EXECUTIVE SUMMARY

- Fare Setting Process -

Impact of Government Involvement on Railways in North America, Europe and Asia

INTRODUCTION

This study assesses the impact of various forms of legislative and government involvement on the fare setting process. In total, thirty-seven railways were surveyed:

- North America (12)
- Europe (6)
- Japan (16)
- Singapore (1)
- Hong Kong (2)

All of the railways selected rely mainly on passenger fares for the majority of their revenues and operate a substantial urban/suburban commuter business. These examples are used to identify different patterns of performance and their relationship to different fare setting processes.

KEY FINDINGS

Inefficiencies in the fare setting process

In most countries surveyed, the fare setting process was originally designed to maintain a balance between the financial requirements of railways and broader public interests such as affordability, service, safety and a clean environment. In principle, the fare setting process seeks to minimize the need for subsidies by ensuring railways can generate sufficient profits to recover their operating costs and to undertake capital intensive projects.

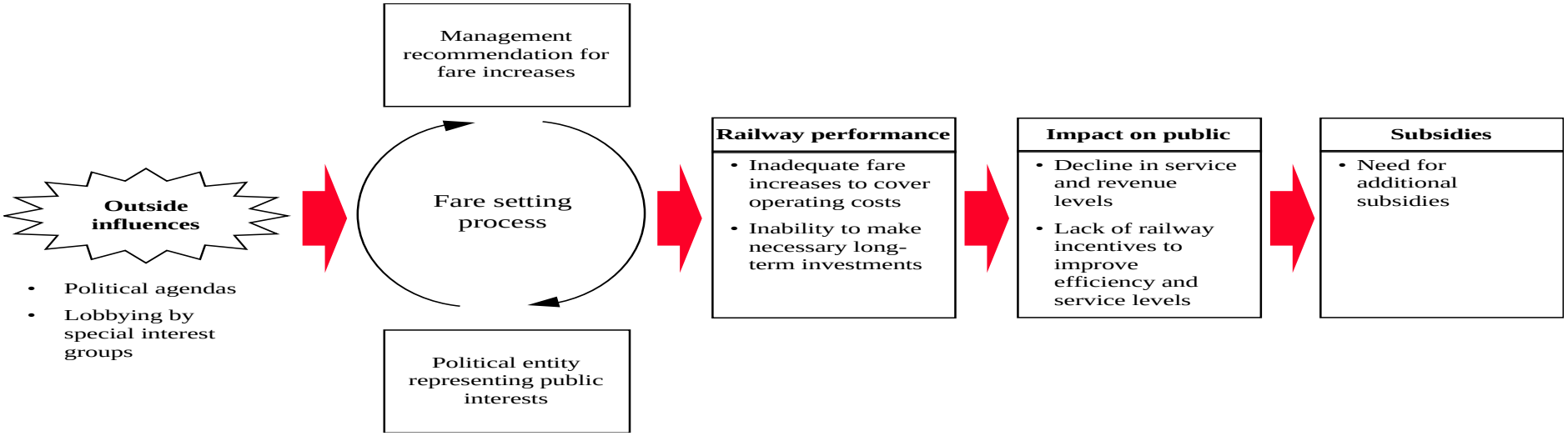
Historically, there has been a high level of government involvement in the fare setting processes of most countries surveyed. As part of the fare setting process, negotiations are normally held between a political entity representing broader public interests and railway management who

requests fare increases. For example, in Japan and Europe railway management conducts negotiations with government bodies such as a Ministry of Transportation while in the United States negotiations are usually held between management and politically appointed boards.

In reality, however, the fare setting process rarely works this smoothly. Inevitably, high government involvement invites external political influences that distort the fare setting process. Ample evidence in the U.S. and Europe demonstrates how politicians with vested interests in supporting their constituencies upset the intended balance of the fare setting process by discouraging fare increases, even when broadly recognized as necessary. Furthermore, special interest groups distort the fare setting process by lobbying against fare increases on environmental or, in the case of the U.S., even civil rights grounds.

These external influences over the fare setting process result in inadequate fare increases that negatively impact service levels, railway operating performance, and the ability of railways to make long-term capital investments. Although not immediately apparent, as shown in Figure 1 the impact of inadequate fare increases must ultimately be borne by the taxpayer in the form of increased subsidies to pay for both operating costs and long-term capital investments.

Figure 1. Impact of government involvement on the fare setting process



Government involvement in the fare setting process creates uncertainty

Government involvement in the fare setting process also results in uncertainty for management and the financial community. Because the outcome of management requests for fare increases is subject to a lengthy review process and a variety of external factors, management is unable to accurately project fare revenues and plan long-term investment programmes. Unpredictable future cash flows also force financial markets to lend capital at premium interest rates. The result of these uncertainties is that it becomes more difficult for railways to make long-term investments without subsidies or other forms of government support.

Increased need for subsidies

Until recently, policymakers in most of the countries surveyed considered subsidies necessary to ensure equal access to transportation services regardless of riders' income levels.

- In the United States, the 1964 federal Urban Mass Transit Act (UMTA) requires the federal government to provide grants for 80% of all urban railway capital expenditure costs. Additional subsidies have also been available to cover a portion of operating costs.

- Similarly, European railways have relied heavily on subsidies for years, a reflection of broader social policies intended to equalize the distribution of income in most Western European countries. In an extreme case, in 1995 France's government-owned national railway (SNCF) received about US$ 7.7 billion in annual subsidies and had accumulated debt of $33.6 billion, or 2.5% of France's GDP.

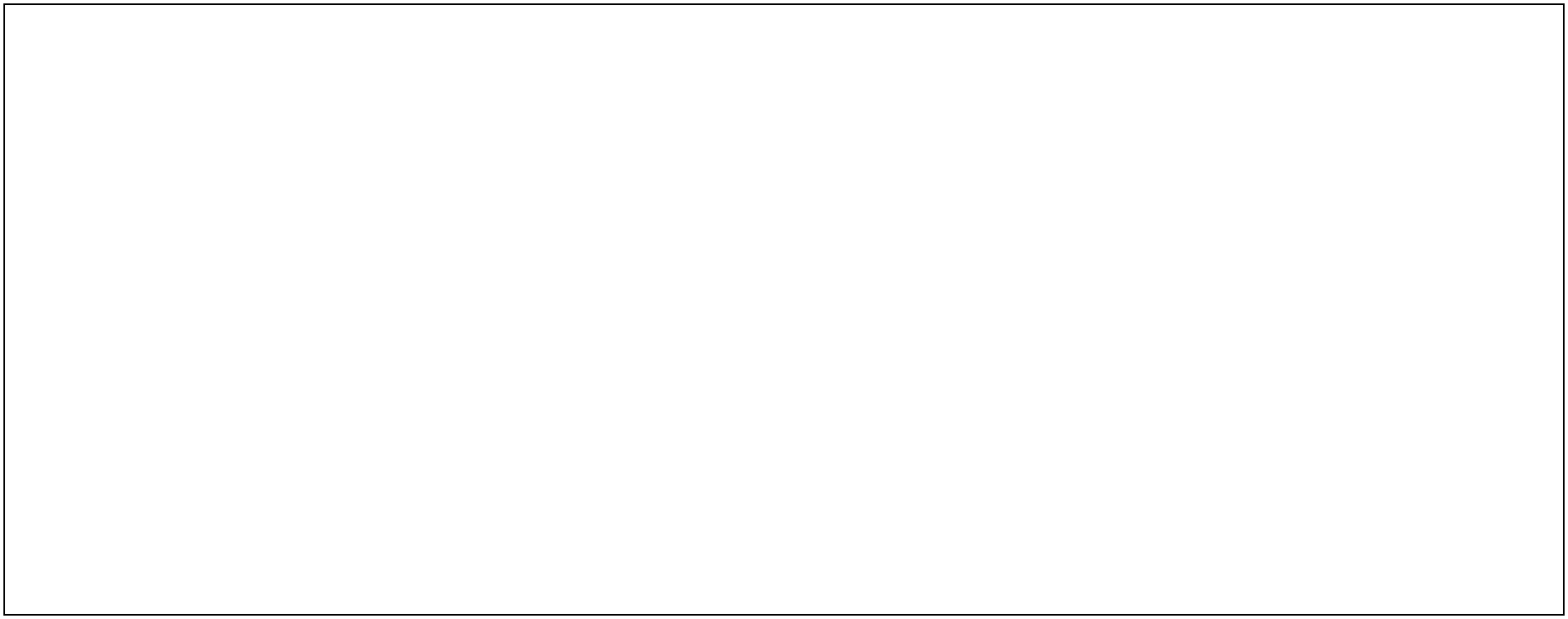
- In Japan, a variety of subsidy programs are available to railways to fund capital expenditures. On average, private railways (excluding JR) rely on subsidies for 54% of their capital expenditures.

- In Singapore, government pays for all infrastructure costs and subsidizes the railway's operating assets. The railway is responsible for eventually repaying the original cost of the operating assets from fare revenues.

In most cases, inefficiencies in the fare setting process have compounded the need for subsidies. Inadequate fare increases set in place a vicious cycle of lower fare revenue, service cutbacks, and decreases in ridership that weaken railway performance and create a need for additional subsidies to simply sustain existing service levels. This in turn reduces railways' incentives to be more cost efficient and customer focused.

As shown in Figure 2, years of subsidies in North America and Europe have produced non-competitive railways that require subsidies to simply cover their operating costs. In Asia, railways are able to recover their operating costs through fare revenues.

Figure 2. Railways reliance on subsidies to recover operating costs



Trend toward Hong Kong model of limited government involvement

As shown above, evidence shows how government involvement in railway management through the fare setting process has led to railways becoming a major burden to both government and taxpayers.

As such, years of subsidies and mounting debts are forcing governments in the United States and Europe to reconsider the merits of government involvement in the fare setting process and continuous subsidies to railways.

Similarly, throughout Europe - and in certain instances Japan - governments are reducing their level of ownership in railways. In Sweden and the United Kingdom, sweeping reforms
have been initiated by government to separate railway infrastructure and operations and sell franchises to private companies. In Germany, the national railway has been structured as a public corporation with an eventual goal toward privatization. In Japan, the former national railway (JNR) was split into seven government-owned corporations with two of these companies (JR East and JR West) now publicly listed.

With the exception of Singapore, policymakers worldwide are moving to a model similar to Hong Kong where government involvement in the fare setting process is limited and incentive systems are in place to ensure cost efficient and cost effective railways.

Table 1. Reduction in government involvement in railways

Region	**Recent trend - fare setting process**	**Recent trend - subsidies/ownership**
North America	• Currently influenced by politically appointed boards. Change difficult due to political gridlock	• Sharp reduction in subsidies • Systems forced to raise fares or reduce service levels • Discussions to privatize/outsource some operations
Europe	• From heavy government control to: - Market-driven (Sweden/Germany) - Price-caps (UK/Holland) - No change (France/Denmark)	• Reductions in subsidies due to political pressures and budget constraints • Trend toward corporatized and eventually privatized/franchised railways
Japan	• Discussions to move from scheme controls to price-cap formulas	• No significant decline in subsidies • In late 1980's JNR corporatized and split into seven companies • Two of the systems, JR East and JR West, are now publicly listed

DEVELOPMENTS IN NORTH AMERICA

U.S. systems are no longer profitable

Over the last century, U.S. railways have evolved from profitable, franchised systems to heavily subsidized and unprofitable ones. The history of U.S. railways can be grouped into three time periods: 1900 - 1964, 1964 - 1990, and 1990 to the present.

Table 2. Development of U.S. railways from 1900 to the present

1900 - 1964	1964 - 1990	1990 - Present
• Most railways were franchised, profitable systems • Fares were kept in balance through market forces • Proper incentives for railways to be cost efficient and provide high service levels	• Urban Mass Transit Act (UMTA) is passed requiring government to subsidize railways • Government influence over the fare setting process is increased • Railways lose incentives to be cost efficient and raise service levels	• Railways in continual financial crises • Budget constraints have forced federal, state and municipal governments to reduce subsidies • Politics dominate the fare setting process • Preliminary discussions to privatise and outsource operations

As shown above, in the 1990's government has reduced subsidies to railways and interest in privatization is growing. However, unlike the 1900 - 1964 period, a politicized fare setting process remains firmly in place.

Systems are taking drastic measures to avoid financial crises

In recent years, a combination of inadequate fare increases, declining subsidies and rising operating costs have forced most U.S. systems to take drastic measures to alleviate financial crises. Federal assistance decreased 11.5% in 1995 and is estimated to decrease by up to an additional 44% in 1996, even though government mandates for many services remain in place. Furthermore, operating costs such as union wage rates and health insurance have risen steadily in recent years.

As a result, 40% of U.S. systems reduced services in 1995, 35% canceled or postponed service expansion projects and 21% reduced workforces. Nonetheless, despite lower service levels and heavy subsidies, over one-half of the railways surveyed raised fares in 1995.

Politics remains a key driver in the fare setting process

Due in part to the weak financial condition of most U.S. systems, politics remains a key driver in the fare setting process. In many cases, even when politically appointed transport boards recommend fare increases, elected politicians with a vested interest in supporting their constituencies use their political influence to prevent fare increases from taking effect. Similarly, special interest groups opposed to fare increases have been able to leverage the U.S. legal system to influence the outcome of the fare setting process.

Three examples demonstrate how political influence over the fare setting process in the U.S. weakens railway performance and penalizes taxpayers.

Chicago (CTA)

Chicago's Regional Transportation Authority (RTA) is a politically appointed board which exercises planning and financial control over Chicago's three public transportation systems (metro, commuter rail and bus). The RTA allocates state subsidies generated through sales taxes to the CTA (metro) and the other two transport systems.

- Fare setting process. The fare setting process is similar to the one shown on page two. Fare increases requested by the CTA require approval from CTA's Board of Directors after a hearing is held to solicit public opinion. If the fare increase is approved by the Board, final approval is then required by the RTA.

  There is significant political involvement at all stages of the fare setting process. In recent years, fare increases have become a battleground between the Mayor and State Governor representing, respectively, urban riders who oppose fare increases and tax payers who demand lower subsidies.

- Fare increases. Despite public opposition, in 1991 fares were increased 30% to compensate for sharp reductions in subsidies. The politically forced fare increase resulted in a 7% decline in ridership.

- Subsidies. CTA relies on subsidies for 48% of its operating costs. CTA's federal and state subsidies have been cut sharply in recent years. Between 1991 and 1996, state subsidies have decreased 45% from US$ 31.6 to US$ 17 million while federal funding has dropped 59% from US$ 41.5 to US$17 million.

New York (MTA)

Similar to Chicago's CTA, the New York Metropolitan Transit Authority (MTA) is governed by a politically appointed board representing the city and suburban communities served by the system. The MTA board consists of 13 Directors, with the Mayor appointing 4 of the 13 members.

- Fare setting process. Fare increases are proposed to the MTA board by management of MTA subsidiaries who operate the subway, suburban rail services and buses. Following a lengthy public review process the MTA board make the final decision for fare changes.

  The MTA is a classic example of how the U.S. fare setting process does not work. The final authority for fare increases should rest with the MTA board, but external political forces and special interest groups influence the process and outcome. In past cases when fare increases recommended by the MTA board have not been approved, the New York State Legislature has been forced to approve new state taxes to subsidize the systems.

- Fare increases. In 1995, a US$ 0.25 fare increase proved so controversial that several citizens coalitions sued the MTA on U.S. constitutional and civil rights grounds. The Mayor, Governor and state legislators have all tried to influence the outcome of the fare setting process, with each representing the interests of their respective constituencies.

- Subsidies. Similar to Chicago's CTA, 37% of the MTA's annual operating costs are subsidized by federal, state and local sources. In 1995, the subway system received US$ 1.22 billion in subsidies, while the commuter railroads received US$ 635 million. One hundred percent of the systems' capital funds are subsidized.

Boston (MTA)

The Massachusetts Bay Transportation Agency (MBTA) is the operating agency covering 78 cities and towns in the greater Boston and eastern Massachusetts area.

- Fare setting process. In addition to negotiations between railway management and the MBTA Board appointed by the state Governor, the fare setting process requires two additional steps to approve fare increases. First, an environmental review is conducted to evaluate the loss in ridership that is likely to result from riders switching back to cars due to the fare increase. Second, final approval is required by an Advisory Board comprised of representatives from the 78 cities and towns in the MBTA service area that are taxed to subsidize operations.

The fare setting process is influenced by citizen groups such as the Massachusetts Senior Action Council who vigorously oppose increases in senior citizen fares. Another group, the Conservative Law Foundation, closely monitors the fare setting process and has threatened to initiate lawsuits if officials try to bypass environmental reviews during the fare setting process.

- Fare increases. Fares have not been raised since 1991, keeping pace with neither inflation nor operating costs. Budget constraints and increased subsidies resulted in a recent report by the Legislature recommending fares be set at a level where they provide at least one-third of the system's total revenue. MBTA has established this level as a goal, but on the condition that interest to service debt is not included.

- Subsidies. The MBTA relies on subsidies for 66% of its operating costs. One hundred percent of capital funds are subsidized through federal and state sources. The MBTA has had little incentive to reduce operating costs and reduce its reliance on subsidies since Massachusetts State Law requires the government to cover operating losses.

DEVELOPMENTS IN EUROPE

In Europe, decades of socially-motivated policies have resulted in weak railways that must rely heavily on government subsidies to recover both their operating costs and fund capital expenditures.

Drastic reforms in four of the six countries surveyed

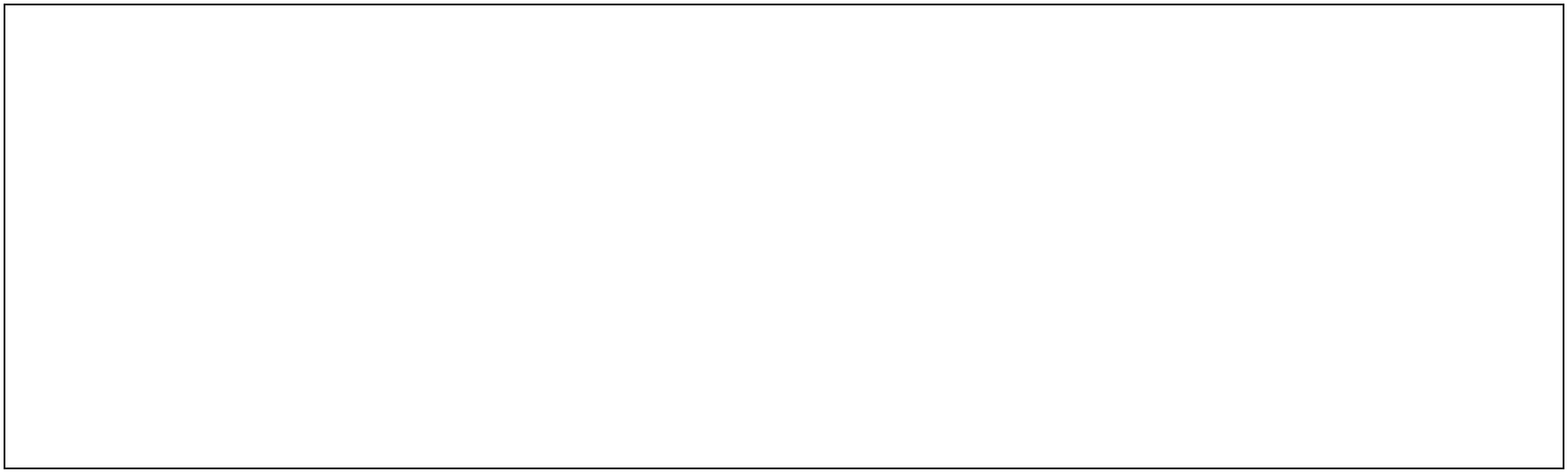
Although circumstances vary, over the past 5-10 years Germany, Britain, Holland and Sweden have taken drastic steps to restructure their railways into commercially viable entities. As shown in Table 3, unsustainable debt levels, mounting subsidies and government budget constraints have prompted these governments to reduce government involvement in the fare setting process and restructure their railways.

Table 3. Decrease in government involvement in railways in Europe

Country	Government action	Railway restructuring
Germany (Deutsche Bahn)	• Enormous debt and reunification of East and West Germany prompted government to restructure railways	• Government assumed US$ 45 billion in debt and structured railways as public corporations operated on commercial principles • Estimated 100,000 layoffs • Privatization slated for 2002
Britain (British Rail)	• In 1993, Parliament agreed to a comprehensive privatization programme regarded as the most aggressive and liberal in Europe	• Infrastructure and operations separated and structured as independent companies • British Rail divided into 25 franchises which are being sold to independent companies
Holland (NS)	• Wijffels commission established in 1991 to reduce subsidies and reform railways	• Infrastructure and operations separated and structured as independent companies • Most sections franchised or operated under fixed-term contracts
Sweden (SJ)	• In 1988, continual financial crisis and escalating subsidies led government to force restructure of railways	• Infrastructure and operations separated and structured as independent companies • Privatization planned within 10 years

At the same time, these governments are - in varying degrees - reducing their formerly high level of involvement in the fare setting process. The underlying driver behind this change is the belief that market forces and competition encourage railways to be more cost efficient and cost effective while at the same time providing riders with higher services levels at competitive prices.

Figure 3. Trends in Europe - Government involvement in the fare setting process



France and Denmark slow to initiate reforms

Unlike the other European countries surveyed, France and Denmark have been slow to initiate reforms. Despite huge subsidies and major operating inefficiencies, governments lack the political support to push through painful yet necessary reforms. In both France and Denmark, government-owned railways remain under the auspices of transportation ministries and employees are unionized civil servants. Furthermore, the fare setting process is controlled by government with only nominal input from railway management.

Table 4. Performance of French and Danish railways

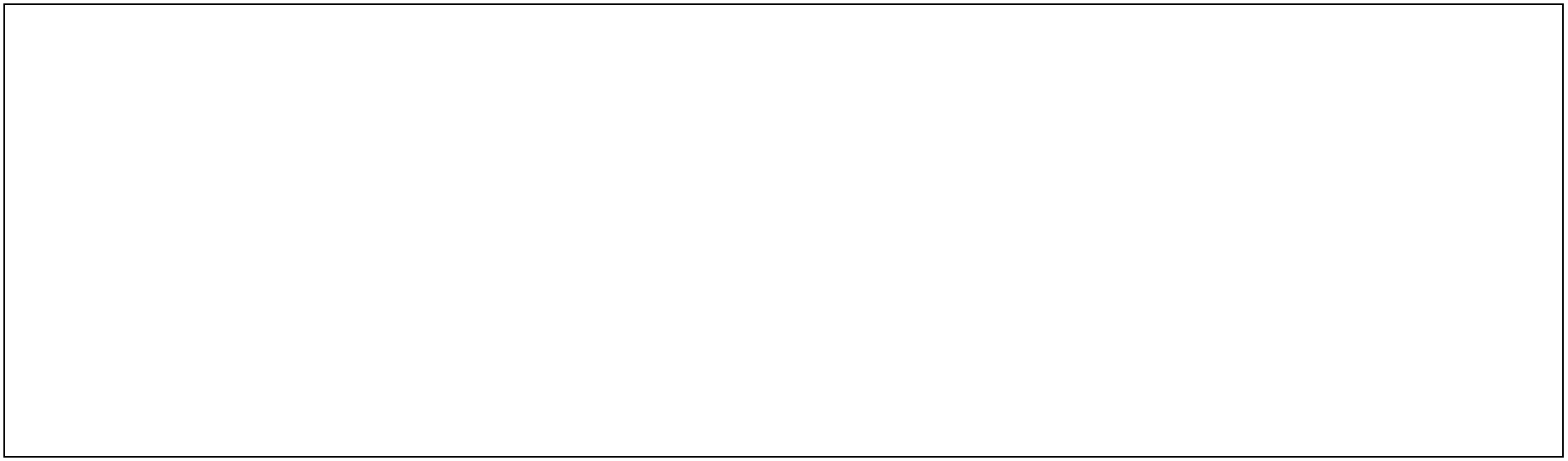
Country	Railway performance	Subsidies
France (SNCF)	• 1995 debt of US$ 33.6 billion, or 2.5% of GDP • 7% decline in ridership from 1989-1994	• Annual subsidies of US$ 7.7 billion
Denmark (DSB)	• 1995 operating loss of US$ 228 million	• Annual subsidies of US$ 685 million

France has found it especially difficult to initiate reforms that are broadly recognized as necessary. A combination of extremely powerful unions, socially motivated policies and entrenched bureaucracies makes meaningful reforms difficult without a fundamental shift in policies within government circles, the Ministry of Transportation, and government-owned railways. As demonstrated by the December 1995 railway strikes, making changes to the current system will not be easy.

DEVELOPMENTS IN JAPAN

The economics of railways in Japan differ from Europe and North America in a number of important ways. As shown in the figure below, the ownership structure, fare setting process and the importance of non-railway income to Japanese railways are all factors that distinguish Japanese railways from those in Europe and the United States. Nonetheless, similar to other railways surveyed, Japanese railways rely heavily on subsidies for capital expenditures.

Figure 4. Economics of Japanese railways



Japanese fare setting process

In Japan, fare increases are determined by a pricing formula which considers the railways' operating costs, the size of their asset base and a discretionary "reasonable" profit. The formula is designed to help railways at least recover their operating costs while at the same time still providing sufficient incentives to maintain cost efficient and cost effective operations.

The pricing formula serves as the basic framework for negotiations between railway management and the Ministry of Transportation. Although the formula limits the degree to which external influences can impact negotiations, the amount of "reasonable" profit depends in part on the role fare increases may play in advancing the political agendas of Japan's ruling and opposition parties.

Discussions to introduce price-cap formulas

In recent years, there have been discussions to revise the current fare setting process and introduce price-cap formulas that provide additional incentives for railways to further improve operating efficiencies and reduce their reliance on capital subsidies. However, progress has been limited due to government concern that price-cap formulas may result in anti-competitive practices and higher fares in areas with limited competition.

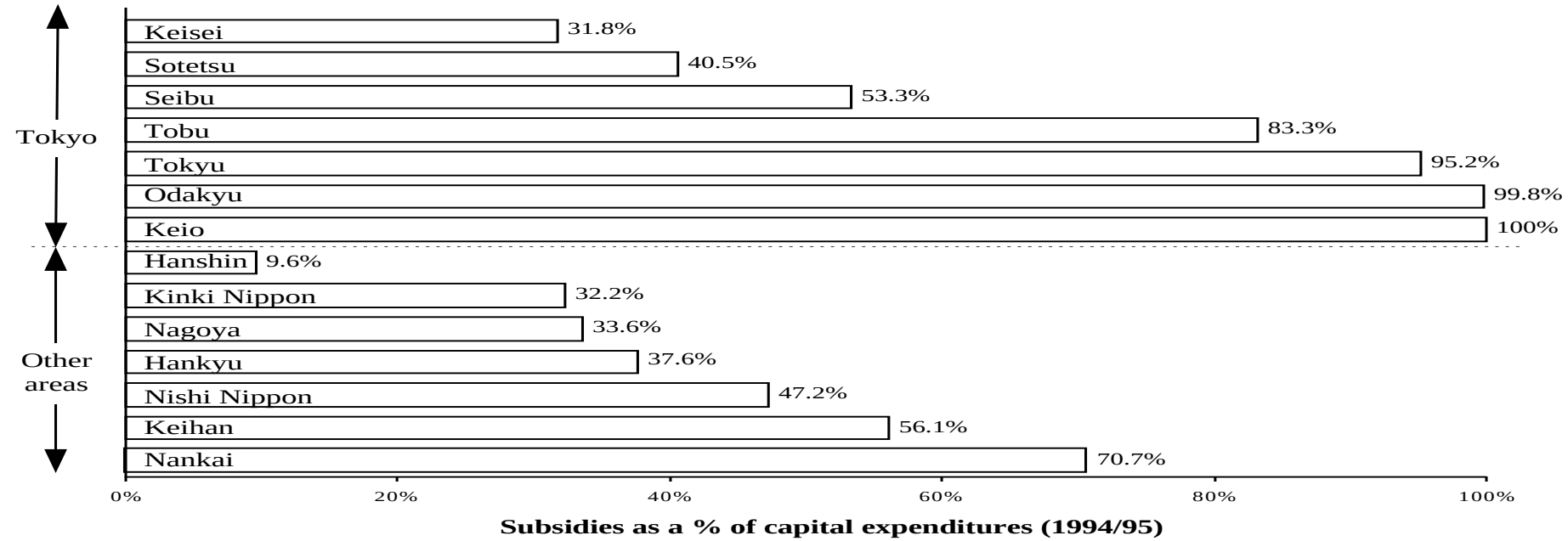
The seven JR companies support price-cap formulas because railway operations account for 95% of their total income and immediate costs benefits could be realized by further rationalizing their operations. Other private companies, however, are opposed to the introduction of price-cap formulas because they are currently in the midst of major capital expenditure programs that could be negatively impacted if price-cap formulas led to a reduction in subsidies. Furthermore, unlike JR systems, these railways generate close to 40% of their income from non-railway activities (e.g. real estate, hotels, restaurants, etc.) that could be hurt if the fare revisions resulted in further competition between lines.

Reliance on subsidies to fund capital expenditures

The pricing formula by definition limits the degree to which fare revenues can be used to fund capital expenditures. This limitation leaves railways - even those with low operating costs - with little alternative but to rely on subsidies for their capital expenditure programs. At the same time, railways are being pressured by government to invest in new projects to meet service, safety and density limit requirements. Pressure is particularly strong on railways in Tokyo as a result of population expansion in surrounding suburban areas.

A variety of subsidy programs are available to railways for capital expenditure projects. These programs include grants, low-interest loans, and other subsidies paid through government budgets, tax-free reserve pools, and borrowing from postal savings and national pensions. Figure 5 below highlights private railways' heavy reliance on subsidies for capital expenditures.

Figure 5. Reliance of private railways on subsidies for capital expenditures



Source: Annual reports; □ajor Private Line Review? The Japan Non-Government Railway Association, October 1995

Private railway companies with significant real estate portfolios appear to be the primary beneficiaries of government subsidies. Capital subsidies for expansion projects indirectly provide railways with new real estate development opportunities along new or upgraded railway lines. Furthermore, as part of the pricing formula the railways' enlarged asset base provides justification for further fare increases.

However, heavy reliance on real estate carries significant risks in the event of a market downturn. In some cases, insufficient profits generated from real estate portfolios to service debt could threaten the solvency of those railways which earn a significant portion of their income from real estate related activities.

DEVELOPMENTS IN SINGAPORE

Established in 1987, Singapore's SMRT is a government-owned corporation that operates under the close guidance of the Ministry of Communications. The government plans to eventually list the SMRT on the Singapore Stock Exchange once the railway has established a track record of strong performance.

Singapore has learned from the experience of other countries

With one of the newest systems in the world, Singapore benefited by drawing on the experiences of other railways to develop policies that ensure its railways are commercially viable and that public interests are met.

Keeping in mind the weak performance of other countries, the Singapore government structures fares based on the following key principles:

- Fares must be realistic and regularly revised to account for justifiable cost increases
- Services must at least recover their operating costs through fare revenues
- Fare revenue must be adequate to recover depreciation and asset replacement costs
- Market and competitive forces should be used to stimulate operating efficiency and higher service levels

Minimal outside interference in the fare setting process

To promote the above principles, Singapore has designed a fare setting process that encourages fiscal prudence, individual financial discipline and efficient operations. Singapore's unique political system and "partnership approach" with operators, government and the general public minimizes the potential for outside interference in the fare setting process. This, coupled with a realistic fare structure based on distance traveled, helps to ensure operators have the proper incentives to provide high service levels and maintain cost efficient operations.

The fare setting process is driven by the Public Transportation Council (PTC), a statutory body under the Ministry of Communications which reviews and approves operators' requests for fare increases. The PTC is comprised of 13 non-remunerated representatives from government,

transport companies, the business community and the general public that are invited by the Ministry of Communication to serve for a two-year period. Four of the 13 seats are permanently held by transport companies. Of the remaining nine seats, eight are reserved for business and community leaders and one for a government representative.

Fares consider cost increases and are raised regularly

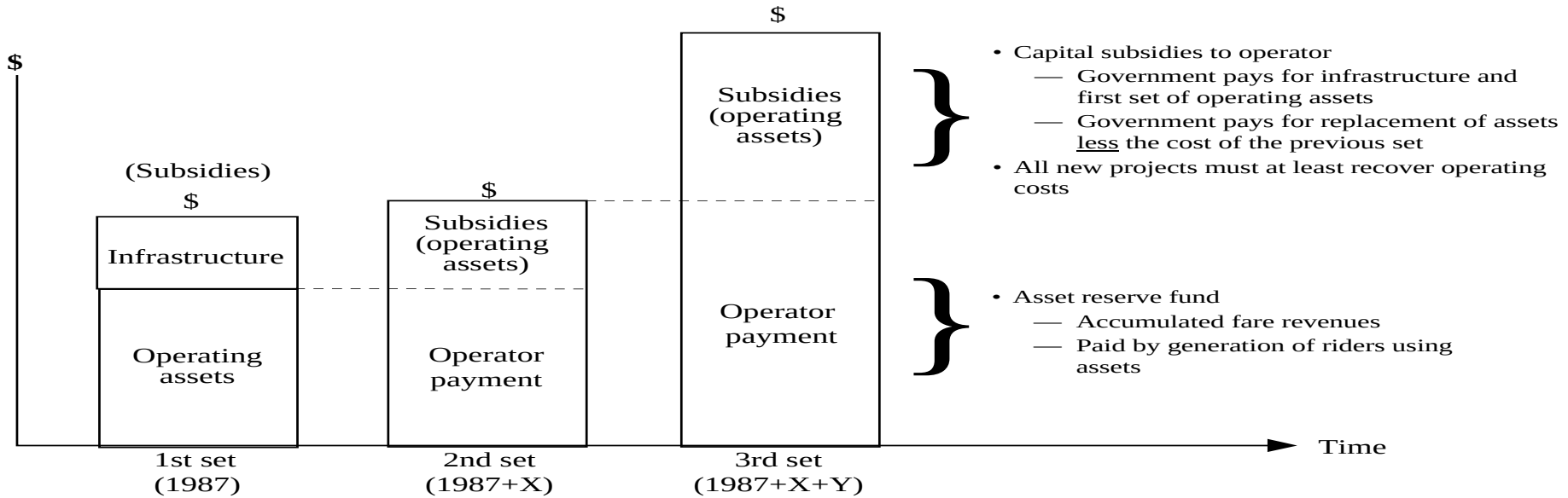
The fare structure in Singapore is based on the guiding principle that efficient operators must be able to not only recover their operating costs and the original cost of their operating assets but also provide a reasonable return to shareholders.

The Ministry of Communications recognizes that regular fare increases are required to account for justifiable cost increases. Over the past six years SMRT has raised fares three times: in 1990, 1994 and 1995. In 1990, there was an across-the-board increase of S$0.10 on fares ranging from S$0.60 to $1.40; in 1994, fares were increased an average of 2.7% due in part to a government goods and services tax; and in 1995, fares increased on average by 5.4% to compensate for increased operating costs. Between 1990 and 1995, the average annual inflation rate in Singapore was only 2.7%.

Government subsidies for capital expenditures

As shown in Figure 6, the Singapore government initially paid for the MRT infrastructure and the original set of operating assets. Once the assets are replaced, the SMRT must repay the government from special reserves accumulated from fares collected over the life of the original assets. However, due to inflation the government agrees to subsidize the difference between the original and replacement cost of the assets. In effect, this places the burden of payment on the generation of riders using the assets.

Figure 6. Singapore subsidy scheme for capital expenditures



The government will also subsidize new projects, provided the projects can at least recover operating costs. If potential projects cannot meet this test the government will not proceed with them.

DEVELOPMENTS IN HONG KONG

The fare setting process in Hong Kong is based on a model distinct from all other systems surveyed. Unlike other railways, the KCRC and MTRC operate based on the key principles of commercial viability and no reliance on government subsidies. As a result, the railways rely primarily on fare revenue to recover their operating costs, fund capital expenditure programs, and earn a satisfactory rate of return on assets. In 1995, the return on average fixed assets for KCRC and MTRC was 12% and 8% respectively.

Under the current model, KCRC and MTRC management have considerable freedom to set fares, but at the same time they are also responsible for the long-term commercial viability of their railways. Importantly, management has the proper incentives to maintain a balance between operating costs, services and revenues in order to provide a satisfactory return to shareholders, maintain high service levels and make necessary long-term investments.

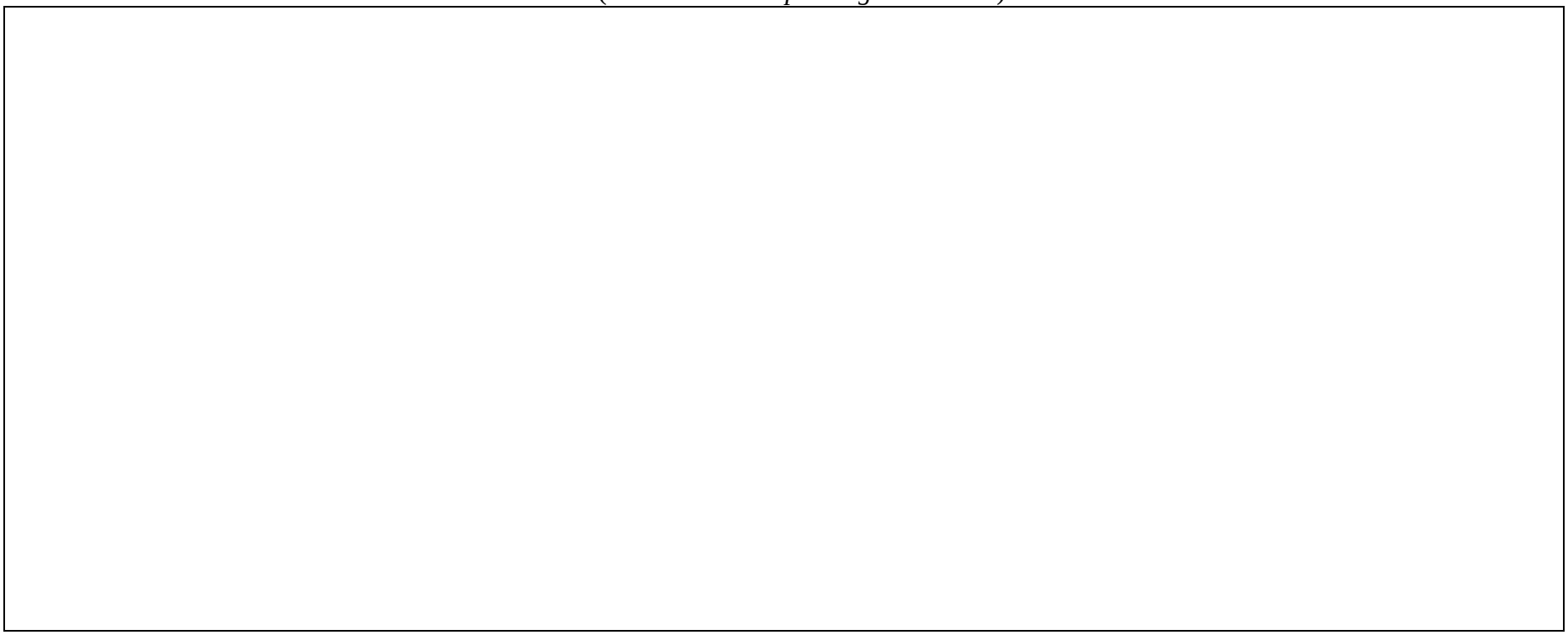
The result is a system which encourages fiscal prudence and benefits the railways, riders, government and Hong Kong taxpayers. In fact, Hong Kong fares are not only among the world's lowest, but the KCRC and MTRC are among the most cost effective and profitable railways in the world. The Hong Kong system appears to be quite successful.

Hong Kong fares are among the lowest in the world

Ironically, there is no clear relationship between subsidies and low fares. As shown in Figure 7, fares for most heavily subsidized systems are substantially higher than those for the KCRC or MTRC. Those systems with fares lower than KCRC or MTRC rely on subsidies to cover a significant portion of their operating costs, with the exception of SMRT which recovers its operating costs through fares but still relies on subsidies for capital expenditures.

Figure 7. International comparison of fares for an average 10 km journey

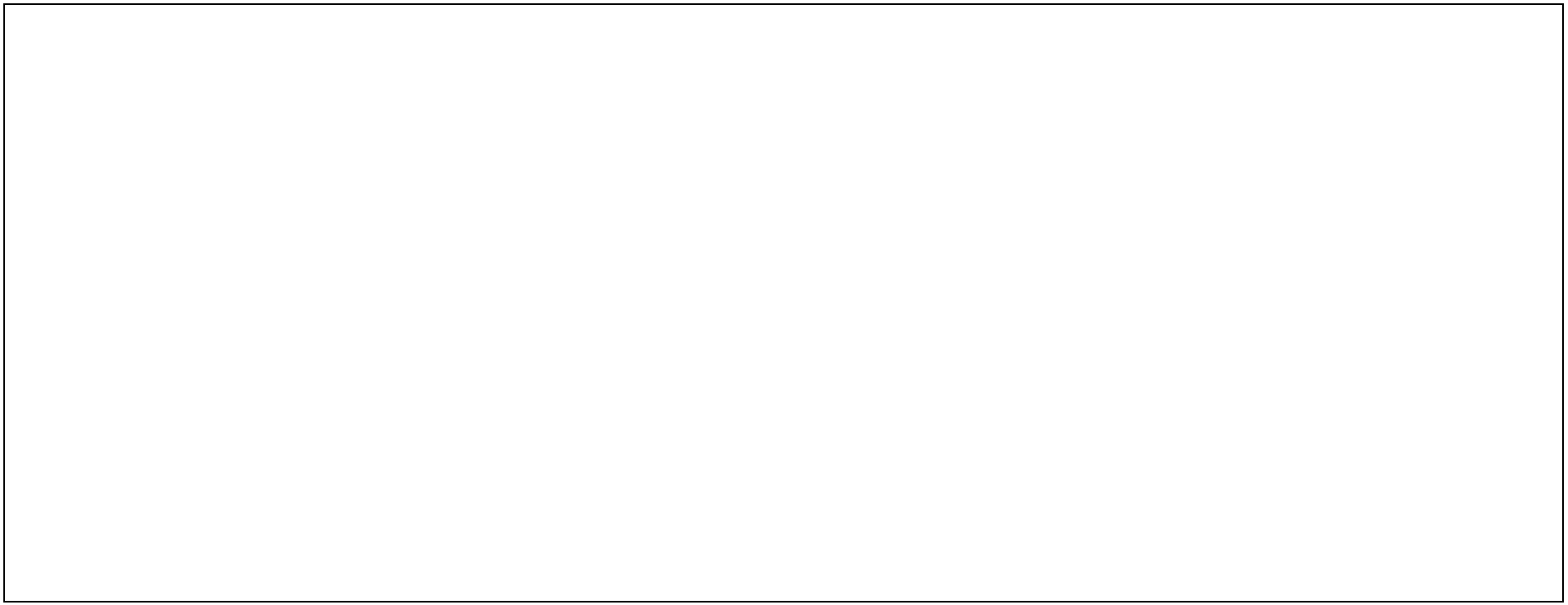
(*Calculated on a passenger-km basis*)



Hong Kong railways are among the world's most cost effective

Hong Kong railways have the proper incentives to effectively manage their costs. In fact, in a recent benchmarking survey conducted by KCRC, KCRC and MTRC consistently ranked among the most cost-efficient heavy rail systems in the survey - along with SMRT and a number of Japanese railways - even after taking into account differences in wage rates and loadings (a measure of passenger density).

Figure 8. Wage-adjusted cash operating cost per passenger-km vs. passenger loading



In addition to demonstrating the cost effectiveness of Hong Kong railways, the survey also highlighted the inverse relationship between cost effectiveness, operating subsidies and politicized fare setting processes.

Most of the railways surveyed can be categorized into two major groups. The railways circled on the upper left corner above the "expected cost" line are not cost effective relative to other railways surveyed even after taking into account wage and loading differences. These railways receive government subsidies (both operating and capital subsidies) and have minimal input in determining fares. The railways circled in the lower right hand corner on or below the "expected cost" line are the most cost effective among those surveyed. KCRC, MTRC, SMRT and a number of

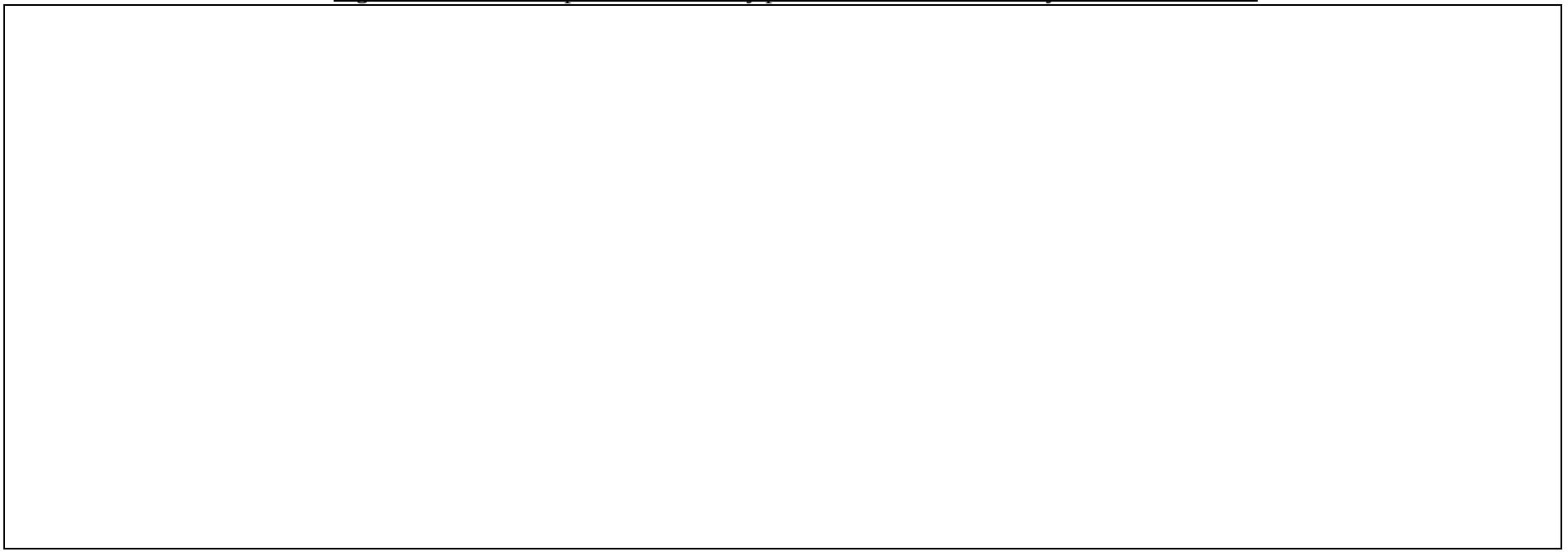
Japanese railways all fall within this cluster of cost effective railways. Among these railways, SMRT and the Japanese railways have moderate input in determining fares and receive capital subsidies, while KCRC and MTRC have considerable freedom to set fares but receive no subsidies.

Thus, it can be seen that those railways with politicized fare setting processes are much less cost effective and require more substantial government subsidies than those railways with non-politicized fare setting processes. Management can only be accountable for financial results when it is in control of both revenues and costs. This has proved to create a situation where there is a clear incentive to manage costs efficiently.

CONCLUSION

In principle, government involvement in the fare setting process should help to balance the needs of railways and broader public interests. However, evidence from the countries surveyed suggests that just the opposite is true. Systems with high levels of government involvement in the fare setting process have been the least successful whether in terms of low fares, commercial viability or reliance on subsidies.

Figure 9. Relationship between railway performance and the ability to determine fares



In Hong Kong, railway management has considerable autonomy to determine fares in a financially prudent manner that has benefited the railways, riders, government and the taxpayers. By any measure, the Hong Kong model has been extremely successful, especially when compared against railways in other parts of the world.

In Singapore, although there is a relatively high level of government involvement in the fare setting process, the country's unique political system minimizes the potential for outside interference. Thus far, the current fare setting process has succeeded in balancing public interests with the need for commercially viable railways. However, the Singapore model requires a significant up-front cost to taxpayers in the form of capital subsidies.

In the United States and Europe, government involvement in the fare setting process has led to heavily subsidized, inefficient railways that are now an unsustainable burden to taxpayers. A combination of budget constraints, political pressures, and - in most cases - insolvent railways is forcing governments to take drastic measures to stem financial crises and transform their railways into commercially viable entities.

But these reforms are by no means painless and in many cases require massive restructuring and significant workforce reductions. Countries such as Germany, Sweden, and the United Kingdom are rising to the challenge and are aggressively pushing for reforms. Meanwhile, countries such as France, Denmark, and the United States remain paralyzed by failed policies and politicized fare setting processes that up to this point have prevented meaningful reforms from taking hold.

Governments worldwide are beginning to embrace economic models similar to Hong Kong. As part of this trend, policy makers in many countries are developing fare setting processes in which fare increases are determined - in varying degrees - by market and competitive forces.

APPENDIX A. RAILWAYS SURVEYED

North America	**Europe**	**Asia**
MARTA (Atlanta)	DSB (Denmark)	KCRC (Hong Kong)
MBTA (Boston)	SNCF (France)	MTRC (Hong Kong)
METRA (Chicago)	Deutsche Bahn (Germany)	SMRT (Singapore)
RTA/CTA (Chicago)	NS (Holland)	Hankyu (Japan)
LACMTA (Los Angeles)	SJ (Sweden)	Hanshin (Japan)
MARC (Maryland MTA)	British Rail (United Kingdom)	JR Group (Japan)
MUCTC (Montreal)		Keihan (Japan)
NYCTA (New York)		Keikyu (Japan)
Metro North (New York)		Keio (Japan)
LIRR (New York)		Keisei (Japan)
BART (San Francisco)		Kinki Nippon (Japan)
WMATA (Washington, D.C.)		Nagoya (Japan)
		Nankai (Japan)
		Nishi Nippon (Japan)
		Odakyu (Japan)
		Seibu (Japan)
		Sotetsu (Japan)
		Tobu (Japan)
		Tokyu (Japan)