Situation and Problems of Railway Industry in Europe

Philippe Domergue and Emile Quinet

The situation of the railway industry in Europe is marked by the stream of liberalization that began a decade ago with the intention of revitalizing rail activity. The different countries responded in various ways to the impulse of reforms launched by the European Commission—some were well in advance while others followed reluctantly and instead of developing competition, they fostered cooperation with other incumbent rail operators. The overall outcome has been quite good so far with sharp increases in traffic since 1998, but it is difficult to say how much of the improvement can be attributed to the reforms, so there is still a shadow over the future of rail in Europe.

These points will be discussed in the following article. The first section will review the path of European reforms and outline the main features of the directives defining this path. The second section will show how differently each country has responded to the directives and how we are far from a single system in fields such as institutions, infrastructure pricing and path allocation. The third section will examine the outcome in terms of traffic and quality of service where we will see that although overall traffic is increasing, there are large discrepancies between traffic categories. In particular, international freight traffic, which was the main target of the reforms, is not yet experiencing the same positive trend.

The European Reform

The rail liberalization in Europe is based on the realization that rail market share has been decreasing steadily since the 1950s and that the financial deficits it created were—and still are—imposing a growing burden on government budgets. Meanwhile, although other transport modes, especially roads, are becoming increasingly congested and are also causing severe environmental damage, the negative, external costs are not being taken into account. The problems of rail were partly attributed to structural problems, especially lack of dynamism, where every European railway was run by a large public monopoly.

The general direction of the reforms launched by the European Commission was in line with its main doctrine and consisted of promoting competition in the rail sector. The Commission acknowledged that rail infrastructure presents large economies of scale, so infrastructure competition was not practical. However, the Commission saw that operations had much lower (if any) returns to scale, making competition a more practical proposition. The idea was to separate infrastructure and operations and introduce competition in operations. Of course, competition between railway companies must be fair. This puts constraints on infrastructure management by requiring equal track access for each railway undertaking (RU), fair pricing that does not favour the incumbent operator, etc. This point deserves special attention because, before the reforms, the incumbent operator was also the infrastructure manager (IM). A further constraint was ensuring fair competition between all transport modes—road, air, and waterways. So far, this has not been achieved; there is no internalization of external costs, no harmonization of labour regulations, etc.

These considerations led the European Commission to issue several directives. The first and most well known is EU Directive 91/440 EEC. It stipulates: 1. Separation of infrastructure from operations with separate accounting as a minimum requirement. (Although recommended, separation of institutions is not compulsory.); 2. Setting of non-discriminatory rules and prices for track access; 3. Allowing competition in transit freight (long-distance international transport between two countries crossing a third country without stopping inside) and in international combined freight (market of combined freight transport having origin and destination in two different countries). It was generally accepted that rail freight suffers more from competition than passenger services, which are also characterized by some public service obligations (PSOs) that can be an obstacle to too-fast liberalization. Moreover, the international and combined freight sub-markets showed the best improvement prospects. EU Directive 91/440 EEC also established other rules such as conditions for entry into a market. However, it contained no stipulations about ownership of RUs or IMs.

Several other directives followed for the purpose of specifying the rules for separation of accounts, infrastructure pricing, market entry, etc. Now, a new directive is to be issued drawing on the experience of the past 10 years. It will develop and extend the liberalization and establish more precise rules for fair competition.

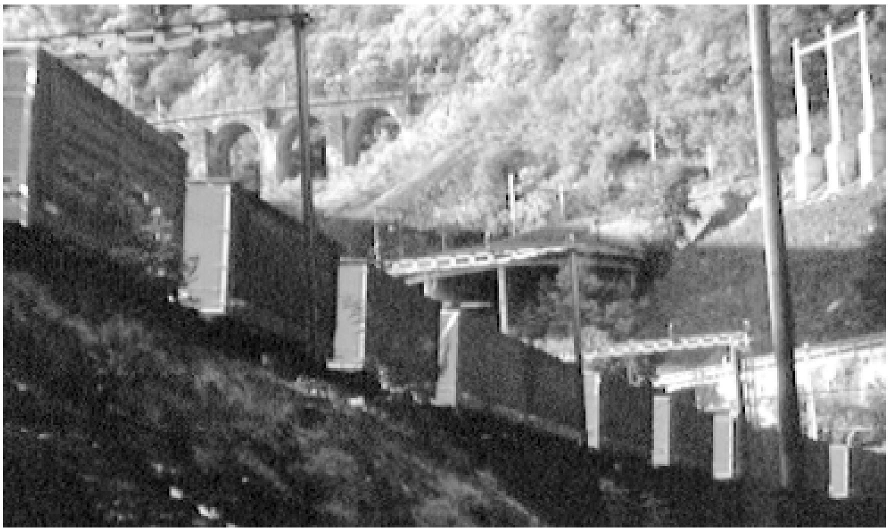
The Commission also launched other initiatives, especially *Freeways*—groups of dedicated freight paths on specified international routes with posted tariffs for the whole route. A kind of one-stop shop manages the *Freeways* and gives RUs an immediate answer to any questions they may have. This initiative is intended to foster international freight traffic by overcoming local questions and problems.

Every Response from Competition to Cooperation

The response of each country to EU Directive 91/440 EEC has been quite different. The UK response was the most radical, while the rest of Europe can be split between countries emphasizing mostly competition and other countries emphasizing mostly cooperation.

The radical response in the UK occurred for two main reasons. First, with the exception of the Channel Tunnel, the UK had almost no international traffic and no competition in transit traffic, unlike in continental Europe. Second, the political considerations of the Conservative government pushed the reforms far beyond the Commission's requirements. The former British Railways was split into about 100 different bodies, the most important being Railtrack (the IM), some 25 Train Operating Companies (the RUs—TOC in the UK) with 7-year passenger franchises granted by public bidding and supported by decreasing financial aid, and three companies handling freight. All the TOCs and Railtrack are private companies. Clearly there is no on-track competition, just competition for passenger traffic; competition for freight comes mainly from road. The system is showing a tendency towards divergent evolution. On one hand, there is a will to develop on-track competition, on the other hand, the Strategic Rail Authority (SRA), a new regulatory government office, is to be set up (currently operating as a 'shadow' organization SSRA) to play a larger role in policy-making—especially infrastructure policy—and to steer it towards more public service. In addition, the system of charging for use of infrastructure is changing towards a better integration of congestion costs. (The present infrastructure charges are set on a lump-sum basis for base services and low marginal costs with revenues largely covering Railtrack's expenses, leaving a profit that is reflected in the value of Railtrack shares).

In continental Europe, several countries, mainly from the north, have endorsed the liberal (free market) orientation and have complied willingly with the requirements of the directives. Two good examples are Sweden and Germany. Sweden has split the former state monopoly into the publicly owned Banverket (BV—the IM), which is very close to the state, and the privately owned Swedish State Railways (SJ—the RU). The infrastructure pricing is close to the marginal cost and deficits are covered by public funds. Competition is being introduced gradually—entry into the freight market was free from the start and entry into the long-distance passenger market was established recently. The local passenger market is franchised by region using public bidding.



An international container train passing the spiral south ramp of St. Gotthard Pass (EJRCF)

Germany has followed roughly the same path for institutions. The former monopoly has been split into DB Netz AG (the IM) and several RUs: DB Reise & Touristik AG for long-distance passenger traffic; DB Regio AG for local passenger traffic; and DB Cargo AG for freight. The IM and RUs and are presently all part of Deutsche Bahn AG (DB AG), the holding company, but this will be split and privatized in the future. There is competition in the freight and long-distance passenger markets; local passenger services are awarded by public bidding and some have been won by foreign companies. There are many new entrants, but they have only a small market share of about 4%. One reason for the small share is the path allocation and infrastructure charging systems. The latter is a two-part tariff with a large fixed part and a high proportional component. German infrastructure charges are high and roughly cover expenses, but there is talk of reforming the system to make it more attractive to new entrants. In contrast to the trend towards more competition, DB AG is developing stronger integration between its divisions. The Dutch system is similar to the German one, but infrastructure charges are almost free—rather like the Danish system.

Several other countries have just satisfied the minimum requirements of the European directives. A good example is France where the former state monopoly of French National Railways (SNCF) has been split into two parts: the larger RU called SNCF and the smaller IM called Réseau Ferré de France (RFF). RFF is very small with only 250 employees and is responsible for maintaining the track. However, the actual work is done by the former SNCF's infrastructure maintenance division, which remains part of the new SNCF. RFF pays SNCF for the track maintenance and collects infrastructure charges from SNCF, but both are still state owned. To comply with the requirements of EU Directive 91/440 EEC, competition is theoretically possible, but there has been no new market entrant so far. Many services on French territory are international but result from cooperation between neighbouring RUs. For example, *Thalys* linking Paris and Amsterdam via Brussels, is French in France, Belgian in Belgium, Dutch in the Netherlands,

Table 1 Freight Tariffs per train-km

(€)

France	Netherlands	Germany	Austria	Switzerland	Italy
1.6	1	3.83	2.84	3.8	3.02

Note: €1 is approximately US$ 0.95 in February 2001.

Source: Price Waterhouse Coopers survey for UIC

German in Germany and Swiss in Switzerland. Similar features can be found in the railways of Italy, Spain and Belgium.

Many other European countries outside the EU, like Switzerland, Hungary and Poland, have undertaken similar reforms. Most countries have a regulatory framework. Usually, it is composed of an agency that is more or less independent of the state. (Often, it is more independent in north European countries and less so in south European ones.)

Institutions vary considerably from one country to another, and infrastructure charges are similarly varied. Table 1 is based on a UIC study and shows the charges in different countries for the same services. Clearly the differences are due to the national interests and objectives, and methods of funding infrastructure. So-called transit countries levy high charges (except France, which is keen to promote rail freight in order to reduce road congestion). Countries aiming to develop trade, like the Netherlands, levy low charges. Whatever the reason for the differences, they are so great as to cast doubt on the possibility of achieving a common rail market in any foreseeable future.

The table shows the importance of the relatively successful freight freeways launched by the Commission. Three freeways have been opened:

- Rotterdam–Gioia Tauro (port on Tyrrhenian Sea in southern Italy)
- Rotterdam–Vienna
- Hamburg/Bremen–Brindisi (port on Adriatic Sea in southern Italy)

The success has been tempered by the fact that the freight paths have time limits that are not positioned in good periods.

The Antwerp–Valencia and Glasgow–Sopron (Hungary) freightways are another initiative launched by several RUs, including SNCF, on a cooperative basis as a reply to the freeways. They seem to be a bit more efficient than the freeways, but it is difficult to determine whether this is due to the route, timetable quality, or principle of cooperation versus competition. Anyhow, a positive aspect of the Commission's freeways is stimulation of new freight initiatives.

As seen in the telecommunications and power sectors, mergers are a common result of liberalization and privatization. This evolution has also occurred in the rail sector. There were three freight operators at British Rail privatization but after various mergers, there is now only one. Concentration is also observed in passenger transport along with mergers between rail companies and operators in other modes, such as road transport. In continental Europe, the alliances between the German and Dutch, and Swiss and Italian freight operators have not proved effective so far.

Table 2 Traffic Change 1998 to 2000

	Passenger (billion passenger-km) 1999	Change 1998–99	Change 1st quart. 1999–2000	Freight (billion tonne-km) 1999	Change 1998–99	Change 1st quart. 1999–2000
France (SNCF)	66.59	3.3%	6.6%	52.11	- 1.0%	9.7%
Germany (DB AG)	72.54	1.0%	0.8%	71.49	- 2.4%	5.7%
UK (ATOC)*	38.00	6.4%	5.5%	17.90	4.1%	11.6%
Italy (FS)	41.75	0.7%	- 0.7%	21.56	- 4.0%	9.6%
Spain (RENFE)	18.14	3.8%	1.0%	11.42	1.9%	- 3.1%
Belgium (SNCB)	7.35	3.5%	1.9%	7.39	- 2.8%	2.9%
Netherlands (NS)	14.33	1.6%	–	3.55	- 6.1%	4.8%
Sweden (SJ)	7.43	6.1%	–	14.39	1.0%	7.4%
Switzerland (CFF/SBB/FFS)	12.62	1.0%	–	9.80	12.1%	–

* Association of Train Operating Companies

The Outcome

A glance at the overall traffic statistics (Table 2) shows a recent unusual increase. It is too soon to credit this favourable evolution solely to the rail reforms. The general upturn in economic activity must have played a large role, but the rail reforms may be partly responsible as supported by the fact that the change has been greatest in UK freight where the reforms were most dramatic. The prospects seem good for RUs that are run in a very commercial and customer-oriented manner.

Passenger service quality as measured by ordinary standards does not seem to have changed dramatically as a whole. A positive example is Spain where large improvements have been achieved; a negative example is the UK where the frequency of delays and accidents has increased. Attempts are being made to overcome these difficulties by re-examining Railtrack's role in punctuality and safety.

Reducing the burden on the public purse will take time. The early reforms incurred a lot of expense in debt and labour reductions. Nevertheless, in the UK, subsidies to franchisees are decreasing.

Comparison is difficult because in many countries like Germany, Sweden, Spain and France, rail revitalization requires new investment through public financial support. The bulk of these investments was for new high-speed trains as shown in Table 3.

Table 3 Growth of High-speed Passenger Traffic in Europe

(billion passenger-km)

1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
12.4	16.3	21.6	26.5	28.9	32.1	32.9	37.4	42.3	48.5

These investments improved passenger service quality and are certainly increasing patronage. The decrease in service quality coupled with three very serious accidents in the UK will probably result in more regulation and tighter control of Railtrack. Maintenance seems to have suffered in all European countries and some effort is now needed in this area.

Assessment

Everybody agrees that European railways needed to be revitalized and that reform was necessary. There are clear signs that reform has had some positive effects but a lot of problems and questions have been raised:

- Competition, the ultimate objective of the Commission reforms, is still very partial. Competition for market through franchising seems to work quite well but on-track competition is proving more elusive. In countries that have implemented it, the best new entrants have gained only a very small percentage of the total share. It must be noted that on-track competition is a uniquely European idea that has not been implemented anywhere else in the world.
- Regulation is difficult. It is hard to say that the UK regulator has won the struggle with Railtrack. In continental Europe, regulators have failed to prevent the actions of incumbents against possible new entrants. There is no international regulator, although one is needed to complement the development of international traffic.
- The strategy of several incumbents is cooperation. Does this tendency have to be supported? In international traffic with many technical and organizational differences between countries, a cooperation phase may prove efficient as a way to reap economies of scale between RUs.
- Clearly, the main problem is how to induce change in large historical operators and so improve rail transport supply and increase traffic. This task will prove very difficult whether by cooperation or by competition. Experience from elsewhere in world shows that it is feasible, but the question is whether Europe has used the right tools and would tougher action have been more effective? Can the same remedies be applied to countries that are not suffering from the same disease?

Europe has to decide and act now, without knowing the answers to these questions.

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Philippe Domergue

Mr Domergue is Special Officer of the French Advisory Council on Railway Public Service. He was formerly SNCF Territorial Operation Director, was then seconded to the European Commission, was responsible for the TGV Master Plan, and finally Deputy Head of the Strategies Department of SNCF.

Emile Quinet

Dr Quinet is Professor at the Ecole Nationale des Ponts et Chaussées (ENPC) and Head of its Economics and Social Science Department. He was formerly Head of the Economic Division at the French Department of Transport. He has published some 200 articles and 15 books including *Analyse Economique des Transports* and *The Econometrics of Major Transport Infrastructure* with R. Vickerman.