Twenty Years After

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In March 1987, the ailing Japanese National Railways (JNR) was dissolved after having piled up the amazingly huge debt of ¥25 trillion (about US$200 billion).

However, fortunately, passenger rail services in Japan still have the potential to be viable businesses because of Japan's exceptionally high population density per habitable land. There are large cities with more than 1 million inhabitants every few hundred kilometers along main rail routes and commuters, particularly in Tokyo and Osaka—two of the world's largest metropolitan areas—have little choice but to use trains. Therefore, the volume of rail passenger traffic is much higher in Japan than in other industrialized countries and exceeds the combined volume of the other G7 countries (Canada, France, Germany, Italy, UK, and USA).

So why didn't JNR succeed under these favorable circumstances? First, it did not have a clearly defined legal or economic status; it was neither a government body receiving income from taxes to serve the public interest nor a for-profit corporation expected to make ends meet on its own. Consequently, JNR was forced by politicians to invest in new lines, etc. that would clearly be unprofitable. As a result, top management could not manage JNR solely targeted at efficient operations free from outside interference. Meanwhile, management-hostile, radical labor unions were calling strikes, destroying morale, and deterring passengers from rail due to poor services. Second, the national network was too diverse to be managed effectively by one central organization. More concretely, the national rail network no longer constituted a meaningful unit and the centralized control became obsolete and ineffective, with too many unprofitable lines to be sufficiently cross-subsidized by the shrinking number of profitable lines.

The 1987 JNR reforms were a solution—although possibly not the only one—to these problems. This article briefly summarizes the reforms and performance under the new system and then proceeds to describe as yet unsettled issues, inter-company profitability adjustments, and their policy implications.

1987 Reforms and Performance of JRs

The JNR reforms reflected the distinctly Japanese situation concerning rail transportation. In particular, other (non-JNR) private passenger operators have extensive networks mainly in Tokyo and Osaka and their combined traffic volume, about 40% of JNR's, exceeds that of any European rail operator. What may astound non-Japanese readers is not only their traffic volume but also their business viability. They have been profitable for years (some for a century) even constructing and maintaining their own infrastructure.

As a result, the nature of the JNR reforms partly reflected the existence of fully integrated profitable private operators as well as an exceptionally high demand for a passenger rail service. On the one hand, the government decided to maintain vertical integration of operations instead of adopting the European-style policy of separating operations and infrastructure. On the other hand, the government divided the national rail network horizontally. When JNR reform was discussed in the early 1980s, there was widespread belief that the negative effects of a nationwide centralized organization outweighed positive externalities of a larger integrated network. Consequently, in 1987, JNR was broken up into six regional JR passenger operators, and one rail-freight company using lines owned by the six operators. Each operator was given limited company status (for-profit), but all shares in each company were owned by the Japanese National Railways Settlement Corporation (JNRSC), a wholly government-owned entity. To ensure management autonomy, the government intended to sell the shares in each operator as soon as possible.

Separate operators (JR Hokkaido, JR Shikoku, and JR Kyushu—Island Companies hereafter) were formed to handle rail operations on the three smaller islands of Hokkaido, Shikoku and Kyushu, respectively. Because the main island of Honshu is much larger than the three islands, passenger services were further divided into three regional operators (JR East, JR Central, and JR West—

Mainland Companies hereafter) headquartered in Tokyo, Nagoya, and Osaka, respectively.

This division produced geographically integrated but operationally independent businesses, enabling more than 95% of passengers to complete their trips within the boundaries of each operator, but which are still linked by many direct train services.

Another uniquely Japanese aspect of the reforms was the focus on passenger services, while treating freight almost as an aside. In fact, in terms of revenue, rail freight in Japan is minuscule (<5%) compared to passenger services. Because most of the major industrial centers are located on the coast and virtually all fuel is imported, coastal shipping substitutes for what would be transported as rail freight in continental countries, carrying nearly the same volume as road freight and leaving little room for rail. Since its inception, JR Freight has been paying usage fees based on avoidable (short-term marginal) costs to the passenger companies owning the tracks.

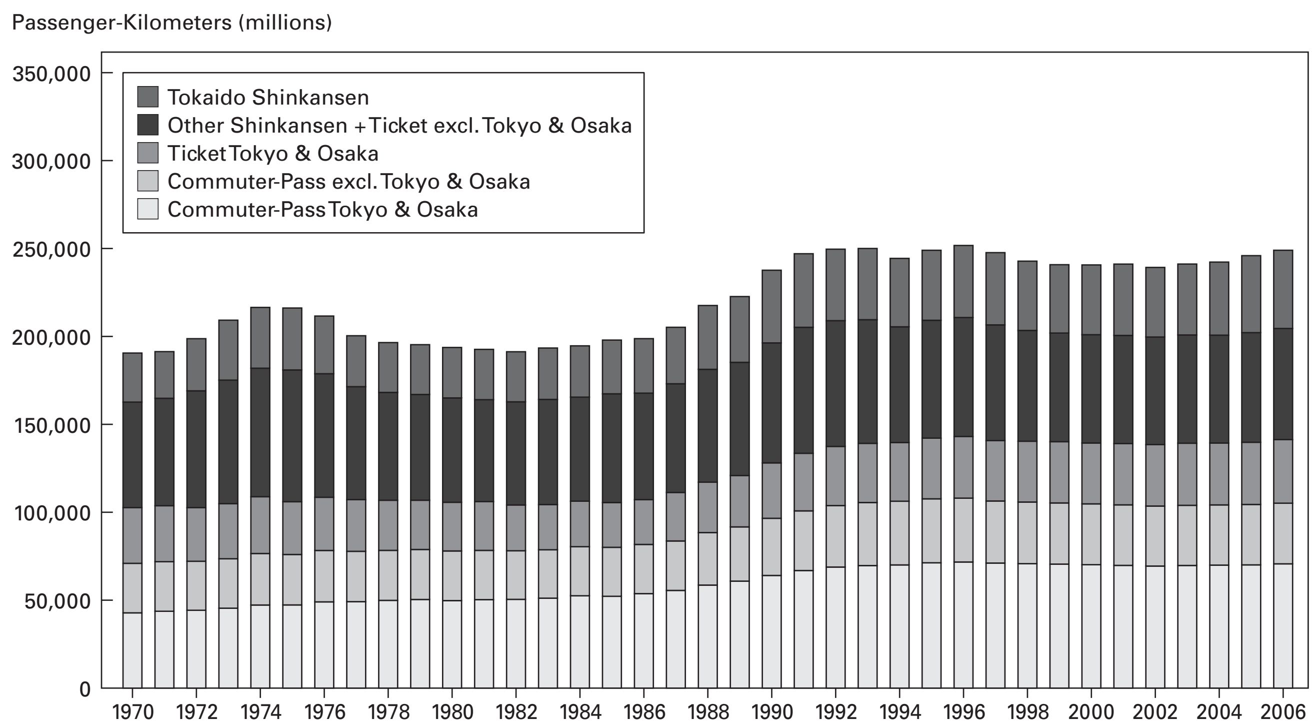
The Japanese reforms bear some resemblance to those in N. America based on the idea that one part should be sufficiently profitable to maintain the infrastructure itself if designed properly. However, the crucial difference is that this part is passenger services in Japan and freight in N. America.

At the JNR division, the Mainland Companies with high-traffic areas were expected to make profits from rail operations if they could maintain volume. On the other hand, the Island Companies operating in low-traffic areas were believed to have no chance of breaking even, let alone making profits from rail operations.

It was not politically acceptable to abolish all but a limited number of profitable urban lines on the three smaller islands, but support though government subsidies would most likely replicate JNR's failure. As a result, a Management Stabilization Fund was established to compensate expected losses from rail operations by the Island Companies using interest income. Establishing this fund increased JNRSC's debts by ¥1.3 trillion. At the time, this Fund mechanism was considered incentive-compatible because: (1) the profitable Mainland Companies would have to pay their debts but could amass more profits than expected if they enhanced efficiency, and (2) the unprofitable Island Companies might make profits if they lost less money from rail operations than expected and earned interest income.

Such a rosy scenario seems almost too good to be true! Actually, when the new system started in 1987, many if not most people doubted that the JR group of companies could survive as for-profit corporations. However, the new companies surprised skeptics beyond imagination, because the booming ''bubble'' economy in the late 1980s and early 1990s drove increasing traffic volumes and revenues without the need for a planned fare rise. The total traffic volume for all the new JR passenger operators increased by 24% between 1986 (the last JNR year) and 1991 surpassing the highest JNR volume in 1974 (Fig. 1). JR Freight traffic volumes grew by 30% during

Figure 1 JNR/JR Passenger Volumes



the same period. This initial stunning success and markedly improved customer service cemented public support for the reforms.

Unfortunately, the 'bubble' economy collapsed in 1991 and Japan entered a long period of recession. In addition, the demographic prospects are poor and the population graying has been accelerated by one of the lowest birth rates in the world. This unfavorable change in circumstances has seen a clear divergence in the fortunes of the Mainland and Island operators. On the one hand, thanks to stable traffic volumes, the Mainland Companies continue to make good profits with no fare increase other than to include government consumption tax (Fig. 2). As a result of their steady performance, they have been listed on the Tokyo Stock Exchange and other stock exchanges and are now considered blue chips by foreign as well as domestic investors. On the other hand, the Island Companies and JR Freight are struggling to break even, although they are successfully resisting a definite downtrend in volumes (Fig. 3 and 4) since 1987.

20 Years After

Although the JNR reforms were called JNR privatization by the government and media as well as by the general public, the government had no definite plan for privatization in the sense that the entire share ownership would be transferred from the government to private investors. In fact only the Mainland Companies have been privatized and the Island Companies and JR Freight are still owned (indirectly) by the government.

However, the aim of the reforms was not privatization of itself, but revitalization of the ailing national network under an incentive-compatible mechanism, for which privatization is not sine *qua non*. In fact, the still-wholly-government-owned Island Companies are claimed to be more cost-conscious and customer-oriented than the privatized Mainland Companies. Because competition with other transport modes, such as automobiles and buses, is fiercer in the sparsely populated three islands than on the mainland, the Island Companies must make more effort to be competitive than their mainland sisters. Nonetheless, it is probable that privatization—or the future likelihood of privatization—functioned as an ingenious pretext for resisting potentially rampant outside intervention. The Mainland Companies would be far less efficient than they actually are if they had not been privatized, because they still maintain a quasi-monopoly status in some densely populated urban and inter-city markets unlike the Island Companies, which lack such lucrative markets.

Although the centralized management of JNR was a serious impediment to efficient operations, establishing regional operators was only one of several possible

Figure 2 Mainland Passenger Volumes

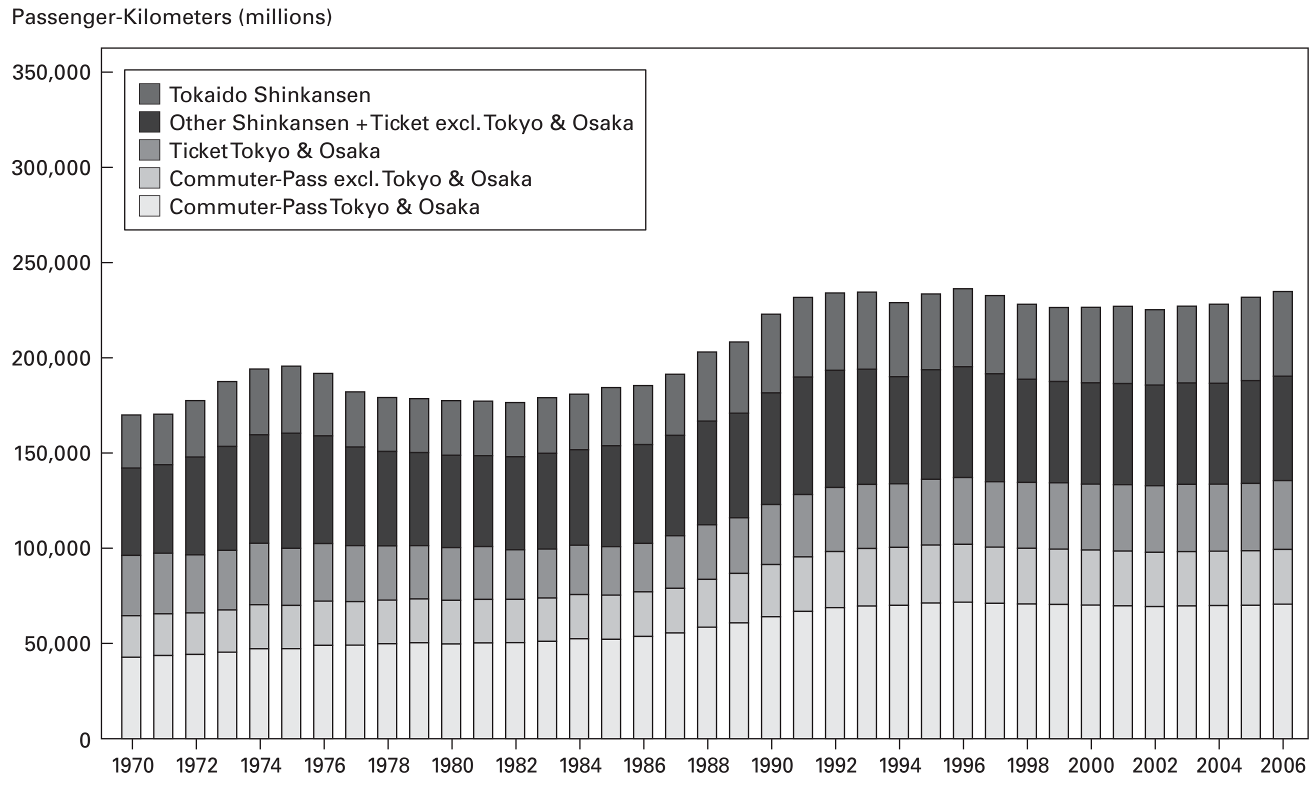


Figure 3 Three Islands Passenger Volumes

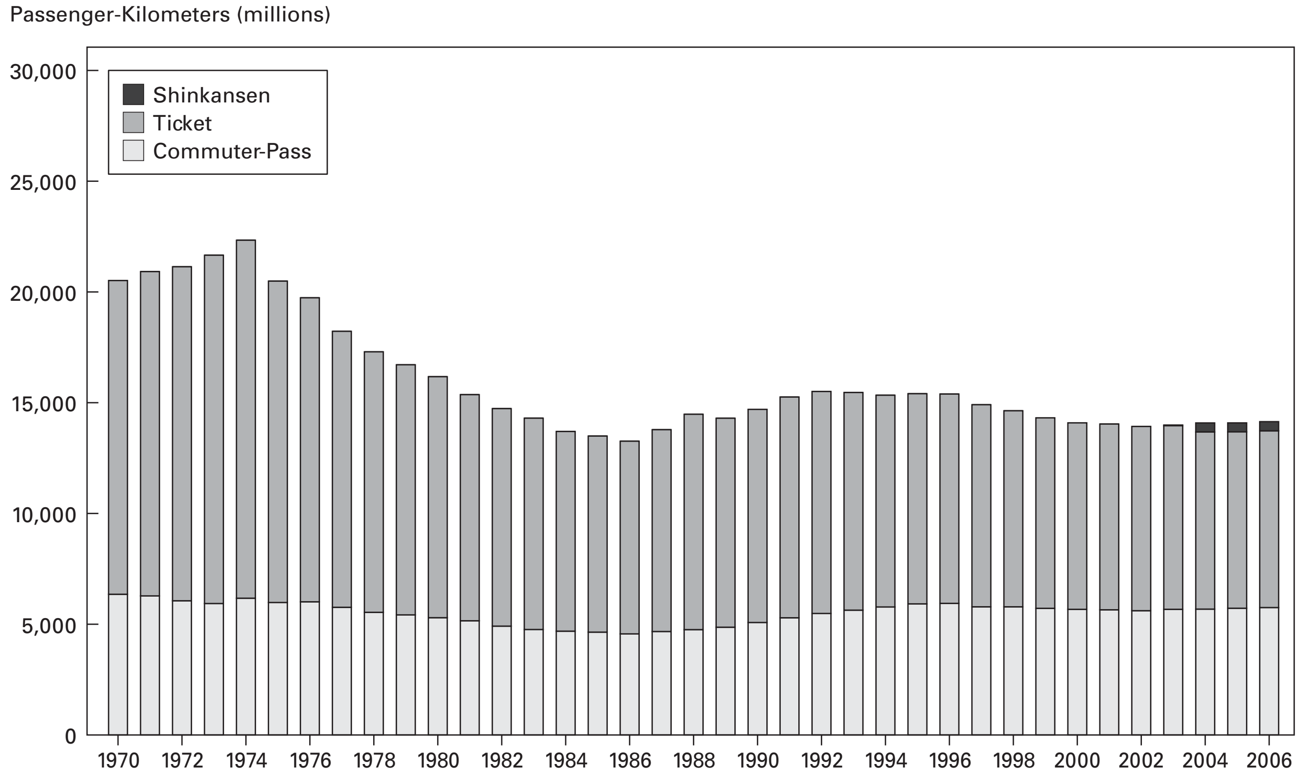
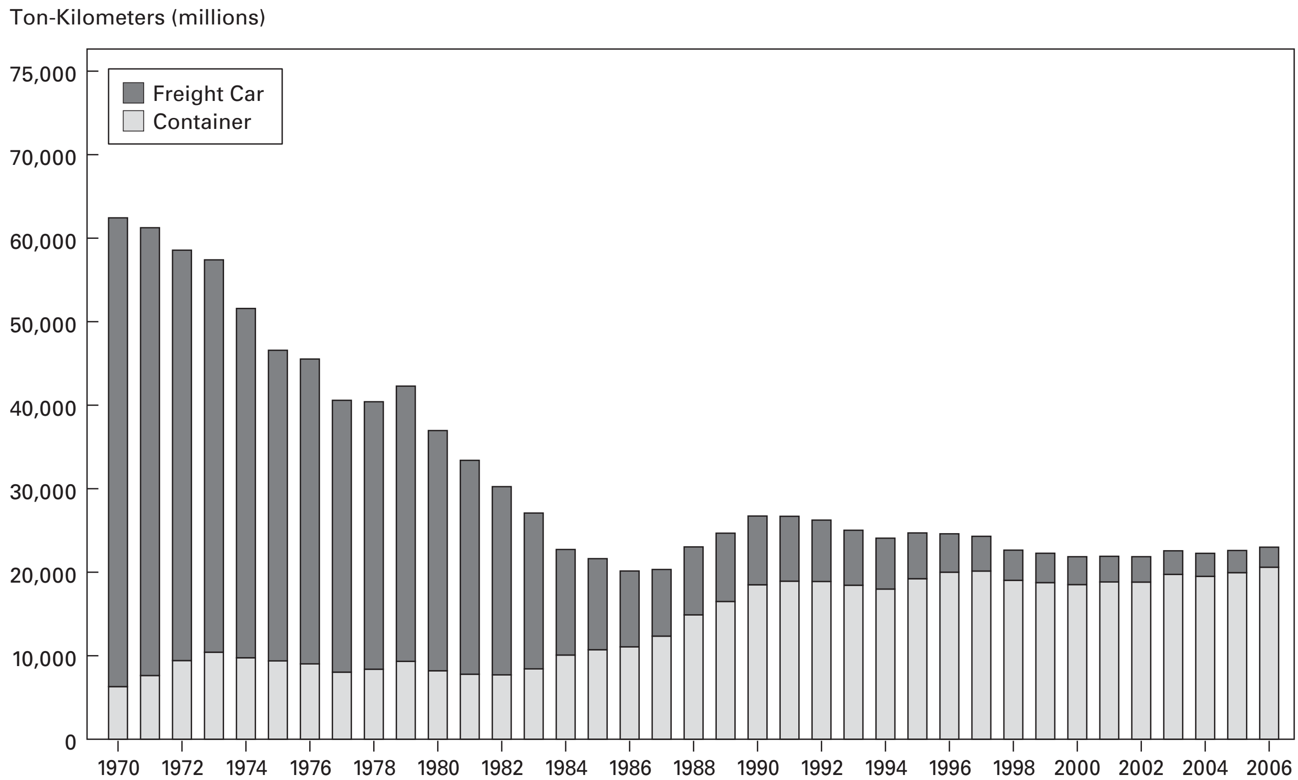


Figure 4 JNR/JR Freight Volumes



solutions—delegation of more authority to local operation managers might have been sufficient to temper the problem based on the fact that many Japanese corporations larger than JNR operate globally and make profits. However, because a separate (for-profit) legal entity in Japan is believed to signify more independence from outside influence—even if owned by a parent—than in Anglo-American cultures based on common law, the JNR division was seen as the most likely tool for achieving efficient operations whether privatized or not.

All in all, the past 20 years of experience has shown that the JNR reforms are a tremendous success in achieving the aim of making rail operations efficient. However, it remains incomplete in the sense that cross-subsidies—a lethal factor in JNR's demise—still continues between JR companies. Although market conditions surrounding the Island Companies and JR Freight have become increasingly difficult since the collapse of the 'bubble' economy, somehow (and miraculously) they seem to make ends meet. This miracle is achieved by backdoor subsidies from the prospering Mainland Companies to their less-fortunate sibling Island Companies

Due to the deep and prolonged recession—the so-called *Lost Decade*—from 1991, interest rates in Japan have fallen to historically unprecedented low levels. These low rates, which no one anticipated in 1987, have made it impossible for the Island Companies to get the expected 7.3% annual return on the Management Stabilization Fund. To mitigate this dire state of affairs, the government devised an ingenious but non-transparent program using a semi-secret de facto government order forcing the profitable Mainland Companies to borrow at artificially high interest rates from the unprofitable Island Companies via the JNR settlement account of Japan Railway Construction, Transport and Technology Agency (JRTT, formerly JNRSC), which can be considered a Special Purpose Vehicle (SPV) for obscuring this off-the-books transaction. By using this mechanism, the Island Companies received some additional ¥20 billion of interest income from the Mainland Companies in 2006. This amount far exceeded their combined pre-tax income, meaning the Island Companies would have recorded losses without these hidden subsidies.

Against a background of stagnant demand for rail-freight services, JR Freight also continues receiving subsidies from its passenger-operator sisters. The track-usage fees set between JR Freight (the track user) and the six passenger companies (the track owners) has not changed materially since 1987, although the fees were understood to be temporary at the time. This scheme is extremely favorable to JR Freight because the current fees only cover short-term marginal avoidable costs. In fact, heavy freight trains cause much more wear and tear to rail infrastructure than passenger trains, and quite a few 'passenger' lines on the mainland exist almost solely for freight rather than passenger services. Nevertheless the current fee structure allows JR Freight a free ride on the JR passenger operators, especially the Mainland Companies.

Looking more closely at the traffic-volume time-series data (Figs. 2, 3, and 4), the coincidental economic boom soon after the 1987 reforms may have obscured the long-term trend in Japanese rail transport. Although the traffic volumes of the Island Companies and JR Freight increased during the 'bubble' period, they have been shrinking back to the pre-reform levels and the current volume is a far cry from that in the 1970s. By contrast, the Mainland Companies have continued to maintain increased traffic volumes even after the collapse of the 'bubble' and the current levels exceed that in the 1970s, which was regarded as the never-to-be-achieved again golden age of railways. Moreover, a little-known fact is that traffic volumes on the mainland started increasing in the early 1980s, several years before the government initiated the 1987 reforms.

On the one hand, the rapid increase in both private car ownership with the expansion of the highway network and in airport networks since the 1970s has lured many customers away from rail. On the other hand, the continuing concentration of people and economic activities in the large metropolitan areas, especially Tokyo, has produced substantial demand for both intra- and inter-city passenger rail services.

Although the 1987 reforms succeeded in enabling the Mainland Companies to realize their full potential and in avoiding—or at least delaying—the premature death of the Island Companies and JR Freight, the sobering reality is that rail is no longer a life necessity and may have a future only in niche markets like those possessed by the Mainland Companies but not the Island Companies and JR Freight.

So, if maintaining passenger service on the islands and freight services is in the public interest, who should take responsibility? The Mainland Companies are natural candidates to support their struggling sisters because they have been favorably affected by lower interest rates and payments. But are they really the natural candidates? All three are separate private companies with their own shareholders and are unrelated — at least in terms of share ownership — to the three Island Companies and JR Freight. Therefore, the current off-the-books transfer of income leads to a conflict of interest between related stakeholders, including rail users.

Despite these serious circumstances, the Island Companies and JR Freight still seem to be trying to maintain their networks without closure of unprofitable lines, which is difficult to justify because even JNR was allowed to abolish many local lines and to curtail freight operations substantially in its last days when more convenient and efficient bus and trucking services could be substituted for rail.

In my opinion, the Island Companies and JR Freight should try to make ends meet themselves by trimming their networks and if any still find it difficult to break even, it might be sensible for the government to swap their current financial assets for long-term, fixed-interest inflation-protected (perhaps 4% in real terms), government bonds to prevent any future debacle caused by swings in interest rates. In the same vein, if a rail-freight rail service cannot be maintained without subsidized track-usage fees, but people believe it is in the national interest to keep some of the freight rail network, JR Freight should be explicitly subsidized by the government not by unrelated JR companies.

Although most rural lines in the islands (and on the mainland for the matter) no longer play any meaningful role for communities, some relatively well-used lines in urban areas of the three islands, like Sapporo (JR Hokkaido) and Fukuoka (JR Kyushu), are indispensable to the general public. In contrast, because complete abolition of freight services was not ruled out as a policy option when planning the 1987 reforms and virtually all freight service users are for-profit corporations, it is not justifiable to subsidize JR Freight through fares from passenger operators or taxpayers' money.

With the benefit of hindsight, the two most serious defects of the 1987 reforms have been: (1) a lack of any concrete plan for closing loss-making local lines which have few, if any, externalities either for society or for the rail network as a whole, and (2) a lack of any definite schedule for comprehensive revision of track-usage fees, reflecting long-term marginal costs of freight operations.

Although the reforms certainly revived the seemingly hopeless national rail network, they are still an ongoing process. Unless we square up to the current difficulties of the Island Companies and JR Freight as soon as possible, future generations will judge the initial stunning success of the 1987 reforms as the prelude to a disaster.

Further Reading

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R. Kakumoto, *Mittsu no Min'eika*, Ryutsu Keizai Daigaku Shuppankai, 2005

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