



Parallel Tracks? Lessons from the Railroad Industry

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Executive Summary

The Postal Service is currently facing a financial crisis. The combination of the great recession and increased competition from electronic diversion has created the “perfect storm” of rapidly declining mail volumes. Despite the fact the Postal Service has undergone some substantial cost cutting and some new product innovation, neither have been enough to counteract the falling revenues that stem from the huge volume loss. While some mail volume appears to be returning as the economy improves, some of the mail volume, especially high contribution First-Class Mail volume, faces a likely permanent loss to electronic diversion.

Although severe, the Postal Service’s predicament does not seem to be entirely unique. There are many parallels to the rail industry, which suffered a significant loss of market share to the trucking industry in the 1950s, while it was burdened with an overbuilt network. A comparison of the two industries could be useful in illuminating today’s postal predicament.

The Office of Inspector General asked Christensen Associates, an economic consulting firm with expertise in regulated industries that have faced disruptive technologies, to provide a historical perspective of the rail industry and to co-author a paper that compares the two industries.

The key findings of the paper are

- The freight rail industry’s recovery does not provide an exact blueprint for the postal industry’s recovery, but the comparison of the two industries provides some interesting insights into the prioritization of recovery efforts.
- It took over 50 years to develop and implement reform that resulted in a financially viable freight rail industry.
- Freight rail reform was not successful until it recognized the industry as being in crisis, and focused on restoring railroads’ financial health. The means were sometimes unpopular and challenging, and they included spinning off the obligation to provide passenger rail service to the newly formed government-owned corporation, Amtrak.
- There were three critical, interrelated components that allowed freight rail to be financially viable: 1) productivity improvement, 2) revenue generation, and 3) cost containment. None of the three would have been successful in isolation.

However, it was the strength of productivity gains that allowed rail recovery to be a story of shared gain, as customers benefited through lower prices.

- Unlike the freight rail industry, the Postal Service does not have the same potential for rapid productivity improvement under the Postal Service's present service obligations and current network structure. Therefore, Postal Service recovery will be more likely a story of shared pain than shared gain.
- It is unlikely that the Postal Service will benefit from something akin to the increased demand for low-sulfur coal that boosted revenue for freight rail. It is difficult to imagine a market disruption that would lead to a dramatic long-term increase in demand for hard copy mail, particularly the First-Class Mail that traditionally bore the bulk of the Postal Service's institutional costs.
- While it is possible that in the future, the Postal Service will offer new ancillary and nonpostal products with considerable revenues, the Postal Service is unlikely to benefit from significant new sources of revenue for several years.
- The first and foremost element of postal recovery needs to be cost containment — addressing the retiree prefunding issue and rightsizing the network.
- It is unlikely that the Postal Service and its stakeholders can wait over 50 years for a full recovery. The prioritization of restructuring and speed of recovery are of utmost importance to restore the Postal Service's critical role in communications and commerce.

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Parallel Tracks? Learned from the Railroad Industry

Introduction

The U.S. Postal Service is currently facing the most significant financial challenge since its establishment as an independent agency by the Postal Reorganization Act of 1970 (PRA). The current crisis results largely from a dramatic decrease in mail volume and revenue. Since a substantial portion of the Postal Service's cost is fixed with respect to mail volume, the Postal Service has incurred losses despite significant workforce reductions and other cost-cutting efforts. While some of the mail volume decline reflects the recent economic recession, much of the mail volume loss likely reflects structural changes in communications markets that were caused by improvements in information technologies. At the very least, the Postal Service faces a more competitive landscape for its services.

U.S. railroads spent much of the mid-20th century in states of financial crisis as rapid development of highway transportation and commercial aviation led to sizeable losses of freight market share to over-the-road trucking and of passenger volumes to the automobile and airlines. While the competitive threat and deteriorating financial conditions were immediately recognized, it took three decades and several rounds of piecemeal legislative efforts before comprehensive reform legislation — the Staggers Rail Act of 1980 (the Staggers Act) — was enacted, and for the railroad industry to stop the financial bleeding. It has taken nearly three more decades after the Staggers Act for the railroad industry to regain its financial health.

The freight railroad industry's lengthy effort to gain control of the situation demonstrates that making structural changes in the industry, such as consolidating industry assets, shedding track and routes, and reducing employment, does not happen overnight. Furthermore, political and regulatory factors restricted the ability of the freight rail industry to get control of the situation.

This paper examines parallels between the railroad industry as it moved from crisis to recovery and the Postal Service's current state of affairs. The objective of these investigations is to look for insights that may help the Postal Service and other stakeholders manage, and perhaps shorten, the road from crisis to recovery.¹

¹ David Levy and Matthew Field have also compared the Postal Service and the railroads, arriving at "lessons for revitalizing the Postal Service." See David M. Levy and Matthew D. Field, "The United States Postal Service Business Model: Lessons from the American Railroad Industry," in *Reinventing the Postal Sector in an Electronic Age*, eds. Michael A. Crew and Paul R. Kleindorfer (Cheltenham, UK and Northampton, MA: Edward Elgar, 2011), pp 306-318.

Background

The Railroad Industry

Since their genesis in the early 1800s, railroads have been central to America's social and economic development.² Prior to the railroads, economic geography reflected the high cost of surface transportation, with economic activity centered on natural ports and other locations with access to navigable waterways. Railroads greatly reduced the cost and increased the speed of ground transportation and expanded rapidly during the 19th century.

In the absence of other modes of mechanized ground transportation, and given railroad cost structures that restricted entry of competitors, railroads faced little competition across much of the nation's geography. Consequently, the railroads exercised considerable market power. This led to concerns that railroads charged unfairly high (monopolistic) prices, particularly to captive shippers served by only one railroad. The railroads also engaged in price discrimination, charging higher rates to captive shippers and lower rates to shippers with rail or water alternatives. The railroads sometimes practiced price discrimination by giving larger shippers rebates not available to the smaller shippers.³

Shippers and the general public resented the railroads' pricing practices. Agrarian interests known as the Granger Movement, resulted in Midwestern states passing legislation to regulate the railroads by establishing maximum rates and outlawing some forms of price discrimination. Between 1871 and 1874, Illinois, Iowa, Wisconsin, and Minnesota enacted legislation regulating the railroads. Between 1875 and 1878, the "Granger laws" were repealed or weakened, but these states kept some regulatory legislation and, by 1890, 34 states had passed some railroad regulation laws.⁴

In 1886, the U.S. Supreme Court ruled in *Wabash v. Illinois* that the federal government, rather than the states, has the authority to regulate railroads engaged in interstate commerce.⁵ The *Wabash* decision provided the impetus for the Interstate Commerce Act of 1887 (the Interstate Commerce Act),⁶ which established the Interstate Commerce Commission (ICC) to oversee the railroads. Thus, railroads became the first major U.S. industry to be subject to economic regulation.⁷

Under the Interstate Commerce Act and subsequent amendments, the ICC eventually regulated maximum and minimum rail rates, as well as entry, exit, and abandonment of

² A more detailed history of the rail industry can be found in Appendix A.

³ See, e.g., John F. Stover, *American Railroads*, Second Edition, (Chicago: University of Chicago Press, 1997) pp. 116-117 and Ross M. Robertson, *History of the American Economy*, Third Edition (New York: Harcourt Brace Javonovich, 1973) pp. 281-282.

⁴ Ross M. Robertson, *History of the American Economy*, pp. 284-285.

⁵ *Wabash, St. L. & P.R.Co v. Illinois*, 118 U.S. 557, 577, Sup. Ct. 4, 30 L. ed. 244 (1886).

⁶ Interstate Commerce Act of 1887, ch. 104, 24 Stat. 379, approved 1887-02-04.

⁷ Clyde Aitchison, "The Evolution of the Interstate Commerce Act: 1887-1937," *George Washington Law Review* 5 (1936-1937): pp. 289, 300, citing *Wabash, St. L. & P. R. Co. v. Illinois*, 118 U. S. 557, 7 Sup. Ct. 4, 30 L. ed. 244 (1886).

rail lines. Railroads were not allowed to engage in some forms of price discrimination, such as charging differential rates based on shipper size or for high-density versus low-density routes. However, rates could vary by commodity. Rate differences between commodities reflected “value of service” principles, under which rates and markups for high-valued shipments such as manufactured goods were high, while rates for agricultural products and other bulk commodities were low. Common carrier obligations and restrictions on the ability of railroad operators to stop serving markets ensured the provision of services to small shippers and rural areas.⁸

The railroad industry's golden age as the dominant mode of overland transportation ended early in the 20th century. Mass production of automobiles led to declines in rail passenger traffic as early as the 1920s. With the onset of the Great Depression, railroads faced increased financial pressures as the economic collapse caused both freight and passenger traffic to plummet. Furthermore, the railroads faced increasing competition from a rapidly growing, publicly funded network of paved highways. Many railroads went bankrupt or became distressed and were purchased by stronger companies.

World War II-related rail demand traffic gave the railroads a temporary boost, but it was insufficient to resolve the railroads' financial difficulties. Through the 1950s and 1960s, competition from government-funded construction of the interstate highway system and commercial aviation intensified as railroad finances worsened and the rail network deteriorated.

A presidential commission had identified the regulatory system as imposing major costs on railroads and shippers in its 1955 Weeks Report⁹ but the regulatory reform process was slow. Initial efforts in the late 1960s and early 1970s focused on restructuring bankrupt railroads and relieving railroads of obligations to provide passenger service.¹⁰ The Railroad Revitalization and Regulatory Reform Act, called the “4R” Act of 1976, took initial steps toward deregulating railroad pricing by allowing some negotiated contracts between railroads and shippers and by allowing categories of traffic to be exempted from regulation.¹¹ The Staggers Act¹² completed the reform process by generally allowing rail rates to be set according to market demands, streamlining exit (abandonment) procedures, and making the financial health of the industry a central focus of remaining regulation. Today, the rail industry's future appears bright as significant private investment in modernization, rising fuel costs, and labor cost advantages are giving rail significant advantages over the trucking industry.

⁸ Interstate Commerce Act of 1887, ch. 104, 24 Stat. 379, approved 1887-02-04.

⁹ Presidential Advisory Committee on Transport Policy and Organization, *Revision of Federal Transportation Policy* (Washington, DC: U.S. Government Printing Office, 1955).

¹⁰ Appendix B gives a detailed description of the common carrier obligations of the rail industry and the elimination of the passenger service obligation.

¹¹ Railroad Revitalization and Regulatory Reform Act, Public Law 94-210, 90 Stat. 31, 1976.

¹² Staggers Rail Act of 1980, Public Law 96-448, 94 Stat. 1895.

The Postal Service

The Postal Service's roots date back to colonial times. A centralized system of post roads and post offices was developed during the 18th century. After independence from Great Britain, responsibility for the postal system was vested with the United States government. Congress established the Post Office Department as an executive branch cabinet department in 1872.¹³

The modern Postal Service's product offerings and service obligations reflect several rounds of service expansion. Originally, the Post Office only delivered mail to and from its own facilities. In 1863, it began providing free city delivery with payment of postage. In 1896, the Post Office inaugurated a system of rural free delivery to provide service to the most isolated communities. The range of mail services offered by the Post Office has gradually expanded as well. Magazines and pamphlets were formally admitted to the mail in 1794, but only when they could be transported conveniently. Classes of mail were formalized in 1863 — First-Class Mail included letters, Second-Class (now Periodicals) covered publications issued at regular intervals, and Third-Class (now Standard Mail) included all other mailable materials. Parcel Post service was inaugurated in 1913.¹⁴

By the mid-1960s, the Post Office was in financial and operational trouble. Postal rates bore little relationship to costs, and substantial appropriations were needed to cover the department's deficits. Meanwhile, growing mail volume was overwhelming postal operations, which still relied primarily on manual processing.¹⁵ The PRA reconstituted the Post Office as the United States Postal Service, vesting operational responsibility with the Postal Service's management and Board of Governors rather than with Congress.¹⁶ It established a system of collective bargaining with postal unions. Finally, the PRA mandated "that total estimated income and appropriations should equal as nearly as practicable total estimated costs."¹⁷

The PRA established a "cost of service" postal ratemaking system, whereby the Postal Service's governors determined rates, subject to regulation by the independent Postal Rate Commission. Under the PRA, postal ratemaking effectively followed a two-step process. First, the estimated total cost of the Postal Service determined a "revenue requirement" to be recovered through postal rates and (to a much smaller extent) appropriations. Second, a set of rates would be determined that would approximately generate sufficient revenues while observing ratemaking policies set forth in the PRA.¹⁸

¹³ Postal Service Publication 100, "The United States Postal Service: An American History 1775-2006," <http://about.usps.com/publications/pub100.pdf>.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Public Law 91-375, 1970.

¹⁷ Quote from the Postal Rate Commission Opinion and Recommended Decision, Docket No. R71-1, p. 3.

¹⁸ Public Law 91-375, 1970.

After ensuring break-even revenues, the foremost considerations in PRA ratemaking were a requirement that postal rates cover “attributable” costs while value of service principles were used, among other things, to assign responsibility for covering fixed costs of the Postal Service to classes of mail.¹⁹ Under PRA ratemaking, markups on high value-of-service First-Class Mail covered the bulk of the Postal Service’s fixed costs.²⁰

During the early PRA period, mail volume continued to grow; total mail volume doubled between 1970 and 1990, and peak volume in 2006 was 2.5 times the 1970 level.²¹ Population growth and associated household and business formation also triggered great expansion in the Postal Service’s delivery network. The Postal Service underwent a major operational transition as its mail processing operations were increasingly automated. The Postal Service also effectively outsourced a considerable amount of mail processing and transportation via worksharing discounts offered to business mailers.²²

The PRA ratemaking system succeeded in allowing the Postal Service to break even almost entirely on revenues from postage and related fees, but it led to a number of stakeholder concerns that drove a regulatory reform effort. The cost-of-service ratemaking system was viewed as providing insufficient incentives for the Postal Service to pursue productivity improvements. Mailers found the irregular timing and size of rate increases disruptive and were concerned about the potential for rate shocks for products priced close to cost floors.²³ Efforts to extend the Postal Service’s business model beyond traditional mail services had little success, while diversion of mail volumes to electronic alternatives was a major threat. Competitors feared that the Postal Service would use its monopoly revenues and status as a government entity to provide unfair advantages to its own competitive products.²⁴ The Postal Accountability and Enhancement Act of 2006 (PAEA) implemented major changes to the postal regulatory system. Among its chief features, the PRA cost-of-service ratemaking system was replaced with a system of price caps based on the Consumer Price Index (CPI) for market-dominant products,²⁵ while the regulation that applied to pricing competitive products was greatly reduced.²⁶ The Postal Service was allowed, but not required, to

¹⁹ Ibid.

²⁰ For example, the recommended rates for Docket No. R2006-1, the last PRA rate case, assigned 55 percent of “contribution to institutional cost” to the First-Class Letters and Sealed Parcels subclass. Postal Rate Commission Opinion and Recommended Decision, Docket No. R2006-1, Vol. 1, 5228 (p. 167); Vol. 2, Appendix G.

²¹ Data from 1970 to 2005: Docket No. R2006-1, USPS-LR-74; Data from 2006 to 2011 U.S. Postal Service Revenue, Pieces, and Volume (RPW) Reports.

²² Presorting services offered by consolidators and other mailing service providers substitute for Postal Service sorting operations. In some cases, worksharing uses the same general technology as Postal Service operations, such as OCR and barcode sorters; in other cases, mailers or their agents can incorporate “worksharing” activities into the process of producing mailpieces by (say) printing mailpieces in sort order. Similarly, “drop shipments” normally involve mailers providing transportation and material handling services that the Postal Service would provide for non-workshared mail.

²³ Transcript from 2002 Rate Making Summit cosponsored by the U.S. Postal Service and Postal Rate Commission at <http://www.prc.gov/prc-docs/library/archived/day1-transcript.pdf>.

²⁴ *Embracing the Future*, Report of the President’s Commission on the United States Postal Service, July 31, 2003, p. 67.

²⁵ Public Law 109-435, 120 Stat. 3202, 2006.

²⁶ Public Law 109-435, 120 Stat. 3205 – 3207, 2006.

earn and retain a profit.²⁷ The Postal Service was prohibited from offering new nonpostal products.²⁸ While the PAEA reversed the 2003 law that required the Postal Service to pay for military service and put money into an escrow account starting in 2006,²⁹ it required the Postal Service to make large payments to the U.S. Treasury to prefund its retiree health benefits.³⁰

The financial crisis of 2007-2008 and the subsequent severe economic recession led to a sharp decline in mail volume, and the Postal Service rapidly swung from moderate surpluses at the end of the PRA period to large losses.³¹ The Postal Service's losses have persisted, as mail volume — particularly for First-Class Mail — has not recovered.

Parallel Problems

As can be gleaned from this brief history, the Postal Service currently faces a crisis similar to what the rail industry experienced several decades ago. Table 1 describes some of the parallels between the two crises.

Disruptive Technologies Drove Market Share Loss

Both rail and the Postal Service suffered a dramatic market share loss due to a decline in the economy and increased competition from disruptive technologies —highway systems for the railroads, electronic communications for the Postal Service.

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In the 1930s, most railroads faced financial pressure from the Great Depression, causing them to go into receivership or be purchased by stronger companies, which resulted in an overall decline in the level of demand.

²⁷ Public Law 109-435, 120 Stat. 3201, 2006.

²⁸ Public Law 109-435, 120 Stat. 3200, 2006.

²⁹ Public Law 109-435, 120 Stat. 3253, 2006.

³⁰ The Postal Civil Service Retirement System Funding Reform Act of 2003, Public Law 108-18 was passed in response to a finding that the Postal Service was paying too much into its CSRS Retirement Account. Public Law 108-18 changed the payment stream but dictated that, starting in 2006, the Postal Service must put the "savings" into an escrow account, and may not spend that money without the approval of Congress. Public Law 108-18 also transferred from the Treasury to the Postal Service the financial responsibility of retirement benefits earned by postal employees when they were members of the military, a \$27-billion obligation. The PAEA reversed the decision on the military obligation and eliminated the escrow account. See Congressional Research Service, *Pension Issues Cloud Postal Reform Debate*, Order Code RL32346, January 14, 2005.

³¹ U.S. Postal Service, "2011 Annual Report to Congress and Comprehensive Statement on Postal Operations - Delivering the new reality." <http://about.usps.com/publications/annual-report-comprehensive-statement-2011/html/welcome.htm>.

Table 1: Parallel Problems

	Parallel	Rail (1930 to Staggers)	Postal Service (Now)
Market Share Loss	Both suffered a dramatic market share loss due to the recession/depression and competition from disruptive technologies.	Great Depression led to volume loss; failed to recapture the market share due to increased competition from government-funded highway expansion and the airline industry.	Recession caused large decline in volume. Unlikely to recoup all lost volume as some communications have permanently migrated to electronic alternatives.
Product Mix Changes	Both depended on monopoly profits from “high-valued” services to fund service obligations, such as service to rural communities, and service features such as uniform rates.	Higher contribution merchandise volume declined as mandated prices not competitive. Railroad product mix retrenched around where railroads retained significant cost and/or operational advantages such as bulk commodity shipments. Passenger volume declined.	Electronic diversion drove a sharp decline in First-Class Mail, the Postal Service’s monopoly product, which is the biggest contributor to cover “fixed” costs related to the universal service organization.
Restrictions on Pricing Flexibility	Both industries have been subjected to price regulation that limited pricing flexibility and ability to raise sufficient revenues.	ICC set maximum and minimum rates for rail shipments that were unrelated to costs or demand. Regulation kept similar rates for routes between two points, even when costs differed.	The Postal Service has price cap restrictions on 86 percent of its revenue. The Postal Service has limited ability to engage in contracts with customers.
Network Related Economies of Density	Both exhibit “economies of density.” Increased (decreased) volume relative to network size tends to reduce (increase) unit costs.	As volume fell, unit costs increased. In response, the railroads began to consolidate and drop unprofitable lines; however, the process was often slow and difficult.	The combination of declining volume and a growing network of delivery points means that unit costs for the remaining mail volume are growing.
Limited Network Rationalization	Both face resistance to rationalizing the network.	Abandonment of lines was slow and faced political resistance. ICC took over a year to rule on abandonments.	Achieved only limited network rationalization. Faces substantial resistance to closing facilities.
High Labor Costs	Both had fairly high labor costs.	Prior to deregulation, labor was 50 percent of its costs.	Delivery is labor intensive. Labor makes up approximately 80 percent of total costs.
Universal Service Obligations and Common Carrier Obligations	Both have obligations that limit ability to cut costs.	Common carrier obligations and regulatory restrictions limited efforts to reduce capacity. Passenger service obligation became costly as passenger volume declined.	USO requirements limit ability to reduce costs (deliver to every delivery point, 6 days a week as practicable).
Deferred Maintenance	Financial distress limited ability to make investments, even for required maintenance.	Lacked the funds to properly maintain their tracks – resulting in less efficient operations.	Has an aged fleet of delivery vehicles, many reaching the end of their expected operational life. [†]
Little Incentive for Innovation	Regulation limited or prevented both industries from moving toward innovative solutions to gain market share and lower costs.	Regulation prohibited charging lower rates for “unit trains,” highly efficient sets of 50 or more cars to move freight between two points, delaying rail from introducing this innovation.	Until 2006, break-even requirement lacked incentive to innovate. Attempts to innovate and move beyond hard-copy mail are often met with resistance.

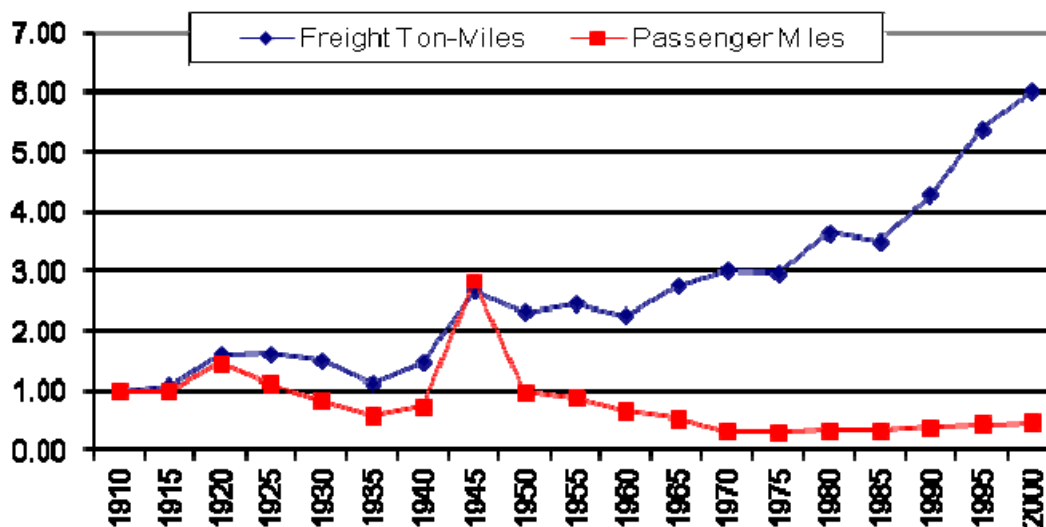
* By 1976, more than 47,000 miles of tracks had to be operated at reduced speeds because of unsafe conditions.

† U.S. Government Accountability Office, *Strategy Needed to Address Aging Delivery Fleet*, Report No. GAO-11-386, May 2011, <http://www.gao.gov/assets/320/318032.pdf>.

Despite a spike in demand due to World War II mobilization activities and gasoline rationing, the railroads failed to recapture market share because of increased competition from the publicly funded highway system and increased production and use of the automobile, the bus, long-distance trucking, and the airplane.

Figure 1 provides a view of railroad freight and passenger traffic over most of the 20th century. As can be seen, the competition affected passenger rail more significantly than freight rail. While passenger revenues had been one-fourth of rail revenues in 1900, by 1970, they had fallen to 3 percent.

Figure 1: Index of Railroad Freight and Passenger Traffic (1 = 1910)

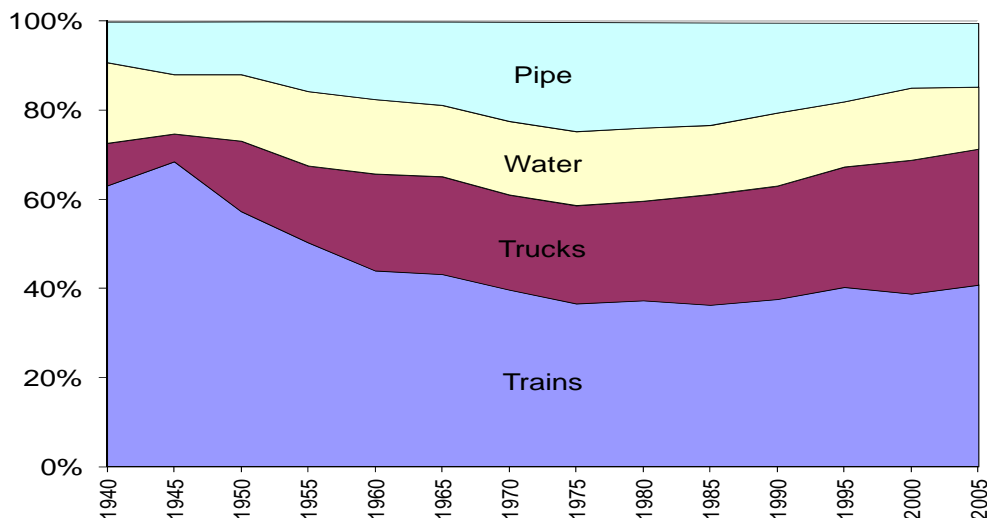


Source: Statistical Abstract of the United States, Various Years

Freight ton-miles rebounded during World War II and did not fall off as sharply as passenger traffic, but traffic growth was weak over much of the postwar period prior to the Staggers Act.

Figure 2 shows that railroad freight traffic largely shifted to trucks and, to some extent, pipelines. The result was rapid growth of trucking while the railroads struggled. Railroads had almost 70 percent of market share for freight transportation in 1945, while trucking accounted for only 6 percent of the market. By 1985, the trucking market share had risen to 25 percent while the railroads' share plummeted to little more than a third of the freight ton-miles. Since 1985, railroads have regained some market share such that today, railroads account for about 40 percent of freight ton-miles and trucking 30 percent.

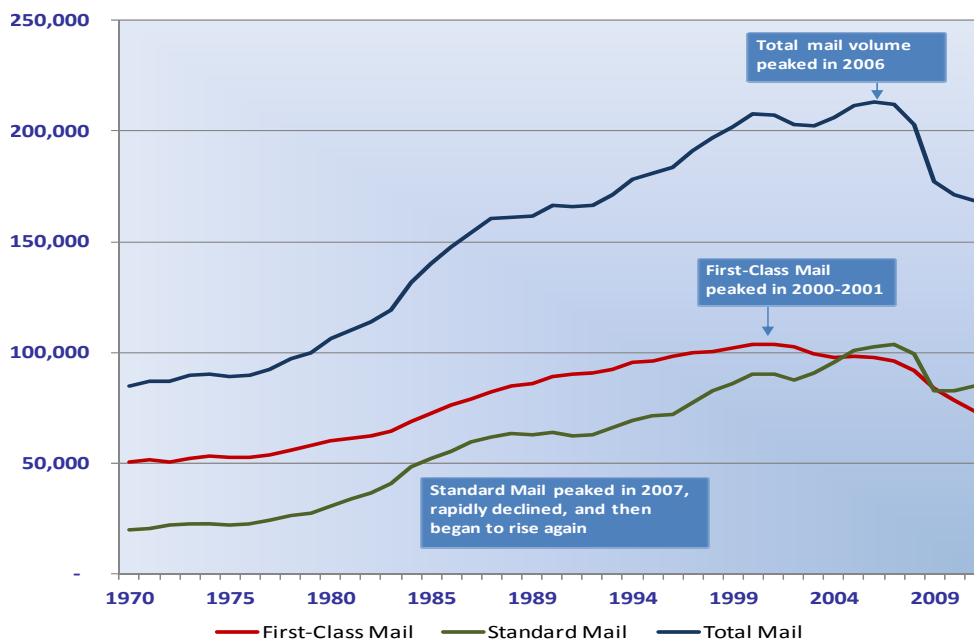
**Figure 2: Volume Shares of Freight Traffic by Mode
 (percent of total ton-miles)**



Source: National Transportation Statistics, Table 1-46b, various years

The parallel for the Postal Service is the great recession and the development of electronic communication technologies. As in the rail industry, the new competition affected the various classes of mail differently. Figure 3 shows the volumes of First-Class Mail, Standard Mail (formerly called Third-Class Mail), and total mail.

**Figure 3: First-Class Mail, Standard Mail, and Total Mail Volume
 (millions)**



Source: Docket No. R2006-1, USPS-LR-74, for data from 1970 to 2005 and U.S. Postal Service Revenue, Pieces, and Volume (RPW) Reports for data from 2006 to 2011

Between 1970 and 1990, total mail volume approximately doubled; however, composition of mail volumes changed markedly. First-Class Mail pieces grew by about 3 percent per year and Third-Class Mail (Standard Mail) increased by 6 percent per year. First-Class Mail volume peaked in 2000-2001 and total mail volume peaked in 2006, while Standard Mail volumes did not start to drop until the recent economic downturn in 2008. The change in product mix is significant, as First-Class Mail has historically provided most of the contribution to cover institutional costs. On average, it takes approximately three pieces of Standard Mail to make up for the lost contribution (profit) of one piece of First-Class Mail. As First-Class Mail volumes have continued to decline, Standard Mail and other mail markups have not been sufficient to make up the lost contribution.

The decline in First-Class Mail volume is significant because First-Class Mail has historically provided most of the contribution to cover institutional costs.

While some of the mail volume may return as the economy recovers, some volume, especially First-Class Mail volume, is most likely lost permanently.

While some of the mail volume may return as the economy continues to recover, some of the volume — especially First-Class Mail volume — is most likely lost permanently. Electronic diversion appears to have reached a tipping point, fueled by a combination of the availability of higher quality Internet services and

increased willingness of consumers to conduct business by electronic communications. In 2002, 75 percent of bill payments were made using the mail and only 17 percent were made by electronic payment. By 2010, electronic methods accounted for 48 percent of bill payments, surpassing the mail share, which had fallen to 47 percent. Similarly, an increasing number of bills and statements are being presented over the Internet and less through mail, portending continued First-Class Mail volume losses.³²

Regulatory Restrictions Limited Revenue Generation

As competition began to take market share, both the rail industry and the Postal Service were limited in their ability to generate revenue. For the rail industry, the main problem was that railroads were unable to offer competitive rates. The ICC set maximum and minimum rates for rail shipments, which were often unrelated to costs or market conditions. For instance, rates for bulk commodity movements with low perceived value of service were kept low. Shipments of manufactured goods with high perceived value of service, which paid higher rates and markups, provided disproportional contributions to institutional costs of the rail network. However, this pricing structure caused the higher-valued freight to be diverted to the highways first, rapidly undermining railroads' finances. In addition, regulation generally kept similar rates for shipments between two

³² U.S. Postal Service, *The Household Diary Study: Mail Uses & Attitudes in FY 2010*, Contract No. 102592-02-B-15902, April 2011, <http://about.usps.com/studying-americans-mail-use/household-diary/2010/fullreport-pdf/usps-hds-fy10.pdf>, p. 2.

points, even if railroads incurred much higher or lower costs for some shipments.³³ In addition, rate changes often entailed a long and burdensome process.

The Postal Service also faces restrictions in its price-setting process. From 1970 to 2006, the Postal Service was under a break-even requirement, which required it to set rates so that revenues covered the cost of operations. While this regulation ensured that the Postal Service would earn significant revenues to cover its costs, it also had drawbacks. Rate cases were long, incentives to control costs were weak, and mailers complained that they were often victims of unpredictable rate increases.

In response to these concerns, the PAEA abolished the PRA's cost-of-service ratemaking system, and instead instituted CPI-based price caps for market-dominant products while largely reducing the regulation of competitive product pricing. Postal Service rate increases could exceed the CPI caps under exigent circumstances with advance approval by the Postal Regulatory Commission, though to date the Postal Service has not yet successfully pursued an exigent rate increase.³⁴

Price caps linked to the CPI may have been regarded as allowing the Postal Service sufficient rate flexibility based on past experience, given that prices for First-Class Mail have generally followed inflation. However, CPI deflation following the 2007-2008 financial crisis left the Postal Service unable to raise market-dominant rates under the price caps. While the intent of the law was to give the Postal Service pricing flexibility, the combination of the class-based price cap and regulations on workshare discounts³⁵ hinders the Postal Service's flexibility to make significant changes to its rate structure. This not only places some limitation on the Postal Service's ability to offer innovative pricing, such as prices based on the value of the product, it also makes it difficult for the Postal Service to rebalance rates when needed, such as raising the price of products that are not currently covering their costs. However, some have argued that the Postal Service does not effectively use the pricing flexibility it has to rebalance rates within the classes of mail to which the price caps apply.

CPI deflation following the 2007-2008 financial crisis left the Postal Service unable to raise market-dominant rates under the price cap

The Postal Service is also limited in its ability to generate revenue from new products because it can only provide postal products, with the exception of a few grandfathered products that were offered prior to 2006.

³³ For instance, multiple-carload shipments will tend to have lower marginal cost per ton-mile than single-carload shipments, other things equal.

³⁴ The Postal Service requested an exigent rate increase in Postal Regulatory Commission Docket No. R2010-4. The Postal Regulatory Commission found that the Postal Service had shown an exigency, but denied any rate increase on the grounds that the Postal Service had not shown a sufficient causal nexus between the request and the volume losses due to the recession.

³⁵ The PAEA requires that workshare discounts not exceed 100 percent of the cost savings, but allows for several exceptions. See Public Law 109-435, December 2006, 120 Stat. 3204. The Postal Regulatory Commission also believes that when possible, workshare discounts should not be less than 100 percent of the cost savings. See Postal Regulatory Commission, *Annual Compliance Determination, United States Postal Service Performance FY 2007*, March 27, 2008, pp. 66 and 97, <http://www.prc.gov/Docs/59/59460/ACR2007Report.pdf>.

Regulatory Controls Limited Ability to Adapt to Changing Market Conditions

In 1950, it was obvious that the railroad industry was in a challenging financial situation and that the future looked worse. The industry responded through three related actions. First, the industry consolidated as firms merged, were reclassified, or exited the industry because of bankruptcy. Second, through consolidation and route abandonment, the mileage of the railroad network shrank. Third, the industry aggressively reduced employment. However, it took years for rail to be successful in each of these actions due to regulatory constraints.

The obligation to provide passenger service was a key factor in the Class I³⁶ railroads' deteriorating financial condition through the 1960s. Despite falling demand and increasing operating deficits, railroads found it very difficult to get permission to abandon unprofitable passenger services because the ICC only had the authority to allow abandonment of the line, not services on the line.³⁷

Common carrier obligations and regulatory restrictions on abandonment of rail lines limited the industry's efforts to reduce capacity in line with demand. Abandoning unprofitable lines not only was met with political resistance, but was also a lengthy process. In the 1960s, the ICC took 410 days on average to rule on abandonment applications.

Overall, it took the railroad industry more than 50 years to "rightsize."

The Transportation Act of 1958 somewhat reduced the barriers to route abandonment, but network reduction via abandonment was modest until the mid-1970s. In 1976, the 4R Act greatly reduced the regulatory barriers to route abandonment. Consequently, from 1975 to 1990, there

was a rapid reduction of the railroad network as over 4,600 miles of road per year were shed.³⁸ In the 2000s, the extent of the rail network has been relatively stable; capacity needs on high-traffic routes have led to modest increases in track mileage.³⁹

Overall, it took the railroad industry more than 50 years, until about 2000, to "rightsize" itself in response to changing market conditions.⁴⁰

The Postal Service faces a variety of explicit and implicit limitations on reducing portions of its network.

The Postal Service also faces a variety of explicit and implicit limitations on reducing portions of its network,⁴¹

³⁶ Class I railroads are large railroads as defined by operating revenue.

³⁷ See Appendix B for a more detailed discussion.

³⁸ Association of American Railroads, *Railroad Ten-Year Trends*, various years.

³⁹ Capacity has increased through other means than additional mileage, such as double-stacking. However, there is some evidence that rail is now under-capacity. According to *The Economist*, due to the success of the rail industry, capacity shortages have become a problem recently and will continue to get worse. The introduction of high-speed passenger rail could cause even more problematic capacity issues. See *The Economist*, "High-speed Railroading," July 22, 2010, <http://www.economist.com/node/16636101>.

⁴⁰ This sentence is not meant to imply that the railroad industry achieved the optimal size, as it will need to continue to adapt to changing market conditions. The sentence is meant to illustrate that rightsizing is a long and arduous process.

which are often justified by its obligation to provide universal service. The Postal Service may not close Post Offices solely for economic reasons, and is required to maintain 6-day residential delivery.⁴² It also faces resistance to efforts to consolidate its mail processing network.

Historically, the Postal Service has engaged in some consolidation of mail processing and distribution operations prior to its recent broader effort to consolidate the mail processing network.⁴³ In particular, the Postal Service's inventory of automated letter and flat processing equipment was scaled for considerably higher volumes than currently prevail. To some extent, the Postal Service has been able to maintain density in some processing operations by using excess capacity to automate the processing of some mail that would otherwise require manual handling. For instance, the number of letters sorted to delivery point sequence using automated equipment in mail processing plants has significantly increased from 2005 to 2010.⁴⁴ However, reduced capacity utilization leads to upward pressure on product costs as relatively fixed nonlabor costs associated with plants and equipment must be spread over smaller mail volumes.

The Postal Service has experienced relatively little network consolidation and has seen considerable growth in its delivery network.

Overall, the Postal Service has experienced relatively little network consolidation and indeed has seen considerable growth in its delivery network. Consequently, the gains from density economies in postal services have come primarily from increases in mail volumes until recent years.

This is in contrast to the railroad experience where density economies (and ultimately density-driven productivity gains) resulted from both large increases in traffic volume and large decreases in network size.

Inability to Adapt to Market Conditions Led to Huge Financial Losses

The financial impact of trucking competition on the railroads was severe. Rail volume declines directly affected revenues, and railroads could not quickly make adjustments to control costs. Because of value-of-service pricing, high-markup goods were particularly vulnerable to diversion to highways, further undermining railroads' revenue sufficiency.

As shown in Figure 4, between 1947 and 1960, real operating revenue decreased as the result of stagnant rail volumes, and railroad expenses grew faster than revenues. From 1960 to 1975, after volumes began increasing, the cost-revenue differential became even greater. Not until after 1975 did the railroads turn the corner and the

⁴¹ For example, a discussion of the hurdles the Postal Service faces when it attempts to cut retail costs is in U.S. Postal Service Office of Inspector General, *Barriers to Retail Optimization*, Report No. RARC-WP-11-005, June 9, 2011, http://www.uspsoig.gov/foia_files/RARC-WP-11-005.pdf.

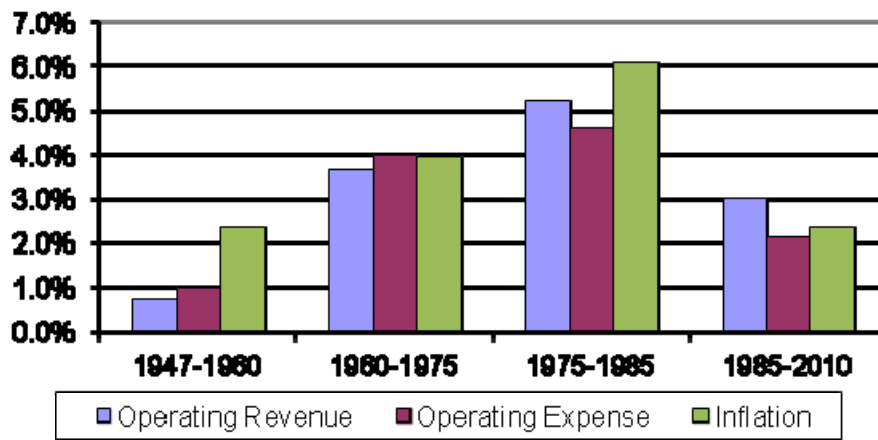
⁴² This requirement appears as a rider on annual appropriations bills.

⁴³ As of the writing of this paper, the broader mail processing network rationalization and associated service changes are the subject of Postal Regulatory Commission Docket No. N2012-1.

⁴⁴ The percent of letters that were in delivery point sequence increased from 77 percent in 2005 to 99 percent in 2010. See 2005 and 2010 Comprehensive Statement of Postal Operations at, respectively, <http://about.usps.com/strategic-planning/cs05/welcome.htm> and http://about.usps.com/strategic-planning/cs10/CSPO_12_2010.pdf.

financial situation began to stabilize. The recovery of the industry occurred largely since 1985, as revenue growth outpaced expense growth by a full percentage point.

Figure 4: Average Annual Growth in Inflation and Railroad Operating Revenue and Expense



Source: Association of American Railroads, Railroad Facts, 2009 Edition and Railroad Ten-Year Trends 2000-2009

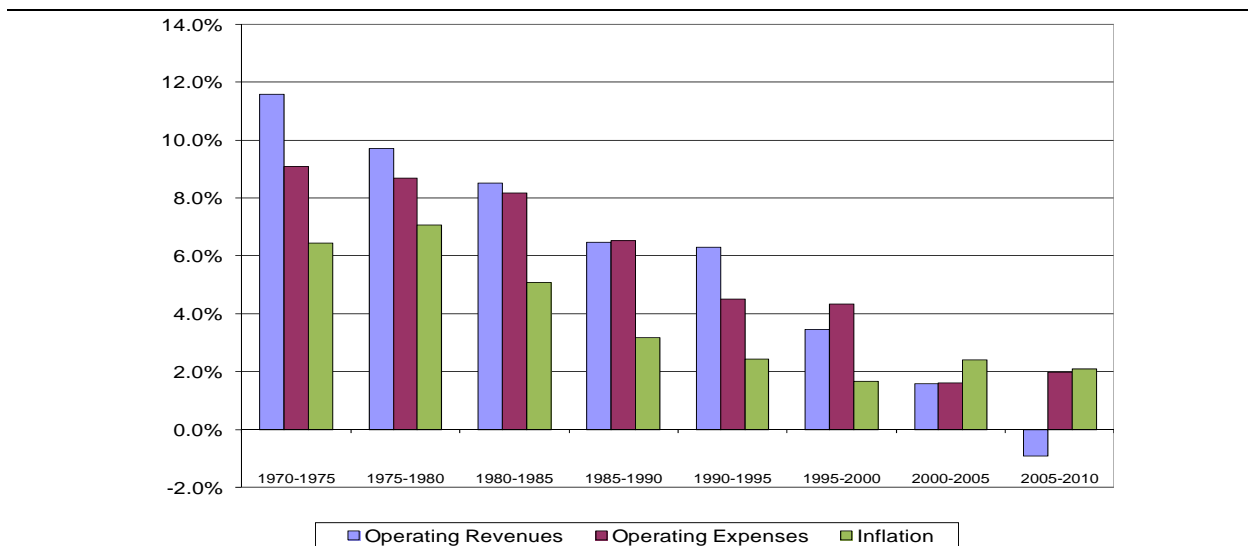
Figure 5 compares growth rates in operating revenues to operating expenses for 5-year periods for the Postal Service.⁴⁵ This figure shows that the greatest financial improvement occurred in the years immediately following the PRA, as break-even rates from the PRA ratemaking system were implemented and the Postal Service enjoyed an initial productivity boom from restructuring. Under cost-of-service ratemaking, operating revenues and expenses broadly tracked each other over most of the PRA period; growth rates of both declined in the lower-inflation economy of the later 1980s and 1990s. The 2005-2010 period shows that the price cap system decoupled revenues from expenses, and operating revenues decreased on average by 0.9 percent per year, on sharply lower demand, while expenses increased by 2 percent per year.⁴⁶ From the mid-1980s until 2005, the Postal Service had operating expenses largely in line with operating revenues. However, the Postal Service has been experiencing significant losses in recent years as expenses and revenues became unbalanced.⁴⁷

⁴⁵ The data presented in Figure 5 do not include any public service or revenue forgone appropriations. Since 1983, the Postal Service has not received any public service appropriation.

⁴⁶ A substantial amount of the growth in expenses 2005-2010 was from the increase in retiree health benefit obligations. The net result of Public Law 109-435 was to add \$6.8 billion dollars to this obligation in 2007. The net result of Public Law 111-68 was a reduction of the obligation by \$4.0 billion.

⁴⁷ While the retiree health benefit obligation is a significant part of the net loss, the Postal Service financial condition deteriorated otherwise.

Figure 5: Average Annual Growth Rates in Inflation and Postal Operating Revenues and Operating Expenses



Source: U.S. Postal Service Annual Reports

Parallel Solutions

Regulatory reform of the railroad industry was not a quick process; instead, it took over 50 years. The railroad industry faced an extended period of crisis, and a number of interim reforms, before the more comprehensive reforms in the Staggers Act were passed. Ultimately, the Staggers Act recognized the industry as being in crisis and focused on restoring railroads' financial health, even through means that may have been unpopular and challenging, such as relieving the railroads of their obligation to provide passenger service.

The Staggers Act recognized the industry as being in crisis, and focused on restoring railroads' financial health.

The post-Staggers Act freight rail industry is often considered a model of success for transportation deregulation because both railroads and shippers were able to benefit from rapid productivity gains. These gains allowed freight railroads to greatly improve their financial positions while shippers could enjoy lower real (if not nominal) rail rates at the same time. Railroads also benefited from market changes, such as the increased demand for low-sulfur western coal, which were not anticipated in the regulatory reform.

But the freight railroad story is not necessarily the perfect blueprint for the Postal Service. Table 2 lists some of the key elements of rail reform success and how those same elements may apply to the Postal Service.

Table 2: Parallel Solutions

	Rail – After Staggers	Potential for the Postal Service
Increased Pricing Flexibility	Railroads are allowed to base their rates on market demand when sufficient competition exists. Railroads can enter into confidential contracts.	While the Postal Service does have the ability to enter into private contracts, it could benefit from more pricing flexibility – specifically innovative pricing that better captures the value of the mail and the network.
Relaxed Restrictions on Network Rationalization	The Staggers Act streamlined procedures for abandoning or selling unneeded rail lines. The number of miles of road served by the Class I railroads was cut by more than half.	There is significant and effective resistance to network rationalization efforts.
Industry Consolidation	Rail started with multiple railroads with duplicate service and was able to consolidate. Class I railroads decreased from 126 in 1950 to 7 in 2000.	Postal Service is a monopoly. If anything, it has created more mail service providers as growth of workshare volumes has created an industry of upstream competition to the Postal Service.
Increased Traffic Density Facilitated Productivity Improvements	An increase in traffic density was a key factor in recovery. It was facilitated by stronger, more efficient locomotives pulling heavier cars and longer trains greater distances. Increase in demand for low-sulfur coal and long-haul intermodal shipments also resulted in an increase in density.	Due to the growing delivery network and unlikely comeback of First-Class Mail, it is unlikely the Postal Service will be able to see large gains in density. Network rationalization will improve density and productivity prior to delivery.
Reduction in Labor Costs	It took until 1980 to see significant labor cost reductions. Even though employment decreased by 87 percent as a result of industry consolidation, labor-saving technological change, work rule changes, and operating efficiencies (including eliminating the caboose and the introduction of unit trains), wage and benefit growth outpaced the rate of employment reduction until 1980.	There is potential for a reduction in labor costs; however, the reduction would be largely dependent on the Postal Service's ability to rationalize its network and or change the delivery mode (i.e., move from house to curbside delivery). More flexibility in work rules could also lead to a reduction in labor costs.
Relaxation on Universal Service Obligations (USO) and Common Carrier Obligations	The Class I railroads were relieved of their passenger service obligations when Amtrak began operations in May 1971.	It is unlikely that the Postal Service will be relieved of its USO, but it might benefit from a reevaluation of some of the requirements of USO.
Increased Demand	Benefited from the increased demand for low-sulfur coal. Lower prices from increase in productivity allowed additional gains in market share.	Unlikely long-term increase in demand for hard-copy high-contribution mail services. Some of the loss of First-Class Mail is most likely permanent and it will be difficult for the Postal Service to make up this lost revenue through other hard-copy mail.

The recovery of the freight rail industry has been largely a productivity story, with railroads experiencing rates of productivity growth much higher than the productivity growth rate in the economy overall. Since 1950, Class I railroads' total factor productivity, a comprehensive measure of productivity that compares an index of output

The recovery of the freight rail industry has been largely a productivity story, with customers on average sharing the benefit through lower prices.

production to an index of all input usage, has grown by an average of 2.5 percent a year. The strongest productivity growth for the railroads came after the regulatory reform of the 4R Act of 1976 and the Staggers Rail Act of 1980.⁴⁸ Railroad productivity growth has come from technological change across all aspects of production (engines, cars, rails, track

maintenance, communications, etc.); density economies resulting from volume growth, consolidation, and network rationalization; and managerial efficiencies resulting from operational innovation, fewer work rules, lessening of other regulatory and political constraints, and market-oriented management.⁴⁹

A significant increase in traffic density was a strong component of the increase in productivity. The increase in density was facilitated by stronger, more efficient locomotives pulling heavier cars and longer trains greater distances. Compared to 1950, the typical train goes twice as far, is 40 percent longer, and carries 2.5 times the freight weight.⁵⁰ The shifting mix of traffic toward low-sulfur coal and long-haul intermodal shipments⁵¹ and the introduction of contract terms that promote efficient railroad operations are also a large part of the density and productivity story.

As can be seen in Table 2, other factors also played a role in the recovery of the rail industry, including increased pricing flexibility, the elimination of the obligation to provide passenger rail service, and the ability to reduce labor costs. It is important to note that all of the elements that led to the successful recovery of the freight rail industry are interrelated; none would have been successful in isolation. For example, labor cost reductions would have not been as significant without network rationalization and industry consolidation. And while pricing flexibility was important, it would not have been as successful without productivity gains that allowed for lower prices and

All of the elements that led to the successful recovery of the freight rail industry are inter-related; none could have been successful in isolation.

⁴⁸ Philip E. Schoech and Joseph A. Swanson, "Patterns of Productivity Growth for U.S. Class I Railroads: An Examination of the Pre- and Post-Deregulation Determinants," Christensen Associates Working Paper, November 2010, http://www.irca.com/topics/Schoech_Swanson_Patterns_of_Productivity_Growth_for_US_Class_I_Railroads.pdf.

⁴⁹ B. Kelly Eakin, A. Thomas Bozzo, Mark E. Meitzen, and Philip E. Schoech, "Railroad Performance Under the Staggers Act," *Regulation*, Winter 2010-2011, pp 23-31.

⁵⁰ Association of American Railroads, *Railroad Facts*, various years.

⁵¹ Intermodal rail is a subset of freight rail service involving the coordinated use of two or more different modes of transportation. Intermodal rail traffic quadrupled between 1980 and 2007. See Association of American Railroads, *Overview of America's Freight Railroads*, May 2008, <http://www.aar.org/PubCommon/Documents/AboutTheIndustry/Overview.pdf>.

helped to increase market share.⁵²

While there were many interrelated elements, it was the strength of productivity gains that allowed the freight rail industry to recover successfully with many winners and fewer losers.⁵³ The vast majority of productivity gains were passed to shippers through lower rates. While regulatory reform may have left some individual shippers worse off, shippers as a group were big winners. Likewise, the freight railroad industry was a big winner as it recovered to a healthy financial position. Labor has borne the brunt of railroad restructuring through large decreases in employment levels. However, compensation increases offset the employment decreases. So those workers who kept their employment and the next generation of workers hired have benefited through more skilled, higher-paying jobs.

Similar to the railroad industry, the Postal Service's recovery from its financial crisis will need to come from three interrelated sources: productivity improvements, revenue generation, and cost containment. However, unlike the railroad industry, the potential for postal productivity gains seems limited under the Postal Service's present service obligations and current network structure. Postal Service productivity growth historically has been slightly less than that achieved in the private sector. This does not mean that Postal Service performance has been poor, as technologies and the ability to innovate vary across industries. The Postal Service may face some inherent limits in achieving high productivity growth.⁵⁴ A steady increase in its network of delivery points coupled with the universal service obligation

The potential for postal productivity gains seems limited under the Postal Service's present service obligations and current network structure.

Unlike the rail industry, Postal Service recovery will be to a greater extent a story of shared pain, rather than shared gain.

(USO) limit density economies. In addition, delivery operations are inherently labor intensive and therefore have little potential for labor-saving technological changes. Therefore, while productivity will play an important role, the Postal Service's recovery will most likely have to result from revenue generation and cost containment.⁵⁵ As large productivity gains are unlikely,

Postal Service recovery will be, to a greater extent, a story of shared pain, rather than shared gain.

Revenue generation can come from two sources, current products and services and new products and services. Freight rail benefited from both. For existing products, rail

⁵² While prices overall declined, this does not mean that there were not some shippers who experienced price increases. In addition, it should be noted that prices for freight rail have been increasing recently; however, after adjusting for inflation, prices on average are still lower than they were before 1980.

⁵³ In contrast, passenger rail service continues to face losses.

⁵⁴ Opportunities for optimization initiatives have been the subject of several U.S. Postal Service Office of Inspector General reports. See, for example, U.S. Postal Service Office of the Inspector General, A Strategy for a Future Mail Processing & Transportation Network, Report No. RARC-WP-11-006, July 6, 2011, http://www.uspsoidg.gov/foia_files/RARC-WP-11-006.pdf; Retail and Delivery: Decoupling Could Improve Service and Lower Costs, Report No. RARC-WP-11-009, September 22, 2011, http://www.uspsoidg.gov/foia_files/RARC-WP-11-009.pdf; and Analyzing the Postal Service's Retail Network Using an Objective Modeling Approach, Report No. RARC-WP-10-004, June 14, 2010, http://www.uspsoidg.gov/foia_files/RARC-WP-10-004.pdf.

⁵⁵ For the purpose of this paper, cost containment would include actions such as rightsizing/optimizing its networks.

was able to gain market share through increased pricing flexibility and the ability to offer lower rates due to productivity gains. As mentioned earlier, the rail industry also benefited from the increased demand for low-sulfur coal, something that was unforeseen when the Staggers Act was passed.

It is unlikely that the Postal Service will benefit from something akin to the increased demand for low-sulfur coal. It is difficult to imagine a market disruption that would lead to a dramatic long-term increase in demand for hard-copy mail, particularly the First-Class Mail that traditionally bore the bulk of the Postal Service's institutional costs. While it is possible that in the future, the Postal Service will offer new ancillary and nonpostal products with considerable revenues, the Postal Service is unlikely to benefit from significant new sources of revenue for several years.

As for existing products, the Postal Service may be able to generate revenue through increased pricing flexibility and pricing innovations.⁵⁶ However, unlike the rail industry, revenue gains will most likely be highly dependent on price increases, because the Postal Service appears to have fewer opportunities for productivity gains relative to rail.⁵⁷ Moderate, predictable rate increases will most likely be more palatable than a postponed larger rate increase, which could cause rate shock and could ultimately drive mailers out of the postal system.

Revenue gains will most likely be dependent on moderate, predictable rate increases.

The first and foremost element of postal recovery needs to be cost containment — fixing the retiree prefunding issues and rightsizing the networks.

Even with moderate price increases, there are no quick fixes for revenue gains for the Postal Service. Therefore, the first and foremost element of postal recovery needs to be cost containment, including fixing the retiree prefunding issues. Similar to the rail industry, cost containment for the Postal Service is contingent on its ability to rightsize. With the railroads, rightsizing meant dramatic reductions in labor costs,

consolidation of the industry by mergers, and rationalization of the network by abandoning and spinning off unprofitable routes to regional and short lines. The parallels for the Postal Service are reducing employment, consolidating processing facilities, and potentially reducing the frequency and speed of service. Cost reductions will fall mostly on labor because the Postal Service is very labor intensive. As with the railroads, postal restructuring will likely lead to fewer workers, but may result in more skilled, higher-paying jobs.

Prioritizing rightsizing does not mean that the Postal Service should focus solely on cutting costs. Instead, rightsizing should be viewed as the first step to financial stability.

⁵⁶ Increased use of contract pricing may help both mailers and the Postal Service, particularly where mailers are willing or able to prepare mailings with lower cost characteristics than mail prepared according to existing standards for tariff rates.

⁵⁷ Currently the Postal Service has some of the lowest postage rates in the world. See U.S. Postal Service Office of the Inspector General, *Postal Service Revenue: Structure Facts and Possibilities*, Report No. RARC-WP-012-002, October 6, 2011, http://www.uspsoidg.gov/foia_files/RARC-WP-12-002.pdf.

Rightsizing does not necessarily mean cutting service; it means realigning the network so that it can match service to current market demands.⁵⁸ If the Postal Service can find the appropriate balance of reducing its network while providing adequate service to its customers, it may be able to pass the cost savings on to its customers through smaller price increases. This will allow the Postal Service to possibly regain, or at least maintain, some of its market share.

What is imperative is the speed with which cost containment and optimization occurs. While the Postal Service cost containment and optimization efforts are just beginning, the quicker they can be implemented, the sooner the Postal Service will be able to begin its financial recovery and the sooner the resulting cost savings can be used to lessen the negative impacts on stakeholders. Stakeholders could then begin to share the benefits of a stronger, more viable Postal Service.

The quicker cost containment and optimization are implemented, the quicker stakeholders can begin to share the benefits of a stronger, more viable Postal Service.

Conclusion

The Postal Service faces the most significant financial and organizational challenges since the PRA. These challenges fundamentally result from structural changes in markets for communication and transactions. Permanent market share losses to electronic and other means of communication have severely reduced mail volumes and the corresponding revenues, but costs have not decreased commensurately. To bring the situation into balance, the recovery from this crisis will come from three basic sources: productivity improvement, revenue management, and cost management.

While there are parallels and lessons to be learned from comparing the rail and postal industries, the railroad experience does not necessarily provide the blueprint for the Postal Service recovery. Productivity improvement has been the central story behind the railroad recovery. In postal restructuring, productivity will play an important but lesser role. It is not likely that postal productivity gains alone will be sufficient to lead to a full recovery. Consequently, revenue generation and cost containment will play a larger role in balancing the profitability equation. Therefore, postal recovery will, to a greater extent, involve shared pain rather than shared gain.

What is applicable from the railroad experience is the importance of rightsizing. With the railroads, that meant dramatic reductions in employment, consolidation of the industry by mergers, and rationalization of the network by abandoning and spinning off unprofitable routes to the regional and short lines. The parallels for the Postal Service are reducing employment, consolidation of processing facilities, and reducing the frequency and speed of service.

⁵⁸ Rightsizing is a dynamic process. As in the rail industry, the Postal Service will need to continue to adapt as market conditions change over time.

The optimal configuration of postal employees, facilities, and service attributes remains to be determined. Pursuit of the quantitative answers is imperative, and the direction of needed postal changes is clear. It is important to recognize that making changes sooner rather than later will likely reduce the total burden that is to be shared.

Appendices

Appendix A History of the Railroad Industry

General and Regulatory History Prior to the Staggers Act

Since their genesis in the early 1800s, railroads have been central to America's social and economic development. The development of the railroads marked the beginnings of the modern transportation network in the United States. America's first railroad, the 13-mile Baltimore and Ohio Railroad, was chartered in 1827 and completed in early 1830.⁵⁹ By 1850, more than 9,000 miles of railroad were in operation, representing a fairly complete railroad network.⁶⁰ Development of the railroads spurred economic growth and territorial expansion by providing access to previously inaccessible areas and increasing the mineral, timber, and agricultural products brought to market. Furthermore, the construction of the railroads increased the demand for coal, steel, and iron production. Railroads also played a major role in the Civil War.⁶¹

By the 1860s the railroads possessed and exercised monopoly power such that "the first serious manifestations of the monopoly problem thus made their appearance on the American scene."⁶² Captive shippers saw higher rates while the railroads provided cheaper rates to shippers with transportation alternatives, often by rebating a portion of the charge. This price discrimination was viewed as unfairly favoring large business to the disadvantage of small shippers. Also, railroads charged different rates between certain points regardless of distance. In some cases, higher rates were charged for shorter distances along the same route.⁶³

Many shippers, particularly farmers, and the general public resented the railroads' pricing practices. Agrarian pressures, known as the Granger Movement, resulted in Midwestern states passing legislation to regulate the railroads by establishing maximum rates and outlawing some forms of price discrimination. Between 1871 and 1874, Illinois, Iowa, Wisconsin, and Minnesota enacted legislation regulating the railroads. Between 1875 and 1878, the "Granger laws" were repealed or weakened, but these states kept some regulatory legislation and by 1890 34 states had passed some railroad regulation laws.⁶⁴

Initially, the federal government's role in the regulation of railroads was limited primarily to granting land for rights of way. In 1886, an impetus for federal regulation ensued from a U.S. Supreme Court ruling in *Wabash v. Illinois* according to which the authority to

⁵⁹ Ross M. Robertson, *History of the American Economy*, p. 148.

⁶⁰ Association of American Railroads, "A Short History of U.S. Freight Railroads," October 2011, <http://www.aar.org/~/media/aar/Background-Papers/A-Short-History-of-US-Freight.ashx>.

⁶¹ The North's victory was due in large part to its well-organized rail operations and the fact that most of the country's locomotive and railcar-building plants were in the North. See Association of American Railroads, "A Short History of U.S. Freight Railroads."

⁶² Ross M. Robertson, *History of the American Economy*, p. 281.

⁶³ See, e.g., John F. Stover, *American Railroads*, pp. 116-117, and Ross M. Robertson, *History of the American Economy*, p. 282.

⁶⁴ Ross M. Robertson, *History of the American Economy*, pp. 284-285.

regulate railroads engaged in interstate commerce rested with the federal government rather than the states.⁶⁵ A legislative compromise between the Senate and the House led to the passage of the Interstate Commerce Act of 1887, and consequently, railroads became the first U.S. major industry to be subject to economic regulation.⁶⁶ This Act created the Interstate Commerce Commission (ICC) and imposed various types of regulations on railroads including maximum and minimum rail rates, and prohibited pooling, rebates, and long/short haul rate differentials.⁶⁷

The ICC wanted to establish control over the railroads, but for many years did not possess the necessary power to do so. In the first decades of its existence, several Supreme Court decisions were used by the railroads to prevent the ICC's efforts at regulation and rate reductions from being implemented successfully. As a result, major legislative efforts were made to increase the ICC's authority accordingly. The Elkins Act of 1903, signed by President Theodore Roosevelt, was the first of such legislations to pass, which increased the restrictions of rebates railroads received.⁶⁸ This was followed soon by the Hepburn Act in 1906, which increased the powers of the ICC and allowed it to set freight rates.⁶⁹ Finally, in 1910, the Mann-Elkins Act was passed which further expanded the powers granted to the ICC under the Hepburn Act, and demanded that railroads' reasons for any rise in freight rates must be warranted.⁷⁰ Concerns about financial weakness in the railroad industry also led to the passage of the Transportation Act of 1920, which granted powers to the ICC to control entry, regulate construction and abandonment, and prescribe minimum and maximum rates.⁷¹

In the 1930s, most railroads faced financial pressures due to two reasons. The Great Depression wreaked havoc on the railroads, causing many of them to fall into receivership or be purchased by stronger companies. Thus, there was a decrease in the overall level of demand for transportation services provided by railroads. Additionally, competition from new modes of transportation — automobiles, buses, trucks and airplanes — prevented the railroads from returning to prosperity. The railroad industry's "Golden Age" was over.⁷²

World War II-related rail demand traffic gave the railroads a temporary boost, but it was insufficient to resolve the railroads' financial difficulties. More bankruptcies, service abandonments, and deferred maintenance plagued the railroads throughout the 1950s. Railroad regulation was considered to be a major factor hindering the industry's ability to adapt to changing market conditions. Several of the existing regulations that came under question were:

⁶⁵ *Wabash, St. L. & P. R. Co. v. Illinois*, 118 U. S. 557, 7 Sup. Ct. 4, 30 L. ed. 244 (1886).

⁶⁶ Clyde Aitchison, "The Evolution of the Interstate Commerce Act: 1887-1937," pp. 289, 300 (1936-1937), citing *Wabash, St. L. & P. R. Co. v. Illinois*, 118 U. S. 557, 7 Sup. Ct. 4, 30 L. ed. 244 (1886).

⁶⁷ Interstate Commerce Act of 1887, ch. 104, 24 Stat. 379, approved 1887-02-04.

⁶⁸ The Elkins Act, § 708, 32 Stat. 847 (1903).

⁶⁹ The Hepburn Act, 34 Stat. 584 (1906).

⁷⁰ The Mann-Elkins Act, § 8, 36 Stat. 539, 547 (1910).

⁷¹ Transportation Act of 1920, Public Law. 66-152, 41 Stat. 456, 1902. (Also known as the Esch-Cummins Act.)

⁷² Association of American Railroads, "A Short History of U.S. Freight Railroads."

- (1) The ICC set maximum and minimum rates for rail shipments which were often unrelated to costs or demand. For instance, rates for bulk commodities were kept low at the expense of higher rates for many kinds of manufactured goods that were traded in smaller quantities. As a result, shippers began to divert this higher-rated freight to the highways instead.
- (2) The concept of “open routing” was another issue. Regulation generally kept similar rates for routes between two points, even if railroads incurred much higher or lower costs to use some routes than others.
- (3) Because regulation made it difficult for railroads to adjust individual rates, they typically increased all rates as their costs rose. Since rail rates took into account lagged cost patterns, subsequent changes in technology and traffic flow that may have significantly altered those cost patterns were often ignored.
- (4) Regulation also delayed the widespread use of “unit trains,” which made use of highly efficient sets of 50 or more cars to move freight between two points (for example, a coal mine and a power plant), because it prevented railroads from offering lower rates to shippers who used these trains.⁷³

To deal with these issues, President Eisenhower appointed the Weeks Committee, whose report in 1955 appeared to set the stage for deregulation. In its preamble, the report promoted concepts such as a “...free enterprise system of dynamic competition...” to “encourage and promote full competition between modes of transportation...” and to “reduce economic regulation of the transportation system to the minimum consistent with public interest...”⁷⁴ Three years after the release of the Weeks Committee report, the Transportation Act of 1958 was passed. This act incorporated only a few of the recommendations of the Weeks Committee. Although there was a series of court cases and ICC decisions through the mid-1960s, the regulatory practices in the transportation industry had not been substantially changed by either the report of the Weeks Committee or the Transportation Act of 1958.⁷⁵

The U.S. railroad industry reached its low point in the early 1970s, when it had lost so much market share to trucking that many companies either were purchased by stronger ones or simply went bankrupt. The government reacted with the Regional Rail Reorganization Act (the 3R Act). The purpose of the 3R Act was to reorganize the numerous bankrupt railroads in the Northeast and Midwest regions into an economically viable system that could provide adequate and efficient rail service. This led to the

⁷³ Ibid.

⁷⁴ Presidential Advisory Committee on Transport Policy and Organization, *Revision of Federal Transportation Policy*, p. 8.

⁷⁵ *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, Revised Final Report, prepared by Laurits R. Christensen Associates for the Surface Transportation Board, November 2009, vol. 1, pp. 2-5 – 2-6.

formation of the Consolidated Rail Corporation (Conrail), and the United States Railroad Administration (USRA) which would fund and oversee Conrail's operations.⁷⁶

Despite these governmental efforts, continuing financial problems plaguing railroads began to motivate the serious consideration of rate deregulation. Some of the adverse developments that formed the main impetus for deregulation were as follows:

- (1) Most major railroads in the Northeast, including the giant Penn Central and several major Midwestern railroads, went bankrupt. Bankrupt railroads accounted for more than 21 percent of the nation's rail mileage.
- (2) Between 1970 and 1979, the rail industry's return on investment never exceeded 2.9 percent and averaged only 2 percent.
- (3) By 1978, the railroad share of intercity freight had fallen to 35 percent, down from 75 percent in the 1920s.
- (4) Railroads lacked the funds to properly maintain their tracks. By 1976, more than 47,000 miles of track had to be operated at reduced speeds because of unsafe conditions. Deferred maintenance, namely maintenance that needed to be done but which railroads could not afford, was in the billions of dollars.⁷⁷

The first significant reduction in federal regulation of railroads since the enactment of the Interstate Commerce Act in 1887 was realized in the passage of the Railroad Revitalization and Regulatory Reform Act of 1976 (the 4R Act). Congress undertook regulatory reform in the 4R Act to stop the wave of bankruptcies in the industry and to improve the railroads' opportunities to survive as private companies.⁷⁸

The next major event that further removed regulatory restraints on the railroad industry was the passage of the Staggers Rail Act of 1980. The main provisions of the Staggers Act were as follows:

- (1) Railroads were allowed to base their rates on market demand.
- (2) Railroads and shippers could enter into confidential contracts.
- (3) Procedures for abandoning or selling unneeded rail lines were streamlined.
- (4) The need for railroads to earn adequate revenues to support their operations was explicitly recognized.⁷⁹

The Staggers Act was followed by the abolishment of the Interstate Commerce Commission (ICC) effective January 1, 1996. The Surface Transportation Board (STB)

⁷⁶ Congressional Budget Office, *Economic Viability of Conrail*, August 1986, pp. 4-5.

⁷⁷ Association of American Railroads, "A Short History of U.S. Freight Railroads."

⁷⁸ Congressional Budget Office, *Economic Viability of Conrail*, August 1986, p. 5.

⁷⁹ Association of American Railroads "A Short History of US Freight Railroads."

was established as the ICC's successor. The STB is an economic regulatory agency that Congress charges with the fundamental missions of resolving railroad rate and service disputes and reviewing proposed railroad mergers. The STB maintains a focus on promoting a regulatory structure that:

- (1) Helps promote revenue adequacy (i.e., that the return on capital invested in railroads is at least as great as that earned on capital invested in other industries).
- (2) Allows flexibility in setting of rail rates in response to differing circumstances.
- (3) Protects shippers from the exercise of market power by railroads.⁸⁰

America's Freight Railroads since the Staggers Act

The U.S. railroad industry has been regaining its financial health since the passage of the Staggers Rail Act of 1980. Large improvements have been made on several fronts — productivity and costs, prices, and railroad financial stability.

The industry has witnessed a dramatic increase in productivity since the passage of the Staggers Act, which was the result of two combining factors namely, high output growth and reductions in inputs. These productivity gains have further been translated into cost gains for the industry. Productivity growth averaged 3.7 percent over the period 1980 to 2008 which was almost 3.5 times the productivity growth of the overall private business sector during the same period. The period of highest growth was between 1980 and 1996 (4.8 percent), but the rate of growth thereafter slowed down to about 2.3 percent per year. Much of the slowdown in productivity growth was attributed to an increase in materials input and a slower reduction in labor inputs, along with the diminishing role of economies of density.⁸¹

Not only has the industry realized productivity gains, but also after the Staggers Act gave the railroads the ability to negotiate prices with shippers, railroad rates have dropped significantly. Data depicts that inflation-adjusted rail rates for freight services are down by about 40 percent since 1980. Breaking this down by commodity type, coal shippers enjoyed the greatest rate reductions from around 1993 to 2004, when this pattern began to reverse as real rates started to trend upwards.⁸²

The financial state of the railroad industry has also seen big improvements in the past 30 years. The return on net investment, which had been falling for decades, rose to 4.4 percent in the 1980s, 7 percent in the 1990s, and 8.2 percent over the period 2000 to

⁸⁰ *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, Revised Final Report, prepared by Laurits R. Christensen Associates for the Surface Transportation Board, November 2009, vol. 1, pp. 2-5 – 2-6.

⁸¹ B. Kelly Eakin, A. Thomas Bozzo, Mark E. Meitzen, and Philip E. Schoech, "Railroad Performance Under the Staggers Act."

⁸² *Ibid.*

2010. Since 2004, railroads have also been steadily lowering their operating ratios.⁸³ Overall, as a result of these changes, as well as increases in highway congestion and fuel costs, the railroad industry is no longer at a severe competitive disadvantage to other transportation modes, as it was when the Staggers Act was passed in 1980.

⁸³ Association of American Railroads, "Railroad Ten-Year Trends 2001-2010."

Appendix B Common Carrier and Universal Service Obligations

Obligations to serve customers take two basic forms. The first is a common carrier obligation (CCO), found in transportation industries, where firms provide service under their posted terms to all potential customers. The second form is a universal service obligation (USO), such as that of the Postal Service, where firms must provide a specified minimal level of service to all customer groups, at similar prices.

Common carrier and universal service obligations are often used in network regulation networks to ensure efficiency. Common carrier or universal service obligations ensure that all customers are served. Recipients benefit from receiving service, when they might have not received service absent the USO. Recipients of mail also benefit from the USO as senders finance the USO (senders pay the postage, not the recipients). Senders benefit from the existence of a larger network. Universal service and common carrier obligations can also arise from equity considerations, where the availability of service is considered a fairness issue.⁸⁴

Class I Railroads' Obligation to Serve

The U.S. freight railroad industry has a CCO. However, there is a lack of clarity over what this CCO entails. For example, a critical ongoing debate centers on railroads' obligation to carry hazardous materials. Shippers claim that the CCO requires railroads to transport such materials at "reasonable" rates. Railroads contend that the liability of transporting these materials is so high that it places them at extreme risk. The railroads believe they should be able to charge rates to cover such risks and/or federal law should be changed to indemnify them from these risks.⁸⁵

Prior to the establishment of Amtrak in 1971, the Class I railroads also provided passenger service. While not a USO per se, railroads were obliged to provide passenger service to communities they served. This service was not ubiquitous, but once established it was viewed as an obligation of the railroad (particularly at the individual state level) and was difficult to abandon.⁸⁶

Class I Railroad Passenger Service in the pre-Amtrak Era

The obligation to provide passenger service was a key factor in the Class I railroads' deteriorating financial condition through the 1960s. Two events led to a relaxation and elimination of this obligation to serve: (1) the passage of the Transportation Act of 1958,

⁸⁴ *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, pp. 3-8.

⁸⁵ For example, see Surface Transportation Board Ex Parte 677, Common Carrier Obligations of Railroads-Transportation of Hazardous Materials, June 4, 2008.

⁸⁶ Thomas H. Trimarco and John H. Hines Jr., "The Railroad Passenger Problem—At the Crossroads," *Boston College Law Review*, Volume 6, Issue 2, 1965, p. 306 and Presidential Advisory Committee on Transport Policy and Organization, *Revision of Federal Transportation Policy*, p. 18.

which provided a greater ability to drop money-losing passenger services; and (2) the transfer of passenger service to Amtrak in 1971.

In 1955, a presidential advisory committee (the “Weeks Committee”) reported that railroads suffered for many years from unprofitable passenger service operations and that “the railroad shippers of the country are being required to subsidize in substantial and growing amounts those who benefit from the utilization of passenger train service.”⁸⁷ At the time of the Weeks Committee report, Class I railroad passenger service operations had incurred deficits every year since 1930 (with the exception of the war years of 1942-1945) with the largest deficit occurring in 1953 at \$750 million.⁸⁸ These deficits were primarily due to declining demand for rail passenger service because of the increased availability and use of auto and air travel. The growth in these alternative modes of travel was substantially due to increasing government funding of highway and airport construction.⁸⁹

Despite falling demand and increasing operating deficits, railroads found it very difficult to get permission to abandon unprofitable passenger services. A major reason for this difficulty was that, prior to the 1958 amendment of the Interstate Commerce Act; individual states had a significant role in granting service abandonments. The Interstate Commerce Commission (ICC) could authorize the abandonment of *all* operations over a given line, but had no power to authorize the discontinuance of particular trains or services over a given line while leaving the operation of other trains and services on that line. This severely limited the ICC’s ability to grant abandonment of unprofitable services. In these instances, “the sole forums to which [railroads] could proceed for consideration of their discontinuance requests were the state regulatory commissions which by and large were unsympathetic to their plight.”⁹⁰ The Weeks Committee noted that, despite the decline in demand for rail passenger service and its effect on railroad profitability, there was reluctance by state authorities to abandon service because of opposition to service curtailments from local interests and railroad employees.⁹¹

The Weeks Committee recommended that the Interstate Commerce Act be amended to provide the ICC with greater oversight powers over railroad operations, so that the ICC could order the discontinuance of service, irrespective of any state law or power of any state authority, where the ICC “finds that continuance of unprofitable facilities or services imposes an undue burden upon interstate commerce, and that adequate service by other forms of transportation are available to meet the public need.”⁹²

In 1958, Congress amended the Interstate Commerce Act to give the ICC greater ability to grant service abandonments:

⁸⁷ Presidential Advisory Committee on Transport Policy and Organization, *Revision of Federal Transportation Policy*, p. 18.

⁸⁸ *Ibid.*, p. 18.

⁸⁹ Thomas H. Trimarco and John H. Hines Jr., “The Railroad Passenger Problem—At the Crossroads,” p. 303.

⁹⁰ *Ibid.*, p. 306.

⁹¹ Presidential Advisory Committee on Transport Policy and Organization, *Revision of Federal Transportation Policy*, p. 18.

⁹² *Ibid.*, p. 19.

Under Section 13a, in order for the Commissioner to grant or acquiesce in any discontinuance, he must first find that the service in question is not required by public convenience and necessity and second, that the continuation of the service will unduly burden interstate commerce. ... Under paragraph (1), a carrier may discontinue an *interstate* train or service of its own accord, subject only to the possible determination by the ICC that such discontinuance is unwarranted, whereas under paragraph (2), the Commission may take action concerning discontinuance of an *intrastate* service only after the appropriate state commission has had the opportunity to act and has refused to authorize the discontinuance.⁹³

While this helped alleviate the drag of passenger service deficits on railroads' financial conditions, the Class I railroads were still obligated to provide passenger service (albeit on a reduced scale) until the passage of the Rail Passenger Service Act of 1970, which created Amtrak. The Class I railroads were relieved of their passenger service obligations when Amtrak began operations on May 1, 1971.

Summary

Increasing competition from alternative modes of transportation was at the core of the increasing deficits the Class I railroads incurred from their passenger operations. The very same forces that caused the downfall in passenger service were important for eventually relaxing/relieving railroads from this obligation: namely the recognition by policymakers that consumers had viable options to rail passenger service. However, it took almost 30 years of passenger service operating deficits (1930-1958) before the ability to relax passenger service obligations was granted, and 40 years of passenger service operating deficits (1930-1970) before the Class I railroads were relieved of their money-losing passenger service obligations.

⁹³ Thomas H. Trimarco and John H. Hines Jr., "The Railroad Passenger Problem—At the Crossroads," pp. 307-308.