 1980s than in the 1970s. Return on investment measures the profit made on assets used to provide transportation services and is calculated by dividing net income from railway operations by the net investment base, which is the depreciated cost of track and equipment plus 15 days' working capital. Railroads' return on investment has averaged 4.9 percent since 1980, compared with about 2.5 percent between 1970 and 1979 (see fig. 3.1).<sup>1</sup>

<sup>1</sup>Because we used depreciation data to calculate financial measures for 1980 to 1988, the ratios used in this chapter to compare financial performance between the 1970s and 1980s are not strictly comparable. However, comparison between these two periods adds perspective on the railroads' financial performance since 1980.

We adopted generic ratio definitions where possible to ensure that data for all transportation modes were comparable. As a result, our financial results may not be comparable with financial results reported by ICC or other organizations. In addition, in calculating return on investment and other measures, we did not subtract deferred taxes from the investment base; include certain "special charges" that railroads took between 1985 and 1988 for work force reductions, asset write-offs, and court judgments; or make other adjustments ICC makes to determine revenue adequacy.

Except where noted, all averages discussed in this chapter for each financial measure were calculated by dividing the unweighted specific ratio results for each individual year by the total number of years in each period. While this approach may mask changes in individual ratio results from year to year, it allows comparisons of financial results between periods.

Figure 3.1: Return on Investment for Class I Railroads



Note: In this and subsequent figures, the dotted line separates retirement-replacement-betterment data from depreciation data.

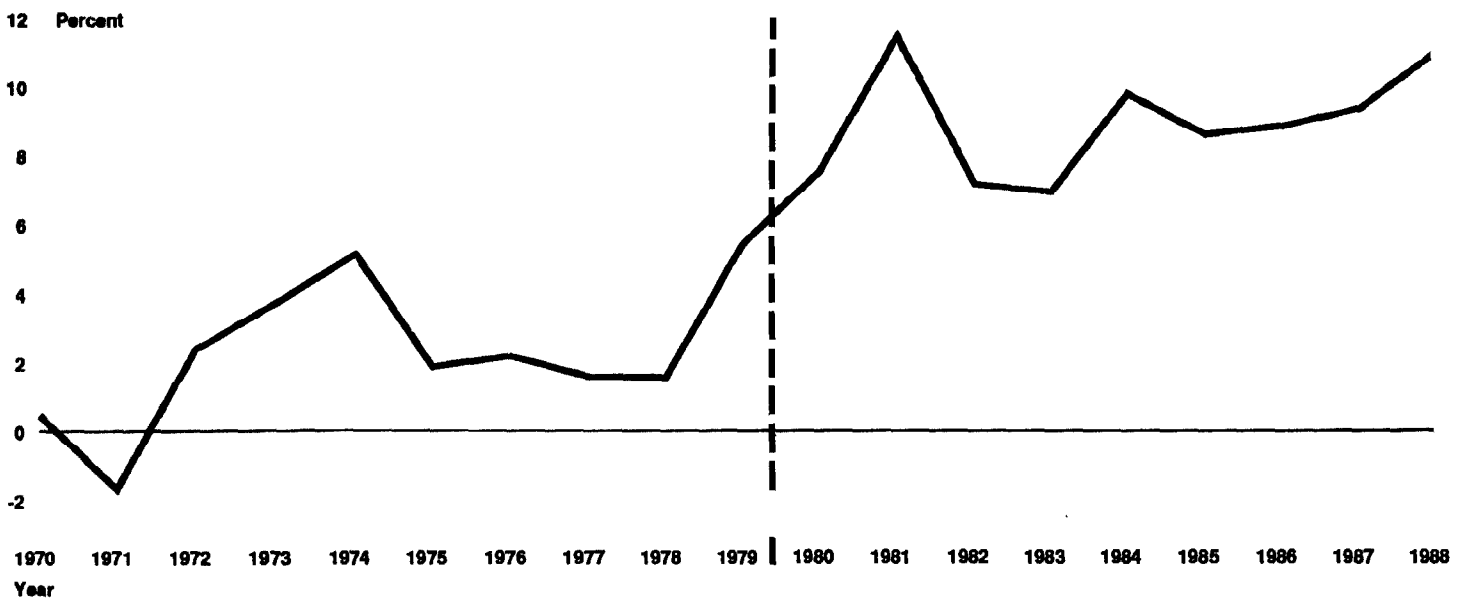
Two factors influence investment returns: the ability to generate revenues from assets (called "asset turnover") and the ability to earn a profit on every dollar of revenue generated (called "profit margin").<sup>2</sup> As discussed in the previous chapter, increased competition, contracts, and other factors during the 1980s have driven rail rates down, causing railroad revenues to decline about 4.3 percent per year—even though traffic volume (tonnage) has increased since 1982. Falling revenues reduced asset turnover. However, because railroads reduced costs and increased efficiency, their profit margin increased. Higher profit margins offset the decline in asset turnover, allowing return on investment to improve.

Railroads' return on equity fluctuated but generally improved during the 1980s (see fig. 3.2). Return on equity measures the profit made on funds provided by stockholders and is the ratio of net income to year-end book value of stockholders' equity. Return on equity has averaged about 9.0 percent since 1980, compared with only 2.3 percent in the

<sup>2</sup>Asset turnover is calculated by dividing total railroad operating revenues by net investment in road and equipment (year-end). Profit margin is calculated by dividing net income from rail operations by total operating income. One method of computing return on investment is to multiply asset turnover times profit margin.

1970s. Revenue declines affected equity returns, as they did investment returns, but other factors offset these declines, including the faster decline in costs than revenues, lower taxes, and less debt at lower interest rates. In addition, ICC suggested that railroads have been investing in more profitable nonrail operations.

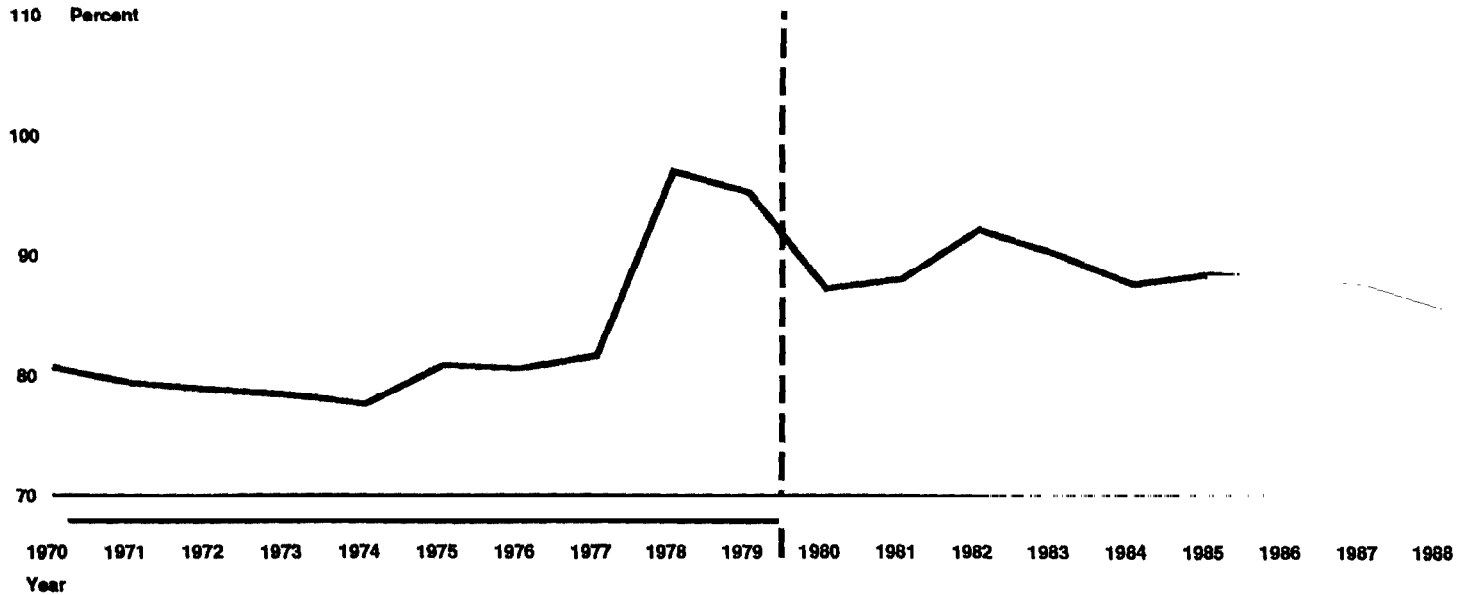
Figure 3.2: Return on Equity for Class I Railroads



### Industry Efficiency and Solvency

The operating ratio for the railroad industry, the ratio of operating expenses to operating revenues, has averaged about 88.2 percent since 1980. Since 1982, it has shown a downward trend, reaching 85.4 percent in 1988 (see fig. 3.3). During the 1970s, the operating ratio averaged about 82.8 percent. However, this figure may be understated because railroads deferred maintenance during this time. If normal maintenance had occurred, the additional operating expenses would have led to higher operating ratios.

Figure 3.3: Operating Ratio for Class I Railroads

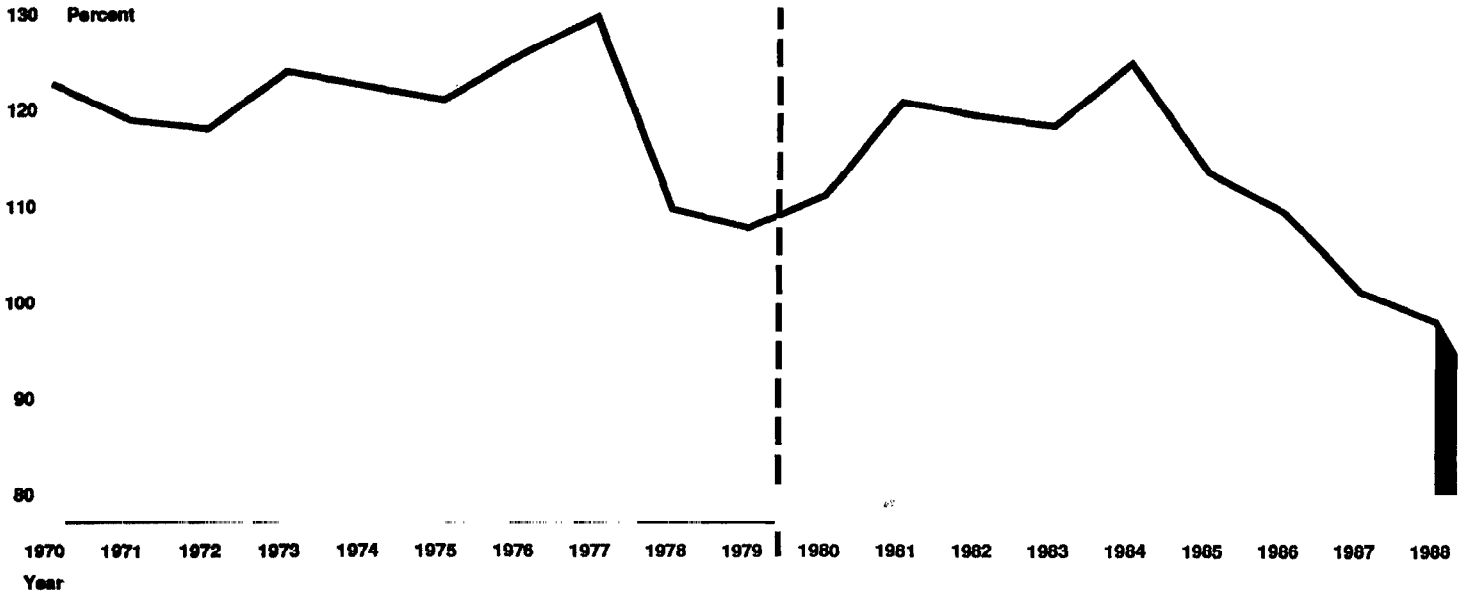


During the 1980s, the operating ratio has improved because railroads have reduced operating expenses faster than revenues have fallen. According to officials in ICC's Bureau of Accounts, a 1-percentage-point decline in the operating ratio is a significant improvement for the railroad industry. Although the operating ratio has fluctuated during the 1980s, the average annual operating ratio declined about 1.7 percentage points between the first and second halves of the decade. However, both the 88.2-percent average operating ratio since 1980 and the 87.3-percent average between 1985 and 1988 exceeded the 85-percent guideline that ICC officials believe is satisfactory.

The current ratio, the ratio of current assets to current liabilities, measures short-term solvency and the ability to pay short-term obligations.<sup>3</sup> The railroad industry's current ratio generally improved during the early 1980s, but it began to decline towards the end of the decade (see fig. 3.4). According to ICC, a current ratio of 100.0 percent generally is considered adequate for railroads to cover short-term obligations.

<sup>3</sup>Current assets generally consist of cash and accounts receivable, and current liabilities generally consist of loans and accounts payable. Current liabilities also include long-term debt due within 1 year.

Figure 3.4: Current Ratio for Class I Railroads



Between 1981 and 1984, the current ratio averaged about 120.8 percent—that is, railroads averaged about \$1.21 in current assets for every \$1 in current liabilities. Since 1984, however, the current ratio has declined as cash flow has declined. Between 1985 and 1988, the current ratio declined from about 113.9 percent to about 98.0 percent—below ICC's suggested guideline. In comparison, the current ratio averaged about 119.9 percent during the 1970s.

Cash is an important component of current assets. Changes in the tax laws helped railroads increase their cash flow<sup>4</sup> in the early 1980s. The most significant impact resulted from provisions of the Economic Recovery Tax Act of 1981. This law, among other things, permitted railroads to write off the total capitalized cost of track (that had not previously been depreciated) over a period of 5 to 50 years using an accelerated depreciation method and reduced the depreciation period for rolling stock (freight cars). These changes increased deferred taxes, which significantly increased cash flow. According to AAR, changes resulting from this law allowed the railroad industry an estimated \$2.5 billion net gain in cash flow between 1981 and 1985. By 1986, however, most of the tax

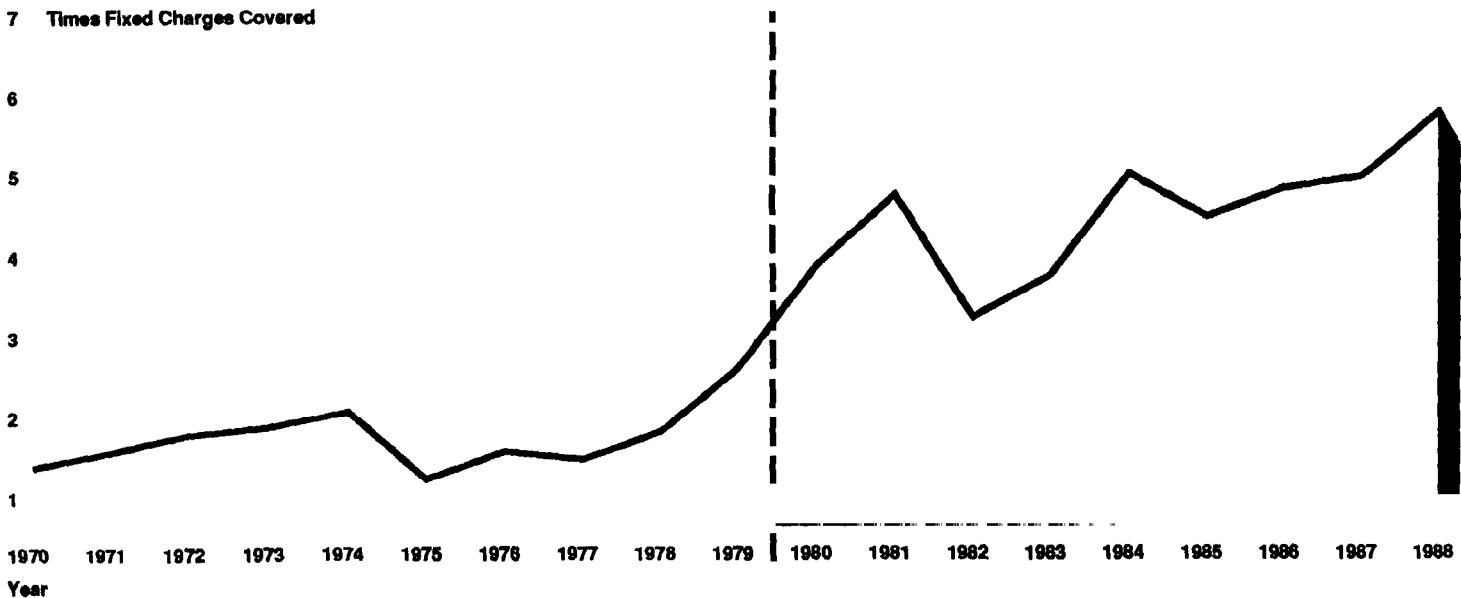
<sup>4</sup>Cash flow equals net income, depreciation, deferred taxes, and income from affiliate companies.

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benefits were no longer available. The Tax Reform Act of 1986, among other things, repealed the investment tax credit, imposed a corporate alternative minimum tax, and increased the depreciation period for track. Consequently, cash flow declined.

The fixed charge coverage ratio, the ratio of income available for fixed charges to interest expense, measures long-term solvency. ICC suggested that a 3.5 or greater ratio is satisfactory for the railroad industry. Although this ratio fluctuated during the early 1980s, it has steadily improved since 1985, exceeding 3.5 in all years except 1982, a recession year (see fig. 3.5). In comparison, the fixed charge coverage ratio averaged about 1.7 during the 1970s and did not equal or exceed ICC's suggested guideline in any of these years.

**Figure 3.5: Fixed Charge Coverage Ratio for Class I Railroads**



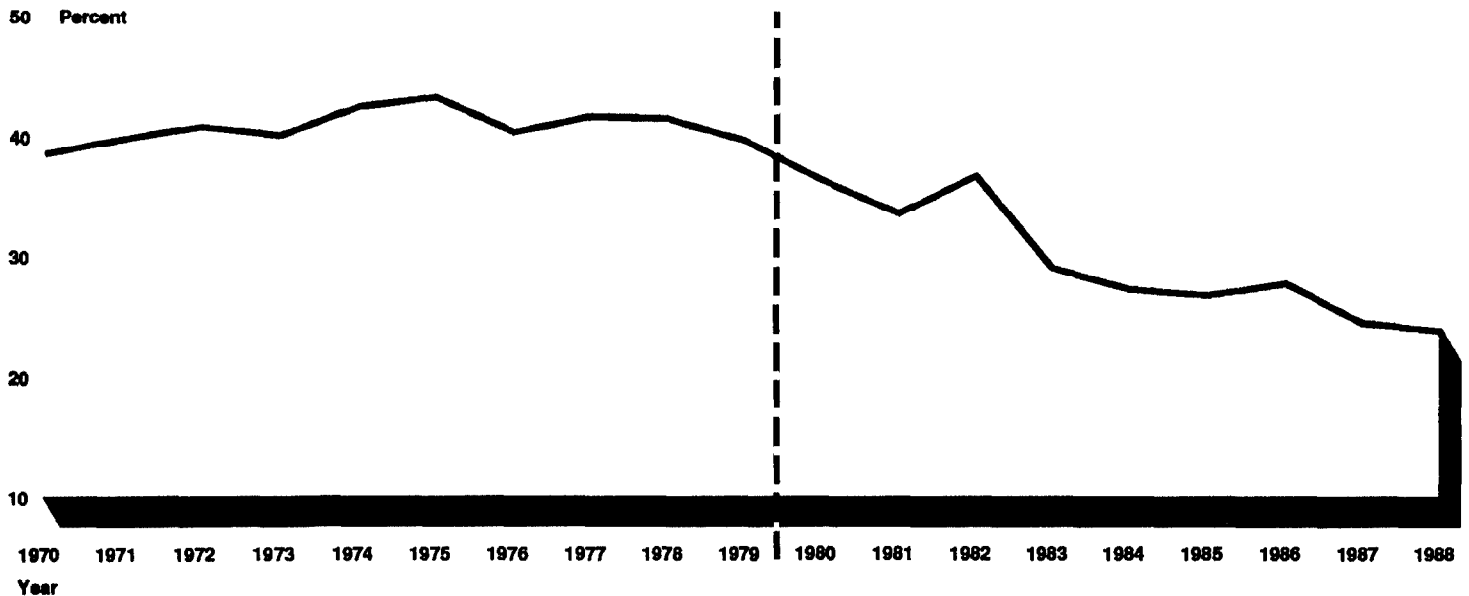
Improvements in the fixed charge coverage ratio can be attributed to, among other things, a reduced debt load and lower interest rates. Long-term debt has generally declined since 1980 (see fig. 3.6). In 1980, debt as a percentage of total capital was about 36 percent, compared with



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about 24 percent in 1988.<sup>5</sup> During the 1970s, debt averaged about 41 percent of total capital. ICC officials suggested that a debt level of between 20 and 50 percent of total capital is reasonable for railroads. Lower debt levels indicate the ability to add more debt, which is generally a less costly form of financing than selling equity. ICC officials suggested that because railroads are not an expanding industry, they have not required much debt. Instead, railroads have used internal funds, such as deferred taxes, to meet financing needs.

**Figure 3.6: Long-Term Debt as a Percentage of Total Capital for Class I Railroads**



<sup>5</sup>The railroad debt referred to here is based on the debt of individual railroad companies as reported to ICC. This may differ from the debt levels of railroad holding companies. Our calculation of long-term debt includes, among other things, funded debt unmatured, equipment obligations, and capitalized lease obligations. However, it excludes such items as long-term debt due within 1 year and accumulated deferred tax credits.

Total capital is equal to stockholders' equity (year-end) plus long-term debt, excluding that portion due within 1 year.

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## Improved Financial Health Has Not Been Shared Industrywide

The five largest Class I railroads—each with \$3 billion or more in revenues and together earning about 72 percent of the industry's revenues—have outperformed the rest of the industry.<sup>6</sup> Since 1980, they have generally been more profitable and solvent than the other 11 Class I railroads.

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### Profitability

As a group, the five largest Class I railroads earned greater profits. Their return on investment averaged about 5.7 percent between 1980 and 1988. By comparison, the returns of the 11 smaller Class I railroads averaged only about 3.5 percent in the 1980s, although the returns of 2 of these railroads did improve.

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### Short- And Long-Term Solvency

The five largest Class I railroads had a higher collective current ratio than the 11 smaller Class I railroads. From 1980 to 1988, the current ratio of the five largest railroads averaged 126.4, compared with 110.0 for the smaller railroads. While both groups' average current ratios exceeded ICC's suggested standard of 100.0 percent, the smaller railroads' ratio dropped below the standard in 1987, when it was 93.8 percent.

The five largest Class I railroads had a lower collective fixed charge coverage ratio than the 11 smaller Class I railroads. Between 1980 and 1988, the five largest railroads' fixed charge coverage ratio averaged only 6.0, compared with 12.0 for the smaller railroads. However, the figure for the smaller Class I railroads was influenced by one railroad with little debt. If this railroad is excluded, the 10 remaining railroads' average fixed charge coverage ratio was about 3.2.

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## Most Railroads Are Not Revenue Adequate

While the railroad industry's financial health has improved, the industry's return on investment has not equaled or exceeded the current cost of capital—that is, the industry is not revenue adequate. Furthermore, most individual railroads are not revenue adequate, although in some years ICC found that a few railroads had achieved revenue adequacy.

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<sup>6</sup>On the basis of 1987 total operating revenues, the five largest railroads are CSX, Burlington Northern, Consolidated Rail Corporation, Norfolk Southern, and Union Pacific.

Our analysis included all Class I railroads that reported to ICC during 1987 except those railroads comprising Guilford Transportation Industries. Because of incomplete information, 1988 data for the smaller Class I railroads exclude the Missouri-Kansas-Texas Railroad Company.

Without adequate revenues, a railroad has difficulty attracting and/or retaining the funds needed to operate.

**Industry's Return on Investment Lags Behind Current Cost of Capital**

ICC considers railroads to be revenue adequate if their return on investment is equal to or greater than the current cost of capital for the industry. We recomputed the railroads' return on investment and excluded certain adjustments (such as deferred taxes) ICC makes for regulatory purposes. According to our calculations, the railroad industry was not revenue adequate at any time during the entire 1980-88 period. Since 1980, the industry's return on investment has averaged about 4.9 percent per year, compared with an average cost of capital of 13.9 percent.

Despite the improved financial performance of large Class I railroads, neither the larger nor the smaller Class I railroads have achieved revenue adequacy. The gap between return on investment and the cost of capital grew in 1981 and 1982, a time when the cost of capital reached its peak (see table 3.1). However, from 1983 to 1988 the gap steadily narrowed. Except for the larger railroads, though, the difference remained greater than it was in 1980. A lower cost of capital, not higher earnings, largely contributed to the improvement.<sup>7</sup>

**Table 3.1: Revenue Adequacy of Class I Railroads**

Year	Average return on investment		Cost of capital	Degree of revenue inadequacy	
	5 largest railroads	11 other railroads		5 largest railroads	11 other railroads
1980	5.23	5.45	11.2	-5.97	-5.75
1981	5.96	5.34	16.5	-10.54	-11.16
1982	4.36	2.40	17.7	-13.34	-15.30
1983	5.62	2.01	15.3	-9.68	-13.29
1984	7.09	4.21	15.8	-8.71	-11.59
1985	6.02	2.81	13.6	-7.58	-10.79
1986	5.05	2.13	11.7	-6.65	-9.57
1987	5.60	3.18	11.6	-6.00	-8.42
1988	6.71	3.61	11.7	-4.99	-8.09

<sup>7</sup>In March 1981, ICC revised its revenue adequacy standards and began using the current cost of capital rather than an embedded (historical) cost of capital for comparison with return on investment. This revision may account for increases in the cost of capital in 1981 and 1982.

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## ICC Revenue Adequacy Determinations

ICC has employed two standards for determining a railroad's revenue adequacy. The first standard, adopted in 1978, required the use of three measures: (1) return on investment equal to the cost of capital, (2) various financial ratios intended to measure a railroad's financial condition, and (3) a flow-of-funds model designed to determine whether net income is adequate to support a railroad's capital needs. ICC found that this approach indicated only short-term financial viability and that its continued use could prevent railroads from achieving the long-term revenue adequacy the Staggers Rail Act envisioned. The second standard, adopted in 1981, based revenue adequacy on return on investment equal to the current cost of capital. The new standard required that the current, rather than the embedded, cost of capital be used to calculate revenue adequacy.

In 1986, ICC further revised its revenue adequacy standards. Although ICC retained the standard of comparing return on investment with the current cost of capital, it changed its method for calculating the various components of return on investment. In particular, ICC required that

- accumulated deferred taxes be subtracted from the net investment base;
- depreciation data, rather than retirement-replacement-betterment data, be used;
- various adjustments be applied to consolidate on a system basis all Class I railroads under common control; and
- the calculations include the financial results of majority-owned Class I subsidiaries that were integral to rail operations, income taxes related only to rail operations, and interest income associated with working capital investment.

In October 1988, ICC once again revised its standards to, among other things, enhance compliance with cost-accounting principles adopted by the Railroad Accounting Principles Board.<sup>8</sup> The 1988 revenue adequacy determination was the first to incorporate all of the changes to ICC's standards.<sup>9</sup>

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<sup>8</sup>The Railroad Accounting Principles Board was created by the Staggers Rail Act to, among other things, establish cost-accounting principles that ICC was to use in implementing regulatory provisions involving cost determinations.

<sup>9</sup>For more information on ICC methods for evaluating the revenue adequacy of railroads, see our report Railroad Revenues: Analysis of Alternative Methods to Measure Revenue Adequacy (GAO/RCED-87-15BR, Oct. 2, 1986) and Railroad Accounting Principles: Final Report, Railroad Accounting Principles Board (Sept. 1, 1987).

Using the multi-indicator standard, ICC found 13 of the 36 Class I railroads to be revenue adequate in 1978. However, using the current cost of capital standard, ICC found only three railroads to be revenue adequate in 1979 and 1980, only two in 1981, and none between 1982 and 1987.<sup>10</sup> In 1988, ICC concluded that four Class I railroads were revenue adequate—two only tentatively, pending comments on certain adjustments ICC had made to their financial statements.<sup>11</sup> ICC deemed 12 other Class I railroads revenue inadequate.

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### **Effects of Revenue Inadequacy**

Revenue inadequacy affects the ability of a railroad to attract and/or retain capital. Insufficient profits not only make it difficult to cover costs and maintain operations but also may induce investors to place their funds elsewhere. The Staggers Rail Act allows revenue-inadequate railroads to increase rates within the zone of rate flexibility and add surcharges to rates for traffic on light-density lines. We reported in 1986 that ICC had not collected data on tariffs filed under the zone of rate flexibility or on the use of light-density surcharges.<sup>12</sup> ICC still does not collect these data; however, one ICC official told us he believes that railroads have had little need for these provisions.

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### **Railroads Lag Behind Other Transportation Industries in Financial Performance**

Railroads continue to lag behind other transportation modes and industries in profitability. We found that railroads' rates of return not only are lower than those for the intercity trucking and natural gas pipeline industries but also are among the lowest for major U.S. industries.<sup>13</sup> Other financial indicators we used to compare these transportation modes showed mixed results.

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### **Railroads Have Poorer Profitability**

Trucks and gas pipelines have generated higher returns on investment than railroads (see fig. 3.7). The trucks' returns on investment ranged between about 8.0 and 17.0 percent from 1980 to 1988 and were more than 10 percent in all years except 1982, while the gas pipelines' returns

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<sup>10</sup>The number of Class I railroads generally declined between 1978 and 1987 from 36 to 18.

<sup>11</sup>The railroads found revenue adequate were Burlington Northern, Chicago and North Western, Florida East Coast, and Norfolk Southern. The Burlington Northern and Chicago and North Western determinations were tentative.

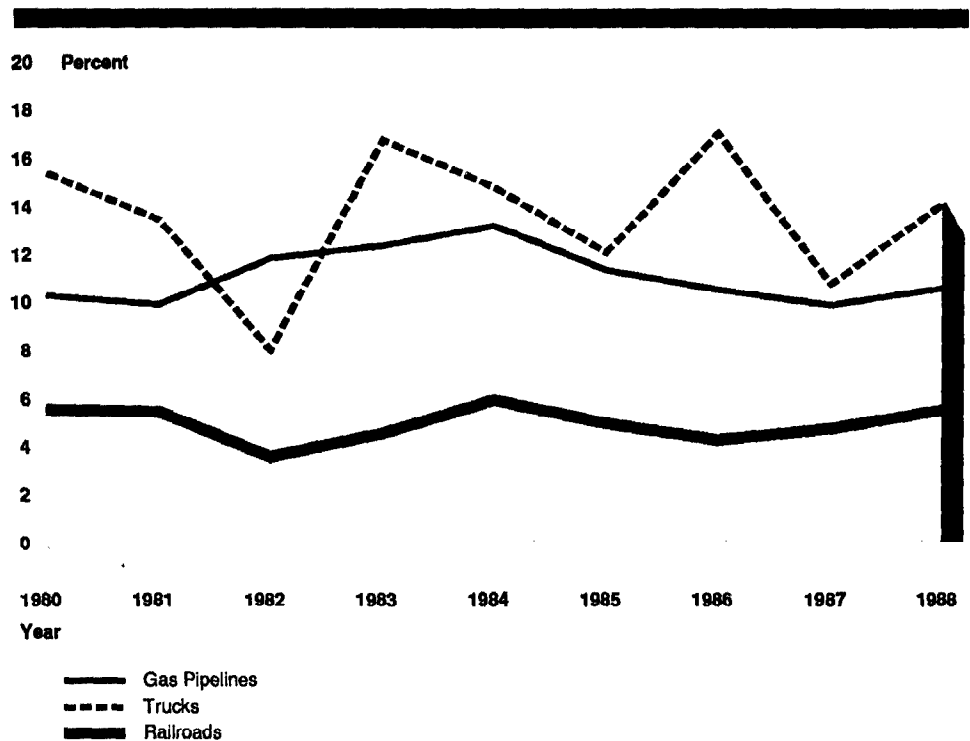
<sup>12</sup>Railroad Revenues: Analysis of Alternative Methods to Measure Revenue Adequacy (GAO/RCED-87-15BR, Oct. 2, 1986).

<sup>13</sup>The natural gas pipeline companies included in our analysis are those that derive at least 75 percent or more of their revenues from transporting gas for others.

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ranged between about 9.8 and 13.2 percent. The returns on investment for railroads, on the other hand, ranged between about 3.5 and 5.9 percent and have historically lagged behind those for trucks and other transportation modes. In addition, railroads did not improve their returns as much as trucks and gas pipelines following the 1981-82 recession. Between 1983 and 1988, railroads' average return on investment was only about 3 percent higher than returns between 1980 and 1982—4.9 percent compared with 4.8 percent. Trucks and gas pipelines, however, improved their returns by 16 and 6 percent, respectively.

**Figure 3.7: Returns on Investment for Railroads, Trucks, and Gas Pipelines**



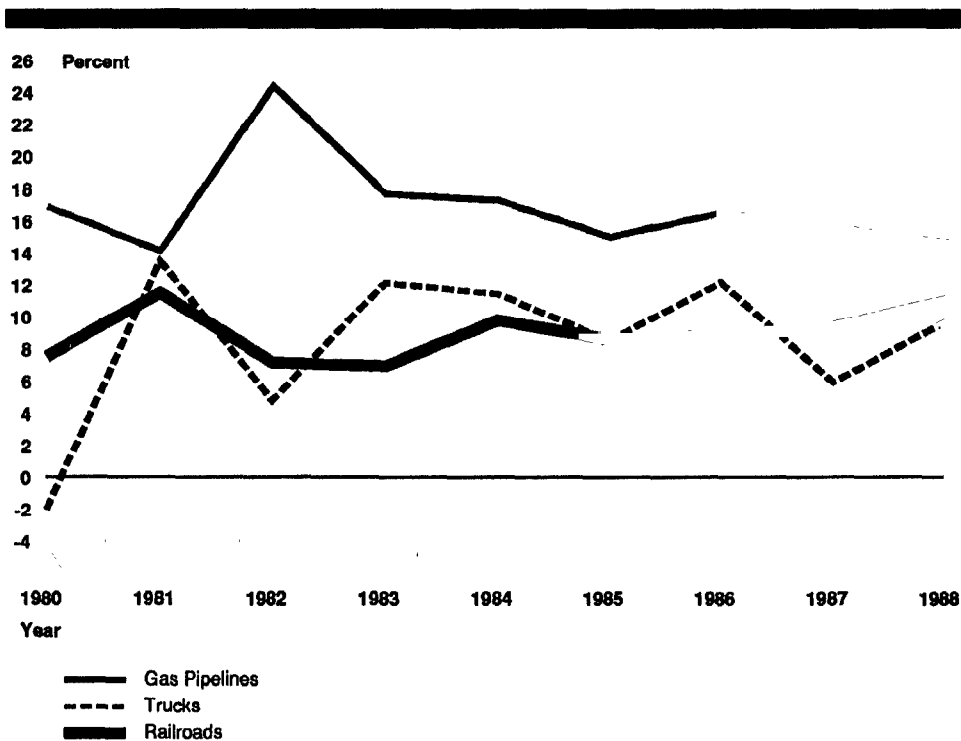
As discussed earlier, return on investment performance depends on both asset turnover and profit margin. During the 1980s, railroads' asset turnover ranged from 0.6 to 0.8 percent, which was lower than the trucking industry's 4.1 to 5.3 percent but higher than the gas pipeline industry's 0.3 to 0.5 percent. Railroads' profit margin during the 1980s ranged from 5.3 to 9.1 percent, while trucks' profit margin ranged from 1.9 to 4.6 percent and gas pipelines' from 25.1 to 38.5 percent.

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Two factors contributed to the railroads' inability to match the financial performances of these other transportation modes: railroads must build and maintain their own rights-of-way, while trucks do not, and railroads have higher cost structures than gas pipelines. Right-of-way ownership affects asset turnover performance, while higher cost structures influence profit margin performance.

Railroads' returns on equity showed mixed results compared with those of the other modes (see fig. 3.8). In general, railroads did better than trucks but not as well as gas pipelines. Between 1980 and 1988, trucks' returns on equity ranged between -2.0 and 13.5 percent, while gas pipelines' returns ranged from 14.1 to 24.4 percent. Railroads' returns on equity ranged between 6.9 and 11.5 percent and lagged behind the returns of the other two modes in 4 of the 9 years. Railroads were able to increase their average return about 4 percent following the 1981-82 recession. In comparison, trucks' equity returns increased 84 percent, while gas pipelines' returns declined 12 percent.

**Figure 3.8: Returns on Equity for Railroads, Trucks, and Gas Pipelines**



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Finally, railroads lag behind other U.S. businesses in profitability. Railroads' return on investment in 1988 was the lowest of a sample of 21 industries we chose for comparison (see table 3.2). All but three of the industries earned returns on investment greater than 10 percent, while the railroads' return on investment was only 5.5 percent. Railroads did not fare much better in terms of return on equity, which in 1988 was higher than the returns on equity of utilities and telecommunication companies, but lower than those of the 18 other industries.

**Table 3.2: Comparison of 1988 Returns for Railroads and Other U.S. Businesses**

Figures in percent

<b>Industry</b>	<b>Return on investment</b>	<b>Return on equity</b>
Banks	32.5	16.6
Health care	27.5	23.6
Consumer products	23.7	22.6
Discount and fashion retailing	21.3	15.8
Chemicals	19.3	21.5
Metals and mining	19.1	24.0
Leisure time products	18.4	18.2
Nonbank financial	18.3	14.2
Food	15.9	20.7
Paper and forest products	15.9	17.2
Electrical and electronics	15.6	12.8
Fuel	14.3	12.3
Manufacturing	14.2	15.2
Aerospace	13.7	13.3
Office equipment and services	12.6	15.0
Telecommunications	12.6	10.3
Publishing and broadcasting	12.3	15.7
Insurance	11.8	12.7
Automotive	9.6	16.8
Utilities	8.9	10.2
Railroads	5.5	11.0

Source: Business Week, ICC.

Railroads have lagged behind other businesses in profitability for a long time. Our 1986 report on the revenue adequacy of railroads found that their return on equity in 1984 lagged behind the returns of five industries, including the trucking and oil and gas industries, and exceeded only that of the steel industry. In November 1985, ICC also found that

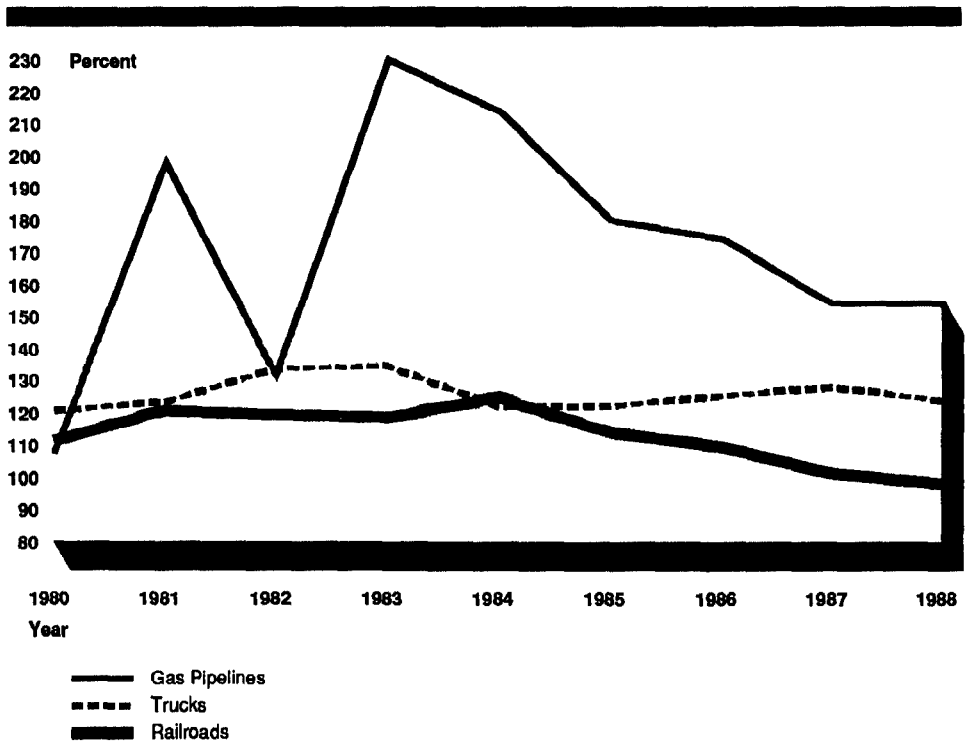


Class I railroads' returns on investment and equity between 1979 and 1983 were less than those of electric utilities and all manufacturers.<sup>14</sup>

**Other Financial Indicators**  
**Show Mixed Results**

Railroads generally lag behind trucks and gas pipelines in their ability to pay short-term debt (see fig. 3.9). The railroads' current ratio has averaged about 113.0 percent since 1980, compared with 125.9 percent for trucks and 171.5 percent for gas pipelines. The current ratio has fluctuated for all three transportation modes since 1980. However, as their performances before and after the 1981-82 recession show, railroads did not do as well as the other two modes. Between 1983 and 1988, trucks' average current ratio was about the same as during the 1980-82 period, while gas pipelines' ratio improved about 27 percent. By contrast, railroads' current ratio declined about 5 percent—from an average of about 117 percent to an average of about 111 percent.

**Figure 3.9: Current Ratios for Railroads, Trucks, and Gas Pipelines**

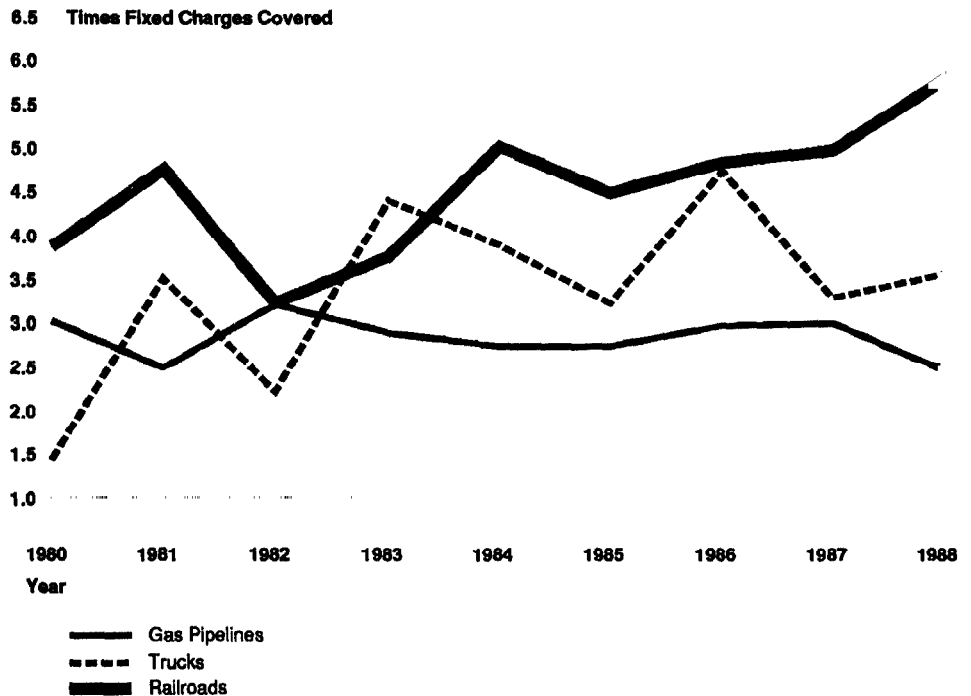


<sup>14</sup>Evaluation of Studies Prepared by Consumers United for Rail Equity (CURE) and Consumer Federation of America (CFA), ICC, Bureau of Accounts (Nov. 1985).

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Railroads compare favorably with these two industries in long-term solvency, as a comparison of their fixed charge coverage ratios shows (see fig. 3.10). Since 1980, the railroads' ratio has averaged about 4.5 annually, compared with 3.4 and 2.8 for trucks and gas pipelines. These results largely reflect debt levels. According to an official at the Federal Energy Regulatory Commission, most of the transport-only pipelines in our analysis were new projects, which are financed typically by 75-percent debt and 25-percent equity. As a result, they carried about twice as much debt as railroads and trucks. We found that over the 1980-88 period, the gas pipeline industry's debt averaged about 61 percent of capital, compared with about 31 percent for trucks and 29 percent for railroads. According to a Federal Energy Regulatory Commission official, gas pipelines' debt levels are expected to gradually decline as business develops and more revenues are generated. This official said that a debt of no more than 60 percent is good for the gas pipeline industry.

**Figure 3.10: Fixed Charge Coverage Ratios for Railroads, Trucks, and Gas Pipelines**



Railroads have lower operating expenses, measured as a percentage of operating revenues, than trucks but higher operating expenses than gas pipelines, as a comparison of their operating ratios shows. Between

1980 and 1988, the railroad industry's operating expenses were about 88 percent of operating revenues, compared with about 97 percent for trucks and about 68 percent for gas pipelines. After the 1981-82 recession, railroads improved their operating ratio more than trucks but not as much as gas pipelines. The railroads' average operating ratio between 1983 and 1988 was about 1.4 percent less than the average ratio between 1980 and 1982—87.8 percent compared with 89.1 percent. By contrast, trucks improved their average ratio by slightly less than 1 percent, while gas pipelines improved their average ratio by almost 13 percent.

Differences in operating ratios among the modes largely reflect the industries' structural differences. According to the American Trucking Associations, since trucks do not own the highways and lease much of their equipment, less earnings are needed to replace assets. Consequently, the trucking industry's operating ratios are higher than those of the railroad and gas pipeline industries. Gas pipelines, however, are very capital intensive, and their tariffs are regulated to cover the cost of doing business and to provide an acceptable rate of return. According to a Federal Energy Regulatory Commission official, labor costs for gas pipelines are only about 6.6 percent of operating expenses. In comparison, railroads' labor costs averaged about 49 percent of operating expenses in the 1980s. As a result, gas pipelines' operating ratios are generally lower than those of railroads.

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## Conclusions

One of the primary purposes of the Staggers Rail Act was to improve the railroads' financial health. Progress has been made in achieving this goal.

To remain competitive, railroads have improved their financial health by reducing costs and becoming more efficient. They increased their profitability, improved their ability to meet long-term obligations, and reduced their debt levels. Short-term solvency improved in the early part of the 1980s, although it later declined. Railroads improved their financial health largely by cutting costs—abandoning lines, selling lines to other operators, and reducing their work force—as well as by improving productivity. Although railroads have benefited from tax legislation (which improved their cash flow) and declining interest rates (which reduced their debt costs), the Staggers Rail Act played a role in stimulating their financial health by facilitating cost reduction measures and inducing productivity.

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Despite gains in many financial measures, the railroad industry is still not in robust financial health. Its financial performance lags behind that of other transportation modes, and financial gains have not been shared industrywide. In addition, even though the railroad industry has become more profitable, most railroads have not achieved revenue adequacy. Revenue inadequacy hampers their ability to attract and/or retain capital and, in the long run, may hurt their ability to finance the capital acquisitions they need to provide competitive service. While some of the smaller Class I railroads have improved their profitability, others may be especially hindered in their ability to attract and/or retain capital because they are not as financially sound as the larger railroads.

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# Most—Though Not All—Shippers Have Benefited From Reduced Railroad Regulation

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Shippers have benefited from reduced regulation of the railroad industry and increased competition. Rates have declined, service has improved, and railroads have become more flexible in meeting customer needs. However, because of shippers' individual circumstances—such as the type of commodity shipped, the degree of competition within a market, and the availability of contracts—the impact of reduced railroad regulation has varied. Some rates have declined more than others, and some shippers have experienced increased costs in the wake of railroad actions to eliminate uneconomical service. Disparities in rates and service were expected in the shift under regulatory reform to a market-oriented system.

While most shippers are generally satisfied with the Staggers Rail Act, some shipper groups have expressed dissatisfaction with the way ICC has handled its remaining regulatory functions under the Staggers Rail Act. In particular, some shippers cite continuing burdensome regulatory processes and the difficulty in obtaining relief from harmful railroad actions as evidence that ICC has not acted to protect their interests. Since 1985, in response to shippers' concerns, ICC has modified some of its policies and procedures for balancing the interests of railroads, shippers, and the public.

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## Shippers Have Benefited From Better Rates and Service

The increased competitiveness of railroads, encouraged by the Staggers Rail Act, was advantageous for most shippers. Overall, real rail rates have declined. Rail service has also improved: train service is more reliable, and freight car shortages, which might interrupt a shipper's business, have declined. In addition, the creation of new shortline and regional railroads has provided continued rail service, often at better rates, in areas where it might have been interrupted. These changes have helped shippers to be more competitive in their own markets.

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## Rates Declined

Shippers have benefited from the fall in real rail rates since 1980. In April 1989, ICC reported that real rail rates—as measured by revenues per ton and deflated to 1987 dollars—fell an average of about 22 percent between 1980 and 1987 (see table 4.1). Rates fell for shipping seven of the nine commodity groups ICC studied. The declines ranged from about 10 percent for coal to about 44 percent for farm products. In contrast, between 1978 and 1980—the comparison period ICC used—real rail rates increased about 9 percent, with coal rates rising about 9 percent and farm product rates about 14 percent. During the same period,

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the rates for shipping other commodities also increased, except for rates for lumber and wood products, which declined 0.74 percent.

**Table 4.1: Average Real Rail Rate Changes**

Figures in percent

Category	Rate change		
	1978-80	1980-87	1978-87
Farm products	14.23	-44.01	-36.05
Coal	9.36	-10.19	-1.78
Food and kindred	14.09	-37.82	-29.06
Lumber and wood	-0.74	1.01	0.26
Pulp and paper	9.13	-19.40	-12.05
Chemicals	4.49	-20.06	-16.47
Transportation equipment	5.60	3.83	9.64
Intermodal <sup>a</sup>	13.93	-25.44	-15.05
All others	8.16	-33.14	-27.68
Average rate change <sup>b</sup>	8.55	-22.35	-15.71

<sup>a</sup>Trailer-on-flatcar and container-on-flatcar.

<sup>b</sup>Annual rate changes for each category weighted by their share of revenue.

Source: ICC.

Shippers, through negotiated contracts, have also been able to obtain lower rates and guaranteed service in return for predictable traffic volumes. Generally, the larger the volume to be transported, the larger the rate discount. According to a March 1984 ICC study, the main benefit of contracting for most shippers was discounted rates.<sup>1</sup> ICC found that contracts particularly benefited shippers with competitive transportation alternatives, who, faced with intense competition for their traffic during the 1981-82 recession, were able to negotiate significant rate concessions from railroads. Contracts have also benefited grain shippers. For example, in September 1985 the U.S. Department of Agriculture reported that contract rates for shipping wheat by rail from Kansas to port destinations in the Gulf of Mexico averaged about 17 percent less than published tariff rates in effect on the dates of the contracts.<sup>2</sup>

<sup>1</sup>Report on Railroad Contract Rates Authorized by Section 208 of the Staggers Rail Act of 1980, ICC (Mar. 13, 1984).

<sup>2</sup>Impacts of Rail Deregulation on Marketing of Kansas Wheat, U.S. Department of Agriculture (Sept. 1985).

The creation of new shortline and regional railroads also brought rate benefits to many shippers. ICC's October 1987 testimony before the Senate Committee on Commerce, Science, and Transportation on shortline and regional railroads indicated that these smaller railroads not only continue rail service where such service could have been lost but that they also have operating cost advantages over Class I railroads. Because they have flexible work rules and lower wages, these railroads can offer competitive rates and still make a profit. According to an August 1989 joint FRA and ICC survey of 627 shippers served by shortline and regional railroads created since 1980, 94 percent reported that service levels had been maintained or had improved and 88 percent believed rates had improved or stayed the same.<sup>3</sup> Three railroad representatives we interviewed, whose companies were created since 1980, said that the Staggers Rail Act enabled their firms to provide customers both competitive rates and improved service.

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## Service Improved

Shippers have also benefited from more reliable train service and fewer car shortages. In 1983, we surveyed 42 shippers that ICC had found likely to be in a market-dominant situation—that is, shippers that lacked effective transportation alternatives for certain movements of their goods.<sup>4</sup> Despite this potential competitive disadvantage, about 86 percent of these shippers reported that their rail service had not changed or had gotten better since passage of the Staggers Rail Act. Our 1985 resurvey of these shippers found that almost 91 percent reported equal or better service under the Staggers Rail Act, including over 80 percent of coal shippers. Those that did report service concerns most often singled out transit time as a problem.

The improvement in rail service is illustrated by the decline in freight car shortages. According to a 1974 DOT survey of 193 manufacturers, a problem cited by about one-third of the shippers was the unavailability of railroad equipment.<sup>5</sup> Between 1973 and 1980, car shortages—shippers' inability to obtain freight cars when needed—ranged to slightly over 2.5 percent of the serviceable freight car fleet. Since 1980, however, there have been few or no shortages (see table 4.2). According to

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<sup>3</sup>A Survey of Shipper Satisfaction With Service and Rates of Shortline and Regional Railroads, Joint Staff Study, DOT, FRA; ICC, Office of Transportation Analysis (Aug. 1989).

<sup>4</sup>Information on Regulatory Reform Under the Staggers Rail Act of 1980 (GAO/RCED-83-174, Aug. 17, 1983).

<sup>5</sup>Industrial Shipper Survey (Plant Level), conducted by DOT as a part of the 1974 National Transportation Study.

**Chapter 4**  
**Most—Though Not All—Shippers Have**  
**Benefited From Reduced Railroad Regulation**

AAR, shortages have declined because of such factors as the use of contracts—which allow better car planning—and railroads' better coordination of train service. Fewer car shortages mean improved car utilization, which is reflected in the declining car cycle—the time between trips.<sup>6</sup> In 1978, the average car cycle was 25.7 days, compared with about 17 days in 1988. As we reported in 1980, surpluses and shortages of freight cars fluctuate cyclically and geographically, as well as by car type.<sup>7</sup> With fewer shortages, cars are more readily available to shippers, thereby improving service.<sup>8</sup>

**Table 4.2: Freight Car Shortages as a Percentage of the Railroad Freight Car Fleet**

Year	Number of freight cars (in thousands)		Car shortages		
	Total	Serviceable	Number (in thousands)	Percent of total fleet	Percent of serviceable fleet
1973	1,711.3	1,604.6	34.2	2.00	2.13
1974	1,718.2	1,607.9	10.0	0.58	0.62
1975	1,725.1	1,579.7	4.9	0.28	0.31
1976	1,701.8	1,550.3	5.6	0.33	0.36
1977	1,670.7	1,524.3	17.0	1.02	1.12
1978	1,651.3	1,513.5	38.3	2.32	2.53
1979	1,689.2	1,594.6	16.0	0.09	1.00
1980	1,703.2	1,598.6	.9	0	0
1981	1,676.8	1,595.8	0	0	0
1982	1,617.0	1,529.3	0.1	0	0
1983	1,551.9	1,451.7	0.1	0	0
1984	1,498.5	1,403.0	0	0	0
1985	1,433.6	1,346.8	3.4	0.02	0.03
1986	1,355.2	1,279.6	3.0	0.02	0.02
1987	1,286.1	1,213.3	2.7	0.02	0.02
1988	1,247.7	1,179.6	1.5	0.01	0.01

Note: Numbers are for the fourth quarter of each year.

Source: GAO analysis of AAR data.

<sup>6</sup>Car cycle is the time (in days) between freight car trips. If the car cycle decreases (i.e., the number of days between trips declines), then cars are more readily available to shippers and can make more trips per year. If the car cycle increases (i.e., the number of days between trips increases), cars are not as readily available to shippers and cannot make as many trips per year.

<sup>7</sup>There Is No Shortage of Freight Cars—Railroads Must Make Better Use of What They Have (CED-81-2, Nov. 10, 1980).

<sup>8</sup>As table 4.2 illustrates, the total railroad freight car fleet has declined since 1980. In July 1989, the U.S. Department of Agriculture reported that without improvements in cycle times and future additions to the grain car fleet, grain car shortages could begin as early as 1990.



Representatives of shippers we spoke with also believe service has improved as a result of the Staggers Rail Act. Representatives of four of the five associations we contacted said that, in general, the act has improved shippers' competitiveness and opened new markets for their members through improved service and reduced rail rates.<sup>9</sup> Representatives of all five associations said that, to at least some degree, their members used, or previously had used, contracts. One representative said that contracts provided better service and prices, as well as reliability.

Rail service, although improved, does not compare favorably with the service provided by trucks. A recent survey of 125 shippers found that although rail service had generally stayed the same or improved in the last 5 years, trucks rated higher than railroads in both price and service attributes.<sup>10</sup> Over 75 percent of the shippers surveyed reported that railroads' reliability and equipment quality were the same or better over the last 5 years, and 49 percent reported that rail transit time had improved. However, trucks maintained an advantage over railroads in 14 of 16 price and service attributes the survey measured, ranging from transit time and reliability to customer service and equipment quality and suitability. Railroads rated better than trucks only in their information systems and ability to interchange data electronically. For those attributes the shippers ranked of highest importance, trucks rated a higher advantage in 7 of 13 categories but a somewhat lower advantage in the other 6 attributes.<sup>11</sup>

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## **Reduced Railroad Regulation Has Affected Shippers Differently**

The transition under regulatory reform to a more market-oriented system was not expected to affect all shippers the same. While most shippers have gained from the Staggers Rail Act, not all have. Individual circumstances, such as the type of commodity shipped and the degree of inter- and intramodal competition, have determined which shippers have benefited from reduced railroad regulation. Rates have not

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<sup>9</sup>Consumers United for Rail Equity qualified its response by saying that where there is adequate competition, the Staggers Rail Act has worked to provide reasonable rates and better service. However, where there is a lack of competition, shippers have not been treated fairly.

<sup>10</sup>Temple, Barker, and Sloane, Inc., "Understanding and Meeting Customer Needs" (Lexington, Mass.: Nov. 1989).

<sup>11</sup>These seven attributes were reliability, timely notice of delays, customer service, ease of doing business, accurate estimated times of arrival, single-carrier service, and transit time. The other six attributes were price, billing accuracy, loss and damage, equipment quality, claims, and equipment suitability.

changed to the same degree for all shippers, and areas with less competition—the wheat market, for example—have seen fewer benefits than other areas. Marketplace competition was designed to replace regulation as the primary determinant of prices and services, with regulatory oversight reserved for cases in which markets did not produce competitive results.

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### **Competitive Factors Affect Rail Rates**

Rail rates for different commodities reflect both competitive market conditions and the commodities' different transportation requirements. Less regulation has given the railroads more flexibility in meeting competition from trucks and barges, which typically compete with railroads for the shipment of different types of traffic. Barges compete for low-value commodities that are less sensitive to delivery times, such as grain and coal, while trucks more often compete for the transportation of high-value finished goods, such as automobiles and other manufactured goods. In some parts of the nation, however, water transport is not available and truck transport is not a viable means by which rates will be constrained to competitive levels.

To study how railroad competition has affected rates, we examined rates for shipping wheat in sections of the country that differed in the number of railroads serving the area. Wheat is a bulk agricultural commodity for which railroads generally face less competition from barges; consequently, competition among railroads is a key determinant of rail rates for wheat shipments. Rail rates for wheat can be closely approximated by the spread between prices paid for wheat at grain elevators in the Plains States and delivered prices at Portland and Houston—representative transfer points for export wheat.<sup>12</sup> We found that inflation-adjusted spreads for both spring and hard red winter wheat have declined since 1980, indicating that rail rates have fallen (see fig. 4.1). However, the spread has declined less in areas like the Northern Plains, where there are relatively few railroads, than in areas like the South-Central Plains, where there are more railroads offering service.<sup>13</sup> In recent years, the spread has increased because of increased grain

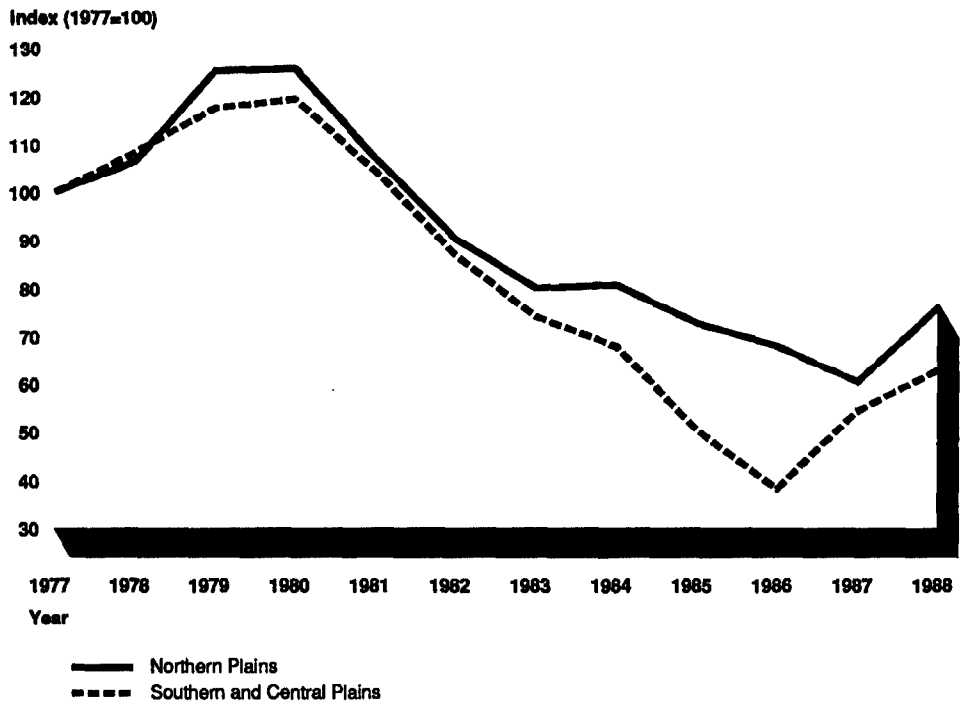
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<sup>12</sup>As of January 1987, about two-thirds of the nation's wheat farms are in the plains states from Texas to North Dakota, including Colorado and Montana.

<sup>13</sup>Declines in these spreads may also indicate the use of multiple-car or unit train discounts—that is, shipments of a single commodity to one destination in units of 25 rail cars or more at a reduced rate. Multiple-car discounts originated before passage of the Staggers Rail Act. However, the use of such discounts may have accelerated since 1980 because of the increased pricing flexibilities introduced by the reduction in railroad regulation.

exports, among other factors, but the spreads are still lower in real terms than they were during the late 1970s.

Figure 4.1: Index of Wheat Price Spreads in the Plains States



Rail rates for coal have declined only about half the average for all commodities. Moreover, according to ICC statistics, the percentage of coal shipments moving at rates exceeding the current threshold for ICC regulation of maximum rail rates—a revenue-to-variable-cost ratio of 180 percent—has generally increased from about 20 percent in 1980 to about 46 percent in 1987.

Whether railroads have exercised market power to extract higher profits from coal shippers is unclear. On the one hand, according to a May 1985 Department of Energy draft report, although a large number of coal shippers lacked competitive alternatives and were therefore vulnerable to potential railroad market abuse, there was little evidence that

railroads had imposed excessive rates on coal since passage of the Staggers Rail Act.<sup>14</sup> On the other hand, of the 30 ICC decisions issued between 1980 and May 1989 in which rates were found unreasonable, 15 involved coal rates. According to a National Coal Association official, greater railroad competition, contracts, and increased railroad efficiency since 1980 have benefited the coal industry, but deregulation has not decreased coal captivity to railroads and rate moderation has not meant reasonable rates.

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## Other Impacts

Not all shippers have been able to obtain rail contracts and the rate and service benefits that come with them. ICC's February 1987 study of 152 small- to medium-size grain shippers (up to 2,000 rail carloads annually) and 29 large grain shippers (over 2,000 carloads annually) found that the smaller shippers were largely unable to secure rail contract rates because they lacked the necessary volume.<sup>15</sup> As a result, some country grain elevators became noncompetitive, since contracts allowed the high-volume shippers to offer higher prices to farmers.<sup>16</sup> Farmers often bypassed the low-volume shippers to obtain better prices at the high-volume locations. Thus, high-volume shippers benefited from lower transportation rates, and farmers benefited from higher prices, while smaller shippers paid higher rates to move their products.

Line abandonments have also adversely affected some shippers. In February 1985, ICC reported the results of an informal survey of state, county, and community leaders and shippers affected by 16 line abandonments between 1981 and 1983. ICC found that there were no business closings and that most civic and elected officials noted only minimal impacts on their communities. However, 33 of the 45 shippers reported some type of adverse effect, such as increased transportation costs and/or additional expenses to modify facilities to accommodate trucks. In July 1987, we reported the results of our survey of 153 protesters of

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<sup>14</sup>Effects of Railroad Regulatory Reform on Coal and Electricity, Staff Working Draft, Interim Technical Report, U.S. Department of Energy (May 1985).

<sup>15</sup>Ex Parte No. 387 (Sub-No. 959), Contract Rate Competitive Impact Report - Grain Shippers, Report to Congress, ICC (Feb. 18, 1987).

The 152 small- to medium-size shippers represented 214 country grain elevators, 10 feed mills, 5 grain firms, and 1 farmer. Collectively, the 29 large shippers shipped and/or received over 1.3 million carloads of grain annually.

<sup>16</sup>According to ICC, the price farmers receive for their grain is generally the prevailing market price minus transportation costs and elevator handling charges. The primary function of the country elevator is to buy farmers' grain and sell it to processors, exporters, and livestock and poultry feeders.

line abandonments, 54 of which classified themselves as independent shippers or receivers or as representatives of an independent shipper or receiver.<sup>17</sup> About 54 percent of the shippers reported that shipping and other costs had increased as a direct result of an abandonment. Furthermore, 12 shippers that transported such bulk commodities as grain and fertilizer found it necessary to relocate their businesses.

Finally, cancellations of joint rates and of reciprocal switching agreements have also negatively affected some shippers. Our June 1987 review of 18 joint rate and reciprocal switching cancellations<sup>18</sup> found that 8 of 12 shippers had experienced a deterioration in service, such as longer transit times.<sup>19</sup> Captive shippers—shippers that must use railroads to transport their goods—experienced both increased costs and reduced service. Some shippers reported that cancellations had limited their shipping alternatives and reduced competition. According to an August 1987 FRA survey, shippers generally characterized cancellations as moderately disruptive and temporary, although some shippers had experienced intermittent impediments in the flow of their goods and/or fewer rail transportation alternatives.<sup>20</sup>

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## Shippers Have Voiced Concern Over ICC's Implementation of the Staggers Rail Act

Shippers that believe they have been disadvantaged by the Staggers Rail Act are dissatisfied not so much with the legislation as with the policies and procedures ICC follows in addressing their grievances. They believe that difficulties in bringing protests or complaints, the burden of proving their cases, and the time and expense involved all hinder their ability to obtain relief from railroad actions they believe are harmful to their interests. Some shippers also believe that ICC has failed to protect them against unreasonable rates and practices, as required by the Staggers Rail Act. In response to shippers' concerns, ICC has adopted new policies, procedures, and rules since 1985.

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<sup>17</sup>Rail Abandonments: Abandonment Activity and Shipper Views on Rail Service Loss (GAO/RCED-87-82, July 17, 1987).

<sup>18</sup>The total number of such cancellations is unknown. However, we examined 9 joint rate and 9 reciprocal switching cancellations of the 93 protested joint rate and reciprocal switching cancellations between October 1980 and September 1985.

<sup>19</sup>Railroad Regulation: Competitive Access and Its Effects on Selected Railroads and Shippers (GAO/RCED-87-109, June 18, 1987).

<sup>20</sup>Joint Rate Cancellations Study, DOT, FRA, Report No. DOT-FRA-RRP-87-02 (Aug. 1987).

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## Difficulties With Relief Procedures and ICC's Protection of Shippers' Interests

Although representatives from all of the trade associations we contacted supported the Staggers Rail Act and felt it has benefited their members, all five associations criticized ICC's protest and complaint procedures as time-consuming, expensive, and burdensome, especially for small shippers. In addition, representatives of two associations said that shippers, not railroads, bear much of the burden of proof in relief cases. In our September 1987 report, we found that the average length of five pending rate cases we reviewed was about 7 years. The costs for legal and other fees for 5 of the 19 cases we reviewed were over \$1 million.<sup>21</sup> Officials of 8 of the 19 shippers we contacted said they would probably not use the complaint process again, in part because of the cost and time involved.

Shippers also believe that ICC has not protected their interests. According to representatives of four of the trade associations we contacted, the most detrimental aspects of the changes in railroad regulation have been ICC's implementation of the Staggers Rail Act provisions designed to protect captive shippers or promote railroad competition.<sup>22</sup> In particular, Consumers United for Rail Equity, a coalition of electric utility companies and coal producers, has alleged that ICC's actions have nullified the protection for captive shippers contained in the Staggers Rail Act. This organization also contends that captive shippers pay rail rates in excess of what is needed to provide railroads with a competitive rate of return. In addition, the Procompetitive Rail Steering Committee, an ad hoc organization of industrial and agricultural companies, believes ICC has failed to preserve and promote competition between railroads in markets where railroads are not subject to competitive pressures. The committee cites, among other things, ICC's refusal to curtail blanket cancellations of joint rates. Finally, the National Industrial Transportation League, representing both rail and nonrail shippers, has complained that joint rate and reciprocal switching cancellations have reduced railroad competition and hurt shippers' ability to market their products.

Despite these concerns, some shippers have been successful in obtaining relief at ICC. For example, as our review of ICC decisions between 1980 and May 1989 showed, complainants (generally shippers) have won 80

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<sup>21</sup>Railroad Regulation: Shipper Experiences and Current Issues in ICC Regulation of Rail Rates (GAO/RCED-87-119, Sept. 9, 1987).

<sup>22</sup>The Committee Against Revising Staggers identified no major problems with the Staggers Rail Act.

of 96 market dominance cases and 30 of 66 rate reasonableness decisions.<sup>23</sup> ICC has granted monetary relief in several cases, including \$23 million in one case<sup>24</sup> and \$22 million in another.<sup>25</sup>

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## **ICC Has Modified Its Policies and Procedures**

Since 1985, in response to shippers' concerns, ICC has adopted new guidelines for determining market dominance, new criteria for evaluating the reasonableness of rates, and new rules regarding the cancellation of joint rates.

In August 1981, ICC adopted evidentiary guidelines for determining railroad market dominance. The guidelines required shippers to prove that four types of competition were absent before a railroad would be considered market dominant. The four types of competition were intramodal (between railroads), intermodal (railroads against other transportation modes), product (substitute products were available for the one being shipped), and geographic (alternative sources were available for the product being shipped). In response to shippers' concerns about this burden of proof, in October 1985 ICC agreed in principle to a compromise reached by AAR, the National Industrial Transportation League, and the American Paper Institute, which shifted from shippers to railroads the burden of proof on product and geographic competition.

In September 1985, ICC adopted the Constrained Market Pricing method for evaluating the reasonableness of rates for captive coal shipments.<sup>26</sup> ICC believed that this approach would allow railroads to attain revenue adequacy, while protecting captive coal shippers from monopolistic pricing. However, recognizing the burden and expense the Constrained Market Pricing method could cause small shippers transporting commodities other than coal, in March 1987 ICC proposed two alternative methods. One method would use replacement costs and the other revenue-to-variable-cost ratios, rather than stand-alone costs,<sup>27</sup> to determine maximum

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<sup>23</sup>The remaining rate reasonableness cases were still awaiting ICC decisions.

<sup>24</sup>Omaha Pub. Power Dist. v. Burlington N.R.R., 3 I.C.C. 2d 123 (1986).

<sup>25</sup>Arkansas Power and Light v. Burlington N.R.R., 3 I.C.C. 2d 757 (1987).

<sup>26</sup>Constrained Market Pricing allows railroads to set rates in all markets according to the demand for rail service. To prevent the overcharging of captive shippers, rates are subject to constraints that ICC believes simulate the pricing of competitive markets.

<sup>27</sup>Stand-alone costs estimate the theoretical maximum rate that a railroad can charge a captive shipper without diverting substantial traffic to a hypothetical new competitor organized to provide rail service.

reasonable rates. According to an ICC official, both alternatives are generally easier to apply than Constrained Market Pricing. As of February 1990, ICC had not adopted these alternatives in final, but ICC has applied them in several cases to evaluate the reasonableness of rates.

Finally, in October 1985 ICC adopted new rules for joint rate cancellations.<sup>28</sup> AAR and shippers negotiated these rules, as they did the changes shifting the burden of proof in market dominance cases. These rules required, among other things, that railroads notify affected parties earlier of proposed joint rate cancellations, that railroads explain and justify cancellations, and that railroads and shippers pursue negotiations of their disputes before bringing them to ICC. ICC believed these changes would allow more time for shippers and railroads to review proposed cancellations and would promote better cooperation between railroads and shippers. ICC would also have more information available should a cancellation be protested. The rules also eased the criteria for suspension of a joint rate cancellation. Under these rules, ICC will suspend a joint rate cancellation if the protester can show that the cancellation would eliminate effective railroad competition for the affected traffic and that the protesting shipper or railroad has used, or would use, the joint rate for a significant portion of its traffic. ICC officials said that as a result of this change, it could be easier to obtain a suspension.

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## Conclusions

Shippers have benefited from the Staggers Rail Act in a number of ways. Real rail rates have declined on average about 22 percent since 1980, rail service has improved for many shippers, and railroads are generally more responsive to shippers' needs. One of the most significant benefits has been contracts, through which shippers receive reduced rates and improved service in return for volume commitments. With the greater predictability contracts afford, shippers can better plan their operations and investments and thus enhance their competitiveness. The creation of new shortline and regional railroads has also benefited shippers by allowing rail service to continue—often at lower cost—in areas where it could have been lost.

Some shippers, however, have not benefited. Shippers transporting certain commodities—coal, for example—have found that their rail rates did not decline as much as the average or that rates increased after passage of the Staggers Rail Act. Some small shippers have been unable to obtain contracts from railroads or negotiate terms as favorable as those

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<sup>28</sup>Intramodal Rail Competition, Ex Parte 445 (Sub-No.1), decided October 29, 1985.



offered to larger shippers. In some cases, this situation has made these shippers less competitive. Other shippers have experienced increased costs and/or lost transportation alternatives because of line abandonments and the cancellation of joint rates. These outcomes were not unexpected in the transition to a more market-oriented, economically efficient system of railroad regulation.

Some shippers have complained about ICC's implementation of the Staggers Rail Act. In particular, they believe that ICC's relief procedures are burdensome, time-consuming, and expensive. Some shippers also believe ICC has not acted affirmatively to curb market power abuse and/or increase railroad competition, actions they believe would protect their interests. While we did not evaluate ICC's performance in balancing the interests of railroads and shippers, we did find that ICC has revised some of its policies and procedures to address shippers' concerns and to more accurately evaluate the many issues involved in deciding the reasonableness of rates and other matters.



# 1988 Profile of Class I Railroads Included in GAO's Study

Dollars in billions

Railroad <sup>c</sup>	Operating revenue <sup>a</sup>		Revenue ton-miles <sup>b</sup>	
	Total	Percent of total for all Class I railroads	Total	Percent of total for all Class I railroads
Atchison Topeka and Santa Fe	\$2.1	7.5	77.3	7.7
Burlington Northern	4.5	16.1	223.5	22.4
Chicago and North Western	0.9	3.2	30.4	3.0
Conrail	3.4	12.1	85.4	8.6
CSX	4.4	15.7	143.2	14.4
Illinois Central	0.6	2.1	17.0	1.7
Union Pacific	4.3	15.4	176.6	17.7
<b>Total for railroads contacted</b>	<b>\$20.2</b>	<b>72.1</b>	<b>753.4</b>	<b>75.5</b>
Total for Class I railroads	\$28.0	100.0	997.5	100.0

<sup>a</sup>Operating revenues are monies received for the transportation of passengers and property.

<sup>b</sup>Revenue ton-mile represents 1 ton carried 1 mile for which a charge is received.

<sup>c</sup>We also contacted the following Class II and Class III railroads: Iowa Interstate, MidSouth Rail Corporation, Wisconsin Central, and Genesee and Wyoming Industries.

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# List of Trade Associations Contacted by GAO

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## Committee Against Revising Staggers

Membership: 452 corporations that use railroads for their transportation needs. Member companies vary in size from Fortune 500 companies (15 percent) to companies earning less than \$100 million per year (70 percent). Purpose: To address the major issues relating to the Staggers Rail Act and inform the public that the act is working and achieving its overall goal of keeping the country's railroads viable in the private sector.

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## Consumers United for Rail Equity

Membership: 90 dues-paying members, including 40 investor-owned utilities, 12 public power utilities, and 15 to 20 coal production companies. Prerequisite for membership is the exclusive use of rail service for transportation needs. Purpose: To encourage more competition in the railroad industry and better protection by ICC of captive shippers—shippers without transportation alternatives.

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## National Coal Association

Membership: 85 members representing both eastern and western coal producers. Members produce about 65 percent of all domestic coal produced. Purpose: To represent the interests of the coal industry before the Congress, federal agencies, and the courts. The National Coal Association has been involved with Consumers United For Rail Equity in legislative initiatives to address railroad competitive access and rate reasonableness issues.

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## National Grain and Feed Association

Membership: 1,300 companies involved in the processing of grain and feed. Member companies range in size from \$1 million to \$30 billion in annual revenues. Purpose: To, among other things, advance and protect the interests of the grain and feed industry, including issues related to the railroad industry.

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## National Industrial Transportation League

Membership: 1,300 to 1,400 members representing industrial and commercial shippers, boards of trade, chambers of commerce, and similar groups. Its members use all modes of transportation and directly or indirectly represent 85 percent of the freight traffic that moves in the United States. Purpose: To attain and preserve a safe, adequate, and efficient national transportation system, privately owned and operated, and to protect and promote shippers' interests in transportation developments and issues.

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# Related GAO Products

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Railroad Retirement: Future Rail Employment and Trust Fund Solvency  
(GAO/HRD-89-30, Apr. 5, 1989).

Railroad Regulation: Shipper Experiences and Current Issues in ICC Regulation of Rail Rates (GAO/RCED-87-119, Sept. 9, 1987).

Rail Abandonments: Abandonment Activity and Shipper Views on Rail Service Loss (GAO/RCED-87-82, July 17, 1987).

Railroad Regulation: Competitive Access and Its Effects on Selected Railroads and Shippers (GAO/RCED-87-109, June 18, 1987).

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Shipper Rail Rates: Interstate Commerce Commission's Handling of Complaints (GAO/RCED-86-54FS, Jan. 30, 1986).

Information on Regulatory Reform Under the Staggers Rail Act of 1980  
(GAO/RCED-83-174, Aug. 17, 1983).

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