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**THE ROLE OF GOVERNMENT IN EUROPEAN  
RAILWAY INVESTMENT AND FUNDING**

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*The views expressed in this paper are those of the author and do not necessarily represent the views of ECMT or those of its Member Countries*

**Ministry of Railways of the Peoples Republic of China  
China Railway Investment and Financing Reform Forum**

**The Role of Government in European Railway  
Investment and Funding**

*Stephen Perkins, European Conference of Ministers of Transport*

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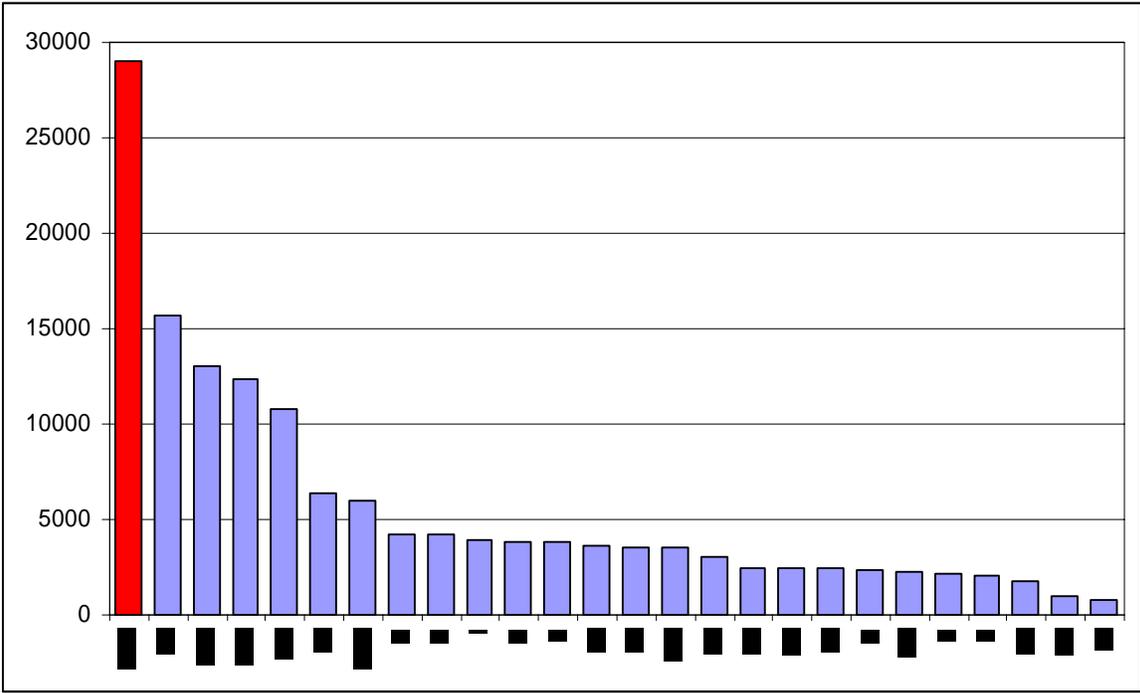
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**Introduction**

The China Railway Investment and Financing Forum was the first international conference to be hosted by the Ministry of Railways to examine the relevance of rail policy development in Europe, North America and Japan for reform in China. The Ministry organised this consultation at the launch of a new 10 year development plan that will expand the rail network 40% and seeks a major contribution from private capital.

The OECD and China have co-operated on economic policy development for a number of years and first brought the ECMT to Beijing in 2002 for a Seminar on Rail Reform hosted by the Development Research Centre of the State Council of the People’s Republic of China (proceedings published by the OECD under the title Railway Reform in China: Promoting Competition). The Forum marked a continuation of the co-operation with the world’s biggest railway carrier (nearly 2.5 billion tonne/passenger kilometres a year), most intensively used network and most rapidly expanding railway.

**Figure 1. Rail Traffic Intensity**  
 Passenger Kilometres plus Tonne Kilometres per Kilometre of the Network (thousands)



## **1. Policy Background**

### **1.1 Early Development and Regulation**

In most European countries, railways were developed in the 19<sup>th</sup> century by private capital<sup>1</sup>. Initially unregulated, by the end of the century governments had imposed regulations intended to limit monopoly power and provide for minimum levels of service as rail grew to become the dominant transport mode. In some countries company profits were limited to a set rate of return on assets – expanding the system was the only way to increase profits. In the second half of the century many governments regulated tariffs to provide cheap fares for certain categories of user. Compensation was not provided and these services were cross-subsidised by the railways. Nevertheless, substantial profits were maintained until the First World War.

The burden of repairing war damage and rising costs, accelerated by strikes, forced many local railways to withdraw from concessions and leave the State to take over services. The main railways began to see their profitability eroded from about 1925 onwards with the rapid growth in competition from road transport. The depression of the 1930s saw traffic on all modes collapse and governments stepped in to coordinate rail transport, and also to a degree road transport, as regulated monopolies. The private railways welcomed the protection that this afforded but obligations to provide services below cost then expanded. Governments thought that economic recovery would allow these services to be financed as before through cross-subsidy (referring to them as deficit services) but private operation ceased to be viable and most of the railways were brought under various forms of public ownership. In Britain, however, nationalization did not occur until 1948. The railways carried record volumes of traffic during the Second World War, but reconstruction from war damage took a decade. In 1955 railways were generally over-manned and over-dimensioned with old and inefficient rolling stock.

### **1.2 Nationalised Railways**

It should be noted that most of the nationalised companies were incorporated as publicly owned companies with a structure and organization mirroring that of private companies. Although governments owned all stock in the companies and were represented on their boards (with board members from Ministries of Transport and Finance), government regulatory functions were kept organizationally separate from the railway companies.

This is not to deny that government priorities drove railway company decisions in ways that would not have happened if they had been private companies, but very few Governments created Ministries of Railways that completely integrated the roles of railway operation and regulation. Italy maintained an organic relationship between management and government longest, with FS operating the railways as an administration reporting to the Ministry of Public Works from 1905 until 1985, when it was re-established as a separate “public entity with a commercial orientation” (a similar status to the French companies SNCF and RFF). Elsewhere, government railway departments in Ministries of Transport, Communications or Public Works maintained an expertise in rail issues that enabled them to negotiate with railways as equals over demands for public funding and the impact of funding and regulatory policy on rail services.

Of course in many of ECMT’s newer member countries in Eastern Europe Ministries did operate railways, but these Railway Ministries were abolished in the early 1990s and state-owned joint stock companies established to run the railways. Russia wound-up its Ministry of Railways in 2003 and incorporated the railways as the joint stock company RZD. Regulatory responsibilities reverted to the Ministry of Transport, the Antimonopoly Agency and the Ministry of Economic

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<sup>1</sup> The Prussian Railways being the major exception.

Development and Trade, though these authorities have some way to go to create transparent conditions for access to the national network and charges for the use of infrastructure by private train operators (see ECMT 2004).

### **1.3 Accumulation of Deficits**

The period of economic expansion to the early 1970s saw car ownership, air traffic, road investment and road freight traffic explode. Government policies towards the railways became divergent with some investing to electrify large parts of the network and others tending to view railways as in terminal decline, meriting only limited investment. All governments failed to allocate infrastructure costs efficiently, public funds were wastefully provided for investments in both rail and waterways on competing routes and the use of almost all transport infrastructure was charged far below cost. Cheap transport was often seen as an essential motor of economic growth. The costs covered by revenue shrank, especially in bulk rail freight and passenger transport. The response of government was to increase public contributions, mainly through capital investments and making annual transfers to railway budgets to partially cover losses.

The recessions triggered by the oil shocks in the 1970s ended the ability of governments to increase public contributions to railways. This forced government and management to focus on reducing costs and identifying separate budgets for each railway activity. Reform, however, did not advance quickly enough. Though many governments were forced to cut back rail networks they attempted to preserve an important degree of universal service in the interests of social and regional cohesion. The cost of supporting these services continued to be large and in most cases was not fully financed by government. Politicians naturally lobby to preserve services and establish new stations and new services for their constituencies but are less inclined to ensure that budget appropriations cover the resulting costs. Soft budget constraints led to accumulating deficits that grew to very large and unsustainable proportions – around 2% of GDP in half of the EU countries in the early 1990s, including Germany (1.8%) and France (2.6%) and as much 5% in Italy.

Spiraling deficits coupled with a concern that the freight market in particular was in serious decline led the European Commission to intervene with legislation in 1991 through Directive 91/440/EEC. Perhaps the most fundamental precept in this Directive was that Governments allow the management of railways the independence to behave commercially.

**Table 1. Historical Debts**

	<b>1994 Railway debts (million ECU)</b>	<b>1994 Rail debt in % GDP</b>
Austria	2892	1.7
Belgium	3539	1.8
Denmark	2782	2.3
Finland	166	0.2
France	28731	2.6
Germany*	5795	0.3
Greece	937	1.1
Ireland	323	0.7
Italy	42067	4.9
Luxembourg	168	1.4
Netherlands	2807	1.0
Portugal	1529	2.1
Spain	8140	2.0
Sweden	1958	1.2
UK	10709	1.2
<b>TOTAL</b>	<b>112543</b>	
Approximate 2005 prices	€ 150 billion	

Notes : \* After recapitalisation; Debt in 1993 was 33 788 MECU.

Source: Mercer Management Consulting reported in ECMT 1998.

A number of governments had already taken far reaching measures to reform their railways and the European legislation was of course dependent on support from a majority of governments, but reform has moved at different speeds and in somewhat different directions. It is important to recognize, therefore, that policies and current policy issues differ quite markedly between European countries. This reflects in part differences in the ideology of recent national governments and relations between government, the labour force and unions in each country, but it also reflects the historical legacy of earlier regulatory policies.

Nevertheless the model for railway reform formulated in the 1991 Directive lays the basis for the Government's role and function in investment and financing for all of today's major European railways and most European Governments are following similar approaches to getting better value for money from their contributions to the railways. Competition is gradually developing. EU States are obliged to provide track access rights for freight train operators to compete with the national railway. A third of the enlarged EU's States have introduced competitive tendering of contracts to provide passenger train services that receive support from public budgets. Most have decentralized at least some of the public funding for passenger services to regional or local government or given them powers to determine how the money is spent. This is designed to match demands from local politicians more closely to the resources available and encourage local government to find the most cost effective ways of achieving their mobility and development goals. It also tends to increase transparency as local governments seek to ensure their expenditure supports only the intended targets and is not absorbed in other parts of the railway.

## 2. European Union Regulations

**Directive 91/440/EEC** covered three key areas:

- Restructuring deficits to put railway companies on a viable financial footing and maintain financial sustainability, specifying the kinds of public budget contributions permitted for reducing the indebtedness of railways;
- Unbundling of services – starting with separation of accounts for infrastructure and train operations but subsequently extended by Directive **2001/12/EC** to separate freight from passenger accounts;
- Introduction of track access rights to enable competition for freight services – initially in an extremely limited way but subsequently extended (by Directives **2001/12/EC** and **2004/51/EC**) to cover all freight services both international and domestic. European Commission proposals for introducing track access rights for passenger train operators are now under examination.

Two further regulations on the financing of rail operations concern public service obligations. PSOs are defined as a government requirement for a train operator to provide services (often with regulated tariffs) that would not be operated if the train company were acting solely in its own commercial interest. Regulation **69/1191/EEC** defines the public budget contributions permitted by EU law for the support of rail passenger services and requires compensation for public service obligations to be adequate. In 1991, in conjunction with Directive 91/440, the rules were complemented with regulation **91/193/EEC**. This requires PSO compensation to be provided for by a contract (rather than budget transfers to regularize accounts at the end of the financial year) and it imposed accounting separation between PSO operations and commercial services. In July 2005, the Commission proposed a long awaited amendment to regulation 69/1191/EEC that if adopted will make competitive tendering compulsory for the award of PSO contracts for suburban train services in the interests of efficiency. As an alternative, Governments will be allowed to contract these services to a dedicated local operator that will not be allowed to compete for contracts elsewhere. For the time being inter-regional services supported by PSOs are exempt from this proposed competition for the market.

State aid to infrastructure is permitted under a specific regime, subject to EU regulation **70/1107/EEC** on the granting of aids for transport by rail, road and inland waterway. This allows various types of public budget contributions to support operating costs for the management and maintenance of infrastructure and for capital grants for investing in infrastructure.

Aid to train operating companies requires approval from the European Commission's competition authorities. Such support has been approved in recent years on the basis of once only payments to support restructuring in the transition to a competitive market environment. This was the case for example in March 2005 when the French government obtained approval to contribute € 800 million to SNCF to restructure its freight business over a three year period.

The financial discipline formalized in EU Directives and regulations has been reasonably successful in putting European train operating companies on a more financially sustainable path after the removal from their accounts of the historic debts accumulated by recurring deficits. The two biggest railways, SNCF and DB both reported small operating profits this summer for the first time, preceded by several years of increasingly small losses. Progress has been documented by three reports to the European Commission by Mercer Management Consultants and NERA (National Economic Research Associates – part of the same group). The latest report, from NERA in 2004, analyses railway accounts and public budget transfers to railways for 2001. The public budget contributions discussed below are taken from that report.

## 2.1 Reducing Debt

Between 1994 and 1997 almost all the EU Member States took action to reduce the indebtedness of their railways in line with Directive 91/440/EC (the two exceptions were Ireland and Greece which were subject to specific exemptions from the Directive). Table 2 summarises the actions taken. The debts arising from accumulated deficits were largely taken off the books of the railways through financial restructuring.

Different strategies have been adopted for managing the debt removed from the train operating companies in each of the major European economies. In the United Kingdom the deficit was offset with the proceeds of privatisation in the mid 1990s (see Figure 14). Following unification, Germany established a transitional administration for the railways from the East and West that retained ECU 35 billion of debt when DB was incorporated in 1994. By 2000 when BEV was wound up a total debt of €68 billion was transferred directly to the public budget. In 1997, France transferred three quarters (€30 billion) of its historic rail debts to the company established to manage rail infrastructure, RFF, in 1997. This maintains separate accounts for new commercial debt<sup>2</sup>, and for the historic debts, which the government intended to reduce through a series of budget transfers that were suspended in 2003. SNCF retained a quarter of the historic debt (€7.6 billion), part of which is being paid-off by SNCF but most of which is held in a special debt account and does not appear in the company's accounts. In Spain, payments for RENFE's historic debts were specified in a contract with government and paid on an ongoing basis, recorded as income until 2005 when the company was split into an infrastructure manager, ADIF and a train operating company RENFE-Operations. RENFE-Operations retained €1.38 billion of debt, with the bulk of historical debt, €5.46 billion being transferred to the public budget.

**Table 2. Summary of Actions taken to reduce indebtedness**

Country	Year of action to reduce indebtedness	Action to reduce indebtedness
AT	1996	Creation of SCHIG to fund infrastructure investment and for major projects HL (high-speed lines) and BEG (Brenner line)
BE	1997	Creation of Financière TGV, to fund high-speed, injected €2bn into SNCB
CH	1999	SBB recapitalisation of €12bn – government take over debt and pension fund deficits and convert loans to interest free
DE	1994 and 1999	1994 – BEV takes over €68 billion debt + civil service pay. 1999 – BEV abolished, debt taken over by the State
DK	1997	Creation of infrastructure company, Banestyrelsen
ES	1996 and 2005	Creation of GIF to finance high-speed lines ADIF created to manage infrastructure, taking €0.41bn debt, RENFE-Operations taking €1.38bn debt, and €5.46bn debt transferred to the State
FI	1996	Split of VR & RHK, combined with a substantial revaluation of assets. Debt equity mix was restructured
FR	1997	RFF established, responsible for infrastructure and debt financing 2/3 of SNCF debt transferred to RFF
GB	1994-7 and 2001	Privatisation designed to put railway sector on sound commercial financial basis, with debt set by market 2001 – Railtrack in administration, replaced by Network Rail

<sup>2</sup> RFF is able to borrow commercial debt as it enjoys an effective state guarantee. Thanks to this it is rated a AAA risk. SNCF enjoys the same status.

GR	-	None
IE	-	None
IT	1996/1997	Part of FS debt transferred to the State Fund created for restructuring operations
LU	1997	State took over CFL debt
NL	1995	Creation of RIB (infrastructure), fully funded from State budget NS becomes full commercial entity
NO	1996	Separation of Jernbaneverket (infrastructure company) from NSB
PT	1997	Separation of REFER (infrastructure company) from CP
SE	1995	Banverket assets re-valued substantially

Source: NERA 2004, updated.

### 3. Public Budget Contributions to European Railways

All European Governments finance railways to provide services beyond those that a stand-alone commercial railway would offer, in terms of the geographic coverage of the network, the location of stations and the frequency and speed of services. They do this on the theoretical economic grounds that the long asset lives, lumpy investment patterns and large sunk costs that characterize rail prevent purely private provision of an optimally dimensioned rail system.

There are a number of economic and political motivations for the support provided:

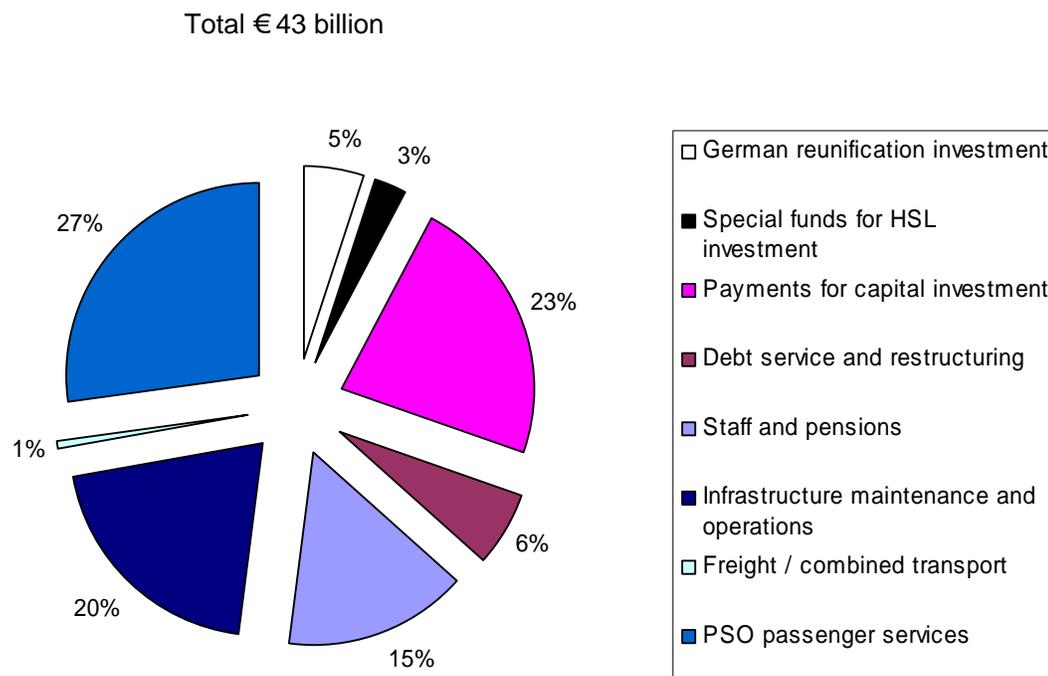
- Economic development – reducing the costs of freight transport for industry and passenger travel for business, improving access to product markets and widening labour markets through commuter services;
- Regional cohesion – promoting development of areas suffering industrial decline or rural desertification through high quality transport services at subsidized prices (though this sometimes accelerates decline of de-industrialising areas rather than helping them regenerate);
- Social cohesion – providing low cost passenger transport to low income groups;
- Managing downsizing of the network or commercialization of the railway – taking over responsibility for some liabilities such as the costs of redundant labour or pension liabilities;
- Environmental protection – in some circumstances governments can encourage road freight to switch to rail with net environmental gains;
- Historically military uses of the system in times of war were also a major consideration but play little or no part in contemporary policies in Europe.

Lobbying tends to result in public support growing to finance activities beyond these basic socio-economic objectives, for example support of national rolling stock manufacturing or signaling and communications industries or support for holiday passenger travel regardless of income. Political pressures (voters are rail passengers) frequently result in investments attracting State finance when they do not show large returns under socio-economic cost-benefit analysis and do not pass the usual transport sector tests of returns on investment. Rail lines developed in previous centuries continue to be supported when usage falls to levels that mean bus or even taxi services could serve passenger needs at much lower cost to the government because line closures are highly visible and local politicians fear the possible electoral consequences. Some European governments continue to use railways, and other State-owned industries, to hire labour beyond their requirements in an attempt to reduce national unemployment rates.

The main objectives of the policies adopted at the level of the European Union has been to make public contributions more transparent and prevent money provided for one purpose being used to support other railway activities. Both are essential in order to manage government contributions effectively and ensure value for money. The second is also essential to prevent subsidies justified by PSOs being diverted within the railway to support freight operations with the potential to distort the competition provided for by EU access rights to the disadvantage of private railway companies. More generally, the unbundling of services and accounting separation introduced by governments ahead of, or in response to the EU Directives, has put a much greater emphasis on financial sustainability. With separate accounts for each activity, each part of the business works towards equilibrium or profit, more focused attention is given to asset depreciation, renewal and maintenance and management can demonstrate clearly to Governments how costs affect their viability.

It should be noted that though the EU laws require the publishing of accounts by activity for each of the railways, and require the production of balance sheets and income statements, they do not provide detailed guidance on the presentation of accounts, nor do they set accounting standards. The laws do imply line of business accounts should be produced to International Accounting Standards if the published accounts are to be fit for the purpose of regulation. Without explicit guidelines, however, there are significant variations in the way each railway presents its accounts. Similarly there are differences in the way national governments report public budget contributions to the European Commission. This leads to differences and incompatibilities between data sources. For consistency, the figures below rely largely on the 2004 NERA report.

**Figure 2. Distribution of Total Public Contributions to EU15 Railways in 2001**



Notes: 1) Excludes payments for reducing historic debt;

2) Original data supplemented with figures for German contributions to staff and pension costs; 3) Original data supplemented with figures for public contributions through special funds for high speed lines (Channel Tunnel Rail Link and Eurostar in UK, TGV Financiere in Belgium, HSL Zuid in the Netherlands; data for GIF in Spain not available).

Source: NERA.

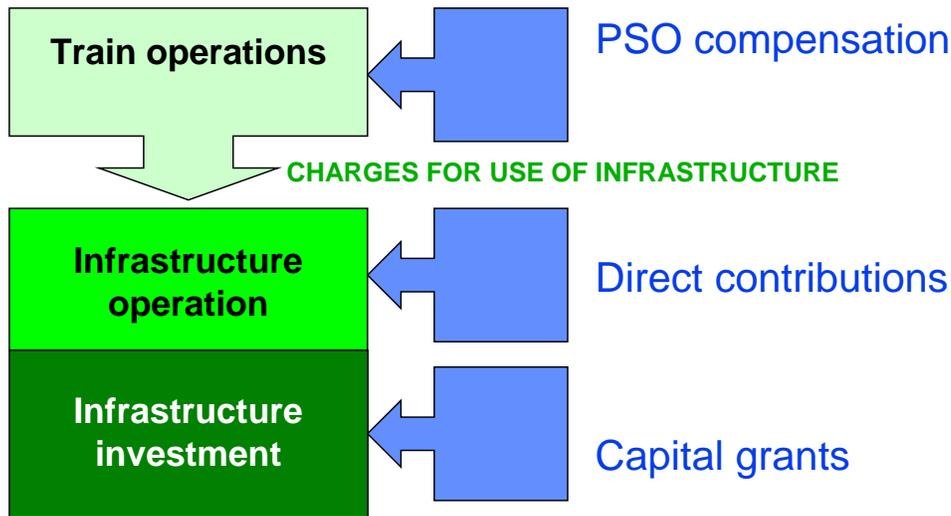
As Figure 2 shows, public contributions to railways in Europe fall into three main categories:

1. payments to support passenger train operations in compensation for public service obligations, 27%;
2. payments for capital investments in infrastructure, 26% including payments through special funds for high speed lines;
3. payments to support the operating and maintenance costs of rail infrastructure, 20%.

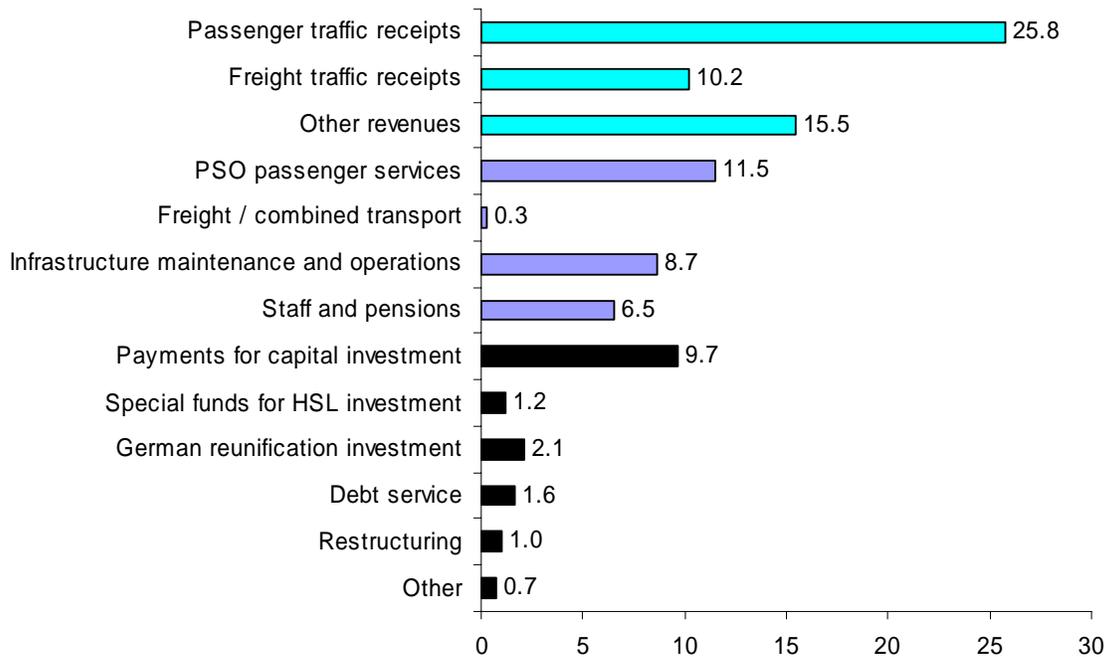
The German reunification payments recorded in the figure were mainly for infrastructure maintenance and renewals. It should be noted that renewals are sometimes classified as capital investment and sometimes as maintenance, depending on the railway, so the split in expenditure reported here is only approximate.

The remaining 27% of public funding goes towards debt service, restructuring and paying excess staff and pension costs. These excess staff costs are the largest part of this final category (see figure 4 for a breakdown). Only 1% of public contributions are used to support freight services.

**Figure 3. Main Incidence of Public Contributions**



**Figure 4. Operating Income, Total Public Contributions to Income and Public Contributions to Balance Sheets for EU15 Railways in 2001**  
(€ billion)



Notes: 1) Excludes payments for reducing historic debt; 2) Original data supplemented with figures for German contributions to staff and pension costs; 3) Original data supplemented with figures for public contributions through special funds for high speed lines (Channel Tunnel Rail Link and Eurostar in UK, TGV Financiere in Belgium, HSL Zuid in the Netherlands. data for GIF in Spain not available).

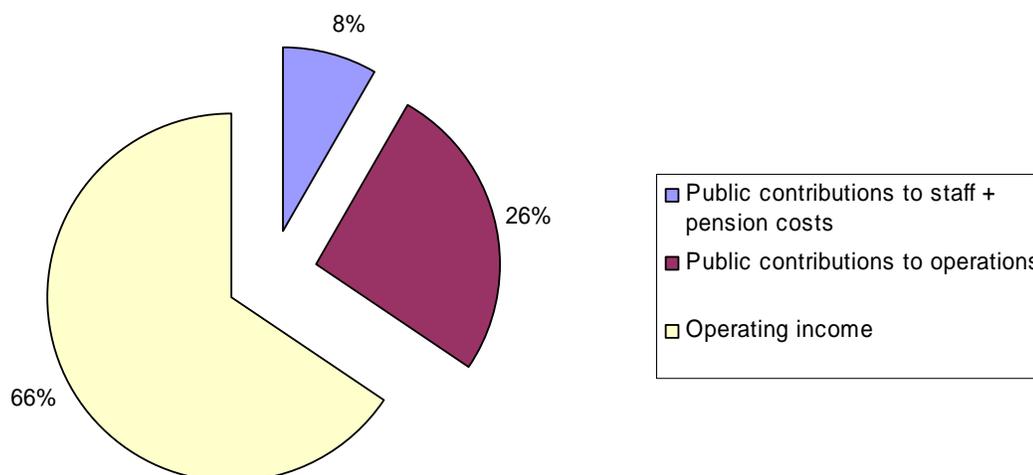
Source: NERA, modified.

Figure 4 lists receipts from operations (ticket sales, freight transport payments and other income, from property rents for example) next to the various sources of public contributions<sup>3</sup>. For reference NERA reports the total capital stock of the EU15 railways in 2001 to be € 82 billion, almost all of which is held by Government except in the United Kingdom. Total commercial debt for these railways (excluding the historical debts taken over by the States) was €123 billion.

### 3.1 Contribution to operating income

Figure 5 gives an indication of the balance between public contributions to operations and commercial income for the railways as a whole. Public contributions to train operations and to infrastructure operations and management are both included here. One third of operating income is accounted for by public contributions.

**Figure 5. Public Contributions to Operating Income in 2001**



Note: Original data supplemented with figures for German contributions to staff and pension costs.  
Source: NERA.

### 3.2 Staff and Pension Obligations

Public contributions to staff salary and pension obligations arise because in some countries railway workers were employed until recently as civil servants. As such, railway employees enjoyed more generous pension allowances and earlier retirement than average industry workers. In some railways retirement dates were brought forward in the past in place of pay increases, in order to defer demands on public budgets. Public budget contributions are permitted to cover these excess costs by EU regulation **69/1192/EEC** on the “normalization of the

<sup>3</sup> Assigning public contributions to a balance sheet for the railways is not attempted here as it is complicated by national differences in the incidence of public contributions recorded in the balance for each railway.

accounts of railway undertakings”. Germany and France account for the bulk of the expenditure reported here. France contributed €2.131 billion (year 2000 data). In Germany these payments are not reported on DB’s financial statements as they were made to BEV, the temporary administration establish to manage unification of the East and West German railways. Payments to BEV in 2001 were €3.8. The administration has since been abolished and the liability adsorbed directly into the State budget.

### 3.3 Public Operating Contributions

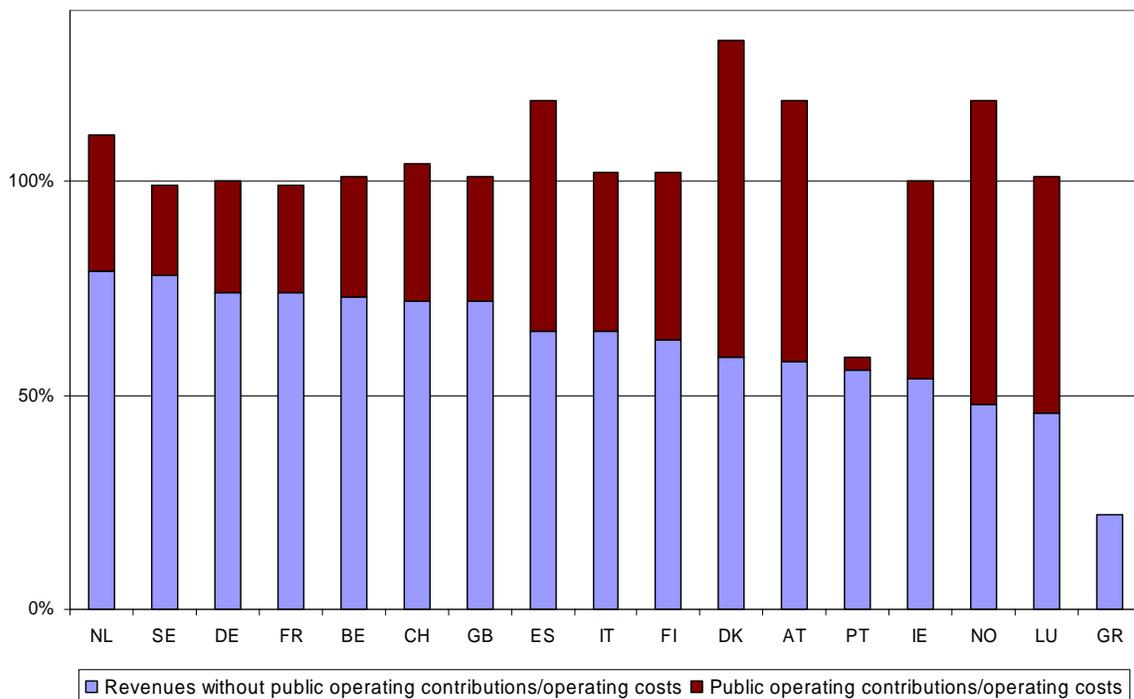
Public operating contributions take three forms:

- Compensation for public service obligations;
- Payments for freight services;
- Payments for infrastructure management and maintenance.

Public contributions to staff and pension costs as described in the previous section are not generally classified as operating contributions, even though they have an identical impact, but are instead treated as an aspect of historical debt relief.

The contributions of revenues and subsidies to operating costs are summarized in Figure 6. They show great variation between countries although in most cases the combination of revenues and public contributions roughly balance operating costs. The main exceptions are Portugal and Greece which show large losses (in the case of Greece compensated for by annual injections of equity). Railways where combined income significantly exceeds 100% show a profit. For Denmark, with the largest profit, this results from an assessment of the need for public contributions to passenger train operations that turned out to be higher than needed, and the contributions have since been reduced.

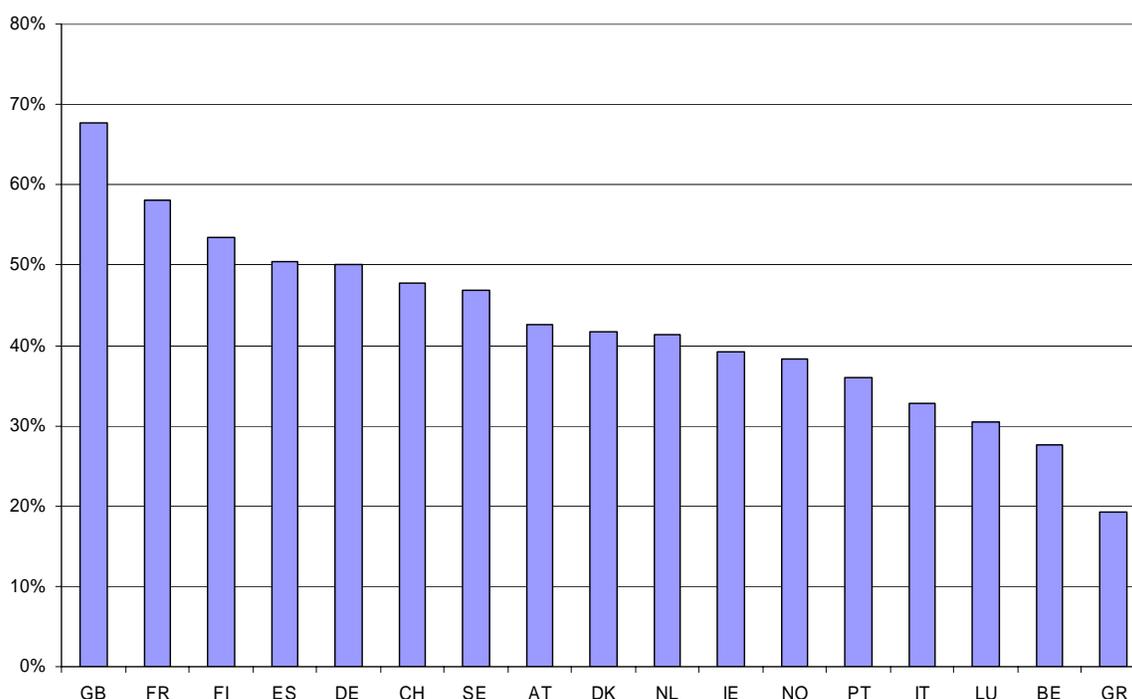
**Figure 6. Revenues and public contributions compared to operating costs.**



Source: NERA.

The ratio of revenues (excluding public operating contributions) to operating costs is often termed the viability ratio for the railways. This is, however, somewhat misleading as these figures for revenues include the category “other revenues” (identified above in Figure 4). The items included under this heading vary greatly from railway to railway and in some cases include significant public contributions and items that relate more to investment than operations, such as amortised capital grants and accounting revenues used to off-set operating costs incurred during the construction of assets. Figure 7 gives a better indication of viability, (i.e. how close a railway is to break-even before receipt of public contributions), by excluding “other revenues” from the calculations.

**Figure 7. Real operating revenues to operating cost ratios.**



Source: NERA.

### 3.4 PSOs

Almost all European Governments make payments for the provision of passenger services under contract with central, regional or local government. Train operators often classify these contract payments as traffic revenue but the figures reported here separate government payments from passenger traffic receipts through ticket sales. In principle, EU rules mean that railways should receive full compensation from Government for running services that do not break even. In practice many countries have yet to fully achieve this. Current debate in France is instructive.

France began to decentralize PSO funding in 1997, with experiments in two regions. From 2002 regional authorities were made responsible for all local passenger rail services. They receive funding from the State to contract for these services on the basis of periodic assessments of their needs. They also receive money from the State budget to contribute to investments in new rolling stock for these services. Providing two financial streams has complicated annual arguments over funding between SNCF (that so far provides all local passenger services), the regional authorities

and the central government. The regional authorities object to increases in costs of services where they have paid for new rolling stock. Nevertheless, deficits arising from these local services have been brought under control and quality of service has improved with the purchase of new rolling stock.

However, on inter-regional passenger services SNCF continues to accumulate deficits. Financing these in the same way as local services faces two obstacles: attributing costs between regions is not straightforward; and regional administrations see these services as a central government responsibility, part of overall national policy towards regional development. Following two years of negotiations that failed to find agreement between the three parties, SNCF proposed small reductions in service on some of its 25 inter-regional lines in August 2005, to take effect next year. These lines accumulate losses of €124 million a year, with 22 losing money and 7 of them accounting for 75% of the deficit. SNCF's proposals involved reducing the number of trains per day on just three of the lines but provoked vigorous opposition from the leaders of the regions (all happen to be socialist, opposition party members) as well as socialist and communist members of parliament. The arguments put forward in objection are somewhat surprising in the context of overall European railway reform, but reveal why reform moves so slowly in many countries<sup>4</sup>:

- *Why should a public railway prevent people getting to work, students getting to school and families getting together in regions already in economic difficulty just to balance the books?*
- *SNCF is now interested only in making money in order to compete with other railways.*

SNCF states simply that it should not accumulate deficits because it has a duty to use the money it receives from passengers and government efficiently. Overall, the politicians currently in charge of the regions believe they receive far too little money to cover these services and estimate that an additional €2 billion is required to refurbish the ageing rolling-stock used on the inter-regional lines.

At the other end of the spectrum, Great Britain's passenger train operators are all privately owned and only run services that do not show a commercial return where these are funded by regional Passenger Transport Authorities and central government. Negotiation over the services to be funded takes the form of periodic franchising agreements with government for the exclusive right to run passenger services over an area of the national rail network. Competitive tenders are organized for the franchises on average every seven years. The profile of the subsidies to be paid to the operator for the franchises as a whole, or in a few cases the share of profits to be paid to government, are a major part of the bids submitted. But bidders also make proposals for investments to improve the subsidized services in order to win tenders. The Government determines award of the franchises on the basis of value for money and quality of service proposed.

### **3.5 Freight Payments**

Support for freight train operations is a very small part of overall public contributions to railways. In some countries, grants for investments or payments per tonne kilometer are available where a railway can show new business has been attracted that would otherwise be carried on the road. This may be for rail only, or combined road-rail transport operations, and the support is provided in the interests of protecting the environment.

### **3.6 Infrastructure Maintenance and Operations**

A large share of public contributions to railways is channeled through support for infrastructure maintenance and operations. This may partly reflect the re-establishment of the infrastructure

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<sup>4</sup> Quotes from interviews reported in the newspaper Le Monde on 7 August 2005.

side of the rail business as public agencies or companies intended to remain in 100% public ownership in most of the countries of Europe. Only Great Britain's national infrastructure network is privately owned. The split between support for infrastructure and train operations varies markedly between countries as does the way support for infrastructure management is provided. At one extreme Belgium provides support through a contract in respect of public service obligations. At the other Great Britain reorganized its industry with the intention that no public support would be provided as infrastructure was to be fully financed through charges for the using it and through commercial borrowing. As a result of the crisis in infrastructure maintenance triggered by the Hatfield accident in 2000, however, the government currently makes large direct payments to Network Rail. It should also be noted, again, that the boundaries between expenditures on maintenance, renewals and investment are not always clear and practice differ from railway to railway and changes over time.

### **3.7 Charges for the Use of Rail Infrastructure**

The three-way split between public contributions to train operations, infrastructure management/maintenance and capital investment in infrastructure is strongly influenced by the way Governments regulate the charges that infrastructure managers levy on train operations. To achieve financial stability, infrastructure managers must clearly charge at least the marginal costs that train operations impose on them. This implies that charges should cover infrastructure management costs and the maintenance costs of wear and tear, including provision for renewal of the existing infrastructure (i.e. maintaining its current level of quality).

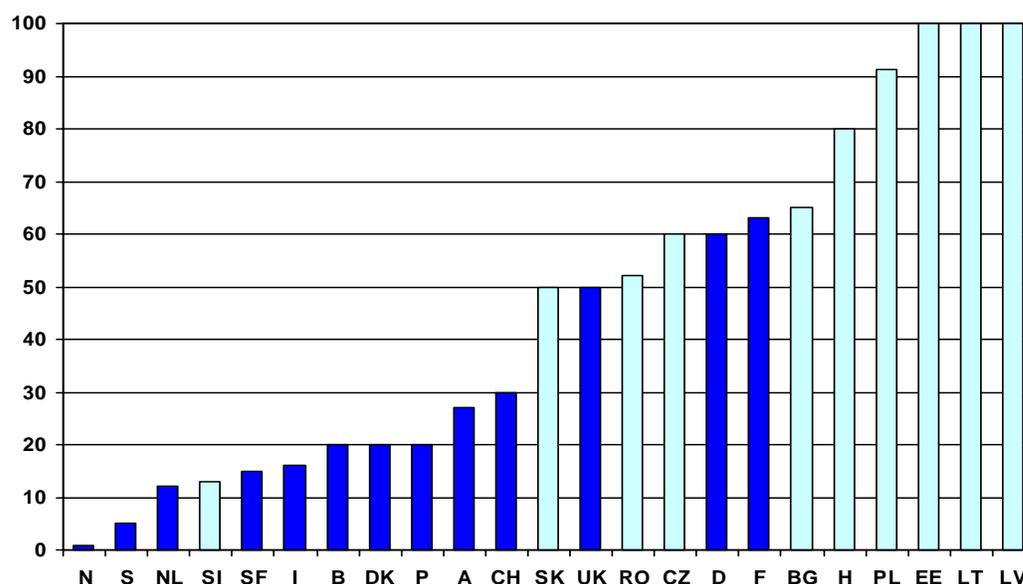
Directive 2001/14/EC lays down the framework for setting charges and takes marginal costs as the starting point. It does, however, provide for this principle to be disregarded in cases where charges for the use of roads and the infrastructure of other modes are below marginal cost. In such cases Governments are allowed to subsidise infrastructure so that charges are reduced to levels that balance inter-modal competition. Governments are also allowed by the Directive to mark up charges above marginal levels to increase cost recovery, on the condition that the market can bear it (of course passenger PSO compensation can increase the capacity of the passenger "markets" to bear such mark ups). Governments thus enjoy a large degree of freedom in determining the level of infrastructure charges, and whether they direct more support to infrastructure and less to train operations, or vice-versa.

Figure 8 shows the proportion of total infrastructure costs covered by infrastructure charges across Europe. Cost recovery ranges from near zero in Norway to 100% in the Baltic States. This reflects differences in policy and differences in markets. The freight dominated railways of the Baltic States make a profit without public budget contributions. The other railways are passenger dominated and require public contributions to break even.

The major economies in Western Europe have set charges so that rail users contribute 50 to 65% of total infrastructure costs. In Norway and Sweden infrastructure charges are set at very low rates as a deliberate policy to balance the costs of using roads, which are below efficient levels. The Government provides budget transfers to cover total infrastructure costs, but in Sweden budgeted amounts are not always paid in full, leading inevitably to a back log in maintenance. The other Western European Railways fall between these two extremes, with charges collecting roughly the contribution that would result if they were set at the marginal cost of infrastructure use (thought typically to be roughly 20% of total costs). In Sweden, where in theory charges are set on the basis of marginal costs, the calculations exclude the costs of renewals. This explains why in practice charges appear to be below expected marginal rates. Some of the other countries also base their charges on calculations of marginal costs (for example Austria, Finland and the United Kingdom) but add mark-ups for some types of train operations to contribute more to overall costs.

The railways in Central and Eastern Europe generally apply charges towards the high end of the spectrum. Policy in many of these countries continues to require high levels of PSO passenger services but compensation for them from public budgets tends to be inadequate as government budgets are stretched. High freight infrastructure charges are used to make up for a shortfall in revenues from passenger services, although this increasingly threatens the commercial viability of freight operations. Investment from international finance institutions has been forthcoming to renew infrastructure on the busiest routes in order to bring down operating and maintenance costs, but unless governments can find more resources to support PSO passenger services they will eventually be forced to reduce the size of their networks.

**Figure 8. Percentage of Total Cost Covered by Infrastructure Charges**



Cost recovery = Revenues from charges as a proportion of total expenditure on the network on operations, maintenance, renewals, interest and depreciation.

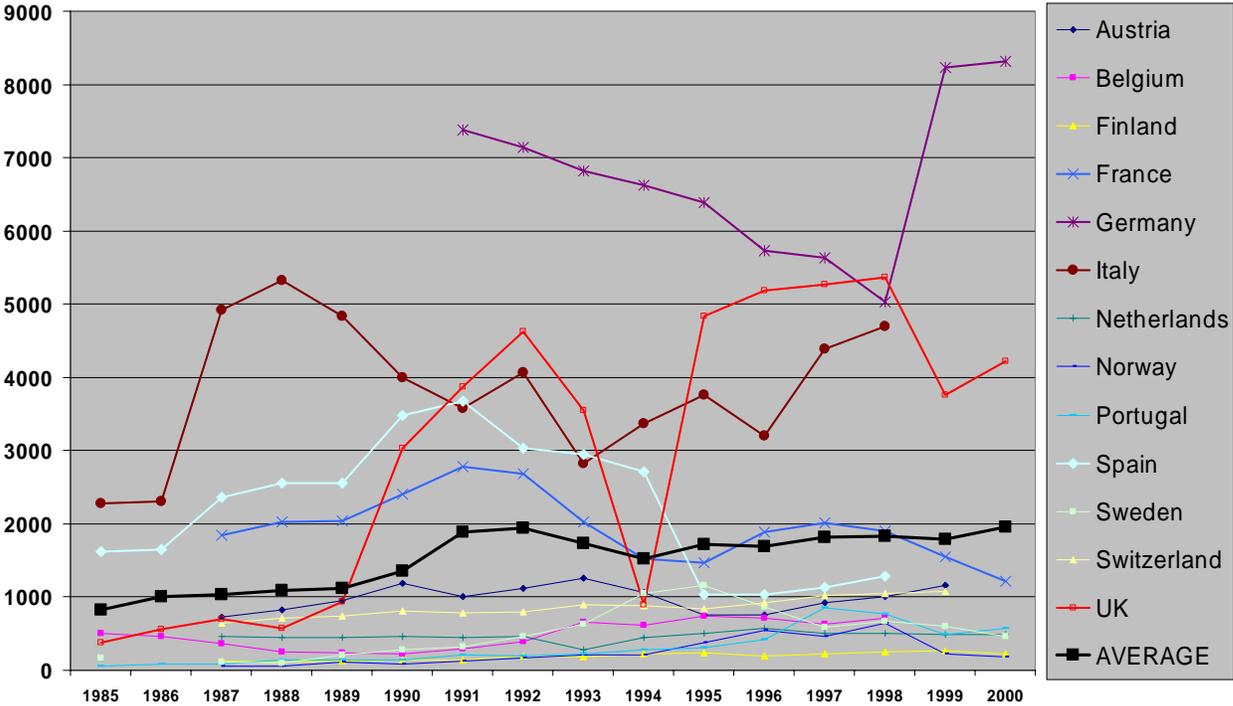
Source: ECMT, Railway Reform and Charges for the Use of Infrastructure, OECD Paris 2005.

### 3.8 Payments for Capital Investment

Capital grants are provided from public budgets to finance infrastructure investment. Most of the support is provided to the companies managing the national infrastructure networks but some is channelled through companies established solely to finance specific lines, usually high speed lines, such as the Channel Tunnel Rail Link in the UK, HSL Zuid in the Netherlands and Financière TGV in Belgium (see figure 2). Refinancing of some of these companies has led to complicated financial arrangements that increase levels of public support. For example in order to reduce risk in financing the high speed Channel Tunnel Rail Link and thereby attract cheaper loans, the British government guarantees an income to the company by paying the costs for passenger train operator Eurostar for using the line at a guaranteed minimum level of frequency (see section on CTRL below). Some “special purpose vehicles” (companies) have also been created to fund rail investments that do not appear in railway or public budget accounts. The figures reported above capture some but not all of the public contributions to the various kinds of dedicated infrastructure financing company.

Figure 9 shows trends in total capital investment in railways, including public contributions. These are estimates based on national government submissions to the ECMT. Whilst the figures show large variations within countries from year to year, average expenditure was fairly constant through the 1990s. Total expenditure in the countries covered averaged approximately €30 billion (2001 Euros) in the years between 1991 and 1998 (for which we have data for all 13 countries). Whilst the geographic coverage is not identical to the EU15 countries covered in the NERA report, their combined size in terms of GDP and rail networks is pretty much equivalent. This would suggest, very approximately, that out of total spending on capital investment in railways, roughly one third is covered by public contributions.

**Figure 9. Total capital investment in rail infrastructure 1985-2000**  
(Million 1995 international dollars)



Source: ECMT data base.

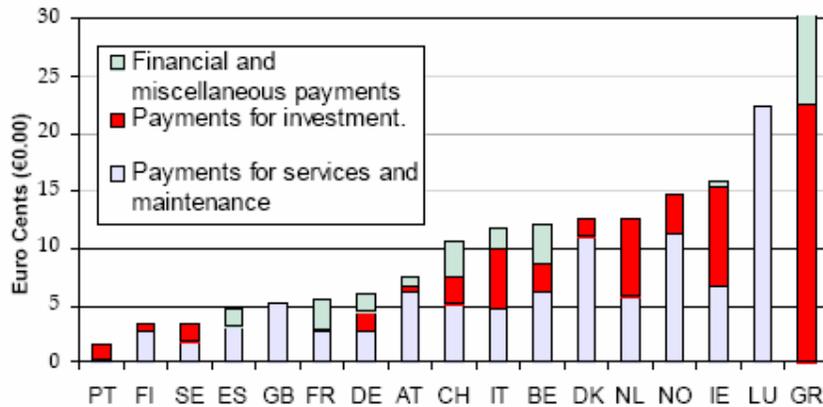
For countries where infrastructure charges are set at or below marginal costs, capital grants need to be large in order to finance sufficient investments. This is the case for example in the Netherlands and Italy (see Figure 10). Where infrastructure charges are high, capital grants tend to be small (for example Great Britain and France).

**4. Public Contributions per Unit of Output in Each of Europe’s Railways**

Figure 10 gives a snap-shot of public contributions per traffic unit carried by the railways of the EU in 2001. Contributions average between €0.05 and €0.1 per pt-km. The performance of outlying countries on the graph can be explained by the small size of their networks in the case of Norway, Ireland, Luxembourg and Greece, a failure to reform railways in Greece, a collapse of

freight on the isolated Irish network and the very long distances and low density of population and industry in Norway. At the left hand side of the graph, government is not providing adequate compensation for public service obligations in Portugal and is directing available public resources into a major programme of investment to upgrade parts of the network. Finland has a freight dominated railway, and makes profits on the freight carried.

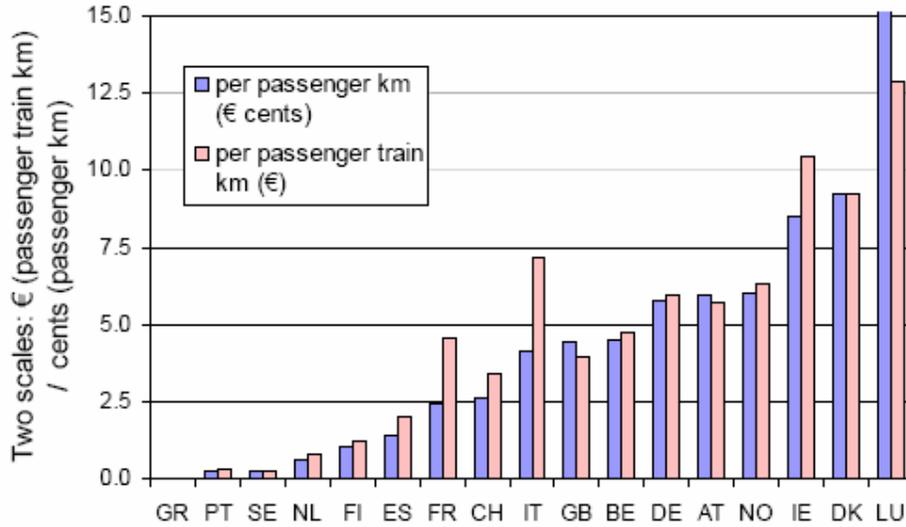
**Figure 10. Payments per traffic unit in 2001 (Euro cents per passenger and tonne kilometer)**



Source: NERA.

The differences in infrastructure charges noted in the previous sections also have a strong influence on the size of PSO compensation requirements for each railway – higher infrastructure charges imply larger PSO payments. Public support through PSO compensation is compared for each country in Figure 11. Greece records no contributions as it continues to support its railway primarily through retroactive annual payments to balance its budget through injections of equity. Portugal recorded the lowest public contributions. They are inadequate for the PSOs imposed on the railway and it records large losses. Sweden and the Netherlands follow as they have a policy of maintaining low infrastructure charges, although charges are now gradually increasing in the Netherlands. At the other end of the spectrum the Irish government viewed its contributions in 2001 as unsustainable and has begun restructuring its railways. Denmark found it was over-compensating for PSOs and DSB agreed to refund part of the payments received.

**Figure 11. PSO Payments per unit output (2001)**



Source: NERA.

## 5. Trends in Public Funding

Trends in public contributions to the EU railways between 1996 and 2001 are shown in Figure 12. Support for passenger services remained fairly flat over the period. This hides differences between Member States. Great Britain, Sweden and the Netherlands saw reduced contributions, partly as a result of the introduction of competitive tendering for passenger services. Italy and Denmark recorded large increases in support.

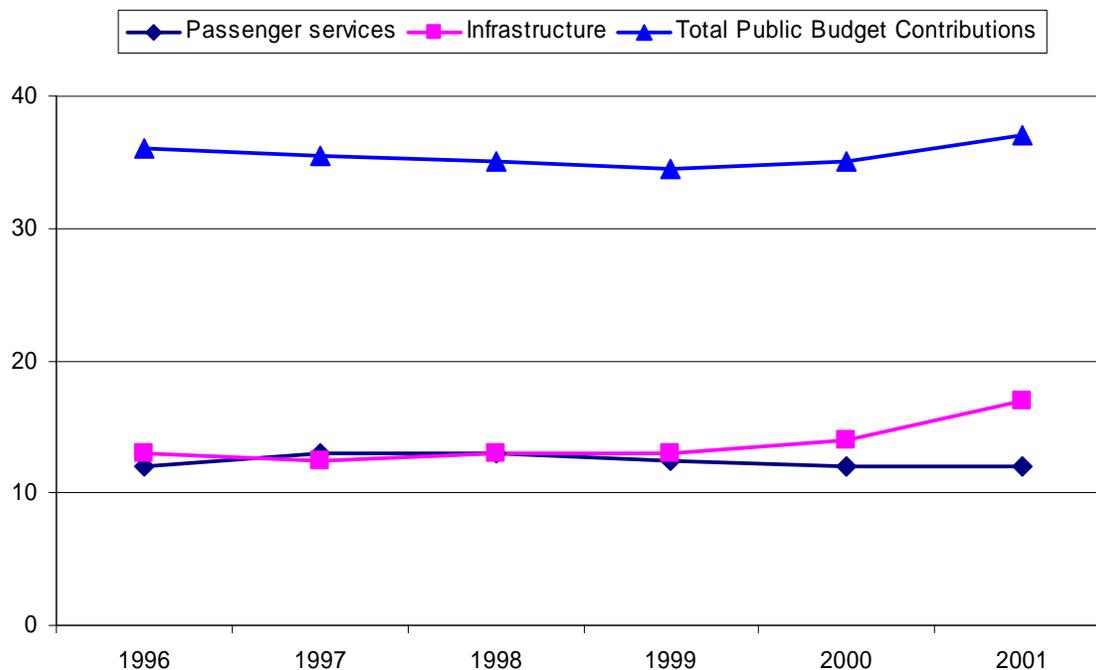
For the future one should see a tendency for PSO compensation payments to increase as accounting and organizational separation of the railways reveals that compensation has not always been sufficient in the past. This has been the trend in France since 2001. At the same time improvements in efficiency, driven in part by the increased use of competitive tendering for passenger services, together with a rationalization of services on under-used parts of the network should see some reduction in the demand for public contributions.

Contributions to infrastructure maintenance and investment, added together, increased over the period by 28% in real terms. Expenditure on renewals and enhancements increased most strongly (50%). This partly reflects increased costs of infrastructure with changing safety and environmental standards. The trend is likely to be reinforced by investments to meet the interoperability requirements imposed by the EU, particularly in deployment of the European Rail Traffic Management System. The lumpy nature of investment in new or upgraded capacity, and thus demands for capital grants, are also responsible for year to year differences in funding levels.

The overall level of funding recorded, incorporating financial and other payments, shows a relatively flat trend over 1996-2001 period. Expenditure on maintenance and upgrading of eastern Germany's network following reunification declined during the period, off-setting the increase in general infrastructure support reported above. The irregular timing of payments for restructuring and catch-up for long periods of underinvestment has a strong influence on the figure for total support. In Great Britain, for example the emergency maintenance program begun

following the Hatfield accident in 2000 resulted in total support in that country quadrupling between 2000 and 2005.

**Figure 12. Trends in Public Funding for EU15 Railways (€billion)**



Source: NERA.

## 6. New Sources of Finance for Investment in European Railways

This section first discusses the framework established in Switzerland for cross-financing rail investments from road toll revenues. Similar arrangements exist on a smaller scale in Italy, but the use of such cross-financing systems can be expected to increase with explicit provision for them in a Draft Directive on road user charges currently before the European Parliament and expected to become law at the end of 2005.

The chapter goes on to discuss EU infrastructure funds briefly and then looks at various kinds of public private partnerships. Most PPPs in the rail sector world-wide are of the build-operate-transfer type or involve exclusive concessions to operate certain types of service on part of the national network. The bulk of European experience of rail PPPs in Europe is in the United Kingdom, with all passenger services now operated under concessions, and some innovative infrastructure projects involving securitisation of revenues from existing operations that have not always proved successful in financial terms.

### 6.1 Infrastructure Investment Funds

Switzerland replaced a fixed annual road user fee for trucks with its *Heavy Vehicle Fee* (HVF) electronic kilometre charge in January 2001. The charge applies to all trucks over 3.5 tons and to all roads in the country. It raised around **€450 million** in 2001, roughly the same amount as fuel tax revenues from road haulage. The charge was introduced as part of a package of measures

agreed under treaty with the European Union, part of a bilateral trade agreement. Under the agreement, Switzerland was required to remove its 28 ton weight limit on trucks, progressively raising the limit to 40 tons. The HVF was designed to manage the number of trucks crossing the Swiss Alps, rising in steps with the weight limit, in order to protect the environment and prevent noise nuisance and congestion growing in the Alpine crossings. The combination has proved highly successful in managing demand.

Two thirds of the revenues from the HVF are earmarked for rail investments, mainly for two long tunnels through the Alps (Gothard and Lotschberg routes) designed to substantially increase rail freight productivity and make rail competitive with road freight. Some revenues will also go to high speed passenger rail investments. The other third of the total revenues goes to Cantonal (regional) governments for investment in transport infrastructure. This attribution of revenues was significant in gaining the support of the regional governments and industrial lobbyists for the introduction of the charge. Until the new tunnels enter service the HVF is not expected to result in any significant shift of traffic from road to rail, but in some specialized markets, such as chemical tankers there has been such a shift as the small markets make it difficult for road haulage companies to invest in larger tank trucks to off-set the impact of the HVF. The one major flaw in the system to have emerged is that projected revenues from the use of the new rail base-tunnels are now expected to be insufficient to cover the infrastructure's marginal operating and maintenance costs. In part this is because initial studies suggested one tunnel was sufficient to meet rail traffic growth but political considerations resulted in two tunnels to balance development between the east and west of the country. Without the revenues from the road user charge funding of the rail tunnels would have been very difficult.

The success of the Swiss HVF has resulted in other countries and the European Commission showing interest in cross-subsidising rail investments from road revenues. In Italy, upgrading of the rail line leading to the Brenner alpine pass into Austria is being financed with revenues from the toll motorway serving the same route. The European Commission and Council adopted amendments to the EU Directive on charging trucks for road use to permit similar cross-financing mechanisms in environmentally sensitive or heavily populated areas. France established an Agency for financing Transport Infrastructure on 1 January 2005, to use income from the countries toll-motorways to fund all kinds of transport infrastructure, but predominantly rail investments. In August, however, the government announced plans to privatise the motorway companies to help reduce the national debt, and funding for the Agency now seems uncertain.

## **6.2 EU Funding**

The European Union provides grants for capital investment in infrastructure from several funds, the Trans-European Networks (TENs) programme budget (from 1996 onwards), the EU Cohesion Fund and the European Regional Development Fund (ERDF). To qualify projects have to be of value to international transport in the Union and are generally located along priority trunk corridors identified by the Commission. In the period 1998-2001 an average of **€ 1.9 billion** a year was provided for transport investments from the TENs-Transport and Cohesion funds and €0.75 billion from the ERDF. In the transport sector a deliberate policy of directing the majority of resources to rail projects has been adopted. Over 60% of the budget was allocated to railways. Most of these grants should be included in the figures for public contributions to capital investment reported by the railway but there are likely to be inconsistencies in the accounts.

## **6.3 Public Private Partnerships**

The European Investment Bank this year published a collection of papers that provides a comprehensive survey of the role of public-private partnerships in financing infrastructure in Europe. Armin Reiss of the Bank concludes in his paper that railways account for an insignificant share of PPPs in Europe and PPPs account for an insignificant share of rail investment. He also

sees contradictions between the safety requirements of railway operations and the incentive structures typical in PPPs and for that reason expresses doubt that PPP will have much role to play in railway funding.

The United Kingdom provides the exceptions to this rule, although there is an ongoing argument over the appropriateness of its largest PPP, the London Underground, with the Mayor of London and London's transport authority (TfL) believing that it jeopardises safety. Ownership of the tracks was passed by the national Government to two private consortiums for 15.7 billion pounds (€23 billion) under three 30-year concessions in 2003. This followed two years of careful preparation during which the lines were run as shadow PPPs (that is accounts were kept and management organised as if ownership had already been transferred). During shadow operation a number of significant capital investments were completed and services on several lines improved. One year after the transfer of ownership the National Audit Office issued a report that whilst concluding it was too early to judge the performance and value for money of the PPPs noted that much higher returns on equity (18%) were allowed to than under other private finance initiatives. In July 2005 London Underground, the state-owned company that operates the trains on the underground issued its second report on performance of the PPPs, complaining of maintenance work falling behind schedule and 35% cost over-runs on engineering projects, and calling for more investment.

The UK Government's second largest transport project under its Private Finance Initiative (launched in 1992 and now more commonly called the Public-private partnerships program) is the high speed Channel Tunnel Rail Link (CTRL) between London and the Channel Tunnel. The first half of this line was completed on time last year and the second phase is currently under construction. The project has been successful in bringing private capital in to finance the line and in managing construction efficiently. However, the project had to be rescued from bankruptcy at an early stage by government brokered financial restructuring. This is not uncommon with PPPs and indeed governments that initiate such partnerships should be prepared for refinancing when it proves necessary. More importantly there were significant costs to the tax-payer as the government was forced to take over the revenue risk of the project when it arranged for re-financing. When CTRL was initially assessed its high revenue risk profile and relatively low returns excluded it from selection for conventional public funding.

Eurostar services began through the Channel Tunnel in 1994 using high speed lines to Paris (completed in 1993) and Brussels (1997). Agreements to build these lines were made by the French and Belgian governments ahead of stock-market flotation of Eurotunnel (the tunnel operator) in 1987 in order to reduce revenue uncertainty by ensuring high capacity, high speed services would be available to use the tunnel. Britain delayed decision, viewing additional time savings unnecessary to the success of privately owned Eurotunnel and government-owned Eurostar and believing only a 10% increase in traffic would be generated.

An initial proposal from a consortium called Eurorail to build a high speed line was rejected in 1989 because of the amount of subsidy required and the government asked a team led by the Bank of England to find alternative ways of attracting private finance. The team based their proposals on a model used to finance two major road bridges that doubled capacity for crossing large river estuaries. The existing government-owned toll crossings were transferred to private sector consortiums selected to build the new links. These were then able to use the revenue flows from the old links to fund construction of the new bridges to reduce borrowing to acceptable levels.

For the channel rail link it was planned to use Eurostar revenues to generate the cash need to contain borrowing to acceptable levels. This was seen as particularly important for the early

stage of planning and construction when the cost of raising loans and equity is high because of the high perceived risks (the possibility that traffic on the CTRL and therefore revenue would fall short of projections). However, Eurostar had not yet commenced operations and the traffic and revenue forecasts for Eurostar were therefore critical, not only to Eurostar but also the funding of CTRL.

The government agreed to the proposal and also agreed to provide some direct subsidy and also to guarantee revenues to CTRL by purchasing half the train paths for operating new high-speed commuter services between London and Kent. The government created a developer for the line, Union Railways and offered it together with Eurostar (minus its debt of € 2 billion) to the private sector through a Public Finance Initiative bidding process on condition that the new owner builds the high speed line.

The winning consortium, London and Continental Railways (LCR), was announced in 1996. LCR estimated the total costs to be 6 billion pounds (€9 billion) including 1.8 billion pounds of subsidy. By now Eurostar had been operating 18 months and traffic was only a quarter of that forecast, but LCR maintained the original optimistic forecasts in its financing model. It based its costs and revenues on 10 million Eurostar passengers in 1997 even though SNCF was planning on carrying only 6 million on the route (and SNCF's figure proved to be the number of passengers actually carried in 1997). Eurorail had also bid for the project using more realistic forecasts but was rejected because it calculated that an additional 0.5 billion pounds of subsidy was required. Eurostar was losing money when LCR took it over but it promised to improve performance to the extent needed to finance CTRL within 18 months. It failed, however, to make any improvement and continued to lose money.

**Table 2. CTRL Finance**

	1996 Structure		1998 Structure	
	(billion pounds)	(€bn)	(billion pounds)	(€bn)
Commercial debt and equity	3.2	4.7	2	2.9
Government guaranteed bonds	-	-	3.8	5.6
Direct subsidy	1.8	2.6	2	2.9
<b>Total capital cost</b>	<b>6</b>	<b>8.8</b>	<b>7.8</b>	<b>11.5</b>
<i><b>Indirect subsidies</b></i>				
Bond guarantee	-	-	0.6	0.9
Eurostar track access payments	-	-	0.1	0.2
Guaranteed Eurostar profits	-	-	maximum	0.5
Purchase of commuter train paths	-	-	maximum	-
Private sector contribution	3.2	4.7	5.8	8.5
Approximate public sector contribution	2	2.9	3.2	4.7
<i>Share of public contributions</i>	38%	-	36%	-
<i>Leverage from public contributions</i>	1.6	-	1.8	-

Sources: Peter Kain and UK press.

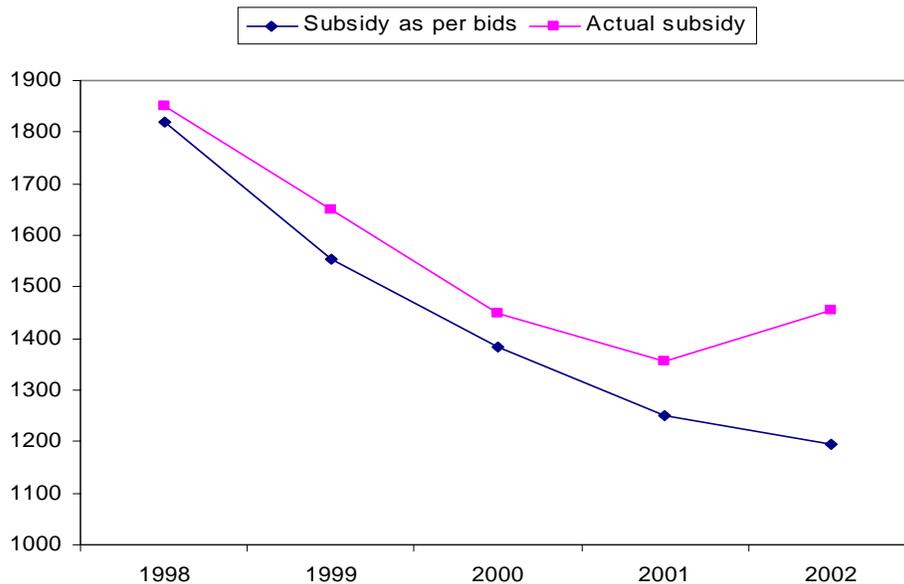
LCR delayed flotation on the stock market while it sought additional partners and sold surplus rolling stock assets. In 1998 it asked government for an additional 1.2 billion pounds (€ 1.8 billion) subsidy. This was refused but bankrupting LCR would have cost the government 800 million pounds in guarantees it had provided on pre-flotation bank loans. A new financial package was negotiated based on more realistic traffic projections with increased subsidies.

Direct subsidies increased to 2 billion pounds (an additional 140-360 million pounds). Government agreed to underwrite the issue of 3.8 billion pounds of bonds, which reduces the cost of borrowing by about 600 million pounds (an indirect subsidy). Government also undertook to further guarantee revenues to LCR by contributing up to 100 million pounds of Eurostar's track access payments to Network Rail from 2010 to 2020, and underwrote payments up to 360 million pounds should Eurostar earn less revenue than forecast (indirect subsidies of up to 0.5 billion pounds). In partial return, LCR agree to pay 35% of any profits after 2020 to government. The concession was reduced from 999 to 99 years and the line will revert to public ownership in 2086 at the same time as the Channel Tunnel. LCR is to raise 2 billion pounds of debt and equity and successfully issued the first tranche of government guaranteed bonds, worth 2.65 billion pounds in early 1999.

#### 6.4 Privatisation

The UK government privatised British Rail in stages under the 1994 Railways Act, culminating in the sale of the all infrastructure assets as a single company, Railtrack, in 1996. The government of the day believed private ownership would improve the management and customer focus of the railways but viewed the railway essentially as a declining industry. Its first aim was to reduce demands for subsidy and it believed that competition between private train operators would achieve substantial savings, particularly in terms of compensation for PSOs. Initially this strategy was successful (see Figure 13).

**Figure 13. Annual payments to franchised passenger operators in Great Britain, 1998-2002 (Million pounds sterling)**



Source: ECMT, 2004 (See annex, *Lessons from the privatisation of Britain's Railways.*)

The government created an independent rail regulator, the ORR, to create confidence in the value of the assets sold. The regulator's duties and powers were set out clearly in the Railways Act. Amongst other things this legislation provided the regulator with powers to make decisions on the level of charges for the use of infrastructure by train operators, based on the regulator's assessment of the income necessary for the infrastructure manager to operate an efficient network with reasonable returns. The Government can not interfere with or change the decisions of the regulator and has to pass legislation if it believes the outcomes of the regulatory system are deficient. This is essential to guarantee continuity and maintain risk at levels that permit sufficient private investment.

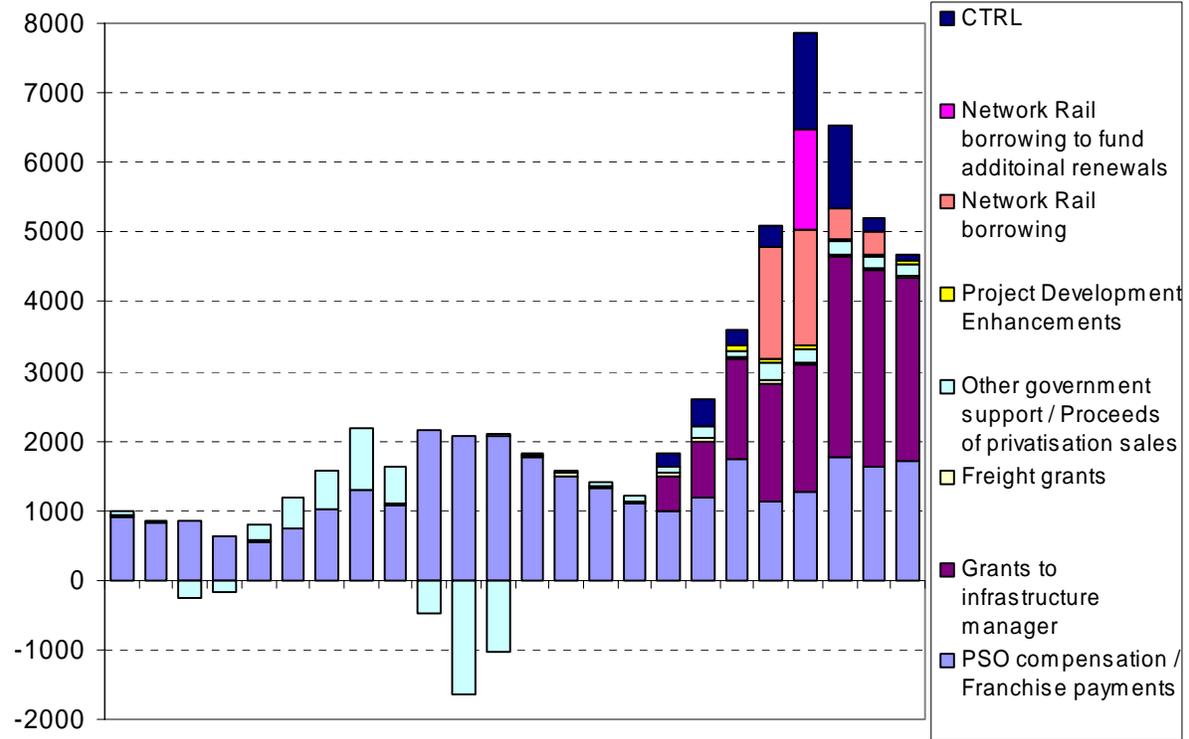
A second regulator was also created at privatisation to manage competitive tenders for exclusive "franchises" (concessions) for passenger services on different parts of the network. This regulator, OPRAF, negotiated the conditions of franchises including the outputs expected and compensation required to deliver public service obligations. Potential train operators compete to offer the best services at the lowest cost to government. The use of two regulators ensured a maximum of transparency. In this system, for the period of the franchise awarded, the government guarantees to pay any additional costs to train operators that result from changes to the infrastructure charges determined by the ORR. The ORR periodically reviews the charges that the infrastructure manager (initially Railtrack and now Network Rail) needs to levy.

The current government took a different view to its predecessor on the future for rail and sought to attract major new investment from the private sector to expand services. It quantified its aspirations in a policy paper entitled *Transport 2010, the 10 year plan*, published in July 2000. This viewed the entire transport sector as a "public and private partnership, with government and the private sector working more closely together to boost investment". It forecast a doubling of capital investment in rail from the private sector, at 34.3 billion pounds for the decade (€55bn), plus 14.7 billion pounds (€23bn) from government. In reality private investment has been much less, and public investment much more.

The October 2000 Hatfield accident, just a few months after publication of the 10 Year Plan, triggered an enormous increase in public spending for emergency infrastructure maintenance and investment. Government began to make direct payments for investment in infrastructure to Network Rail, whereas at privatisation this was funded from the income received by the infrastructure manager in train path charges together with commercial borrowing by Railtrack. But following Hatfield, the ORR sharply increased charges for the use of infrastructure. This increase was automatically passed on to the Government for the majority of passenger services through the compensation it pays to train operators under franchise agreements. The ORR's Access Charge Review of 2003 resulted in Network Rail's income from charges increasing by 7 billion pounds (€10.3 billion) over 5 years (the last 5 years in Figure 14), to be partly funded by additional borrowing of 1.5 billion pounds a year in the first two years.

There was much debate in parliament over the appropriateness of the powers of the regulator to make rulings that increase government spending to such a large degree. In 2004 the government modified the regulatory arrangements with a new railway act (as required by law). This added some additional steps in the consultation required between the ORR and the Ministry for Transport during pricing reviews and requires more explicit consideration of reducing services and closing lines rather than increasing funding in the future. The very outspoken rail regulator was not reappointed at the end of his term in office, and replaced by a board of regulators, but the new Act maintains the powers and independence of the ORR.

**Figure 14. Cost of the railways in Great Britain 1985-86 to 2008-09**  
(Million pounds 2004 prices)



Note: The years are omitted from the x-axis for clarity but UK financial planning runs from April to April, The figures reported begin with the year April 1985 to April 1986 and end with the forecast for the year beginning April 2008. The years in which net costs are lowest were 1988-89 under British Rail, 1995-96 with the proceeds of privatisation, and 2000-01 just before the consequences of the Hatfield accident became apparent.

Source: Roger Ford, Modern Railways April 2005; Strategic Rail Authority 2004 annual report.

**7. Conclusions**

Governments face a number of choices in determining the level of public support they provide for railways and the way in which this is delivered. There are risks associated with some of the choices that have major implications for the overall cost, cost-effectiveness of support, the financial sustainability of the railways and their ability to compete with other modes for profitable traffic.

**7.1 Provide direct budget support for public services – end cross-subsidies**

Politicians tend to demand more of their railways in terms of providing passenger services below cost than they are willing to pay for or able to fund consistently year-on-year. In some ECMT member countries, notably Russia, Governments require railways to provide some freight services below cost by controlling tariffs to support certain categories of industry and certain locations, generally industries that are either declining or viewed as strategic (producing raw materials such as coal) in under-developed parts of the country. Similarly ECMT governments have in the past required railways to provide services for defence below cost. Under these circumstances the quality of services provided will suffer.

If government does not provide sufficient compensation for the services it demands the railways are forced to cross-subsidise these services with income from other services. Unless they make large returns from some kinds of traffic they accumulate deficits.

### **7.2 Deficits tend to accelerate out of control**

In Europe such deficits grew to crisis proportions averaging 2% of GDP and as much as 6% in some countries in the 1980s and early 1990s. Railways need to borrow money from the markets to operate. Many enjoy extremely high credit ratings as a result of implicit government guarantees that the State will take over debts in case of need. For example the French railways, SNCF and RFF both enjoy AAA status. At a certain point, however, accumulated deficits threaten this confidence. Once the market begins to fear that a government is incapable of honouring its implicit guarantee, the railways will lose not only their privileged credit rating but find that they can not borrow at any commercial rates and will immediately be seen as a bad credit risk. The debt crisis in Europe forced all governments to remove debt from the railways in the period 1993-2000. Some are finding it very difficult to adsorb the debt into the public budget and it remains stranded in special funds, at a high cost to the tax payer in debt service.

### **7.3 Markets change rapidly and cross-subsidies can bankrupt railways very quickly**

Although cross-subsidies are more difficult to quantify than deficits, their impact is ultimately the same. They reduce the funds available for reinvestment in viable services, reduce the quality of these services, and force up their prices. This then threatens their competitiveness with other modes, or puts their customers out of business in face of international competition for their products. Rail's competitors, road and air, are in a highly dynamic phase of development, especially in countries like Russia and China. Cross-subsidies or tariff controls that prevent railways responding to markets can turn competitive rail services into un-competitive services in a very short space of time. The collapse in the US freight railroads prior to the deregulation with the 1980 Staggers Act provides a striking illustration of the risks. Russia and China, with their large cross-subsidies are by no means immune to this danger.

### **7.4 Separate accounts to identify cross-subsidies and non-commercial services**

In Europe the separation of accounts between infrastructure, freight train operations and passenger train operations required by EU regulations has been decisive in many countries in phasing out cross-subsidies and balancing the demands made on railways by governments with the public funding available. Creating separate business, or business centres within integrated railways, further increases transparency and improves management focus on ensuring accounts are balanced in all parts of the business.

### **7.5 Manage public service obligations efficiently**

Regionalisation of responsibility for demanding and paying for PSO passenger services has also contributed to balancing the equation in Europe. This requires budgets to be transferred from central to local or regional government. It is most effective if the local administration is also given the power to determine what kind of mobility services to purchase (rail, versus bus, versus non-transport use of the funds). Establishing competition for these services between alternative train operators through competitive tendering also has the potential to reduce costs. The design of tenders is, however, a critical task and costs can increase if incentives in the contracts, or the criteria for choosing between competing bids, are not designed to ensure value for money above all else.

## **7.6 *Protect maintenance and renewals budgets***

The first area to suffer when finance is insufficient for the demands made on the railway is expenditure on maintenance. Often this is designed to be a temporary response to a temporary budget shortfall. But where political demands are under-funded this tends to become a chronic problem and a maintenance backlog builds up. Even highly regarded railways and governments are vulnerable to this phenomenon and in Sweden the money budgeted for the railways at the beginning of each year is regularly cut back by mid year parliamentary reviews with maintenance budgets rather than capital expenditure reduced as a result. In Great Britain, chronic under-investment in maintenance, coupled with poor management of the infrastructure in the 5 years following privatization, resulted in an explosion of costs. Public contributions were forced to rise four-fold as a result between 2000 and 2005, and are expected to rise another 50% next year before very gradually coming back under control.

## **7.7 *Private investment***

Private investment will only be attracted for projects with a revenue stream that can be isolated from risks over which the investors have little control. For an industrial railway moving coal or ore to a port the investor will be willing to take the demand risk. But for investment in rail infrastructure for multiple-use or for passenger services where part of the volume is for public service, or where some ticket prices are regulated, government should expect to underwrite the risks associated with traffic and revenue forecasts. This may take the form of a fixed purchase of train paths, or fixed minimum annual payments when services commence.

In public-private partnerships the private sector is good at managing risks associated with construction (delivering on time) but not those associated with demand. Where government does not initially take the demand risk it should be ready to renegotiate conditions if traffic forecasts prove to have been over-optimistic (which usually turns out to be the case). An alternative is to employ highly conservative traffic forecasts and establish revenue sharing arrangements in case revenues turn out to exceed projections by more than a certain amount.

PPPs inevitably prove to be more expensive to the public budget than State funding. Private investors require a return in capital; government often requires no return at all. Governments can borrow at much lower rates than private investors. The advantage of PPPs lies mainly in accelerating infrastructure development by advancing the inception of projects when government funding is limited. The extra costs must however be paid from the public budget through grant subsidies for construction and annual revenue support payments later on. PPPs may be best suited for use in economies that are expanding rapidly and suffer from infrastructure bottlenecks. Simply by-passing the government's own public spending and borrowing limits is not the best use of PPPs and there is a risk that they are used to promote projects that would fail normal public sector tests of return on investment. Even when PPPs are deployed in rapidly developing economies, there is a tendency for the burden of future liabilities to be overlooked. Governments can find it difficult to make their committed payments when the infrastructure opens for operation. In Portugal, for example, the Government is currently faced with increasing fuel and road user taxes to pay for a rapid expansion of motorway capacity that was achieved with PPPs launched over the last decade.

## **7.8 *Independent regulation***

Independent regulatory authorities are essential to attract large scale private investment. As illustrated above, the role of the Rail Regulator in protecting the value of private assets has been essential in Great Britain's railways. In the USA, the Surface Transportation Board and the Department of Justice play vital roles in ensuring access for railways to each others tracks at a fair price. Rail networks are by their nature integrated, and private investors in one part of the system will have to interact with other investors and the State. When access charges are set

freely by rail companies, a regulatory framework and ultimately an arbiter is required to resolve disputes between railways over fair prices for access to each others systems. Where the government sets charges for the use of all rail infrastructure a regulator is needed to make price formulation transparent and ensure changes in charges are made in ways that respect government obligations to private investors.

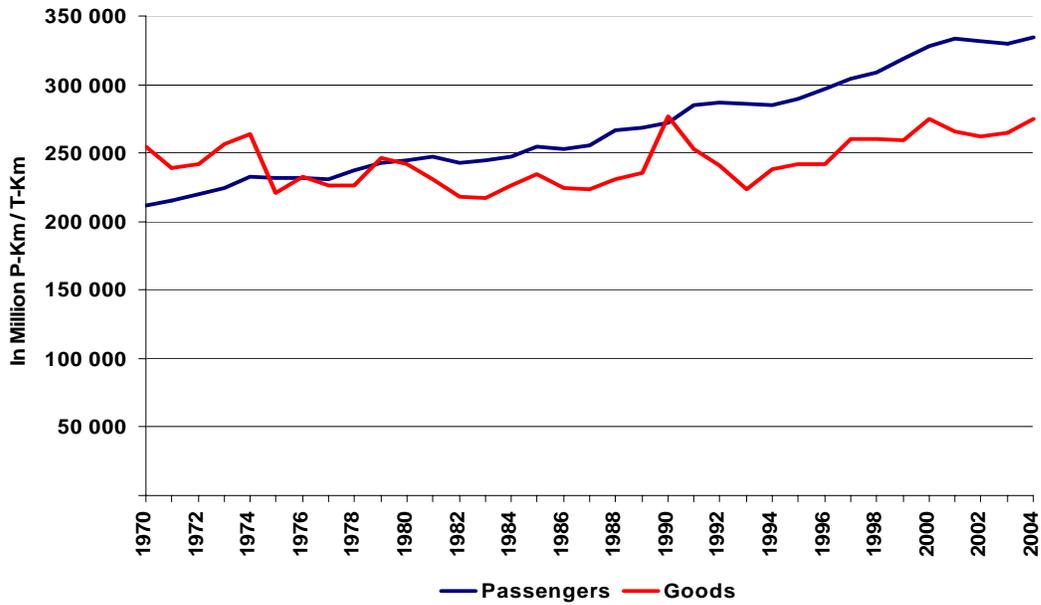
Even for investment in dedicated, integrated railways, relations with the rest of the network can be crucial to profitability. This concerns integrated ticketing and ticket sales, onward connecting services and access to neighbouring infrastructure for through trains. It can also concern ancillary services such as power supply, access to repair and maintenance workshops, cleaning etc. An independent arbitrator will be needed to ensure these facilities are provided on a non-discriminatory basis.

### **7.9 Separate Government from the running of railways**

The first step in providing the regulatory transparency required for private investment is the separation of the Government's sovereign functions of regulation from the management and operation of the railways. This is also fundamental to the accounting transparency recommended for identifying cross-subsidies and clarifying which services make a commercial return and which do not. Where regulation, policy making, investment, tariff setting, determining operating subsidies, infrastructure management and train operations are all concentrated in a single Ministry, potential private investors have no independent arbitrator to turn to in case of need. This will dissuade investment and greatly increase the risk premium on the private capital that is forthcoming.

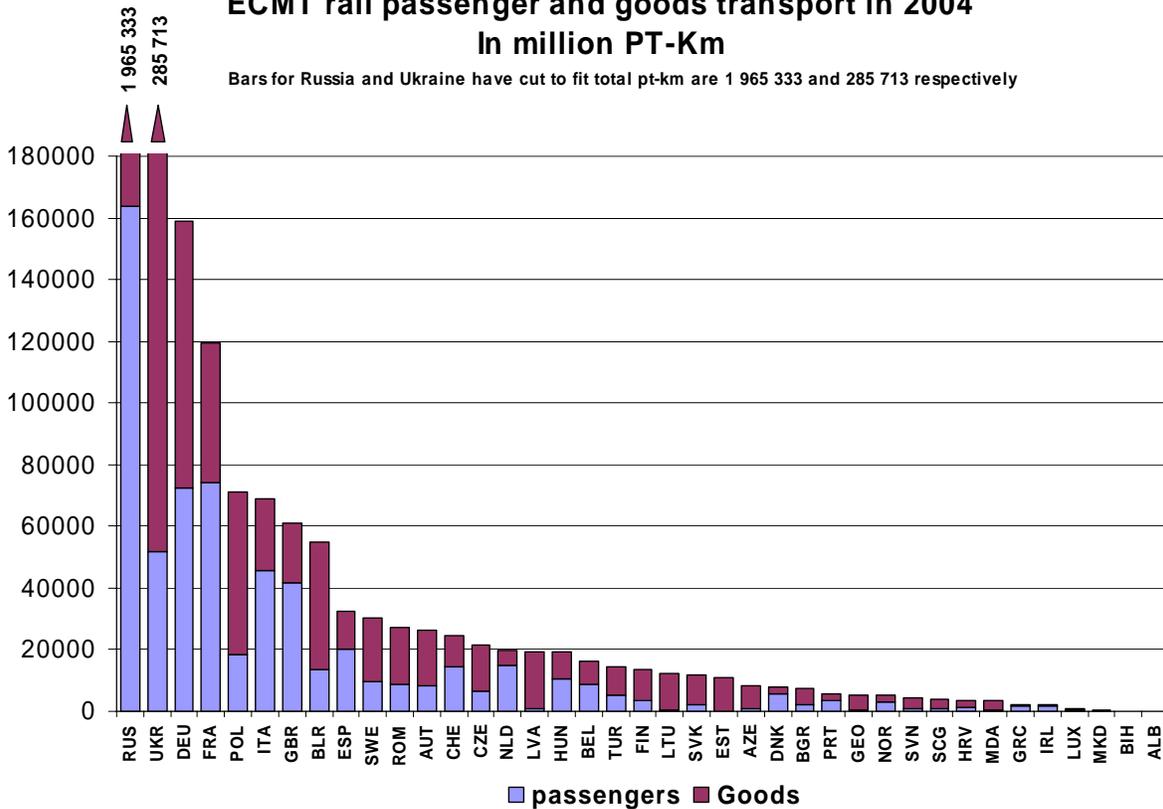
ANNEX: Traffic Data from ECMT Database

Rail transport in Western Europe



ECMT rail passenger and goods transport in 2004  
In million PT-Km

Bars for Russia and Ukraine have cut to fit total pt-km are 1 965 333 and 285 713 respectively



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