

Report for Congress

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Foreign Intercity Passenger Rail: Lessons for Amtrak?

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Foreign Intercity Passenger Rail

Summary

Congress is debating the federal government's role in providing intercity passenger rail service. Many believe that Amtrak's future is now at a crossroads. Amtrak's worsening financial situation and its relatively small overall share of the intercity passenger market have led some policymakers to consider other models of passenger rail regulation. The experience of other countries is often cited in debates about passenger rail regulatory regimes.

The foreign experience can provide some perspective and some insight in the debate on U.S. intercity passenger rail. Many countries have dramatically reorganized the regulatory framework of their railroads. Market forces and political pressures were the underlying causes of railway reform. The objectives of rail reform was to reverse declining market shares due to competition from the automobile and airplane, to make the railroads more responsive to customers, and to reduce the railroads' dependence on government subsidies.

In order to accomplish these objectives, governments have reorganized their railways along several dimensions. Some national railroads were divided geographically into separate entities by region. In some cases, national railroads were also divided by business sector, such as freight separated from passenger services. Vertical integration, where one entity controlled both train operations and track infrastructure, versus vertical separation, where train operations and track infrastructure were controlled by separate entities, was another choice offered by rail policymakers. Rail policymakers also faced a choice between public versus private ownership. Levels of privatization can be distinguished among several foreign railroads. A final important element of railway regulation is the role of competition. Theoretically, competition in passenger rail service can take the form of multiple train operating companies competing on the same track. However, in practice, competition more readily takes the form of franchises bidding for government contracts to perform rail services and/or competition from other modes, such as automobile, bus, and airplane. The regulatory framework of passenger rail in seven countries is profiled: Argentina, Canada, France, Germany, Japan, Mexico, and the United Kingdom.

The level of government support for passenger rail in Japan and European countries far exceeds the level of government support in the United States. In many cases, at the initial stage of restructuring, foreign governments absorbed the large debt that the previous national railroad had accumulated. Even the most market-oriented governments have accepted some kind of public support for new (high speed) track construction. Federal governments also provide direct operating subsidies to their railroads in most cases. In Japan, a few lines are able to cover their operating expenses without government operating subsidies. Although restructuring may provide opportunities for increasing productivity and efficiency, many rail analysts contend that a more critical issue facing Congress is the high level of government spending a viable intercity passenger rail system requires.

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Foreign Intercity Passenger Rail

Introduction

Congress is currently debating the federal government's role in providing intercity passenger rail service. Among the major issues being debated are possible changes to the regulatory regime, best methods for financing capital and operational needs, and the appropriate level of public financial support for passenger rail service. Many believe that Amtrak's future is now at a crossroads. Since its creation in 1971, Congress has periodically reappraised Amtrak's financial condition and its role in providing intercity passenger service. Some maintain that Amtrak has received enough funds to keep the system in place but not nearly enough funds to develop an extensive high speed system like that in Japan or Europe. Amtrak's worsening financial situation and its relatively small overall share of the intercity passenger market have led some policymakers to consider other models of passenger rail regulation. By this fiscal year, Amtrak is required to achieve operating self-sufficiency.¹ It is virtually certain that Amtrak will not achieve this requirement.² Amtrak's re-authorization is due in 2003.³ Frequently, foreign countries' experience with intercity rail is cited in the debate about U.S. passenger rail regulation, particularly with respect to the ability of foreign passenger railroads to achieve operating self-sufficiency. In this debate, this topic is relevant because it may illuminate the necessary prerequisites for creating a stable and viable intercity passenger rail service in the United States.

This report reviews the causes and goals of railway restructuring in other countries. It describes the advantages and disadvantages of alternative models of rail regulatory regimes. The regulatory framework in seven countries is profiled: Argentina, Canada, France, Germany, Japan, Mexico, and the United Kingdom. The report examines the economic performance of these railroads, including whether they are able to achieve operating self-sufficiency. It reviews the level of government support the railroads receive for infrastructure and for operating expenses. In Japan and European countries, the level of government support for intercity rail far exceeds the level of government support in the United States. The concluding section reviews common themes observed in the foreign experience of railway restructuring.

¹The Amtrak Reform and Accountability Act of 1997 (P.L. 105-134) requires that Amtrak be able to operate without using federal grant funds to cover operating expenses by the end of FY2002.

²GAO, *Amtrak's Costs and Capital Needs*, GAO/RCED-00-138, p.38; U.S. Department of Transportation, Office of Inspector General, *2000 Assessment of Amtrak's Financial Performance and Requirements*, September 9, 2000 (Report No. CR-2000-121), p. iv.

³For more information on Amtrak, see CRS Report RL30659, *Amtrak: Overview and Options*; GAO, *Intercity Passenger Rail, Congress Faces Critical Decisions in Developing a National Policy*, GAO-02-522T, April 11, 2002.

It is important to recognize the differences in the context in which railways have developed in various countries. Because of cultural, historical, political, economic, and geographic differences, the countries reviewed in this report are presented as isolated cases. For instance, the United States lacks a “rail culture” like that found in Japan or France whose high-speed passenger trains are a source of national pride and attraction. One reason for this difference may be that “personal incomes in the United States have been higher than elsewhere, so enhanced access to autos and air travel attacked the railroads’ passenger traffic far earlier in the United States than elsewhere.”⁴

Historically, compared with Japan and Europe, railway development in the United States has been largely dominated by freight rather than passenger services. In the United States, rail captures only 0.1% of domestic intercity passenger travel but 36% of the domestic intercity freight market. In Japan, intercity trains capture nearly 18% of the passenger market but only 3% of the freight market. In France and Germany, trains carry about 7% of intercity passenger travel and about 20% of intercity freight.⁵ Industry analysts note that passenger rail is most competitive with the automobile, bus, or airplane between distances of 50 to 500 miles. For freight traffic, rail is most competitive for distances greater than 500 miles. Distances between cities in the United States are generally larger than in many other countries. Geographically, countries with relatively small land areas may be better suited for passenger rail travel.

Industry observers also assert that rail ridership is dependent on the population density of the country as a whole as well as the density of the cities themselves. Cities with high urban sprawl (or lower urban density) are generally less rail supportive. The price of gasoline, and the price and availability of parking are also factors that influence rail ridership. It is important to consider these factors in assessing the rail experience of foreign countries and the potential lessons we can draw from those experiences.

In the past decade, many countries have dramatically reorganized the regulatory framework of their railroads. Before reorganization, many national railroads could be described as “states within a state”. They were often characterized as monolithic, state-owned, and state-run enterprises. In some cases, notably in Japan and Germany, the national railroad also served to provide employment. Production goals, such as constructing new lines, maintaining track and equipment, and running the trains, were the primary focus. Customer service and financial performance were not the first concerns of the pre-reform railroads.⁶ Although the traditional focus on production and technical problem-solving are still important, the intent of railway

⁴Louis Thompson, “Railroad Mergers: The End of History?” in Frank Wilner, *Railroad Mergers*, Omaha, Nebraska: Simmons-Boardman, 1997, p. 341.

⁵As measured by passenger-kilometers for passenger travel and metric ton-kilometers for freight traffic for year 1996. U.S. Dept. of Transportation, Bureau of Transportation Statistics, *G-7 Countries: Transportation Highlights*, BTS99-01, Washington, DC: 1999. Available at [<http://www.bts.gov/itt/G7HighlightsNov99/G-7book.pdf>].

⁶Louis Thompson, “Railroad Mergers: The End of History?” in Frank Wilner, *Railroad Mergers*, Omaha, Nebraska: Simmons-Boardman, 1997, p. 342.

reorganization has generally been to reorient the railways to become customer-driven commercial enterprises.⁷ How well they have succeeded and the extent to which their experience is applicable to the U.S. case is the focus of the remainder of this report.

Origins and Objectives of Railway Restructuring

Market forces and political pressures were the underlying causes of railway reform. From the 1960s through the 1980s, national passenger rail lost market share to the automobile and airplane. Passenger rail's declining market share was due to rising personal income, road building, and advances in air travel. The general public's perception was that they were receiving mediocre service from their passenger railroads. At the same time, public subsidies were reaching unsustainable levels in many countries. Mounting debts were creating a macroeconomic financial crisis in some countries. In Japan, for example, before reforms were initiated in 1987, the national railway's current deficit reached 4.9% of the total national budget and 0.9% of GDP. These pressures prompted rail policymakers to adopt new models for railway regulation.

Railway reform had three goals. One goal was to reverse declining market share. Governments viewed greater use of passenger rail as a means of reducing road congestion and environmental pollution. A second goal was to make their railroads more market responsive, to customers as well as possible investors. By increasing the railway's distance from political influence, policymakers believed that managers would have more discretion to improve efficiency and innovation. A third goal of reform was to reduce the railroad's dependence on the public purse or at least make public funding more transparent. Reforms were intended to reverse the increasing financial dependence of the railroads on the taxpayer by freeing them to act more like customer-driven enterprises. In the cases where privatization schemes were initiated, the government also wished to replace at least a portion of public funding with private sector involvement. By reducing cross-subsidization within the railroad and increasing the transparency of public support, public financial assistance could become more targeted and taxpayers would have a clearer idea of where their funds were directed.

Options for Railway Restructuring

In order to accomplish the goals of railway reform, governments have divided their national railroads along several dimensions. One possibility was to divide the national railroad along a geographic dimension. For example, in Japan, passenger rail was divided into three regions on the main island of Honshu - JR East, JR Central, and JR West. Three additional passenger railroads were created on each of the three smaller islands - JR Hokkaido, JR Shikoku, and JR Kyushu. Service was divided so that 95% of all passenger trips would begin and end within the service territory of one company.

⁷The World Bank Group, "Railways Overview," Development Topics - Transport - Railways, 2001. Available at [www.worldbank.org/transport/rail_ss.htm].

National railroads were also divided along functional or business sector dimensions. In Germany, freight was separated from passenger service and passenger rail was split between long distance and regional service. Similarly, in Argentina, the national railroad was divided into three business sectors, freight, intercity passenger, and commuter networks.

Another choice rail policymakers faced was whether to keep their railroads vertically integrated or separate train operations from track infrastructure. Vertical integration, in which infrastructure, operations, and marketing are all controlled under one organization, is the traditional model of railway organization. Some industry analysts believe the interrelationship between track and trains is too complex to be separated. They argue that a trade-off exists between the design and maintenance of track and the speed at which trains may operate over the track. This trade-off affects the cost of the entire operation.⁸ Another advantage of a vertically integrated railway is that it allows for integrated planning of operations and gives incentive for the railroad to adopt a long term perspective in its investment planning. A disadvantage is that it can be a barrier to the introduction of competition because of the large infrastructure costs that new entrants must overcome. Also, due to lack of competition, integrated railways may exhibit a tendency toward becoming unresponsive monopolies.

To overcome the problems common to a fully integrated railway, some countries have separated the responsibility of train operations from track. Vertical separation of rail services puts rail on a more equal footing with its competition, namely automobiles, buses, and airplanes. Like highways and runways, the government can provide rail track as a public good. In theory, by placing the high fixed cost of providing and maintaining track under a separate body, train operating companies can more fairly compete with their intermodal rivals. Vertical separation, like geographic and functional division, also enhances the clarity of government expenditures. Costs are more clearly separated and public subsidies more clearly directed toward specific purposes. A drawback of vertical separation is that it distances the entity providing infrastructure from its true customers (the passengers) by inserting a train operating company as its direct customer. Another disadvantage is that it may hinder long term investment planning because two independent organizations may have difficulty coordinating their plans.

Regardless of how governments chose to divide their railways, horizontally or vertically, they also faced the choice between public or private ownership. In the situation of complete public ownership and control, the railroad is a government department. The railroad has no independence from government control and is fully financed by budgetary transfers.⁹ Examples of this archetype were the railroads of the former socialist countries. Before reform, the national railroads of Germany and Japan were also de facto government departments. A second situation is a railroad that is structured as a public corporation. In this scenario, managers are given more

⁸Western Transportation Advisory Council, *Railway Structure Models*, Discussion Paper, Dec. 1997, p.5. Available at [http://www.westac.com/pdfs/pub_rail97.pdf].

⁹Javier Campos and Pedro Cantos, *Rail Transport Regulation*, World Bank, p. 14. Available at [<http://www.worldbank.org/wbi/regulation/pdfs/2064rail.pdf>].

autonomy to make entrepreneurial decisions but their decisions must still pass government approval. The government may also introduce a plan whereby subsidy levels are targeted for reduction. In a joint stock company arrangement, the railroad is set up under the country's corporate law. The railroad's stock may be majority owned by the government or by the private sector. In this regulatory scheme, managers are more insulated from politically directed decision making. In a joint stock company arrangement, privatization occurs as the shares of stock are sold to the public. An alternative course of privatization is franchising rail services to private companies. Franchising allows governments to "retain ultimate control over the infrastructure" (through a regulatory body) "while the private sector carries out the operating functions and competes for customers."¹⁰ Table 1 illustrates different levels of privatization.

Table 1. Classification of Railway Companies based on Levels of Legal Independence

| Levels of Increasing Privatization | Description | Examples |
|---|---|--|
| Level-1 | State-owned companies without commercial statutes | Railways of former socialist countries |
| Level-2 | State-owned companies with commercial statutes | SNCF (France) VIA Rail (Canada) |
| Level-3 | Joint-stock companies, majority state owned | DB AG (Germany) JR Hokkaido, JR Shikoku, JR Kyushu (Japan) |
| Level-4 | Joint-stock companies, majority privately owned | JR East, JR Central, JR West (Japan) |
| Level-5 | Fully privately owned joint-stock companies | Train Operating Companies (U.K.) |

Source: Reproduced with modification from Andrea Obermaier, "National Railway Reform in Japan and the EU," *Japan Railway & Transport Review*, Dec. 2001.

Note: See text for spelling out of acronyms.

The degree of privatization chosen reveals much about the government's aim in railway restructuring. The extent of legal independence granted shows how much policymakers are willing to reduce their influence on the former national railroad.¹¹ In addition, as the degree of privatization increases, a trade-off exists between financial and efficiency objectives on the one hand and social and equity objectives

¹⁰Louis Thompson and Karim-Jacques Budin, "Global Trend to Railway Concessions Delivering Positive Results," *Private Sector*, World Bank, Dec. 1997.

¹¹Andrea Obermaier, "National Railway Reform in Japan and the EU," *Japan Railway & Transport Review*, Dec. 2001, p. 24.

on the other.¹² A high level of privatization reveals a premium placed on financial goals. In order to attract private capital (and provide sufficient returns) a privatized railroad obviously must be profitable. To be profitable, a private railroad may need to abandon money losing routes. Usually these routes are in rural areas because low population density makes it difficult for the railroad to generate enough traffic to cover its operating costs. To the extent that the railroad can attract private capital, it reduces the financial burden on the state. A privatized railroad is also going to put a premium on efficiency. It has to continually pursue a cost savings strategy. On the other hand, a railroad kept under government control usually suggests a premium placed on public service goals. There is less risk, for example, that the railroad will abandon unprofitable rural routes. The government can subsidize those routes it deems socially beneficial. State ownership also eliminates the risk of service disruption if a private rail provider goes bankrupt. However, the financial burden on the state will likely be greater under a state owned company.

Another key element of rail regulatory regimes is the role of competition. Industry observers assert that privatization alone does not necessarily ensure improved efficiency. Competition is at least as important. Theoretically, the separation of operations from infrastructure could lead to competition *on* the track. More than one train operator could run trains over the same track. In reality, there is little experience with this form of competition. Train scheduling and slot allocation difficulties are hindrances. In a franchising or concessioning arrangement, competition can be created *for* the track. Companies can compete for the track based on the level of service and financial support they require. The company awarded the franchise is given exclusive operation on the track. A third form of competition is intermodal, competition *between* modes. Competition from the automobile, bus, and airplane also can bring about efficiency gains by the railroad sector.

Selected Country Experiences

The following section explains in more detail the data provided in Table 1. Individual country experiences are presented below in order of increasing levels of privatization. The degree of government financial support for these railroads will be examined in the next section.

Canada. Canada's experience in intercity passenger rail is interesting because it is analogous to the U.S. experience. VIA Rail, Canada's intercity passenger service, was formed in 1977 to relieve Canada's two freight railroads of their money-losing passenger services. VIA Rail became a Crown corporation in 1978 and is owned by the Ministry of Transport. The Ministry appoints VIA Rail's board of directors, its CEO, and approves its annual budget. Initially, VIA Rail used the freight railroads' employees, their stations, and their maintenance facilities. In order to gain better control over its costs, VIA Rail took over these segments from the freight railroads beginning in 1985. Like Amtrak, VIA Rail pays the freight railroads for the use of track and right-of-way.

¹²Javier Campos and Pedro Cantos, *Rail Transport Regulation*, World Bank, p. 17.

Privatization of passenger rail services is a topic of debate in Canada. In 1999, a plan for privatization was proposed. The transport minister proposed dividing VIA's network into three operating franchises and awarding bids to private interests. However, this plan was shelved due to parliamentary and local opposition.

France. Compared with its European Union (EU) neighbors, France's reorganization of its railroad has been relatively minor. Its restructuring has more to do with complying with EU directives than an effort to dramatically reform its railway.

In 1991, EU directive 91/440¹³ outlined initial steps EU member countries should take in order to facilitate a single European market for rail services. The commission envisioned a trans-European rail network with interoperability and technical harmonization of networks across borders. Its initial goal is creating a seamless network for rail freight services. The first objective is to separate the management of railway infrastructure from train operations. Accounting separation is compulsory, while organizational separation is optional. Vertical separation is intended to lead to open access to the networks by member states for more efficient international transport of goods. The 1991 directive, as well as subsequent directives, does not require member states to privatize their railroads.

France complied with this directive in 1997 by creating the RFF (*Reseau Ferre de France*, Rail Network of France) to oversee the track, signals, and other infrastructure. Train operations were kept in the hands of the SNCF (*Societe Nationale des Chemins de Fer Francais*, French National Railway Company). Both of these institutions are state-owned and are not likely to be privatized in the near future. A distinguishing feature of France's railway is that it retains a "national" focus. Geographic or market sector separation, such as separation of freight from passenger service, was not a part of the railway's reorganization. France's approach to rail restructuring reflects its strong orientation towards a 'public service' ethic.

Germany. Germany's approach to restructuring can more aptly be characterized as "marketization" rather than "privatization".¹⁴ The intent was to allow management to run the railroad more like a private business, although government financial support was to continue. A unique circumstance to the German experience was the unification of East and West Germany in 1990. With unification, rail policymakers also had to deal with the large debt and investment backlog of the former East German railroad (DR). The two rail systems were merged in 1994, forming the Deutsche Bahn AG (DB AG). DB AG was set up as a holding company (a joint-stock company) under private company law. Five subsidiary companies were created along functional lines:

- DB Reise and Touristik is responsible for long-distance intercity trains,
- DB Regio is responsible for commuter trains,

¹³*The Development of the Community's Railways*, available at [<http://europa.eu.int/eur-lex/en/index.html>].

¹⁴James A. Dunn, Jr. and Anthony Perl, "Toward a 'New Model Railway' for the 21st Century: Lessons from Five Countries," *Transportation Quarterly*, Spring 2001, p. 49.

- DB Cargo is responsible for freight service,
- DB Netz is responsible for construction and maintenance of track,
- DB Station and Service is responsible for passenger stations.

The government owns 100% of the stock of DB AG. After three consecutive years of showing a profit, each of the companies can be opened up to private ownership. However, the government will always own 50.1% of DB Netz, the infrastructure entity. Initially, the government was preparing for an initial public offering in 2003. The date has since been moved to 2005. The British experience with Railtrack (discussed later in this section) appears to have had some effect on Germany's timetable.

Staff reduction was an integral part of Germany's rail reform. The employment load was greatly enlarged by the unification with DR. In 1993, before reforms were initiated, the combined staff of East and West German railway was 350,000.¹⁵ In 2000, DB AG employed 230,000, a reduction of 34%. Rail policymakers created a "sell-and-lease-back" arrangement for employees.¹⁶ Under the reorganization plan, railroad staff were formally transferred to the Federal Railway Property (*BEV*), a public organization, which paid their salaries. DB AG reimburses the *BEV* only for the staff it employs.

Japan. A distinguishing feature of Japan's restructuring experience is that its railroad remains vertically integrated. In 1987, the government dissolved Japan National Railways (JNR) into eight privately structured corporations that were to be regulated by special laws. Freight was separated from passenger service. Passenger service was split into three railroads on the main island of Honshu: JR East, JR Central, and JR West. Passenger service on the three smaller islands was split into JR Hokkaido, JR Shikoku, and JR Kyushu (one for each island). The eighth body created was the Japan National Railways Settlement Corporation (JNRSC). JNRSC was created to settle the accumulated debt of JNR through the sale of stock in JR East, JR Central, and JR West and the sale of surplus land from the former JNR.

In the 1990s, the majority of stock of the three main-island railroads was sold to private investors. As of 2000, the Japanese government owned 12.5% of JR East, 39.7% of JR Central, and 31.5% of JR West.¹⁷ The government still owns 100% of the shares of the three smaller island railways, JR Hokkaido, JR Shikoku, and JR Kyushu. Japan's approach to privatization of its intercity service was influenced by the example of its commuter rail operators. Since the 1950s, more than one hundred commuter railroads have operated profitably as private companies.

Japan's railways employ about 45-50% less workers than it did before reforms were initiated in 1987. The JNRSC found employment for redundant staff in private

¹⁵Peter Hafner, "The Effects of Railroad Reform in Germany," *Japan Railway & Transport Review*, September 1996, p.27.

¹⁶Carsten Lehmann, "Germany," in *Changing Train: Railway Reform and the Role of Competition: The Experience of Six Countries*, ed. D.M. van de Velde, 1999, p. 148.

¹⁷Ryu Imahashi, "Regulatory Reform and the Railway Industry," *Japan Railway & Transport Review*, July 2000, p.8.

firms, local government, or other central government offices. Other staff were given incentives to take early retirement or severance if they could not be placed with other firms.

Argentina. In 1989, the federal government embarked on a plan to reduce the budget deficit by privatizing major state-owned enterprises. *Ferrocarriles Argentinos* (FA), the state-owned railway, was the single largest contributor to the deficit. FA included national freight, intercity passenger, and Buenos Aires commuter services but freight was the priority in the restructuring process. The first step was to identify profitable and unprofitable routes and to award concessions to the private sector through competitive bids for those segments deemed commercially viable. In the intercity passenger market, only one route was found to be commercially viable. The Buenos Aires- Mar del Plata line links the capital city with a popular beach resort. It is the most densely traveled intercity passenger line in the country. Initially, this line was offered for concession under a 30 year term and four groups responded to the bid. However, the Province of Buenos Aires offered to take over this service and the federal government transferred the rolling stock and other assets necessary to run the service to the province.¹⁸

In 1992, the federal government announced that it would no longer subsidize intercity passenger service. The government believed that the highway network and the private bus industry provided adequate intercity passenger mobility. The federal government offered the provinces the option of funding intercity passenger rail service themselves if they wanted service to continue. Most provinces rejected this offer and as a result, about 70% of the services were discontinued.

Mexico. Like Argentina, freight rather than passenger service was the focus of rail reform in Mexico. In the early 1990s, immediately before privatization, the government-owned Mexican National Railroad (*Ferrocarriles Nacionales de Mexico*, FNM) captured only 1.5% of the passenger market and 15% of the freight traffic. During the initial privatization phase of the freight sector in 1995 and 1996, the government maintained that its financial support for intercity passenger service would continue. However, the government has since announced that its program of building rural roads connecting communities that previously were only connected by rail would gradually phase out the need for intercity passenger rail. The federal government has declared that intercity passenger rail is underutilized and too costly to subsidize. It expects that the only passenger service it will continue to support is the Chihuahua-Pacific “Copper Canyon” route which is popular with tourists. The terrain in this region may be too rough for highway construction. In November 1999, the government liquidated FNM.

Although the concession process in Mexico was primarily concerned with freight traffic, it is worth describing because it took a unique form. The freight service of the former FNM was divided into three geographic divisions: Pacific-North, Northeast, and Southeast. These concessions were offered as vertically

¹⁸Jorge C. Kohon, “Argentina Railways Case Study,” Chapter 7 in *Best Methods of Railway Restructuring and Privatization*, World Bank, p. 161. Available at [<http://www.worldbank.org/html/fpd/transport/publicat/b35.pdf>].

integrated services. The buyers included Mexican transport companies, Mexican industrial interests, and two U.S. freight railroads. A fourth concession was set up for a rail terminal and network that linked to Mexico City. The Mexico City concession was sold to the other three concessions (25% each). The government retained control over the remaining 25%. Rather than selling the concessions outright, the government first converted the concessions into stock companies. The government then sold the controlling interest in the stock by sealed bid. The remaining stock was either purchased by the concessionaire or offered on the stock exchange.¹⁹

United Kingdom. Britain's plan of rail reorganization is often described as the most ambitious and the most elaborate of all the new rail regulatory arrangements. British Rail was the last in a long string of public utilities to be privatized in England. In 1994, British Rail was divided into over 70 companies. Railtrack was formed to own and operate the track, stations, and rail yards. The source of Railtrack's income was the track access fees it charged the train operating companies to run over its track. These infrastructure charges were intended to make Railtrack self-sufficient and provide a reasonable return to attract private investors. In May 1996, Railtrack's stock shares were sold to the public. Twenty-five Train Operating Companies (TOCs) were established and awarded franchises to run the trains over designated geographic regions. The TOCs were awarded their franchises for periods of seven to fifteen years. Franchise awards were based on the level of government subsidy the TOCs would require and the amount of services they were willing to offer. The TOCs were not required to own any physical assets, such as track or rolling stock, to allow for easier entry and exit in the market. Eighteen of the franchises were sold to private intercity bus firms. Three rolling stock companies (ROSCOs) were created to own and maintain the existing passenger cars and locomotives. These were leased to the TOCs. About a dozen private companies compete for the contracts to perform track renewal and maintenance and rolling stock heavy maintenance. Two regulatory bodies were created. The Office of Passenger Rail Franchising (OPRAF) awards the TOC franchises and the Office of Rail Regulator (ORR) oversees Railtrack and establishes service obligations for the TOCs.

Government Financial Support for Passenger Railways

Debt Write-Off

When examining the financial performance of newly restructured railways, it is important to recognize that many were given a "fresh start" in terms of their profit and loss accounts. Central governments often took responsibility for the accumulated debt of the previous national railroad in order to create a viable capital structure for the new railway.

In Japan, on the eve of restructuring in 1987, the national railroad had accumulated a debt of about US \$300 billion. Roughly 60% of this debt was

¹⁹Louis Thompson and Karim-Jacques Budin, "Global Trend to Railway Concessions Delivering Positive Results," *Private Sector*, World Bank, Dec. 1997.

absorbed by the JNRSC while 40% was allocated among the three main- island railroads. The JNRSC was expected to liquidate a portion of debt by selling JNR surplus land and selling the stock of the three main island railroads. The remainder is to be paid by the taxpayers. Since 1987, the debt has grown. Land sales were delayed due to fears of accelerating inflation during the 1980s. The land has since decreased in value. Although it is inevitable that taxpayer money will be needed to repay a large portion of the debt, no repayment plan has been offered by the government, leaving the debt issue unresolved.²⁰

Accumulated debt also was transferred during rail reform in Germany and France. In Germany, an intermediary body similar to the JNRSC was created to transfer the debts of both the West German (about US \$28 billion) and East German (about US \$7 billion) railroads. The *Bundeseisenbahnvermögen* (Federal Railway Property, or BEV) absorbed 100% of this debt.

In France, the RFF absorbed about 65% of the accumulated debt. The remainder of the debt was placed on the books of the SNCF. By the mid 1990s, the national railroad had accumulated a debt equivalent to about US \$39 billion.

Government Support for Infrastructure

Regardless of the regulatory regime created, governments appear to concede the need for public support of rail infrastructure projects. Even strongly market-oriented governments have accepted some kind of public support for new construction.²¹ In order for rail to maintain significant market share in intercity passenger travel, policymakers appear to share the view that public investment in expensive high speed track is required. As expressed by one industry observer,

“... one vital question remains unsolved in every country - none of the current restructuring schemes seems able to ensure the huge investment that railways badly need for survival.”²²

Construction of Japan’s high-speed network, the *Shinkansen*, was paid for entirely by the government until 1987. Beginning in the 1990s, a cost share arrangement was instituted between the central government, local governments, and the railway lines for construction of new *Shinkansen* lines. The specifics of the cost share formula appears to be a point of negotiation on a case by case basis. Although the central and local governments bear a considerable amount of the cost of construction, now that the high-speed network is moving into lower density corridors, the railroads have shown reluctance to build new lines because of the financial burden they will incur.

²⁰Fumitoshi Mizutani and Kiyoshi Nakamura, “Japan Railways Since Privatization,” Chapter 12 in *Privatization and Deregulation of Transport*, ed. by Bill Bradshaw and Helen Lawton Smith, 2000, p. 229.

²¹James A. Dunn, Jr. and Anthony Perl, “Toward a ‘New Model Railway’ for the 21st Century: Lessons from Five Countries,” *Transportation Quarterly*, Spring 2001, p.55.

²²T. Suga, Editorial, *Japan Railway & Transport Review*, June 1994.

For those countries that have adopted a vertical separation model, the degree of government support for infrastructure can be compared by examining the price setting mechanism for track access charges. In some countries, infrastructure charges are intended to make up the difference between total infrastructure costs and the government's contribution.²³ However, this objective may conflict with other policy objectives, such as promoting rail use or setting charges so that they are comparable with other modes.

In France, the government capped the fee that RFF could charge SNCF for track access in the first two years after reorganization. The price ceiling was kept well below the level RFF would need to pay for infrastructure. Since 1998, the cap on access charges has increased. In 2002, SNCF expects to pay double the amount it paid to RFF in 1998. The charge level is a point of contention between SNCF and RFF. SNCF finds them to be too high while RFF finds them to be too low.²⁴ Access charges still fall short of what RFF needs for track maintenance costs and the government supplies the difference in subsidies.

The central government is still investing substantial sums for upgrades and construction of new *TGV (Trains a Grande Vitesse, Trains of Great Speed)* lines. France's transport plan calls for the eventual transfer of all intercity passenger rail from conventional rail to high-speed rail while conventional rail will be used for freight and regional passenger service.

Germany's track access charges are supposed to cover only the costs for track operation and maintenance. Investments in new track, upgrading, and major replacement of track are financed by interest free loans or grants from the state budget and by DB AG's own capital.

In the United Kingdom, Railtrack is allowed to set relatively high track access charges which the TOCs pay with the help of public subsidy. Government support for infrastructure is provided indirectly through direct subsidies to the TOCs as well as direct grants to Railtrack. In the Ten Year Transport Plan published in July 2000, the rail regulator expected total railway investment over the following ten years to be £49 billion. Private capital was expected to supply £34 billion of this amount. Railtrack was expected to be a major source of private sector involvement.²⁵ In October 2001, Railtrack was declared bankrupt. It has accumulated a debt of about US \$5 billion.

Rail policymakers in Britain are reconsidering their options for rail infrastructure investment. Many commentators have observed that Railtrack was probably not given enough incentive to invest in its infrastructure. They note that 97% of Railtrack's track access income came from fixed payments by the TOCs.

²³Bertil Hylen, *An Examination of Rail Infrastructure Charges*, National Economic Research Associates, prepared for the European Commission, 1998.

²⁴"French rail reform looks set to stay," *International Railway Journal*, Jan. 1, 2002, p.12.

²⁵Bill Bradshaw, "Lessons from a Railway Privatization Experiment," *Japan Railway & Transport Review*, Dec. 2001, p. 6.

Only 3% of its income varied with the number of trains running on the track. Railtrack has been criticized for adopting a strategy of making incremental repairs to track rather than overhauling and upgrading major sections of track. Because a large portion of its income was fixed, Railtrack had no incentive to try to increase the number of trains running by investing in wholesale track upgrades.

In Canada, VIA Rail's passenger routes are run on the freight railroads' tracks. The two Canadian freight railroads are allowed to charge VIA Rail access charges that cover their full costs. The Canadian freight railroads receive virtually no direct government financial support for infrastructure investment.

Government Support for Operations

While governments may accept the need for public support for construction of (high-speed) rail track, one of the stated goals of railway reform has been to reduce operating subsidies if not eliminate them entirely.

In Japan, the three main island railroads are able to cover operating costs from operating revenues and do not receive operating subsidies from the government. The *Shinkansen* lines are generally the most financially viable in terms of covering their operating costs but the three main island railroads also operate unprofitable conventional lines. Significant commercial revenue is also derived from non-rail businesses the railroads operate along side their track, such as offices, department stores, housing, and recreational facilities.

The three smaller island railroads have not been able to cover their operating costs. Due to their relatively small populations, it was not expected that they would be able to do so. They receive direct subsidies in the form of "Management Stability Funds." These funds are intended to cover their annual operating losses.

In France, the SNCF usually roughly breaks even. The intention of transferring most of the accumulated debt to RFF was to enable the SNCF to achieve profitability. The SNCF achieved operating profits for the first time in 2000. However, this result was primarily due to a rise in ticket receipts from a stronger overall economy. SNCF has not shown an ability to significantly reduce costs which makes its profitability dependent on increasing traffic. SNCF receives an "off-budget" subsidy by the fact that the RFF's track access fees are capped at below cost recovery levels.

In Germany, the five subsidiaries have to achieve operating profits for three consecutive years before the government will sell their stock to the private sector. Initially DB AG was set to go public in 2003 when operating subsidies were scheduled to end. The timetable has been pushed back to 2005. In the first few years after reform, DB AG reported annual "profits" but this surplus was aided by cash streams from the federal and state governments. Cost accounting methods also played a role,

"the argument that instant success of railway reform was politically mandatory also applies here: with the debt taken away and depreciation cost for capital

assets drastically reduced, DB was able to celebrate black numbers [profits] within the first year after restructuring.”²⁶

To support regional rail services in Germany, a portion of the federal gasoline tax receipts are transferred to the sixteen Landers (equivalent to U.S. states) to assist them in funding contracts with DB-Regio.

In the United Kingdom, the TOCs are awarded franchises based in part on the level of subsidy they will require. The immediate effect of the reform package was actually a large increase in subsidy levels because the TOCs were required to pay commercial rates for the use of track and rolling stock. Subsidy levels almost doubled, from £1.07 billion in 1993/1994 (pre-reform) to £2.19 billion in 1996/1997 (post-reform). Based on bid proposals, operating subsidies totaled £1.8 billion in 1998 and are scheduled to decline on a sliding- scale to £1.1 billion by 2003.²⁷ Some observers are skeptical that the TOCs will achieve their promised subsidy reductions. They note that their costs are largely fixed because their user charges with Railtrack and the ROSCOs are fixed. TOC profitability will depend on their ability to increase ridership and reduce costs. On low density rural routes, it is expected that the TOCs will always require subsidy payments.

In Canada, VIA Rail still relies on government subsidy but it has shown improvement in its cost recovery ratio through the 1990s. VIA Rail’s operating revenues cover about half of its total costs. Operating subsidies have decreased from CAN \$561 million in 1989 to CAN \$169 million in 1999.

Conclusion

Railway restructuring is still a work in progress in many countries and industry experts are tentative in reaching definitive conclusions about the success of reforms thus far. However, some common themes can be observed. One observation common in most country experiences is that railway reorganization has required a substantial political and financial commitment that has to be sustained over an extended period. Rail reform has usually been carried out in transitional phases over several years. In Japan, the reform plan was carried out over a decade and proceeded through two successive administrations. In Germany, rail restructuring required strong political support to amend the German constitution. However, as rail analysts point out, the United States is also familiar with the time required for reorganizing a railroad. In 1976, Congress created the Consolidated Rail Corporation (Conrail) from six bankrupt northeast freight railroads. Over a decade later, in 1987, Conrail was returned to the private sector when the federal government sold its ownership interest in an initial public offering. Those advocating a major overhaul of U.S. passenger rail regulation point to elements of Conrail’s reorganization they believe could be applied to Amtrak.

²⁶Carsten Lehmann, “Germany,” Chapter 4 in *Changing Trains: Railway Reform and the Role of Competition: The Experience of Six Countries*, ed. by D.M. van de Velde, 1999, p.148.

²⁷James A. Dunn, Jr. and Anthony Perl, “Toward a ‘New Model Railway’ for the 21st Century,” *Transportation Quarterly*, Spring 2001, p. 47.

Rail reorganization also took mixed forms of structure and ownership depending on the country involved. Each country created its own unique form of rail regulation, reflecting political and cultural values. Additionally, in many cases, the initial reform plan had to be altered because of unforeseeable developments. Experts note that reform models that are flexible and straight forward are more likely to succeed than overly complex and rigid frameworks.

One circumstance unique to the case of passenger rail in the United States compared with Japan and Europe is the fact that 97% of Amtrak's route mileage runs on track owned and maintained by the freight railroads. The only track Amtrak owns is the Northeast Corridor, about 730 miles of track between Washington, D.C. and Boston. In Japan and Europe, in the case of routes with conventional track, freight railroads run on track owned by the passenger railways. High-speed passenger service runs on dedicated track. U.S. freight railroads, as represented by the Association of American Railroads, believe that high speed rail can only be properly run on separate, dedicated track with no grade crossings. The freight railroads oppose having more than one entity providing passenger service and they oppose having Amtrak's right of access, access rates, and operating priority transferred or franchised to multiple entities.²⁸ Because U.S. freight railroads are perhaps the most commercially viable and self-sufficient railways in the world, many experts recommend that any proposals regarding Amtrak should not threaten the economic health of the freight carriers.

Another theme applicable to most rail reorganizations is that the reform plan involved increasing the degree of independence of the rail entity from political influence. Rail policymakers appeared to equate improving the economic performance of the railroad with the need to insulate rail managers from politically directed decision-making. Political intervention in rail management decisions has also been an issue raised in the debate over Amtrak. Among the items the Amtrak Reform Council has listed as a root cause of Amtrak's poor performance is political pressure,²⁹

Direct susceptibility to political pressures on major and minor management decisions, which provides strong incentives to make decisions that are politically expedient in the short run, but financially crippling in the long run.

The Amtrak Reform and Accountability Act of 1997 contained provisions designed to enable Amtrak to increase operating efficiency, such as repealing the mandate that Congress approve changes in the criteria that Amtrak uses to evaluate routes and services, repealing the requirement that Amtrak provide rail passenger service requested by states and authorities, and repeal of a ban on contracting out for

²⁸ U.S. Congress. Senate. Committee on Commerce, Science, and Transportation, *S. 1991, The National Defense Rail Act*, 107th Cong., 2nd sess., Mar. 14, 2002. Hearing testimony of Edward Hamberger, Association of American Railroads.

²⁹ Amtrak Reform Council, "An Action Plan for the Restructuring and Rationalization of the National Intercity Rail Passenger System," Feb. 7, 2002, p. 5. Available at [<http://www.amtrakreformcouncil.gov/>].

services other than food and beverage. Amtrak's critics contend that Amtrak has not taken full advantage of these operating reforms because of political realities. Amtrak's final budget is approved by Congress. Amtrak supporters point to Amtrak's internal reorganization that began in 1995. As part of a restructuring plan, Amtrak has reduced staff, eliminated or reduced the frequency of service on certain routes, and decentralized into three geographically-based Strategic Business Units (SBUs). The SBUs are designed to increase revenues from either corridor, long-haul, or regional train services. Amtrak has also contracted out the maintenance of Acela high-speed trains in the Northeast corridor.

As stated earlier, a shared goal of most restructuring plans is to increase the transparency of government financial support for railways. By eliminating cross-subsidization, the intent of policymakers is to make railroads more accountable. Amtrak has been criticized by government officials for lack of clarity in its accounting statements. The DOT Inspector General has called on Amtrak to provide more specific and detailed information on a project by project basis in its yearly budget requests. In a recent congressional hearing, the IG testified,³⁰

The lack of clarity and specificity in its budget request may be symptomatic of Amtrak's unwillingness or inability to provide detailed information for effective decision making. Despite recommendations by the Amtrak Reform Council to break out financial results from train operations and owned infrastructure, and our repeated requests for detailed financial information on its mail and express business, Amtrak resisted implementing a financial reporting system that provided the information. The absence of this important data makes it difficult to arrive at good business decisions and to pinpoint responsibility and accountability for achieving measured results.

Another lesson apparent in the foreign experience that is applicable to the debate about Amtrak is that regardless of the regulatory regime adopted, intercity passenger rail requires a substantial level of public capital funding. Even if exceptional routes in high density corridors are successful in becoming operationally self-sufficient, they still require an external source for the enormous investment required for track infrastructure. The National Association of Rail Passengers estimates that the United States spends \$3.28 per capita (in 1999 U.S. dollars) on mainline rail spending, compared with \$67.66 in France, \$36.98 in Britain, and \$18.60 in Germany.³¹ Amtrak estimates that it would need \$1 billion to \$1.5 billion in capital each year for the next 20 years just to maintain the current system and an additional \$0.5 billion each year to begin development of new high-speed corridors.³² Although

³⁰U.S. Congress. Senate. Committee on Commerce, Science, and Transportation, *S. 1991, The National Defense Rail Act*, 107th Cong., 2nd sess., Mar. 14, 2002. Hearing testimony of Kenneth Mead, Inspector General, U.S. Dept. of Transportation.

³¹National Association of Rail Passengers, "World Mainline Rail Spending Per Capita," available at [<http://www.narprail.org/pc.htm>].

³²U.S. Congress. Senate. Committee on Commerce, Science, and Transportation, *S. 1991*, (continued...)

restructuring may provide opportunities for increasing productivity and efficiency, many rail analysts contend that a more critical issue facing Congress is the high level of government spending a viable intercity passenger rail system requires.

³²(...continued)

The National Defense Rail Act, 107th Cong., 2nd sess., Mar. 14, 2002. Hearing testimony of Kenneth Mead, Inspector General, U.S. Dept. of Transportation.

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