



POLICY ROUNDTABLES

Structural Reform in the Rail Industry 2005

Introduction

The OECD Competition Committee debated structural reform in the rail industry in February 2005. This document includes an executive summary and the documents from the meeting: an analytical note by Mr. Darryl Biggar for the OECD, written submissions from Australia, Austria, Denmark, France, Germany, Hungary, Italy, Japan, Korea, Mexico, the Netherlands, Poland, Sweden, Switzerland, and the United States, as well as an aide-memoire of the discussion.

Overview

Over the last 25 years the rail sector in virtually all OECD countries has undergone significant reform. These reforms were usually driven by inefficiency and poor performance within the rail sector and long-term loss of market share to other transport modes.

The appropriate role for structural reform in the rail industry depends on the particular form of competition / regulation that is being pursued. Promoting competition within the rail sector through mandated access to the track and associated infrastructure raises many new and important regulatory issues. In a regime of regulated access to the track infrastructure, vertical integration is a key issue. It will often be difficult to control anti-competitive behaviour by the integrated firm. Vertical separation has the potential to enhance the resulting level of competition.

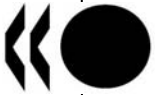
Many countries have sought to promote competition for-the-market in the rail sector. Such competitive tendering may change but not eliminate the need for regulation. Competition enforcement issues vary across jurisdictions based largely on the modes of railway competition that are present. Despite the wide range of experience, the appropriate role of vertical separation in the overall reform of the rail industry is not yet clear. Governance and subsidy mechanisms need further examination.

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STRUCTURAL REFORM IN THE RAIL INDUSTRY

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FOREWORD

This document comprises proceedings in the original languages of a Roundtable on Competition in the Rail Industry, which was held by Working Party N°2 of the Competition Committee in February 2005.

It is published under the responsibility of the Secretary General of the OECD to bring information on this topic to the attention of a wider audience.

This compilation is one of a series of publications entitled “Competition Policy Roundtables”.

PRÉFACE

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à une table ronde sur la Concurrence et Réglementation dans l'industrie du rail: Les professions de santé et la concurrence qui s'est tenue en octobre 2004 dans le cadre du Groupe de Travail N°2 du Comité de la Concurrence.

Il est publié sous la responsabilité du Secrétaire général de l'OCDE, afin de porter à la connaissance d'un large public les éléments d'information qui ont été réunis à cette occasion.

Cette compilation fait partie de la série intitulée « Les tables rondes sur la politique de la concurrence ».

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EXECUTIVE SUMMARY

By the Secretariat

In the light of the written submissions, the background note and the oral discussion, the following points emerge:

- (1) *Over the last twenty-five years the rail sector in virtually all OECD countries has undergone significant reform. These reforms were usually driven by inefficiency and poor performance within the rail sector and long-term loss of market share to other transport modes.*

A strong theme of reform has been improving the corporate governance of incumbent rail enterprises (through corporatisation and sometimes privatisation) and the depoliticisation of public funding (subsidies) for the rail sector. In Mexico, for example, the incumbent integrated state-owned railroad was split up into three major railroads (and a number of short-line railroads) which were then effectively privatised through long-term leases to the private sector, with a significant positive impact on productivity, safety and service quality.

Close substitutes exist for many rail services, but their prices often do not reflect their full costs, reducing the use of rail.

Although many rail services have close substitutes in other transport modes, these other transport modes are, in most cases, not yet efficiently priced (i.e., reflecting all infrastructure, accident, environmental and congestion costs). For example, although there are individual exceptions, it is not yet common for road prices (where they exist) to vary with congestion levels. If the road mode is underpriced it is economically efficient (if only second best) to also underprice the rail mode, with associated subsidies if necessary. In the absence of government intervention, the price of rail services would be too high and the consumption of rail services would be too low relative to other transport modes.

In part due to mis-pricing of substitute modes, virtually all OECD countries subsidise the rail sector in some way – at least through public financing of new infrastructure and often through direct subsidies for passenger services. In some countries (such as Denmark or Italy) the direct subsidies for passengers exceed the fare revenue received from passengers. The design of these subsidies will directly affect the incentives of rail operators and is therefore a key part of the design of the overall regulatory regime.¹ In particular, the design of these subsidies will affect the incentives on the rail operators to increase the volume of services, for productive efficiency and for investment. In many countries, subsidised railroads have suffered from long periods of under-investment.

- (2) *The appropriate role for structural reform in the rail industry depends on the particular form of competition / regulation that is being pursued. There are three different modes of railroad competition.*

OECD countries differ widely in the form of competition / regulation which they seek to implement in the rail sector. Three different modes of competition can be identified. They are not mutually

exclusive; different modes of competition may operate simultaneously for different services on different parts of the infrastructure.

The three different modes of competition in the rail sector are:

- Competition in-the-market between vertically-integrated rail companies. This form of competition requires the existence of at least two separate rail infrastructures capable of providing substitute rail services (e.g., two different rail routes between a given city-pair). This is the predominant form of competition in rail freight services in North America.
- Competition in-the-market between train operating companies with mandated access to track infrastructure (which may or may not be owned by one of the companies providing train services). This is the predominant form of competition in freight services in Europe and most of Australia.
- Competition for-the-market between rail companies (either for integrated track-plus-train services or just for train services alone, operating under a regime of regulated access to the track infrastructure). This is the predominant form of competition for passenger services in many EU countries.

Competition-in-the-market between vertically integrated railroads can deliver a degree of competition with limited regulation.

In North America it has been possible to sustain one primary form of competition - competition in-the-market between vertically-integrated railroads. This type of competition can be important for freight transport between city pairs and for freight transport involving a sea leg – in this case two railroads serving the same origin but different ports will compete, to a degree, with each other. This is one form of what is known as “source” or “destination” competition. Experience shows that this approach has, at least in North America, been able to deliver a degree of competition with relatively little regulatory intervention. Regulatory intervention can be limited to structural reform, access to remaining essential facilities and protection for “captive” shippers.

The clearest example of competition between integrated railroads occurs in Canada where the two incumbent railroads operate two largely overlapping networks capable of providing a wide range of substitute (competing) services. In the US, although mergers have reduced the number of large railroads, in many (but not all) states shippers have a choice of at least two railroads, especially for longer journeys. In Mexico, the railroad restructuring deliberately sought to promote competition between the railroads by ensuring that the major cities, the US border, and the Atlantic and Pacific coasts were all served by at least two railroads. Cross-ownership rules in Mexico prevent further consolidation of this rail structure.²

This competition between integrated railroads in the US has (when combined with inter-modal competition) allowed regulators to refrain from regulating most tariffs for rail freight transport. Only about 20 per cent of freight traffic is subject to regulation, particularly for bulk shippers (coal, some chemicals and some agricultural products) who do not have access to an inland waterway or another railroad. In many instances rail companies agree to allow trains from another rail operator to make use of their own infrastructure (track, stations, marshalling yards) – especially on a reciprocal basis. In some instances competition can be materially improved by mandating such access in particular instances (for example, as a condition of a merger).

The presence of many integrated rail companies inevitably creates “seams” issues as the provision of some transport services to end-users will inevitably need the services of two or more rail companies. For example, the restructuring of the Mexican rail system has greatly stimulated productivity and increased rail traffic, but at the expense of rail traffic which crosses the newly-created “seams” in the network. Between 1995 and 2002 the amount of traffic flowing between railroad entities dropped from 24% of all freight to 12%.

- (3) *Promoting competition within the rail sector through mandated access to the track and associated infrastructure raises many new and important regulatory issues.*

Particularly in the case of freight services, most OECD countries are relying on competition between train operators with regulated access to the track and associated infrastructure. This is a form of the classic “access to essential facilities” problem.

As in other public utility industries, the move from regulation of end user prices and services to access prices and services raises important new regulatory issues, such as (a) efficient pricing of access to the infrastructure; (b) efficient rationing of scarce infrastructure capacity; (c) maintaining incentives for track quality and reliability; (d) maintaining incentives to augment and expand the track capacity at the appropriate time; and (e) monitoring of the trains themselves to ensure that train operations do not damage or impose undue wear on the infrastructure.

The incentive on the infrastructure provider to invest in maintaining or augmenting track quality will depend on a variety of factors. Attention to the development of explicit regulatory incentives for quality, maintenance, etc. is particularly important when the infrastructure provider operates no trains of its own.

- (4) *In a regime of regulated access to the track infrastructure, vertical integration is a key question. It will often be difficult to control anti-competitive behaviour by the integrated firm.*

When promoting competition in a given rail service through regulated access to the track infrastructure a key question is whether the infrastructure provider should be allowed to compete in the provision of those services itself – that is, whether or not the infrastructure provider should be allowed to remain vertically integrated. When the infrastructure provider is allowed to compete with access seekers in the provision of certain services the infrastructure provider has an incentive to use its position to deny or restrict the quality of access it offers to other access seekers to restrict competition in those services. Experience from the rail sector, and other regulated industries, shows that the regulator and/or the competition authority will often have difficulty controlling such anti-competitive behaviour.

Vertical separation (preventing the infrastructure owner from providing certain train services), by eliminating the incentive to deny or restrict access, has the potential to enhance the resulting level of competition. On the other hand, such vertical separation also risks increasing the costs of production (through the loss of economies of scope) and increases the importance of effective regulatory incentives on the infrastructure provider.

Many countries have accompanied mandated access to the track infrastructure with various forms of separation of the infrastructure from train operations. For most countries, this takes the form of accounting separation or corporate separation. EU Directives require at least accounting separation between infrastructure and train services and the complete separation of certain key regulatory tasks (such as train path allocation) from an existing railway undertaking. In a few countries the owner of the infrastructure is not allowed to provide certain services (and therefore is vertically separated for

these services). Only a few countries (including the UK and Sweden) have prevented the infrastructure provider from providing all train services.

Across the OECD there are many examples of cases where an integrated incumbent rail service provider has sought to use its position as owner of the track infrastructure to restrict or deny access to competing train operators. For example, in Germany the Bundeskartellamt found that an early version of the track access charging system used by Deutsche Bahn, which included volume discounts, favoured its own passenger subsidiary (DB Regio) over rivals. There were also complaints relating to access to the so-called “last mile” (loading, unloading and shunting facilities). In Switzerland an entrant, Lokoop complained to the Swiss Competition Authority about failure by SBB to provide access to certain lines and access to shunting in SBB’s stations.

Experience from the rail sector and other utility industries shows that competition authorities (which are usually limited to ex post intervention) are ill-equipped to ensure timely and effective access in the face of incumbents which are determined to slow the introduction of competition. Mexico observes that “It is difficult for [access] problems to be resolved through resolutions and sanctions by the FCC”. “Mexico’s experience shows that it is not enough to require concessionaires to provide compulsory access; it is essential to strengthen the regulator so that it can intervene effectively when needed and have sufficient powers to define clear market rules”.³

(5) *Vertical separation has the potential to enhance the resulting level of competition.*

Even when the regulator has clear powers to intervene and to set terms and conditions of access, the regulator must still fight against the incentives of the integrated firm. For this reason, many countries have sought a greater degree of separation between the infrastructure provider and train operations. For example, Italy has noted that “guaranteeing conditions of equal access in freight services would require introducing a greater separation between the incumbent freight service operator and RFI. In practice this would imply privatising the freight service arm of Trenitalia”.⁴

Vertical separation is not necessarily “all-or-nothing”. It is possible to apply vertical separation on a service-by-service basis. For example, there may be vertical integration for passenger services and vertical separation for freight services (as in Denmark)⁵.

Many countries have accompanied mandated access to the track infrastructure with various forms of separation of the infrastructure from train operations, but very few have completely cut the link.

Many countries, especially in Europe, have introduced a degree of separation between track infrastructure and train operations. In several cases this separation is merely accounting or legal separation, as in Italy where the former FS was separated into two parts RFI and Trenitalia – which are under a single holding company.⁶ Switzerland also has accounting separation between passenger services and infrastructure services (cargo services of SBB are provided through a subsidiary).⁷ Following recent EU directives, many countries are establishing a new train path allocation body separate from the incumbent railway undertaking (where this task has not already been separated). For example, in Germany the rail path allocation body (Trassenagentur) will be established within the Federal rail regulator.

Separation appears to have gone the furthest in the UK and Sweden where the infrastructure provider provides no train services of its own and is not financially linked to any other railway undertaking.

There are pros and cons of vertical separation. A decision on vertical separation requires balancing several factors.

A decision whether or not to prevent the infrastructure provider from providing certain (or all) train services therefore depends on the answers to the following questions: (1) What will be the effect on competition? (2) What will be the effect on the long-term utilisation of, and provision of quality, reliability and enhanced capacity of the infrastructure? and (3) What will be the effect on the production costs (through loss of economies of scope)?

Vertical separation will be more beneficial the greater the resulting increase in competition. This will, in turn, depend on the degree of competition that is likely to emerge in train services and the ability of the regulator to prevent anti-competitive behaviour by the incumbent in an integrated rail system.

In the freight sector, although many countries have experienced entry, entrants have tended to remain quite small. To date, incumbent freight operators have retained a significant market share, even in countries which have pursued a high degree of vertical separation. For example, in Germany (which is said to have one of the most open rail markets in Europe) there are around 120 railway companies offering freight transport services. In 2003, the market share of the new entrants amounted to 6.8 percent.

In Sweden, “The development of the freight market towards a competitive market with different competing operators has been slow, though. Among other things, this may be a result of underestimating the importance of non-discriminatory access to rolling stock as well as essential facilities like stations and terminals, service and maintenance facilities, marshalling yards, etc.”⁸

In the rail passenger market, the scope for in-the-market competition seems even more limited. There are very few examples of new entrants competing in-the-market for passenger services. Between 1996 and 1999 there was a new entrant (“Lovers Rail”) offering services between major cities in the Netherlands. There is also currently one long-distance passenger rail competitor in Germany (Connex, which offers regular services on the route Gera-Leipzig-Berlin-Rostock and Zittau-Gorlitz-Berlin-Stralsund routes).

As noted above, one concern of vertical separation is that it increases the importance of explicit incentives for maintenance and investment in the track infrastructure. So far there is relatively little evidence that track quality or investment has declined in those few countries which have pursued vertical separation the furthest. In the UK, after a number of high-profile accidents it was revealed that the network was in worse condition than was anticipated. It is not clear whether this was due to a failure to provide the correct regulatory incentives for maintenance or simply an oversight in the process of transition to a privately-owned, regulated rail system. The long term effect of vertical separation on infrastructure quality and investment is not yet clear.

Finally, vertical separation will be more attractive the lower the resulting increase in costs (due to loss of economies of scope). Assessment of the effect on production costs requires technical and econometric studies of the likely economies of scope. Studies of US railroads have suggested that production costs could be as much as 20-40 per cent higher as a result of total vertical separation.

- (6) *Many countries have sought to promote competition for-the-market in the rail sector. Such competitive tendering may change but not eliminate the need for regulation.*

Many countries have sought to promote competition for-the-market in the rail sector (either for integrated track-and-train services or for separated train-services only). Such competitive tendering should not be viewed as eliminating the need for regulation – rather it is better viewed as an adjunct to regulation. Remaining regulatory problems include specifying how the prices and services will evolve over the franchise period, and maintaining incentives for investment in the track and rolling stock as

the end of the franchise period approaches. There is also the issue of maintaining a co-ordinated timetable or ticketing system across the network as a whole.

Even though in-the-market competition for passenger services is virtually non-existent, many countries make use of competition for-the-market for passenger services – either inter-city, regional or suburban trains. Sweden has had competitive tendering for regional services and unprofitable inter-regional services since the early 1990s. For many years, however, all of the tenders were won by SJ. In Denmark, one third of all regional routes serviced by DSB will be subject to public procurement before 2014. In Germany, Länder often use competitive tendering for local rail services. DB Regio (the regional train services arm of DB) holds approximately 90 per cent of this market with the remaining market share distributed between approximately 60 transport companies. SBB (the Swedish incumbent operator) has won competitive tenders for regional passenger services in southern Germany.

Competition for-the-market appears to yield better outcomes than monopoly regulation of a single firm, however many regulatory issues remain. In particular there are issues of (a) specifying how the prices and services required will vary over the life of the franchise and in response to changes in the market; and (b) maintaining incentives for investment in the track and the rolling stock, particularly as the end of the franchise period approaches. A key concern in the design of these competitive tendering processes is ensuring that features such as integrated ticketing or a national co-ordinated timetable are preserved.

The extent of competition in train services could be enhanced through measures such as standardisation of rail network specifications across neighbouring jurisdictions.

Competition (both in-the-market and for-the-market) could likely be enhanced by facilitating interoperability between neighbouring rail systems and limiting the extent to which new entrants must invest in facilities specific to each country. This could be achieved through further standardisation of gauge, operating procedures, signalling systems and so on. At present, in Europe, rail standards can create problems for new entrants in obtaining suitable locomotives or rolling stock or the crews to operate them. This has particularly been a problem in Italy. Even if foreign sourced compatible trains can be obtained, they must be authorised for operation on the Italian network – and this authorisation is granted by RFI, the incumbent network operator. The European Union is working to enhance interoperability in rail systems between the member states.

- (7) *Competition enforcement issues vary across jurisdictions based largely on the modes of railway competition that are present.*

Because of the range of modes of competition in different OECD countries there is also variety in the competition enforcement issues that have arisen. In the case of competition in-the-market between integrated firms, there are usually efficiency gains from mergers (through a reduction in parallel tracks and more intensive use of the remaining network) which must be balanced against the reduction of competition. Several countries have blocked further consolidation between integrated rail firms.

Over the medium to long-term it is possible to discern a pattern of consolidation in the rail industry. Such consolidation may yield efficiency benefits by increasing density on remaining tracks and eliminating “seams” issues. In the US, following several large rail mergers in the 1980s the Service Transportation Board has more recently acted to prevent further consolidation. In Mexico the competition authority blocked an arrangement between Ferromex (the north Pacific railroad) and Ferrosur (the southeastern railroad). There has been little cross-country consolidation of rail companies in Europe and further cross-border mergers appear likely.

For those countries which promote competition in-the-market with mandated access, the primary competition issues usually relate to ensuring non-discriminatory access to the essential facility. In most cases, the basic rules governing access to the track infrastructure are specified by law, and enforced by a rail regulatory authority. However, the competition authority is often called on as a “backstop” or to “fill in the gaps”. This is clearest in Mexico where the “the lack of effectiveness of sectoral regulations in resolving disputes over access conditions has given incentives for concessionaires to use terms and conditions for interconnection and car hire services as strategic tools aimed at limiting competitor access to essential facilities while improving their own position in the market. As a result, disagreements have become a competition problem. Rail carriers have asked for the FCC’s opinion on haulage and trackage rights as well as competition conditions of specific interlinear routes”.

Many competition authorities have addressed complaints by new entrants about discriminatory behaviour by incumbent rail operators. For example, in February 2003 the German competition authority investigated a refusal of DB to include information on timetables or fares for routes operated by a rival passenger train operator (Connex) in DB information and timetable systems. The Italian Competition Authority has also stated its concerns about access to terminals and yards and to maintenance services in an opinion submitted to Parliament in August 2003. In Sweden, in 1996, the Competition Authority initiated proceedings against SJ claiming it had used predatory pricing in tenders for regional services in an attempt to eliminate a privately owned competitor (BK Tag). In this case the Swedish Competition Authority claimed SJ had applied pricing which did not cover the average variable costs for the transport in question. In Italy, in 2003 the EC found that FS has abused its dominant position against a new entrant GVG in the market for international rail passenger services between Germany and Italy.

In Mexico, concessionaires have been reluctant to allow traffic from other railroads over their networks, especially when the incumbent railroad can provide the end-to-end service itself. “Concessionaires have brought claims before the [regulator] alleging that competitors are setting excessive and discriminatory tariffs, unfavourable access conditions and refusing to offer interconnection and trackage services. These disagreements are more prevalent in markets where interlinear traffic competes with a party’s exclusively operated routes”.⁹

- (8) *Despite the wide range of experience, the appropriate role of vertical separation in the overall reform of the rail industry is not yet clear. Governance and subsidy mechanisms need further examination.*

In conclusion, although there is a wide range of experience with different modes of competition and different degrees of vertical separation in the rail industry, it is not yet possible to draw a clear picture as to the appropriate role of vertical separation in the overall reform of the rail industry. At this stage it appears that there are other factors, such as corporate governance and effective design of subsidy mechanisms (where they are necessary) which have at least as large an impact on the overall performance of the rail industry. It would be valuable, especially in Europe, to carry out further research on designing public funding arrangements for rail to preserve incentives for efficiency, quality and on-going investment.

NOTES

- ¹ The Dutch submission (page 12) notes: “Approximately 60% of the total costs of passenger transport by rail are currently paid by the central government. ... The cost calculation does not give the rail sector and the transport companies any stimulus to work efficiently”.
- ² In Mexico, holders of the concessions of the three trunk lines are prevented from holding more than 5% of other rail companies.
- ³ Mexican submission, page 14.
- ⁴ Italian submission, page 12.
- ⁵ Most rail freight services in Denmark are transit from Sweden to Germany and vice versa.
- ⁶ The EU in the GVG case recognised that this corporate separation is not sufficient to eliminate the incentives on FS to behave as a single integrated company.
- ⁷ Swiss law requires railway operators to organisationally and financially separate the infrastructure from other parts of the undertaking.
- ⁸ Swedish submission, page 11.
- ⁹ Mexican submission, page 10.

NOTE DE SYNTHÈSE

Par le Secrétariat

A la lumière des communications écrites, de la note de référence et des débats, on peut dégager les points suivants:

- (1) *Au cours des 25 dernières années, dans la quasi-totalité des pays de l'OCDE, le secteur ferroviaire a connu des réformes importantes. Ces réformes étaient généralement motivées par le manque d'efficacité et la médiocrité des performances de ce secteur ainsi que par la perte, à terme, de parts de marché au profit d'autres modes de transport.*

L'un des principaux axes de la réforme a été d'améliorer le gouvernement d'entreprise des opérateurs ferroviaires en place (par la transformation en société commerciale et, parfois, la privatisation) et dépolitiser le financement public (subventions) du secteur. Au Mexique, par exemple, l'entreprise publique intégrée des chemins de fer a été divisée en trois lignes majeures (et un certain nombre de lignes courtes) qui ont ensuite été effectivement privatisées par le biais de concessions de longue durée, ce qui a eu un impact positif non négligeable sur la productivité, la sécurité et la qualité des services.

Il existe de proches substituts de nombreux services ferroviaires, mais souvent leur prix ne reflète pas pleinement leur coût, ce qui dissuade d'emprunter le rail.

Bien que beaucoup de services ferroviaires aient de proches substituts dans d'autres modes de transport, ces autres modes ne sont dans la plupart des cas pas encore tarifés de manière efficace (pour tenir compte de la totalité des coûts liés aux infrastructures, aux accidents, à l'environnement et à la congestion). Par exemple, bien qu'il y ait quelques exceptions, il n'est pas encore courant de voir les péages routiers (quand il y en a) modulés en fonction du degré de congestion. Si le transport routier est sous-tarifé, il est efficace du point de vue économique (même si ce n'est pas la solution de premier choix) de sous-tarifier le mode ferroviaire également, en le subventionnant au besoin. En l'absence d'intervention gouvernementale, le prix des services ferroviaires serait trop élevé et leur utilisation serait trop faible par rapport à celle d'autres modes de transport.

C'est en partie à cause de la tarification incorrecte des modes de substitution que presque tous les pays de l'OCDE subventionnent le secteur ferroviaire d'une manière ou d'une autre – tout au moins via le financement public des nouvelles infrastructures et, souvent, par le biais d'aides directes aux services de transport de voyageurs. Dans certains pays (comme le Danemark et l'Italie), les subventions directes pour ce transport dépassent les recettes du trafic voyageurs. Comme la conception de ces subventions influence directement sur les incitations des opérateurs ferroviaires, elle occupe une place essentielle dans la conception du régime réglementaire d'ensemble.¹ En particulier, la conception de ces subventions se répercutera sur les incitations des opérateurs à accroître le volume de services ferroviaires, à améliorer l'efficacité de leur production et à investir. A cet égard, dans de nombreux pays, les chemins de fer subventionnés ont longtemps souffert d'un sous-investissement.

- (2) *Le rôle exact de la réforme structurelle dans le secteur ferroviaire dépend de la forme de concurrence/réglementation que l'on recherche. Dans ce secteur, on recense trois modes différents de concurrence.*

Selon les pays de l'OCDE, la forme de concurrence/réglementation que l'on s'efforce de mettre en œuvre dans le secteur ferroviaire varie considérablement. On recense trois modes de concurrence qui ne s'excluent pas mutuellement. On peut avoir des modes différents opérant simultanément pour la fourniture de services différents sur des parties différentes de l'infrastructure.

Les trois modes de concurrence dans le secteur ferroviaire sont les suivants:

- Concurrence sur le marché entre des sociétés de chemins de fer intégrées verticalement. Cette forme de concurrence exige au moins deux réseaux distincts capables d'offrir des services substituables (par exemple, deux voies ferrées différentes reliant deux villes données). C'est la forme de concurrence qui prédomine dans les services de fret ferroviaire en Amérique du Nord ;
- Concurrence sur le marché entre des sociétés d'exploitation de trains avec accès imposé au réseau (les voies pouvant être ou non la propriété d'une des sociétés offrant les services ferroviaires). C'est la forme de concurrence qui prédomine pour les services de fret en Europe et dans la majeure partie de l'Australie;
- Concurrence pour le marché entre des sociétés de chemins de fer (soit pour des services intégrés réseau plus services ferroviaires, ou uniquement pour des services ferroviaires, opérant suivant un régime de réglementation de l'accès au réseau). C'est la forme de concurrence qui prédomine pour les services de voyageurs dans de nombreux pays de l'UE.

La concurrence sur le marché entre des sociétés de chemins de fer intégrées verticalement peut fonctionner avec une réglementation limitée.

En Amérique du Nord, il a été possible de mettre en œuvre une forme essentielle de concurrence : la concurrence sur le marché entre des sociétés de chemins de fer intégrées verticalement. Ce type de concurrence peut être important pour le transport de fret entre des paires de villes et pour celui qui comporte un tronçon maritime. Dans ce cas, deux itinéraires ayant la même origine mais desservant des ports différents seront jusqu'à un certain point en concurrence. C'est une forme de ce qui est connu sous le nom de concurrence « à la source » ou « géographique ». L'expérience montre que cette stratégie a permis, du moins en Amérique du Nord, d'assurer une certaine concurrence avec relativement peu d'intervention des régulateurs. Cette intervention peut se limiter à la réforme structurelle, à l'accès aux installations essentielles restantes et à la protection des expéditeurs « captifs ».

L'exemple le plus parlant de la concurrence entre sociétés de chemin de fer intégrées nous vient du Canada, où les deux opérateurs en place exploitent deux réseaux qui se chevauchent largement et sont capables de fournir une large palette de services substituables (en concurrence). Aux États-Unis, bien que des fusions aient réduit le nombre de grandes compagnies, dans de nombreux États (mais pas tous) les expéditeurs ont le choix entre au moins deux compagnies, surtout pour les longues distances. Au Mexique, la restructuration des chemins de fer a cherché expressément à promouvoir la concurrence entre les compagnies en veillant à ce que les grandes villes, la frontière avec les États-Unis et les côtes atlantique et pacifique soient desservies par au moins deux compagnies. Au Mexique, les règles régissant la propriété croisée empêchent de nouveaux regroupements.²

Cette concurrence entre sociétés intégrées aux États-Unis a permis aux régulateurs (lorsqu'elle se conjugait avec la concurrence intermodale) de ne pas réguler la plupart des tarifs de transport ferroviaire de fret. Quelque 20 pour cent seulement du trafic de fret est soumis à réglementation, en particulier pour les transporteurs de marchandises en vrac (charbon, certains produits chimiques, et certains produits agricoles) qui n'ont pas accès à une voie navigable intérieure ou à une autre ligne de

chemin de fer. Dans bien des cas, les compagnies ferroviaires autorisent les trains d'un autre opérateur à emprunter leurs propres infrastructures (voies, gares, gares de triage) – notamment par le biais d'accords de réciprocité. Parfois, il est possible d'améliorer sensiblement la concurrence, en imposant l'accès dans des cas particuliers (comme condition d'une fusion, par exemple).

Inévitablement, la présence de nombreuses sociétés de chemins de fer intégrées crée des problèmes de « jonction », la fourniture de certains services de transport à l'utilisateur final nécessitant forcément les services de deux compagnies ou davantage. Par exemple, la restructuration du réseau ferré mexicain a considérablement stimulé la productivité et augmenté le trafic ferroviaire, mais aux dépens de celui qui passe par les jonctions nouvellement créées sur le réseau. Entre 1995 et 2002, le volume de trafic circulant entre les entités ferroviaires est passé de 24 % de l'ensemble du fret à 12 %.

3. *Promouvoir la concurrence au sein du secteur ferroviaire par le biais de l'accès imposé au réseau et à l'infrastructure connexe soulève de nombreuses questions nouvelles et importantes de réglementation.*

S'agissant des services de fret en particulier, la plupart des pays de l'OCDE tablent sur la concurrence entre les opérateurs des trains avec un régime d'accès au réseau et à l'infrastructure connexe. C'est une illustration du problème classique de « l'accès aux installations essentielles ».

Comme dans d'autres services d'intérêt public, l'abandon de la réglementation des prix et des services au niveau de l'utilisateur final au profit d'un régime de prix et de services d'accès soulève de nouvelles questions importantes de réglementation comme a) la tarification efficiente de l'accès à l'infrastructure, b) le partage efficient d'une capacité d'infrastructure limitée, c) le maintien des incitations nécessaires pour assurer la qualité et la fiabilité des voies, d) le maintien des incitations nécessaires pour augmenter la capacité des voies en temps utile, et e) la surveillance des trains eux-mêmes pour s'assurer que leur exploitation ne provoque pas de dégâts et n'impose pas une usure excessive à l'infrastructure.

L'incitation du fournisseur de l'infrastructure à investir pour préserver ou améliorer la qualité du réseau dépend d'une multiplicité de facteurs. Lorsque le fournisseur de l'infrastructure n'est pas lui-même opérateur ferroviaire, il faut être particulièrement attentif à élaborer des incitations réglementaires explicites concernant la qualité, l'entretien, etc.

4. *Dans un régime d'accès réglementé au réseau, l'intégration verticale pose le problème essentiel. Il sera souvent difficile de contrôler les pratiques anticoncurrentielles de l'entreprise intégrée.*

Lorsqu'on favorise la concurrence pour un service ferroviaire donné en réglementant l'accès au réseau, une question clé est de savoir si le fournisseur de l'infrastructure doit être ou non autorisé à concurrencer d'autres entreprises pour la fourniture de ce même service, autrement dit si on peut l'autoriser à demeurer intégré verticalement. Lorsqu'il est autorisé à concurrencer des opérateurs qui doivent avoir accès au réseau pour la fourniture de certains services, le fournisseur de l'infrastructure est incité à se prévaloir de sa position pour refuser l'accès ou en limiter la qualité afin de restreindre la concurrence pour l'offre de ces services. L'expérience tirée de l'observation du secteur ferroviaire et d'autres secteurs soumis à régulation montre que le régulateur et/ou l'autorité de la concurrence auront souvent des difficultés à empêcher un tel comportement anticoncurrentiel.

Parce qu'elle supprime l'incitation à refuser ou restreindre l'accès, la séparation verticale (empêchant le propriétaire de l'infrastructure de fournir certains services ferroviaires) est à même d'intensifier la concurrence. D'un autre côté, la séparation verticale risque aussi d'accroître les coûts de production

(du fait de la perte des économies de gamme) et rend plus importante l'élaboration d'incitations réglementaires efficaces à l'égard du fournisseur de l'infrastructure.

Dans de nombreux pays, un régime d'accès imposé au réseau se double de diverses formes de séparation entre l'infrastructure et l'exploitation des trains. Pour la plupart des pays, cela prend la forme d'une séparation comptable ou organique. Les directives de l'UE exigent au moins la séparation comptable entre l'infrastructure et les services ferroviaires et une séparation complète entre certaines tâches clés de régulation (comme l'attribution des sillons) et les activités d'une compagnie ferroviaire en place. Dans quelques pays, le propriétaire de l'infrastructure n'est pas autorisé à fournir certains services (il y a donc séparation verticale pour ces services). Seuls quelques pays (dont le Royaume-Uni et la Suède) empêchent le fournisseur de l'infrastructure de fournir quelque service ferroviaire que ce soit.

Dans la zone OCDE, on compte de nombreux exemples dans lesquels un opérateur intégré en place, fournisseur de services ferroviaires, a essayé de se prévaloir de sa position de propriétaire du réseau pour limiter ou interdire l'accès à des opérateurs ferroviaires concurrents. Par exemple, en Allemagne, le Bundeskartellamt a considéré qu'une première version du système de tarification de l'accès au réseau appliqué par Deutsche Bahn, qui comportait des ristournes en volume, favorisait sa propre filiale voyageurs (DB Regio) par rapport à ses concurrents. Des plaintes ont aussi été déposées concernant l'accès à ce qu'il est convenu d'appeler l'infrastructure « du dernier kilomètre » (installations de chargement, de déchargement et de manœuvre). En Suisse, un entrant du nom de Lokoop s'est plaint à l'Autorité suisse de la concurrence parce que SBB ne lui avait pas accordé l'accès à certaines lignes, ni l'accès aux installations de manœuvre dans les gares SBB.

L'expérience tirée de l'observation du rail et d'autres secteurs d'intérêt public montre que les autorités de la concurrence (qui sont généralement contraintes d'intervenir après coup) sont mal armées pour assurer un accès efficace dans des délais suffisamment brefs face à des opérateurs en place déterminés à freiner l'introduction de la concurrence. Le Mexique note qu'il est « difficile de résoudre les problèmes (d'accès) par des résolutions et des sanctions de la FCC ». « L'expérience du Mexique montre qu'il ne suffit pas d'exiger des concessionnaires qu'ils fournissent l'accès. Il est indispensable de renforcer les pouvoirs du régulateur de sorte qu'il puisse intervenir effectivement en cas de besoin et disposer de pouvoirs suffisants pour définir des règles de marché claires ». ³

5. *La séparation verticale est de nature à intensifier la concurrence.*

Même lorsque le régulateur dispose de pouvoirs explicites pour intervenir et fixer les conditions de l'accès, il doit néanmoins lutter contre les incitations de l'entreprise intégrée. C'est pourquoi de nombreux pays se sont efforcés de séparer plus largement la fourniture de l'infrastructure et l'exploitation des trains. A titre d'exemple, l'Italie observe que « garantir des conditions d'égalité d'accès dans les services de fret exigerait de séparer plus nettement l'opérateur en place chargé des services de fret et la RFI. En pratique, cela reviendrait à devoir privatiser la branche services de fret de Trenitalia ». ⁴

La séparation verticale ne doit pas obligatoirement constituer une opération « par tout ou rien ». Il est possible de l'appliquer service par service. Par exemple, il peut y avoir intégration verticale des services voyageurs et séparation verticale des services de fret (comme au Danemark). ⁵

De nombreux pays ont couplé l'accès imposé au réseau et diverses formes de séparation de l'infrastructure et de l'exploitation des trains, mais très peu ont coupé totalement le lien.

De nombreux pays, principalement en Europe, ont adopté une certaine forme de séparation entre le réseau et l'exploitation des trains. Dans plusieurs cas, cette séparation est purement comptable ou juridique, comme en Italie où l'ancienne FS a été séparée en deux entités, RFI et Trenitalia, sous le contrôle d'une seule et même holding.⁶ La Suisse applique également une séparation comptable entre les services voyageurs et les services d'infrastructure (les services de fret de SBB sont assurés par une filiale).⁷ A la suite de récentes directives de l'UE, de nombreux pays sont en passe de créer un nouvel organisme d'attribution des sillons, distinct de l'opérateur ferroviaire en place (quand cette tâche n'est pas déjà séparée). En Allemagne, par exemple, l'organisme d'attribution des sillons (Trassenagentur) sera créé au sein de l'autorité fédérale de régulation ferroviaire.

C'est au Royaume-Uni et en Suède que l'on semble être allé le plus loin dans la séparation : le propriétaire de l'infrastructure ne fournit aucun service ferroviaire en propre et n'est lié financièrement à aucune autre entreprise du rail.

La séparation verticale a des avantages et des inconvénients. Décider de la mettre en œuvre exige de trouver un juste équilibre entre plusieurs facteurs.

Décider d'empêcher ou non le fournisseur de l'infrastructure de fournir certains (une partie ou la totalité) des services ferroviaires dépend donc des réponses qui seront apportées aux questions suivantes : 1) Quel sera l'effet sur la concurrence ? 2) Quel sera à long terme l'effet sur l'utilisation de l'infrastructure et sur la qualité, la fiabilité et l'amélioration des capacités offertes ? 3) Quel sera l'effet sur les coûts de production (du fait de la perte des économies de gamme) ?

La séparation verticale sera d'autant plus bénéfique que l'intensification de la concurrence qui en résultera sera marquée. Ce phénomène lui-même dépendra du degré de concurrence qui s'exercera vraisemblablement dans les services ferroviaires ainsi que de l'aptitude du régulateur à empêcher les comportements anticoncurrentiels du titulaire d'un réseau ferroviaire intégré.

Dans le secteur du fret, malgré l'arrivée de nouveaux opérateurs dans de nombreux pays, les entrants restent généralement de dimension modeste. A ce jour, les opérateurs historiques ont conservé une forte part du marché du fret même dans les pays ayant poussé très loin la séparation verticale. Par exemple, en Allemagne (dont on dit que c'est l'un des pays où les marchés ferroviaires sont le plus ouverts d'Europe), on dénombre quelque 120 compagnies ferroviaires offrant des services de transport de fret. Or, en 2003, la part de marché des nouveaux entrants n'était que de 6.8 %.

En Suède, « l'évolution du marché du fret vers un marché concurrentiel sur lequel s'affrontent des opérateurs différents a néanmoins été lente. Cela tient peut-être, entre autres, à une sous-estimation de l'importance de l'accès non discriminatoire au matériel roulant ainsi qu'à des installations essentielles comme les gares et les terminaux, les équipements de réparation et d'entretien, les gares de triage, etc. »⁸

Pour le transport de voyageurs, les perspectives de concurrence sur le marché semblent encore plus limitées. On n'a que très peu d'exemples de nouveaux entrants sur le marché des services de transport ferroviaire de voyageurs. Entre 1996 et 1999, on a vu un nouvel entrant, « Lovers Rail », proposer des services entre de grandes villes des Pays-Bas. En Allemagne, il existe aussi un concurrent pour le transport ferroviaire de voyageurs sur long trajet (la Connex, qui propose un service régulier sur les lignes Gera-Liepzig-Berlin-Rostock et Zittau-Gorlitz-Berlin-Stralsund).

Comme indiqué précédemment, la séparation verticale est problématique en ce qu'elle rend encore plus nécessaire des incitations explicites pour les activités d'entretien et l'investissement dans le réseau. Jusqu'à présent, on a relativement peu d'informations qui démontreraient que la qualité ou

l'investissement ont diminué dans les rares pays ayant poussé la séparation verticale le plus loin. Au Royaume-Uni, après un certain nombre d'accidents majeurs, il est apparu que le réseau était dans un état pire qu'on ne l'avait pensé. On ne sait pas très bien si cela est dû à l'absence d'incitations réglementaires adéquates pour l'entretien ou simplement à un manque de contrôle du passage à un réseau ferroviaire régulé entièrement privatisé. L'impact à long terme de la séparation verticale sur la qualité et l'investissement dans l'infrastructure n'est pas encore connu avec certitude.

Enfin, la séparation verticale sera d'autant plus attrayante que les hausses de coûts qui en résulteront (du fait de la perte des économies de gamme) seront faibles. L'évaluation des effets sur les coûts de production nécessite des études techniques et économétriques des économies de gamme probables. Des études concernant les chemins de fer des États-Unis font penser que les coûts de production pourraient être entre 20 et 40 % supérieurs en cas de séparation verticale totale.

6. *De nombreux pays se sont efforcés de promouvoir la concurrence pour le marché dans le secteur ferroviaire. Cette mise en concurrence par appel d'offres est de nature à modifier mais pas à supprimer la nécessité d'une régulation.*

De nombreux pays se sont efforcés de promouvoir la concurrence pour le marché dans le secteur ferroviaire (soit pour la fourniture de services intégrés combinant réseau et services ferroviaires, soit pour la fourniture de services ferroviaires uniquement). Mais il ne faudrait pas voir dans cette mise en concurrence par appel d'offres un moyen de se dispenser de régulation. Il s'agit plutôt d'un dispositif secondaire complétant la régulation. Parmi les problèmes de réglementation qui subsistent, il faut citer la nécessité de spécifier comment les prix et les services évolueront sur la durée de la concession, et de maintenir les incitations à l'investissement dans le réseau et le matériel roulant à mesure que la fin de la concession approche. A cela s'ajoute la question du maintien de systèmes coordonnés d'horaires ou de billetterie sur l'ensemble du réseau.

Bien qu'il n'y ait pratiquement pas de concurrence sur le marché pour les services voyageurs, de nombreux pays utilisent la concurrence pour le marché dans ce contexte dans le cas des services reliant les grandes villes, des services régionaux ou des services de banlieue. La Suède procède par appel d'offres pour les services régionaux et les services interrégionaux non rentables depuis le début des années 90. Toutefois, pendant des années, l'adjudicataire a été SJ. Au Danemark, un tiers de l'ensemble des tronçons desservis par DSB feront l'objet d'appels d'offres d'ici à 2014. En Allemagne, les *Länder* utilisent fréquemment la mise en concurrence par appel d'offres pour les services ferroviaires locaux. DB Regio (la branche services ferroviaires régionaux de DB) détient environ 90 pour cent de ce marché, le reste se répartissant entre une soixantaine de sociétés de transport. SBB (l'opérateur historique suédois) a remporté des appels d'offres pour les services régionaux de voyageurs dans le sud de l'Allemagne.

Il s'avère que la concurrence pour le marché donne de meilleurs résultats que la situation de monopole, mais de nombreux problèmes de réglementation demeurent. Il s'agit notamment de a) spécifier les modalités de variation des prix et des services au cours de la concession et en fonction des évolutions du marché, et b) maintenir les incitations à l'investissement dans l'infrastructure et le matériel roulant, en particulier à mesure que la fin de la concession approche. Dans la conception de cette mise en concurrence par appel d'offres, il est indispensable de veiller à ce que soient préservées des fonctions comme le système intégré de billetterie ou la coordination des horaires à l'échelon national.

On pourrait intensifier la concurrence pour les services ferroviaires par des mesures comme la normalisation des spécifications du réseau ferré entre pays voisins.

Il est probable que la concurrence (sur et pour le marché) serait renforcée si on facilitait l'interopérabilité des réseaux ferrés voisins et si on limitait le degré auquel les nouveaux entrants doivent investir dans des installations propres à chaque pays. Il faudrait pour cela pousser plus avant la normalisation de l'écartement des rails, des procédures d'exploitation, des systèmes de signalisation, etc. Actuellement, en Europe, les normes ferroviaires peuvent créer des difficultés pour les nouveaux entrants qui doivent se procurer les locomotives ou le matériel roulant adaptés ou recruter le personnel qualifié pour exploiter ce matériel. Le problème est particulièrement aigu en Italie. Même s'il est possible d'acheter des trains compatibles hors du pays, ceux-ci doivent recevoir une autorisation d'exploitation sur le réseau italien – et cette autorisation est accordée par RFI, l'opérateur historique du réseau. L'Union européenne œuvre à l'amélioration de l'interopérabilité des réseaux ferrés entre ses États membres.

7. *Dans le domaine ferroviaire, les problèmes de mise en œuvre de la concurrence varient d'un pays à l'autre, ce qui tient essentiellement aux modes de concurrence utilisés.*

Du fait de la diversité des modes de concurrence d'un pays de l'OCDE à l'autre, les problèmes de mise en œuvre varient également. En cas de concurrence sur le marché entre entreprises intégrées, on observe généralement que les fusions entraînent des gains d'efficacité (par une réduction du nombre de réseaux parallèles et une utilisation plus intensive du reste de l'infrastructure), qui sont contrebalancés par une moindre concurrence. Plusieurs pays ont bloqué les nouveaux regroupements entre compagnies ferroviaires intégrées.

A moyen et long terme, on peut voir s'ébaucher un schéma de regroupement dans le secteur ferroviaire. Ce regroupement peut aboutir à des gains d'efficacité en augmentant la densité du trafic sur les voies restantes et en éliminant les problèmes de « jonction ». Aux États-Unis, après plusieurs grandes fusions dans les années 80, le Service Transportation Board est intervenu récemment pour bloquer tout nouveau regroupement. Au Mexique, l'autorité de la concurrence a bloqué un accord entre Ferromex (les chemins de fer du Pacifique Nord) et Ferrosur (la compagnie du sud-est). En Europe, il y a eu très peu de regroupements transnationaux de compagnies ferroviaires et de nouvelles fusions transfrontières paraissent probables.

Pour les pays qui encouragent la concurrence sur le marché avec accès imposé, il faut généralement veiller avant tout à l'absence de discrimination dans l'accès aux installations essentielles. Dans la plupart des cas, les règles de base régissant l'accès à l'infrastructure sont énoncées dans la législation et appliquées par l'autorité de régulation du rail. Toutefois, cette autorité est souvent sollicitée comme instance de dernier recours ou pour « combler les lacunes ». Cela est patent au Mexique où « le manque d'efficacité des réglementations sectorielles dans la résolution des différends concernant les conditions d'accès a poussé les concessionnaires à utiliser des contrats d'interconnexion et des services de location de voitures pour limiter l'accès de leurs concurrents aux installations essentielles tout en confortant leur position sur le marché. Les différends sont donc devenus indissociables de la concurrence. Les transporteurs ferroviaires ont saisi la FCC pour avis sur les droits des transporteurs routiers et ferroviaires ainsi que sur les conditions de la concurrence sur certains itinéraires à opérateurs multiples ».

De nombreuses autorités de la concurrence ont reçu des plaintes de nouveaux entrants au sujet du comportement discriminatoire des opérateurs ferroviaires en place. En février 2003, par exemple, l'autorité de la concurrence allemande a enquêté sur le refus de DB d'inclure des informations sur les horaires ou les tarifs correspondant à des itinéraires exploités par une société de transport de voyageurs concurrente (Connex) dans ses brochures et ses indicateurs. L'autorité de la concurrence italienne s'est elle aussi inquiétée de l'accès aux terminaux et aux gares de triage ainsi qu'aux services d'entretien dans une note soumise au parlement en août 2003. En Suède, en 1996, l'autorité de la

concurrence a intenté un procès à SJ au motif que cette dernière avait pratiqué des prix abusivement bas dans ses offres de services régionaux pour essayer d'éliminer un concurrent entièrement privé (BK Tag). Dans ce dossier, l'autorité de la concurrence suédoise a fait valoir que SJ avait appliqué une tarification qui ne couvrait pas les coûts variables moyens du transport en question. En Italie, en 2003, la Commission européenne a constaté que FS avait abusé de sa position dominante contre un nouvel entrant, GVG, sur le marché des services de transport international de voyageurs par rail entre l'Allemagne et l'Italie.

Au Mexique, les concessionnaires n'étaient guère disposés à permettre le trafic d'autres compagnies sur leur réseau, en particulier quand la compagnie en place était en mesure d'assurer elle-même le service de bout en bout. « Les concessionnaires ont saisi le [régulateur], arguant que les concurrents pratiquaient des tarifs excessifs et discriminatoires, n'assuraient que des conditions d'accès défavorables et refusaient d'offrir des services d'interconnexion et de circulation. Ces désaccords sont plus nombreux sur les marchés sur lesquels le trafic multi-opérateurs est en concurrence avec les liaisons assurées par des compagnies qui en ont l'exclusivité ».⁹

8. *En dépit de la diversité des expériences, on ne sait pas encore très bien quelle place il convient d'accorder à la séparation verticale dans le processus global de réforme du secteur ferroviaire. Les mécanismes de gouvernance et de subventionnement nécessitent un examen plus approfondi.*

En conclusion, bien qu'on puisse tirer de nombreux enseignements des différents modes de concurrence et des différents degrés de séparation verticale dans le secteur ferroviaire, il n'est pas encore possible de se faire une idée précise de la place qu'il convient d'accorder à la séparation verticale dans le processus global de réforme de ce secteur. Au stade actuel, il apparaît que d'autres facteurs comme le gouvernement d'entreprise et l'efficacité de la conception des mécanismes de subventionnement (quand ils se justifient) entrent en jeu et qu'ils ont un impact au moins aussi prononcé sur les performances globales du secteur ferroviaire. Il serait très utile, notamment en Europe, d'effectuer de nouvelles études sur la conception des mécanismes de financement public du rail en vue de préserver les incitations à l'efficacité, à la qualité et à l'investissement.

NOTES

1. Dans la communication des Pays-Bas, on note, page 12 : « Environ 60 % du coût total du transport de voyageurs par rail est actuellement pris en charge par l'administration centrale. Le mode de calcul des coûts n'incite aucunement le secteur ferroviaire et les compagnies de transport à opérer de manière efficiente. »
2. Au Mexique, il est interdit aux titulaires des concessions des trois grandes lignes de détenir plus de 5 % des autres sociétés de chemins de fer.
3. Communication du Mexique, page 14.
4. Communication de l'Italie, page 12.
5. La plupart des services de fret ferroviaire au Danemark consistent en une opération de transit de la Suède vers l'Allemagne et inversement.
6. Dans l'affaire GVG, l'UE a reconnu que cette séparation d'entreprises n'était pas suffisante pour éliminer les incitations poussant FS à se comporter comme un opérateur unique intégré.
7. La législation suisse exige des opérateurs ferroviaires qu'ils séparent sur le plan organisationnel et financier l'infrastructure des autres composantes de leur activité.
8. Communication de la Suède, p. 11.
9. Communication du Mexique, page 10.

BACKGROUND NOTE

Introduction

Perhaps the single biggest development in regulatory policy in the last twenty years has been the realisation that government objectives for the traditional public utility industries can often be better achieved by facilitating competition in the parts of these industries which can sustain competition. Such competition usually requires action by the regulator to ensure that entrants have non-discriminatory access to any essential inputs. The application of this principle has revolutionised traditional approaches to regulation of public utility industries.

The rail sector has not been immune to this trend. Indeed, over half the OECD countries allow independent train operators to provide services over large sections of the existing track infrastructure. A few countries have gone further to prevent the owner of the track infrastructure from operating trains. In the UK, responsibility for the track infrastructure was, for several years, in the hands of a private for-profit company, subject to government regulation.

Experience with mandated access and vertical separation in the rail sector to date is limited but so far the level of competition that has emerged is modest. In the UK some mistakes were made with respect to the maintenance of the track infrastructure. Whether this was due to bad management or an inherent difficulty in the separation model is not yet clear. Critics of vertical separation point out that several OECD countries (particularly in North America) have a rail sector (albeit freight-dominated) which achieves a high level of productivity and innovation through competition between rival vertically-integrated rail companies.

Over the last few years there has been a growing feeling in the rail industry that there is a need to re-assess the arguments in favour of mandated access and vertical separation in the rail sector.¹ Is the rail sector somehow different from those other transport sectors (i.e., road, aviation or maritime transport) for which vertical separation is the norm? Should policy-makers be focusing on some other approach to fostering competition in the rail sector?

This paper re-visits the issue of structural separation in the rail sector. What have we learned from country experiences with vertical separation? What does the underlying theory on structural separation say about when mandatory access and/or vertical separation is desirable? How does that theory apply in the rail sector? What factors will determine the optimal structure for any given rail network?

2. Regulation of the rail sector

It is useful to begin by reviewing some of the basic features of the rail sector – the services it provides, the degree of competition it faces for those services and some of the basic characteristics of the industry. These are summarised in the following bullet points:

- The rail sector provides a wide range of transportation services. Rail services can be and should be distinguished by, at least, whether the service involves the transportation of passengers or freight, and the origin and destination of the service.² It is often also useful to distinguish services

which are primarily self-funding from those (such as urban commuter services) which are primarily funded through government funds.

- Different rail services face different levels of competition from other transport modes (i.e., air, water and road transport). The extent of this competition depends in part on geographic, demographic and economic features of the different countries and regions. For example, in the US, Canada and Australia – which feature lower population densities and larger distances between major urban areas – rail passenger services have a smaller share of the passenger transport market than in Europe where population densities are higher and roads tend to be more congested.³
- As a general rule, the rail mode has a competitive advantage over road transport in carrying large quantities of goods which have a low value per unit weight – these are the so-called “bulk” goods, such as grain, coal, oil, minerals and chemicals. For almost all other freight services, rail faces strong competition from the road mode.⁴ In countries which are substantial producers of bulk commodities such as Russia, China and the US, the rail mode tends to have a substantially higher share of the overall freight transport market.
- In the case where the volume of freight traffic originating or terminating at a given location is exceptionally large (e.g., coal originating at a coal mine, or grain terminating at a port) it may be worthwhile constructing a dedicated rail link to the location.⁵ However, for the majority of shippers, making use of the rail mode will require the use of another transportation mode (such as a car or a truck) at either or both the originating or terminating ends. This additional “handling” or “interchange” requirements adds costs and time to a rail journey which reduces its attractiveness relative to the road mode.
- End-users typically prefer “seamless” end-to-end services. When neighbouring rail networks serve different geographic areas, the provision of seamless end-to-end services across the combined geographic area requires a degree of coordination and co-operation between the neighbouring networks. At a minimum, the provision of “seamless” services requires that neighbouring networks share common technical standards and specifications, such as track gauge, signalling systems and traction. In those regions where rail networks have developed to serve geographically distinct sub-continental areas (e.g., Australia’s state rail systems and the Europe’s national railways) a major policy concern has been enhancing the integrated operation of neighbouring rail networks to provide seamless services over a wider geographic area – to enhance the competitiveness of the rail mode with respect to the road mode.⁶
- As a general rule, the very large fixed and sunk costs of establishing a rail link between two fixed locations imply that it is inefficient to duplicate an existing link unless the existing link has reached its capacity. It may also be economically infeasible to duplicate certain other infrastructure facilities, such as railway stations or switching/shunting facilities. Trains on the other hand (locomotives and rolling stock) do not usually involve sunk investments (in some cases they can be leased or, even if purchased, resold in other markets). But in some countries, the need for country-specific investments (due to say, country-specific signalling or motive power issues) means that investment in locomotives and rolling stock may also be substantially sunk. For the purposes of this paper, however, it will be assumed that the above-rail train services are competitive, while the track infrastructure (and associated signalling and motive power infrastructure) is (loosely) an “essential facility”.

In virtually all OECD countries, governments have historically played a major role in the rail sector. Although the reasons for that intervention may have changed over time, at present it is possible to identify the following two, related, reasons for continuing government involvement in the rail sector:⁷

- The presence of market power in the rail mode (particularly, in certain rail services, such as in bulk freight or in urban rail commuter services⁸); and
- The fact that substitutes for the rail mode – particularly road transport – are often not efficiently priced. Although toll roads and various forms of road pricing are becoming increasingly common, it is not yet common practice in OECD countries to directly charge road users for the use of the major part of the road network. As a result, some of the costs of using the road network such as the cost of providing the infrastructure or the cost of congestion may be under-priced or un-priced.⁹

Economic theory demonstrates that where two services A and B are substitutes, the efficient prices for the two services are inter-related. If the price of service B, say, does not include some of the social costs which are incurred in the provision of that service, the price of service B should be increased (for example, through taxes) to cover those external costs.¹⁰ Where this is not possible, as a second best, the price of service A should be reduced to restore the “balance” between demand for service A and demand for service B.¹¹ In other words, where the road mode is under-priced there is an economic argument for also lowering the prices for rail services.¹² In practice, in most OECD countries the degree of under-pricing of the road mode is probably greater for passenger services than for freight services.¹³

In any case, whether the primary problem for any given rail service in any given country is one of market power, or under-pricing of substitutes, the economic implications are the same – the price for the rail service is “too high” and the quantity consumed of the service is “too low” relative to a socially-optimal level.

Therefore, a general objective for the rail sector can be identified which might apply broadly to all OECD governments: The general objective is for the end-user prices for rail services to be at an efficient level (taking into account the price of substitute services) with an optimal level of service quality and variety, a high level of productive efficiency (and therefore a minimum level of subsidy where one exists), and an on-going efficient level of investment and innovation in the rail sector. This objective is set out in the following box, which will be referred to frequently in the remainder of the paper.

Box 1. The general objective for the rail sector:

The general objective of governments with respect to the rail sector is to for the end-user prices to be at an efficient level (taking into account the price of substitute services) with an optimal level of service quality and variety, a high level of productive efficiency (and therefore a minimum level of subsidy), and an on-going efficient level of investment and innovation in the rail sector.

To a large extent the objectives in box 1 are precisely the classic objectives of any government or regulator faced with a natural monopoly. In all natural monopoly industries governments are concerned with efficient pricing, quality, investment and so on. The rail sector differs only in that, unlike many other natural monopoly sectors, it is common for OECD governments to directly subsidise the rail sector from their own funds.

The merit of any policy intervention in the rail sector must be judged by the extent to which it assists the achievement of the objectives set out in Box 1. This applies, in particular, to the decision to enforce

mandated access and/or vertical separation. Although a policy of mandated access and/or vertical separation might facilitate the development of competition, this competition is not an objective in its own right – rather it is a tool which assists in achieving the objectives set out above.

3. Structural reform in the rail sector

This section introduces the different possible approaches to structural reform in the rail sector.

Discussions of vertical integration or separation in the rail sector are made more complicated by the fact that the concept of vertical integration or separation applies not to the industry as whole but to specific services and/or specific pieces of infrastructure. Since the rail industry is comprised of a large number of different services and different pieces of infrastructure, one rail industry may exhibit many different forms of integration or separation at the same time.

For a given rail service, a given piece of network infrastructure will be said to be subject to a regime of *mandated access* if the owner/operator of the infrastructure is required to provide access to the infrastructure to an independent train operator at regulated terms and conditions for the purpose of providing the given rail service over that infrastructure.

For a given rail service and piece of infrastructure, the term “vertical separation” will be used to refer to the situation where the owner of the infrastructure *is not* allowed to provide the given rail service over the given piece of infrastructure itself (although the owner of the infrastructure may provide other rail services on that infrastructure or the same service on other infrastructure). Similarly, for a given rail service and piece of infrastructure, the term “vertically integrated” will be used to refer to the situation in which the owner/operator of the track infrastructure *is* allowed to provide the given rail service over that infrastructure. These terms are summarised in Table 1:

Table 1. Table 1: For a given rail service and piece of infrastructure:

The term:	Means the following:
Mandated Access	Owner/operator of the piece of the infrastructure is required to provide access by an independent train operator to the given infrastructure for the purpose of providing the given rail service.
Vertical Separation	Owner/operator of the infrastructure is <i>not allowed</i> to provide the given rail service itself over the given infrastructure (although it may be allowed to provide other services over the given infrastructure, or the given service over other pieces of infrastructure).
Vertical Integration	Owner/operator of the infrastructure is <i>allowed</i> to provide the given rail service itself over the given infrastructure.

It is worth emphasising again that, under this definition, vertical integration, mandated access and vertical integration are not mutually exclusive. Indeed, the regulatory approach could differ for different services or different parts of the infrastructure. For example, it might be that there is vertical integration over the incumbent network for rail freight service, but vertical separation for rail passenger services (as in the US). In addition, there might be vertical integration for some parts of the infrastructure, but vertical separation at certain key points (or “bottlenecks”) on the system (such as the so-called “terminal railroads” in the US). In Australia, while some commuter-rail services remain vertically integrated, there is mandated access to intra-state regional networks, and vertical separation on the inter-state “standard gauge” network.

It is unlikely that the regulatory approach which is most suited to one service or piece of infrastructure will be the best suited for another service or piece of infrastructure – in other words, it is unlikely that there will be a “one-size-fits-all” solution.¹⁴

Box 2 provides a broad overview of the different structural arrangements in the rail industry which exist at the moment in a few different countries:

Box 2. An overview of different structural arrangements in the rail industry in different countries:

In North America, (i.e., **Canada**, the **US** and **Mexico**) railroads are freight-dominated and vertically integrated. Broadly speaking each railroad owns and operates its own track. There are, however, important exceptions. In particular, there are a large number of very small “switching” and/or “terminal” railroads which are either jointly owned by the major railroads, or are independently owned. These railroads provide special switching services such as access to major cities (such as the major rail terminal in Mexico City). In addition, in Canada and the US there is a passenger rail operator providing service predominantly over track owned by vertically integrated freight railways. This passenger service is predominantly vertically separated (although Amtrak does own a few hundred kilometres of its own track on the eastern seaboard of the US, where it is vertically integrated). In Canada, the passenger service (VIA Rail) is franchised by the government. Lastly, regulatory intervention (e.g., as a condition of merger approval) requires that certain integrated railways provide access to trains from their rivals, a situation known in the US as “trackage rights”. This is an example of what is referred to here as “mandated access”. In Canada, each railroad is automatically granted mandated access to its rival’s track infrastructure within 30 kilometres of a point at which the networks interconnect. The experience in Mexico is described in more detail in Box 3.

In **Argentina**, in the early 1990s the rail network was separated into 6 vertically integrated freight networks and seven vertically-integrated urban passenger networks. These networks were then franchised with very long franchise periods (30 years with the option of a 10 year extension). The intercity passenger services (which were predominately loss making) were vertically separated and separately franchised. The franchise agreements include conditions under which the intercity passenger services will have access to the track in exchange for an access charge.¹⁵

In the **European Union**, the railways typically have a geographic reach roughly equal to the geographic extent of each country (so far there have been no cross-border mergers of integrated rail companies, although the freight services of the German and Dutch rail operators have merged). The European Directives require accounting separation of the track infrastructure from train operations.¹⁶ The precise structural arrangements vary from country to country as set out in table 2 below. In addition, various regulatory functions (licensing, path allocation, infrastructure charging and monitoring of public service obligations) must be “entrusted to bodies or firms that do not themselves provide any rail transport services”¹⁷. These requirements are part of a package which is primarily designed to facilitate the development of seamless rail freight services across several neighbouring countries. A few examples of such trans-border freight operations have arisen (of which Rail4Chem is the most prominent example).

A few countries, notably the UK and Sweden, have chosen to go further to separate the ownership of the track infrastructure and the train operations.¹⁸ The **UK** also took the step of privatising the owner/operator of the track infrastructure (Railtrack). RailTrack under-invested in maintaining the infrastructure. Investigations following a couple of serious accidents revealed the need for massive investment in the track infrastructure.¹⁹ The government refused higher levels of funding, forcing RailTrack into bankruptcy. The British government has set up a not-for-profit enterprise, known as Network Rail as its successor. Putting aside, special rail networks, such as the London Underground or Island rail (on the Isle of Wight), the British rail network remains predominantly vertically separated. More information on the experience in the UK can be found in Box 5.

In **Sweden**, the track infrastructure was separated from train operations in 1988. The primary purpose of this reform was to place the financing of rail infrastructure on the same footing as the financing of road infrastructure. The promotion of competition in-the-market was not a primary objective, although competitive tendering (competition for-the-market) was made compulsory for all services which cannot be operated profitably by SJ (the incumbent train operator). A large number of large number of tenders have been let for both local and long-distance rail services and the market share of SJ has declined to 90 per cent of long-distance train journeys and 40 per cent of all train journeys (including commuter services).²⁰ SJ retains a monopoly of profitable long-distance services, although this is under review.

In **Japan**, a restructuring in the 1990s led to the creation of seven regionally-based vertically-integrated passenger rail companies. There is some co-operation between these regional companies for the provision of long-distance inter-city high-speed (Shinkansen) services. In addition, there is a single national rail freight operator which provides services over the infrastructure owned by these regionally-based companies. Japan (in contrast to the US, say) therefore has vertical separation for freight services and vertical integration for rail passenger services.

In **Australia**, the rail industry was historically predominantly state-based with little standardisation of gauge

across the different states. Apart from commuter rail services in and around the largest cities, and a few long-distance passenger rail services, the industry is predominantly freight based. In 1995 a standard-gauge national network between the major cities was completed. At present most of this inter-state network is owned and operated by a track infrastructure company, with train services provided by a few independent freight and passenger rail train operating companies. Within the states of Victoria and Queensland regional rail freight services are provided by an integrated rail operator subject to a regime of mandated access. Commuter rail services in Melbourne are tendered in the form of a vertically-integrated franchise. Australia therefore has examples of each of the different forms of structural organisation.²¹

Table 2. Table 2: Structure of the Rail Industry in the EU, Norway and Switzerland

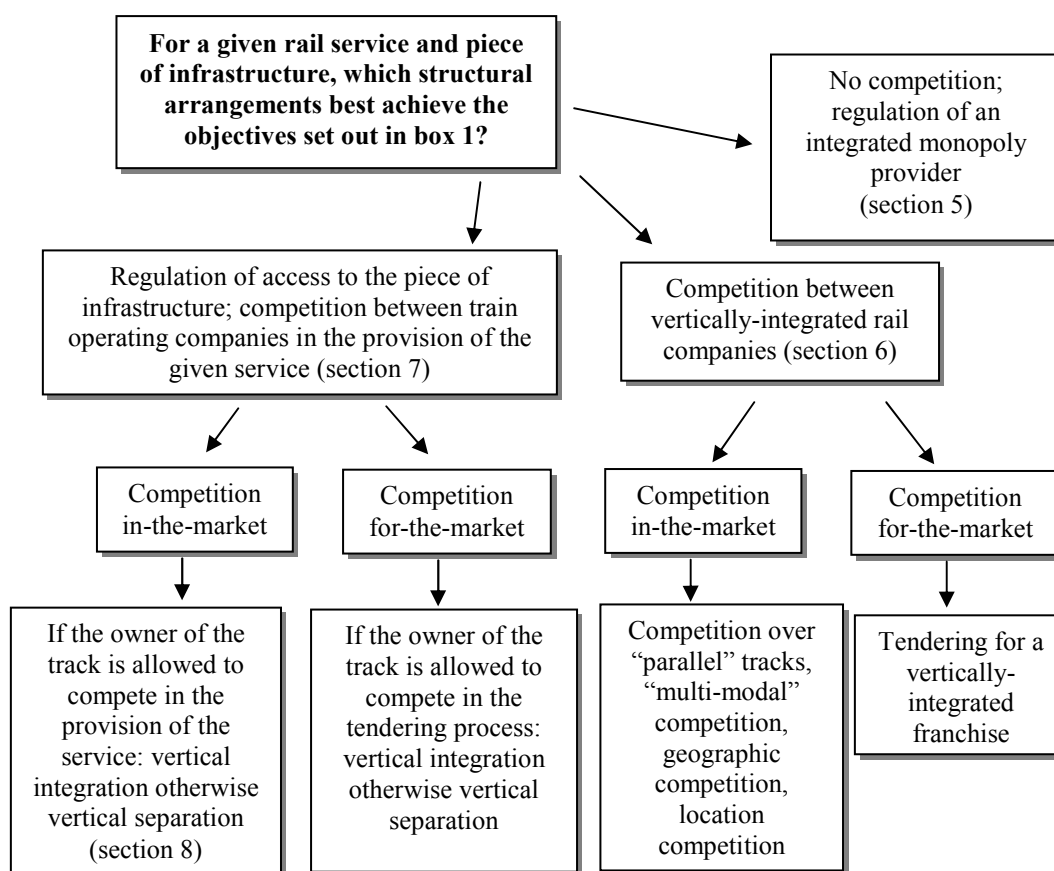
Countries	Organisation
Belgium, Greece, Ireland, Spain, Switzerland and Luxemburg	Infrastructure management and train operations are separate divisions of the same company. Separation is planned in the case of Spain.
Germany, Italy	Infrastructure management and train operations are separate companies within a single holding company (if Deutsche Bahn is privatised it is not clear that the holding company structure will remain).
France, Austria	"Hybrid" structure – in France, RFF is the infrastructure owner, but SNCF undertakes all infrastructure maintenance by contract with RFF and some infrastructure enhancement. In Austria, SCHIG is responsible for infrastructure financing but OBB is responsible for both infrastructure management and train operations.
Portugal, Norway, Netherlands, Sweden, Denmark and Finland	Infrastructure management and train operations are separate companies or agencies and both are state owned (there may also be independent privately-owned train operators). Passenger and freight services are also separated in Denmark, Netherlands, Norway and Sweden.
United Kingdom (except Northern Ireland)	Infrastructure management is an independent regulated private company and train operations are provided by private companies independent of the infrastructure manager

Source: NERA (2004)

4. Outline of the argument of the paper

Having introduced the rail sector and the key terminology, the rest of this paper focuses on the question as to which structural approach best achieves the objectives in box 1. When might it be appropriate to require the owner of the infrastructure to provide access? And, if it is appropriate to provide such access, when is it appropriate to prevent the owner of the infrastructure from providing given rail services? Economic theory provides some broad guiding principles to these questions which, in the subsequent sections we will apply to the rail sector. This section introduces many of the arguments which are developed in more detail in later sections of the paper. The structure of the paper is illustrated in figure 1.

Figure 1. Figure 1: The outline of the structure of this paper



It is notable that, despite the fact that in many OECD countries many rail services face intense competition from other transport modes, in the presence of government subsidies for the rail sector, cross-modal²² competition imposes little competitive discipline or incentive for performance improvement on the rail sector.

The reason for this is that governments find it very hard to commit to limiting the size of the subsidy they are prepared to offer the rail sector. If the size of the subsidy can be influenced by the actions of the rail company, the incentives on the rail firm to improve performance are diminished. The rail firm is likely to find it easier to compete with other transport modes by “tilting the playing field” (through additional subsidy) than by improving competitiveness on a “level playing field”. This is the classic problem of the “soft budget constraint” and is discussed further in section 5. The net effect is that in many OECD countries the importance of cross-modal competition is diminished and policy-makers cannot rely on cross-modal competition to achieve the objectives set out in box 1.

Furthermore, experience shows that in the absence of any form of competition within the rail mode, achieving the objectives set out in box 1 through the regulation of an integrated monopoly rail company is difficult. The historical experience of many OECD countries is that in the absence of any form of intra-modal competition, the rail sector experiences low productivity, low service quality, under-investment and lack of responsiveness to consumer demands.

In order to determine the appropriate role for competition and, ultimately, the most appropriate industry structure, it is necessary to answer the following question: how does the outcome from regulating an integrated rail company differ from the outcome that might be expected from regulating a rail company which faces some form of intra-modal competition?

This paper examines first the scope for conventional in-the-market competition between vertically-integrated firms. As we will see in section 6, a few OECD countries have a rail industry which features competition between vertically-integrated rail companies operating over different routes. Such an industry structure facilitates a degree of competition between these rail companies – whether this is competition over parallel tracks, “multi-modal” competition, “geographic” competition or “location” competition (these terms are explained further in section 6). These forms of competition are typically more effective for freight services than for passenger services.

Particularly in the case of freight-dominated railways, it may be possible to restructure so as to promote these forms of competition between vertically-integrated companies. The experience in the countries of North America is that competition between vertically-integrated railroads has led to a high level of productivity and efficiency in the rail sector with relatively limited regulatory intervention. The remaining regulatory interventions can be focused primarily on the protection of those end-users who face no choice of rail provider.

Not all OECD countries will be able to rely on competition between vertically-integrated rail companies. Passengers tend to be more time sensitive and origin-destination specific. As a result, passengers are less likely to view alternative routes as effective substitutes (especially when an alternative route involves a longer journey time and/or an inter-modal component). Although restructuring into route-based companies will create some competition on those origin-destination pairs which happen to be served by two or more companies, for passenger services the scope for reliance on conventional competition in-the-market between vertically-integrated rail companies is often much more limited.

In some instances it will be possible to achieve the objectives in box 1, even with an integrated rail provider, through some form of competitive tendering (also known as “competition for-the-market”) for the vertically-integrated rail franchise. As discussed later (in section 6), competitive tendering introduces its own problems. However, where it is feasible, it offers the potential for increasing the competitive discipline on rail companies, to better achieve the objectives in box 1.

In some cases, rather than rely on competition between integrated rail companies, it is sometimes possible to facilitate competition between train operating companies by shifting the focus of its regulation from end-user services to the regulation of access to the track infrastructure. The primary benefit of this approach is that, it offers the promise of enhancing the degree of competition within the rail mode and therefore, the extent to which the objectives in box 1 can be achieved.

As before, it is possible to conceive of two different types of competition for the provision of a given rail service over a given track infrastructure, corresponding to competition in-the-market and competition for-the-market. For example, it might be possible to organise a form of competitive tendering for the right to be the sole provider of a set of rail services using the given piece of infrastructure. If the owner of the infrastructure is allowed to participate in this tendering process, this is a form of vertical integration according to the definitions above.²³ Alternatively, the owner of the infrastructure might be prevented from competing in the competitive tendering process, which is a form of vertical separation. Similarly, under conventional competition in-the-market for the provision of the given service over the given piece of infrastructure, the owner of the infrastructure might be permitted to provide the given service over the given infrastructure or not.

Regulating access to an essential facility (such as track infrastructure) involves both benefits and costs. On the benefit side, mandated access offers the promise of competition from new entrants, especially large shippers who now may choose to operate their own trains. Where this competition is effective, the regulator is able to restrict the focus of its regulation to ensuring efficient pricing, quality and investment in the essential input, while relying on competition to deliver efficient levels of price, quality and investment in the related competitive services. Obviously the size of these benefits depends, in part, on the level of competition which is likely to emerge and the difficulty of regulating the input service relative to the end-user services. In addition, in the context of the rail sector, mandating access / vertical separation might have an additional advantage of increasing the range of services which can be seamlessly provided by a single firm. This enhances the competitiveness of the rail mode relative to other transport modes, such as road.

Section 7 examines whether or not it is easier for the government to achieve the desired objectives by regulating the infrastructure or regulating end-user services. This paper argues that allowing access by independent train operators increases certain costs and, in some ways, increases the burden on the regulator. Specifically, allowing access by independent train operators requires new mechanisms for resolving conflicts in train path allocation decisions, for enforcing standards at the wheel-rail interface, and for determining who is to blame for delays. In addition, the regulator must develop new mechanisms for ensuring the provision of an efficient level of quality (including safety) of the track infrastructure and for ensuring efficient and timely investment in upgrades to the track infrastructure.

These additional costs and the additional regulatory burden are larger the smaller the proportion of trains operated by the infrastructure owner. An effectively regulated integrated rail operator has a strong incentive to maintain the quality of the infrastructure – not because doing so is directly rewarded but because doing so ensures that the firm can meet its performance obligations in its end-user services. However, the smaller the proportion of the train traffic which is operated by the owner of the infrastructure the weaker its incentive to carry out such maintenance – as the benefits of the maintenance are, in part shared by other independent train operating companies. This suggests that regulatory incentives for maintaining the infrastructure quality become more important as the share of the traffic operated by the owner of the infrastructure declines. In the case in which the owner of the infrastructure provides no trains of its own, regulatory incentive mechanisms are very important indeed. If those regulatory incentive mechanisms are imperfect, the objectives in box 1 will be less well achieved, the smaller the proportion of the train services provided by the infrastructure owner.

However, allowing the infrastructure owner to provide its own train services is likely to have an impact on competition. Under certain (usual) conditions, an integrated firm will have a strong incentive to prevent the development of competition in the provision of rail services. It can do this by increasing the access or wholesale prices relative to the end-user prices, by reducing the quality of the access service provided to the rival relative to the quality of the service it provides itself, or by in other ways, using its position as owner of the essential input to benefit its own downstream firm relative to the rival.

The regulator can, and usually would, seek to prevent such behaviour through controls on the price, quality and timeliness of the access service. However, the incumbent firm has a strong incentive to continually innovate in finding new ways to raise the price or lower the quality or timeliness of access. Rather than struggle against the incentives of the regulated firm, the government can eliminate the incentive on the regulated firm to restrict access by prohibiting the owner of the essential input to provide services in the related competitive business – in other words, by requiring vertical separation. This is discussed further in section 8.

In summary, what does this analysis tell us about the theoretically desirable structure for a railway company? Unfortunately there is not one simple prescription. The analysis has identified a number of

relevant factors which will vary from country to country. It is, however, possible to identify a few broad principles:

- First, where restructuring to promote competition between vertically-integrated railways is possible (whether competition on parallel tracks, multi-modal competition, geographic competition, or location competition) such restructuring is probably desirable and should be pursued (especially in those countries in which the resources for sophisticated regulatory interventions are limited);
- Second, where (i) competition would be materially enhanced and (ii) the regulatory implications are minor (e.g., when the proportion of independent trains that will operate is small and when the network is largely uncongested), owners of infrastructure should be required to provide access to independent train operators for the provision of certain services. This might include, for example, access to a terminal or switching yards, limited access to a rival's network in the region where networks interconnect (such as the 30-km rule in Canada) or access to an existing network to provide a secondary service, not already provided by the existing network (such as a passenger service on a freight-dominated railway).
- Third, where access is mandated for the provision of certain services, structural solutions are usually required to eliminate the incentive on the owner of the infrastructure to discriminate against other train operating companies providing the given services. These structural solutions might include vertical separation or joint ownership of the essential facility by the train operating companies.
- Fourth, in some of the remaining cases, it may be possible to use competition for-the-market for the right to provide a given set of vertically-integrated services. However this approach introduces significant regulatory issues such as the problem of ensuring incentives to maintain the network assets are preserved as the end of the franchise approaches.

Unfortunately, these principles are not comprehensive. There remain a number of services for which the most appropriate choice between vertical integration and vertical separation is unclear. This includes, for example, heavily-used lines for which there is potential for effective and sustainable competition. In such cases it is not clear whether the best approach is regulation of an integrated monopoly, competitive tendering for the right to provide the services, or vertical separation with in-the-market competition for services.

These arguments are worked out in more detail in the sections which follow.

5. An integrated monopoly rail service provider

Before examining the costs and benefits of different structural approaches and their effects on competition, this section briefly reviews the outcomes that can be expected from regulation of a vertically-integrated monopoly provider of rail services, subject only to cross-modal competition.

As already noted, most of the services provided by the rail sector in most OECD countries face significant competition from other transport modes. Can cross-modal competition alone provide an effective competitive discipline on the rail sector, to achieve the objectives set out in box 1?

Unfortunately, for many OECD countries the answer seems to be no. Few OECD governments are in a position to commit to not subsidising the rail sector or not increasing the size of the subsidies which already exist. If the government cannot commit to limiting the size of the subsidy to the rail sector, cross-

modal competition does not provide an effective competitive discipline on the rail sector – rail management will usually find it easier to take strategic action to increase the size of the subsidy rather than to improve the performance of the firm, especially where the rail sector is subject to potentially large, unquantified non-commercial obligations (such as the obligation to maintain an inefficiently large workforce).

Most OECD governments are not in a position to see the rail sector decline further as a share of the total transport market. As long as this is the case, the government is, in essence, committed to increasing the subsidy in the event of either declining demand or increasing costs in the rail sector. Most governments would find it difficult to distinguish a situation of declining demand due to a reduction in the quality of rail services or an increase in costs due to the inefficiency of the rail operator. As long as the government cannot distinguish legitimate from illegitimate reasons for increasing the subsidy, it cannot commit to not increasing the size of the subsidy in response to poor performance by the rail company. ESCAP (2003) writes:

“The problem is that as long as [railway enterprises] have recourse to deficit financing to maintain supply, railways have little incentive to be cost-effective or to respond flexibly to changes in user demand”.²⁴

The experience in New Zealand illustrates this problem. In New Zealand the rail sector faces stiff competition from the road and water modes. In 1993 the rail industry was sold as an integrated (and unregulated) entity to the private sector. In effect, this sale was an attempt by the government to commit to not inject any further funds into the rail sector. The productivity of the rail sector immediately increased but the purchaser chose not to invest in the long-term future of the sector (whether out of profit-maximising motives or from strategic behaviour is unclear)²⁵. As a result there was “low and declining investment in the rail network over a number of years which led to problems with deferred maintenance and associated safety concerns and declining service capability”²⁶. The government, unable to allow a long-term reduction in services from the rail industry, chose to re-purchase the track infrastructure from the private operator in 2004. In effect, the government’s attempt to not inject any further funding in the rail industry, even through outright privatisation, was not credible. The firm, realising this, could maximise its profits in the short-term by failing to invest for the future.

If governments cannot commit to limiting the size of the rail subsidy, they cannot rely on cross-modal competition to effectively discipline the rail sector. Instead, any such discipline must come from some combination of regulation and/or competition within the rail sector.²⁷

However, experience in the rail industry (and indeed, in other public utility industries) has shown that achieving desirable outcomes through regulation of a monolithic integrated railway with no intra-modal competition is difficult.²⁸ The experience of many countries during the 1970s and 1980s was that the attempt to regulate an integrated national rail system led to poor outcomes – declining rail market share, low productivity, poor quality of service and lack of investment in infrastructure and rolling stock.²⁹

“It is commonly acknowledged that an [integrated national railway] undertaking, with a monopoly on infrastructure use, lacks commercial dynamism and suffers from low productivity. Many experts think that a single national railway undertaking is far too rigid to be able to develop a full range of products capable of appealing to all segments of the customer base”.³⁰

In part, this was a result of imperfect governance arrangements. There was often a lack of clear commercial focus and lack of incentives to improve the quality of services, especially in the case of government-owned railways. In the absence of clear commercial incentives, the use of financial rewards and penalties to incentivise good performance is difficult, if not impossible. In any case, financial rewards

and penalties to enhance productivity are of little use if the government cannot accurately measure and contract for other aspects of performance such as quality of service or safety of trains and passengers. A high-powered incentive³¹ to reduce expenditure is likely to be unsustainable if that reduction in expenditure comes at the cost of an increased risk of accidents.

It is possible that regulatory techniques and processes have improved to the extent that better outcomes could be achieved from integrated railroad systems today than were achieved in the 1970s and 1980s. Some countries in Europe appear to be achieving acceptable outcomes from the rail sector with very little formal separation between infrastructure and operations. Overall, however, the experience of OECD countries seems to be that it is difficult to achieve the regulatory objectives set out in box 1 while retaining an integrated monopoly provider of rail services.

Even though regulation of an integrated rail company is difficult, it may be that achieving the objectives above through reliance on competition within the rail sector is also difficult – in these countries the most appropriate approach necessarily involves a trade-off between imperfect policy approaches. The rest of the paper explores the extent to which we can rely on competition within the rail sector to achieve the objectives above and the role of structural reforms in facilitating that competition.

6. Competition between integrated rail companies

This section considers the extent to which the objectives in box 1 might be achieved through competition between vertically-integrated rail companies.

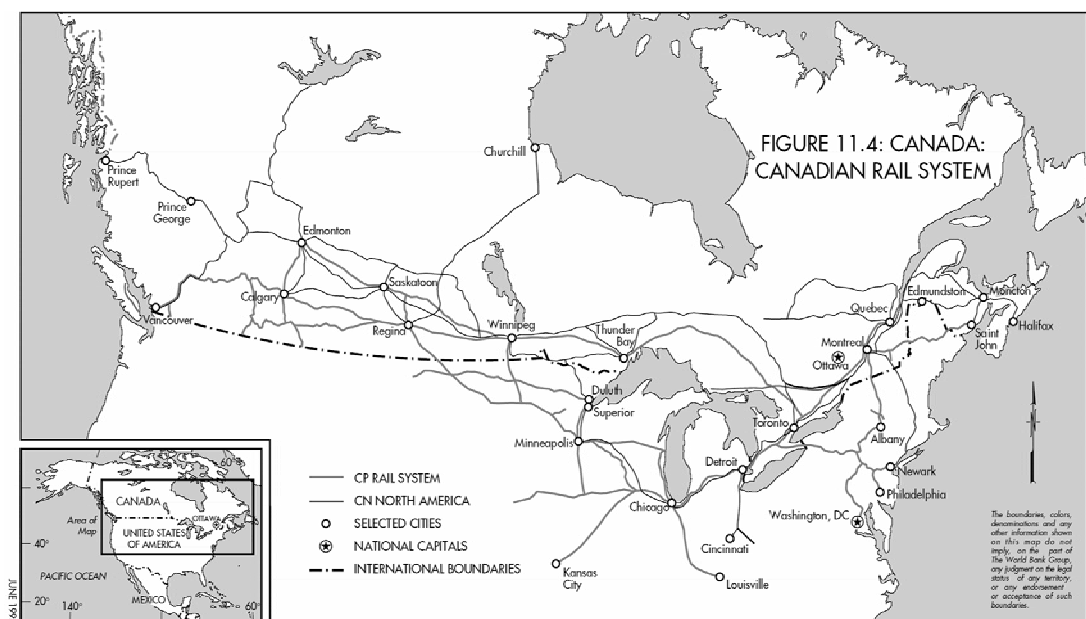
As set out in figure 1 in the previous section, it is possible to envisage two different forms of competition between vertically-integrated rail companies – conventional competition “in-the-market” and competitive tendering or competition “for-the-market”. This section focuses first on conventional competition “in-the-market”. Is it possible to have effective competition in-the-market between integrated train companies? If so, how can such competition be enhanced?

Forms of competition between integrated railway companies

Conventional “in-the-market” competition between integrated rail companies is possible under certain circumstances. For example, competition for rail services over an origin-destination pair is possible when the origin and destination happen to be connected by two different rail routes, over infrastructure belonging to two competing rail companies. This is sometimes called competition over “parallel tracks”³².

Perhaps the clearest example of competition over parallel tracks can be found in Canada. In Canada the two dominant rail networks (the Canadian National and Canadian Pacific railways) both cover the entire southern region of Canada from the Atlantic to the Pacific (See the map below). Most of the major Canadian cities are served by both railways including Vancouver, Calgary, Edmonton, Saskatoon, Regina, Winnipeg, Toronto, Montreal and Quebec. In addition, both networks have track in the US serving Minneapolis, Chicago and Detroit.³³

Figure 2. Figure 2: Competition over parallel tracks in Canada: the Canadian rail network



Source: World Bank (1995), page 286.

The US rail industry also features a number of competing, vertically-integrated railroad companies. The geographic extent of these networks varies significantly from company to company but the largest US railroads have networks which cover many thousands of kilometres and dozens of US states. There is significant overlap in the geographic coverage of these different networks. As in Canada, many US cities are served by two or more independent, vertically-integrated railways. Although, inevitably there remain some rail customers who do not have a meaningful choice of railroads, the US rail industry is widely considered to be broadly competitive and efficient, with a relatively high share of the overall US freight transport market.

There may be some scope for competition between vertically-integrated rail companies even when their networks do not overlap. For example, it may be that a shipper is willing or required to combine the rail mode with other transport modes to achieve the end-to-end service that the shipper desires. In this case, even if two railway companies do not serve the same destinations they may compete in providing one leg of a longer multi-modal journey.

For example, a shipper located in New York, who wishes to transport a container to, say, Sydney, Australia may have the choice of two or more railroads serving different ports on the west coast of the US, from where the container can be transferred to a ship for the remainder of the journey. Even if the railroads do not serve the same port, if the two possible sea legs are close substitutes for each other, an attempt by one railroad or port to lift its price will see freight volumes shift to the other railroad or port.

Alternatively, consider a grain producer located in the central part of the US who intends to carry his grain by road to a nearby railroad for shipment on to a major grain terminal. Suppose that there are two railroads which both can transport the grain to the terminal. If the producer is equidistant between the two railroads, an attempt by one railroad to lift its price will see the producer shift its freight to the other railroad.

More generally, where two rail companies are competing in the provision of the same end-to-end service which requires two or more transport modes, the ability of one rail service provider to raise its price above the other rail company is limited by the difference in the price and quality of the corresponding complementary transport services. This form of competition will be referred to as “multi-modal” competition.

A very similar result is true even when two railroads are not competing in the provision of end-to-end transport services but are competing in the provision of inputs into another good or service which is itself transported to be sold in a competitive market. For example, suppose that a coal mine has a choice of railroad to carry its coal to two different locations from where the coal is converted into electricity by two different coal-fired electricity generators. Let’s suppose that the cost of transporting electricity is sufficiently low so that the electricity is sold in a competitive market with a single price. In this case, the market power of each railroad is limited – in fact it is limited to the extent of the difference in efficiency of the two generators. If each generator is equally efficient the two railroads have very little market power, even though they do not directly compete in providing end-to-end services.

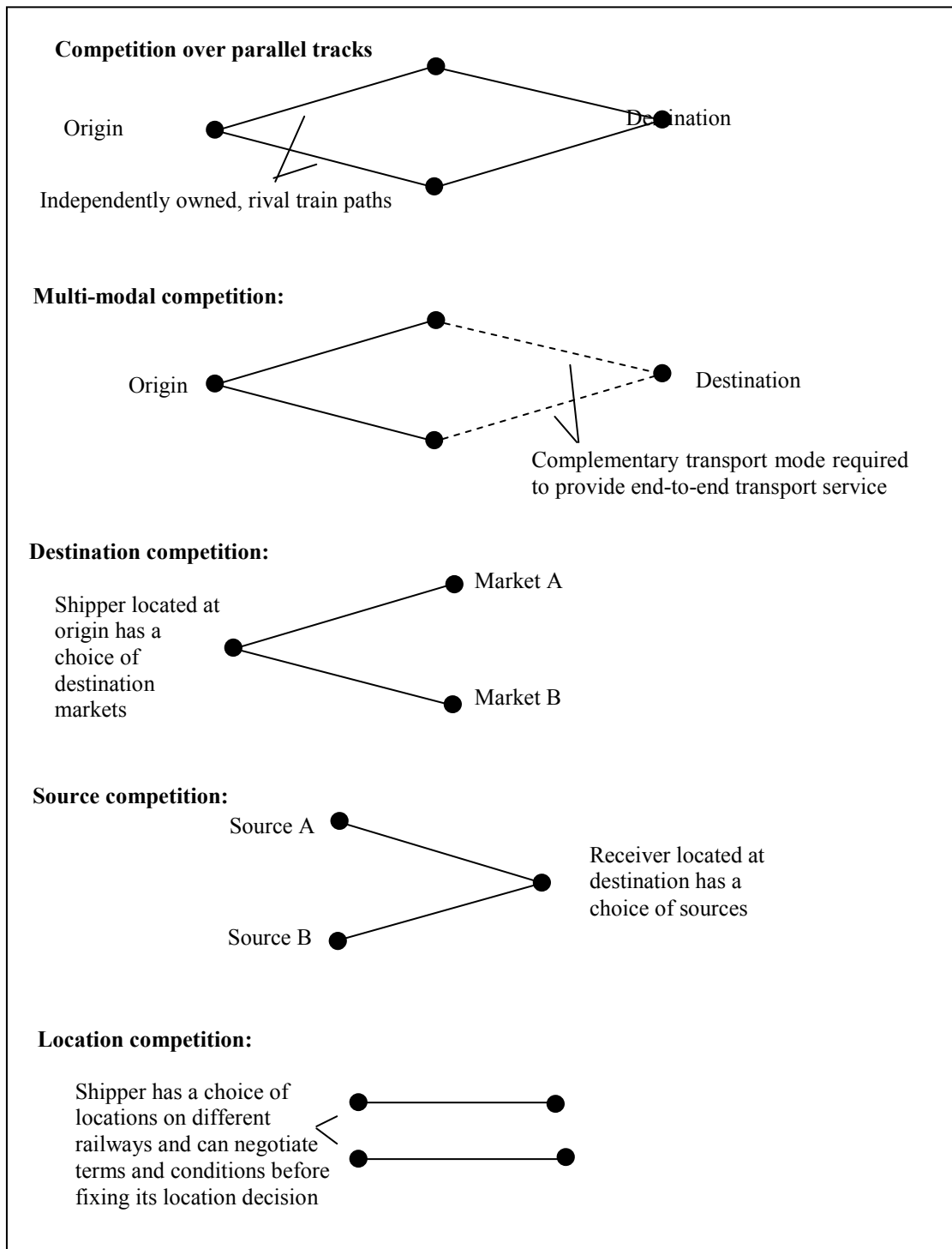
Finally, even where the transported good is not used as an input into a production process, but is simply consumed at its destination, as long as the shipper has a choice of destinations the market power of a railroad company is limited to the difference in the market price of that good between the destinations.

This form of competition – which arises from the ability of a shipper to switch its products to different markets, is called “destination competition”. Destination competition, although not perfect, may act as a partial discipline on the market power of a railroad.

In the same way, the purchaser of a good may be able to source it from two or more origins. If these origins are served by different railroads there again arises a degree of competition between the railroads – if one railroad attempts to raise its rates, buyers will shift their purchases elsewhere. This is known as “source competition”. Like destination competition, source competition is a partial discipline on the market power of a railroad. “Source” competition and “destination” competition are collectively known by the term “geographic” competition.

One further form of competition should also be mentioned. Consider the position of a company which expects to be a major user of rail services and wishes to locate near a rail line. Once the company has made this decision it is, in effect, “captive” to the owner of the corresponding railroad and, therefore, subject to any market power of that railroad. However, before the company has made the decision to sink its assets at a particular location, the company may have a choice of a number of equally-attractive potential locations. If these sites are located on different railroads the company can seek to negotiate a long-term agreement with each railroad in order to secure the best possible price for rail services. In other words, even if a railroad has market power over a shipper once that shipper’s location is sunk, a railroad is likely to have much less market power over a shipper which has not yet fixed its location. This will be referred to as “location” competition.

These different forms of competition are illustrated in the following diagram:



Restructuring to promote competition between integrated railway companies

Obviously, in order to have effective competition between railroads (whether competition over “parallel” tracks, “geographic” competition, or “location” competition), different rail paths must be owned and operated by different railroad companies. Careful restructuring of an integrated railroad can increase the number of alternative rail paths over major traffic routes.

Perhaps the clearest example of this principle can be found in the restructuring of the rail sector in Mexico. In Mexico the national railroad was split into three railroads. All three railroads serve Mexico City. The two northern railways both serve ports on the Gulf of Mexico and on the Pacific and both extend as far as the border with the US to the north. In other words a shipper located in Mexico City has a choice of railroads for importing or exporting – either from the east, the west or the north.³⁴ (see the map below). Box 3 explains the approach chosen in Mexico in more detail.



Source: World Bank

Box 3. Structural Reform in Mexico³⁵

“In Mexico ... when the packages of major rail lines to be concessioned and the short-lines related to them were designed, it was explicitly considered that, where possible, no concessionaire should have exclusive access to major cities (Mexico City, Monterrey and Guadalajara) industrial areas (in the centre-north of the country) or ports (Tampico and Veracruz).

The national rail company “was split into three regional or main lines, several short lines and the Mexico City Terminal. ... For each line and their terminals, a single firm controls all the infrastructure facilities and rail operations. The Mexico City Terminal, where major railroad exchange takes place, is jointly and equally owned by the three companies and the government, thus guaranteeing equal access to existing firms.

The concessions of the three regional companies prevents holders from acquiring more than 5 per cent of the other regional companies and obligates them to provide competitive access in specific points addressed in each title. Railroad carriers are not impeded from building and operating new facilities, once they obtain the respective concession, nor do they face restrictions on participation in other transport sectors. In fact, regional companies strategically chose entry into the railroad freight transport business in order to develop multimodal transport systems that would allow them to improve their competitive position in other transport markets. ...

Maximum tariffs are set by concessionaires and are not required to be related to costs. Tariffs, including those for

interconnection, must be registered with the government agency SCT and must be non-discriminatory. Service contracts are private and confidential agreements and are registered only to ensure that maximum tariffs have been respected. In general concessionaires set high maximum tariffs and apply discretionary discounts.

The regulatory framework establishes mandatory interconnections points and non-discriminatory practices. Under the railway law the SCT is empowered to impose mandatory trackage or haulage rights in the concession in order to promote interline traffic as a source of competition for main lines. In addition, regulations require connecting railroads to exchange cars and empower the SCT to determine additional interconnection points. At present the SCT has imposed 62 mandatory trackage rights on specific routes. There are no privately agreed trackage rights and there are no mandatory or voluntary haulage rights. In practice, as a result of both strategic behaviour in establishing tariff discounts and disagreements regarding interconnection, interline traffic has been substantially halted.

Between 1996 and 2003 the rail sector improved in productivity and has begun to recover market share from the road mode. The total tonnage transported has increased 53% while the ton-kms has increased 37%. Labour productivity has increased 357%, locomotive productivity 48%, fuel productivity by 15% and traffic density by 37%. Indicators related to service quality have shown significant improvement. For example the number of consumer complaints has fallen 66% and accidents have decreased by 80%.

At the end of 1999 a wide majority of private investors and government officials agreed that, particularly when compared to what had happened in other sectors, railroad restructuring through open auctions in Mexico constituted a fine example of transition from a model of public sector dominance to a system of private operation of an existing transport infrastructure. The competition issues that may have emerged were tackled in the design stage with the help of the competition agency. ...

Directly, or through its participation in the Inter-ministerial Divestment Commission the competition agency (Comisión Federal de la Competencia, CFC) evaluated the segmentation of the railway system in order to suggest origin-destination stretches for which establishing rights-of-way or of haulage was essential to ensuring that the service be offered in a competitive context and thus prevent the exercise of substantial power by concessionaires. In addition, the CFC issued suggestions regarding competition elements that were included in the law and in the concession contracts".

Although competition over parallel tracks is likely to be more effective for freight services, restructuring of a railway may also enhance competition for some passenger services. For example, there is a small degree competition over parallel paths between the route-based franchisees in the UK. Even though the franchisees have an effective route monopoly some competition between franchisees does exist "where two or more franchises service the same pair of points, and price competition has broken out in a number of corridors".³⁶

There is a substantial amount of literature from the US that the degree of competition between competing vertically-integrated US railroad companies has a direct impact on rail freight rates. As might be expected studies have shown that the wider the choice of railroads faced by any one shipper, the lower the freight rates.³⁷ At the same time, competition between railroads creates strong pressure to ensure that railroad companies are efficient, innovative and to make timely, efficient investments in new infrastructure and rolling stock.

In the presence of effective competition between vertically integrated railroads government intervention can be limited – primarily to the protection of shippers who do not have a meaningful choice of railroad for all the desired rail services. Inevitably some shippers will be "captive" to a single railroad. For these shippers additional regulatory measures may be required (such as direct control of prices, quality, etc. or through mandated access for services to these shippers).

In addition, the scope for competition between vertically integrated railroads can often be materially enhanced through additional regulatory interventions of the kind discussed later in this paper. For example, it may be that competition can be materially improved through a limited use of mandated access or vertical separation. In the US, for example, there are a large number of "switching" or "terminal" railroads which

allow access to key facilities (such as facilities in major cities) to be shared amongst the major railroads. In both the US and Canada some railroads have an obligation to provide access to other railroads – again in the interests of enhancing competition.

Assessment of the scope for restructuring to promote competition between integrated railway companies

The experience in the US and Canada and the restructuring in Mexico suggests that, at least, in these countries, it is possible to structure the rail industry in such a way as to achieve a degree of effective competition between integrated railway companies. But, to what extent can this experience be generalised to other countries?

To begin with, we may note that restructuring to promote competition between vertically-integrated rail companies is more likely to be effective for freight rather than for passenger transportation. Passengers (especially business travellers) tend to be more time sensitive and less able to substitute for alternative origin-destination pairs. In the event of a price rise on the route A to B, only a few passengers will switch for the route A to C, using another mode to complete the journey from B to C. Even where there are two train paths from A to B, these paths are unlikely to be of the same length and quality – one route will be faster than the other, creating a competitive advantage for the faster route. In short, the scope for reliance on competition between integrated railway companies is significantly diminished in passenger-dominated railways.

Even in those countries with freight dominated railways, the scope for restructuring to achieve competition over parallel tracks may be limited. Competition over parallel track requires the existence of two or more train paths over the major traffic routes. But the economies of density in the provision of track infrastructure tend to limit the number of independent track paths. The greater the economies of density, the greater the tendency for the network to adopt a “hub-and-spoke” configuration for which there is only a single track path between any two points on the network.³⁸

Even where parallel tracks exist, separation of those tracks into competing companies may reduce the efficiency of operation of the railway, as parallel tracks can sometimes be operated in a manner analogous to a double-track line, significantly increasing the capacity of the system. It is possible that some of these benefits of integrated operation could be achieved through agreements between separate independent railway operators. This is common, for example, in the US: “where two railways have parallel track they may agree to integrate their tracks to increase operating efficiency by forming a double track line”³⁹. In addition, railroads may agree to “permit the use of tracks of another railway to avoid a temporary service disruption due to unforeseen events, such as natural disasters and derailments”⁴⁰. However, such inter-firm agreements may limit competition and are not likely to be a perfect substitute for full integration of the track.

An important cost of restructuring into separate vertically-integrated railways is that it reduces the scope for “seamless” end-to-end transportation services.⁴¹ The more “fragmented” the rail network – that is, the larger the number of railway companies for a given railway infrastructure – the less likely it is that any one rail company can provide any given end-to-end service. As a result, in order for an end-user to purchase the end-to-end service that he/she desires, the end-user must purchase at least two separate services from two or more different rail companies. This gives rise to two problems:

- The need to switch between rail companies lowers the overall quality (including timeliness and reliability) of the end-to-end service relative to the case in which the end-to-end service is provided by a single company.⁴² Campos (2002) writes:

“When an activity is not vertically integrated, each part of the production process is under the control of separate entities with potentially divergent objectives. This can result in a very low performance as compared with an operation under the control of only one supervisor. Suppose a passenger takes a train to go from A to C and there is a stop at an intermediary point B. When segments AB and BC are operated by different carriers, it is less likely that arrival at and departure from B will take place at the same station, or that the timetables will be compatible, or that luggage will not need a new registration, etc. In all transport activities, vertical integration can facilitate the resolution of problems at the nodes, particularly the trans-shipment of cargo in multimodal transport”.⁴³

- The need to purchase two separate services to obtain the desired end-to-end service raises the price of the desired end-to-end service due to the problem of “double marginalisation”.

If each network has a degree of market power over its own route, the sum of the prices for these separate services will exceed an efficient price for the integrated end-to-end service. For example, if one railroad is dominant on services from A to B, and another railroad is dominant on services from B to C, an end-user seeking transport from A to C may need to purchase one service from each railroad separately. This end-user then faces a “double-marginalisation” problem – the effective mark-up over marginal cost on the combined service is equal to the sum of the mark-ups on each of the separate services and is likely to exceed the efficient mark-up on the desired end-to-end service. A single firm which combines both existing firms could charge a price for A-C which is efficient and is different from the sum of the prices from A-B and B-C.⁴⁴

As noted above, to an extent these problems (the lack of “seamless” operation and the “double marginalisation” problem) are offset by the fact that two neighbouring networks can (and experience shows, often do) negotiate a reciprocal relationship under which they both voluntarily agree to provide access to trains from the other network, so that both networks can provide a wide range of seamless end-to-end services. Such agreements, when reached voluntarily, will typically not enhance competition between the two networks involved. However, they will enhance the range of seamless services provided by each network.

A carefully designed restructuring would seek to maximise the scope for intra-modal competition while limiting the amount of traffic that must pass between rail carriers. However, it seems inevitable that any restructuring into vertically-integrated route-based companies will increase the volume of inter-network traffic.

Restructuring into vertically-integrated route-based companies would be a challenge in Europe, say, where railway companies have historically served not different routes but different national territories. Restructuring of regional railways into international route-based railways would need to address problems of differences in track gauge, track quality, signalling systems and differences in motive power systems that have arisen in different countries. The EU is seeking to develop trans-European freight routes. In one possible future development, different international freight routes (either East-West routes or North-South routes) would be owned and operated by different railway companies. One study for the European Union briefly raises the possibility of a similar structure for passenger railways:

“Ideally, rail markets should not be defined with reference to national borders: doing so inevitably introduces inefficiencies. Indeed, the alternative of defining the liberalised market by reference to a specific ‘trunk’ network (as has been done for freight liberalisation) might be preferable in principle ... However, the existence of different public service contracting regimes within different national boundaries makes it inevitable, at this stage in the Community’s development, to have regard to such geographic borders”.⁴⁵

In summary, despite the significant economies of scale in the provision of rail infrastructure, there is sometimes scope for competition between integrated railway companies. This competition is likely to be particularly intense when there are multiple rail paths along major trade routes or where multi-modal services are a good substitute for direct rail services. Since freight services tend to be less time sensitive and less destination-specific than passenger services the range of potential substitutes for any given rail service is wider. The various forms of competition above (multi-modal competition, geographic competition, and location competition) are likely to be more intense for freight than for passenger services.

Careful restructuring of an existing rail network into separate rail companies operating separate rail paths may create effective competition, especially for freight services. This form of competition appears to be most attractive in those countries with a reasonably dense rail network which could be separated to form a number of competing operators and for which there is limited public sector expertise or experience in sophisticated regulatory arrangements required for mandated access to the track infrastructure (discussed below). For these reasons the OECD Competition Secretariat has recommended this approach for consideration by rail policy-makers in Russia and China.⁴⁶

The potential for competitive tendering

So far this section has examined the scope for conventional competition in-the-market between vertically-integrated railways. It is also possible to envisage competition between vertically-integrated rail companies in the form of competition for-the-market or competitive tendering.

Under competitive tendering the government sets out, in a series of documents, the end-user prices and services it desires, the length of the “franchise period” (and possibly other requirements such as the level of investment in track or other infrastructure required). The government then accepts bids from potential service providers – either the amount they would be prepared to pay, or the subsidy they would need to receive – in exchange for providing the specified services.

Competitive tendering for a vertically-integrated rail operation is relatively common in OECD countries, particularly for urban commuter rail services.⁴⁷ Box 3 above mentions the experience of Mexico in tendering for very long-term vertically-integrated franchises. In Sweden, competitive tendering is compulsory for the loss-making routes of SJ (the former national railway company). A large number of local and long-distance routes have been tendered, to the point where SJ is now a minor player in the regional/local tendered rail market (with six active competitors) and four competitors in the long-distance tendered rail market. SJ’s share of national passenger rail revenue has declined from 97 per cent in 1998 to 73 per cent in 2000.⁴⁸

- However, competitive tendering introduces a number of new issues which must be addressed:
- The potential for “hold up” or threat to seek renegotiation of contractual terms and conditions if the failure to perform imposes costs on the government;
- The potential for the franchisee to fail to invest in new assets or maintain existing assets as the end of the franchise life approaches;
- The lack of parity between the incumbent franchisee and rival bidders at the time of contract renewal;
- The specification of how the prices and services required will evolve over the life of the franchise.

In many cases the successful franchisee would impose a significant cost on the government if it ceased to provide the franchised services ex post. This might be either because the costs to consumers of a service interruption would be very significant or because the costs of re-franchising the service are themselves significant.⁴⁹ When the franchisee can impose significant costs on the government by ceasing to provide the franchised services the government is vulnerable to “hold up” – the franchisee can seek to renegotiate to obtain better terms and conditions ex post. Anticipating this possibility, the franchisee can be over-optimistic in an attempt to win the franchise ex ante.⁵⁰

In the UK many of the successful tenderers for the franchised train services subsequently went bankrupt. Whether this was due to unrealistic forecasting at the time of the tendering process or strategic anticipation of future bailouts is unclear. In any case, bailouts were forthcoming. The UK government was forced to significantly increase the size of the subsidy above the level which firms bid in the tender process. In Melbourne Australia, one of the two successful tenderers for urban passenger commuter rail services subsequently decided to cease providing services – these services were taken over (at a renegotiated price) by the remaining franchisee.

There are a few actions which governments can take to minimise the risk of hold-up ex post.⁵¹ These actions include requiring franchisees to post a significant bond and/or retaining the skills in-house necessary to provide the tendered services in the event of default by a franchisee. Overall, however, the larger and more complex the tendering process and the more politically sensitive the service, the greater the likelihood of hold up of this kind.

Another key issue which must be addressed in the design of a competitive tendering process relates to incentives for maintaining any assets whose life extends beyond the end of the life of the franchise. If the length of the franchise is shorter than the life of the underlying infrastructure there is a risk that the franchisee will under-invest in the infrastructure or will allow the quality of the infrastructure to decline as the end of the franchise approaches. This problem arises because the incumbent franchisee cannot be sure that it will win the franchise again in the future. Any benefits the firm receives from upgrading the infrastructure which arise in the future (after the franchise is renewed) must be discounted by the probability that the franchise will not be renewed.

If the government could directly observe the quality of the infrastructure the government could specify requirements to maintain the infrastructure to a given quality as a condition of the franchise. However, accurately measuring the quality of the infrastructure in an objective manner is difficult, so an incentive mechanism to maintain the quality is inevitably imperfect. There is therefore a risk that the franchisee will not invest in the infrastructure as the end of the franchise life approaches. There have been allegations in the UK that existing franchisees have allowed service quality to decline following the announcement of a forthcoming change of franchisee.⁵²

In addition, under competitive tendering, as under conventional price regulation, the government must carefully specify in advance the price and quality of the services to be provided and enforce these requirements ex post. However, service requirements change over time. It may be efficient for prices to rise or fall, for new services to be introduced and/or old services phased out. The longer the franchise period (more than say 5-10 years), the more difficult it is to contractually specify in advance the price and quality of required services over the life of the franchise.

In the case of Mexico, Argentina, Chile and Brazil, competitive tendering processes were carried out with very long franchise periods. This reduces the problems associated with maintaining incentives to invest as the end of the franchise period approaches. But, exacerbates the problem of specifying in advance what services are to be provided and at what price over the life of the franchise. As a result, very long-term franchises must either leave the required price/quality/investment levels unspecified in the medium and

long-term (i.e., left largely unregulated as was done in Mexico) or specified periodically by an independent regulatory authority – in which case the competitive tendering approach is essentially the same as the “regulation” approach discussed in section 5 above.

Another issue with competitive tendering is the problem of bidding parity at the time of the franchise renewal. Inevitably the incumbent franchisee will be at an information and resources advantage relative to other bidders. The incumbent franchisee has already incurred any sunk costs involved in providing the services such as the costs of learning how to provide the service efficiently. It also has existing contracts with staff who collectively hold nearly all of the specific human-capital related to the history and operation of the franchise. It also holds documentation on the operation of the franchise assets including any IT systems it has developed and has a detailed knowledge of the likely maintenance costs, maintenance techniques and likely future investment requirements. If this information and resources advantage is substantial, potential rivals will be unwilling to bid against the incumbent, reducing the level of competition at the time of franchise renewal.⁵³

The government can take some actions to enhance bidding parity at the time of renewal by, for example, allowing for detailed audit of the condition of existing assets, and/or ensuring that staff with key human capital are transferred to the new franchisee. The bidding process can also be enhanced by creating a number of roughly similar franchises which are franchised to different companies. In a manner analogous to “yardstick” competition, the operator of an existing franchise in the same country is at less of an information disadvantage than a *de novo* new entrant. Maintaining a number of tendered services operated by different companies maintains a pool of potential bidders as franchises come up for renewal in the future.

As in any market, the extent to which competitive tendering will deliver increased efficiency or improved service quality depends on the extent of the commercial freedoms available to the successful franchisees. If the successful franchisee is significantly limited by the terms of the franchise in, say, the extent to which it can optimise the size or quality of the workforce, or in the choice of rolling stock which it can use, the expected gains of competitive tendering will be correspondingly limited.

As already noted, competitive tendering for vertically-integrated services is relatively common for urban commuter services. Competitive tendering for long-distance freight services has been carried out in Mexico and Argentina. It is too early to tell whether or not there will be problems with maintenance of assets or bidding parity at the time these contracts come up for renewal.

7. Regulation of access to the track infrastructure

Having explored the scope for competition while retaining vertically integrated rail services, this section examines the major alternative approach – competition between train operating companies supported by the regulation of the terms and conditions of access by independent train operators to track infrastructure owned or operated by another firm.

As indicated in figure 1, competition between train operating companies can take one of two forms: either conventional competition in-the-market, or competition for-the-market (competitive tendering). In both cases the owner of the infrastructure could be allowed to participate in this competition (“vertical integration”) or could be prevented from doing so (“vertical separation”). However, for this section the focus is not on whether or not the owner of the infrastructure is allowed to provide the given rail services (that issue is discussed in the next section). Rather, this section focuses on the costs and benefits of requiring the owner of the infrastructure to provide access to independent train operators to provide the given services.

Benefits of mandating access to the track infrastructure

The primary potential benefit of allowing independent train operators access to the track is that, by enhancing the scope for competition, it enhances the probability that the objectives set out in box 1 will be achieved – namely that rail services that consumers desire will be produced efficiently and sold at an efficient price, with on-going investment in quality and innovation in, at least, the above-rail elements of the rail industry. BTRE (2003) explains the competition benefits of mandated access in the rail sector as follows:

“Mandating access to rail infrastructure can use on-track competition to encourage on-rail technical and dynamic (or production) efficiency. Access reform introduces a way for train operators to compete with each other for shippers’ freight movements. It may draw in new train operators – including shippers operating their own trains. This infusion of competition and new operators fosters innovation. Lower train operating costs then enable operators to offer lower freight rates and more freight customer-responsive services. This also acts to improve train services competitiveness relative to road services”.⁵⁴

A second important benefit of mandating access to the track infrastructure is that it allows a greater scope for seamless provision of rail services. BTRE (2003) explains this benefit as follows:

“Since the development of railways, freight trains have tended not to extend beyond the track owner’s network. Consequently, as freight flows have lengthened [inter-network] coordination problems have increased as freight flows extend beyond those networks ... Separation of control of trains from track enables separate development of (seamless) train operations across infrastructure networks and increases rail’s geographic market reach. ... These improvements would therefore enhance rail’s competitiveness”.⁵⁵

Obviously the extent to which mandated access promotes the desired objectives will depend on the level of competition between train operating companies which is realised (whether competition for-the-market or in-the-market). In the case of some rail services, it may be the case that even with full and non-discriminatory access to the infrastructure, the scope for competition from conventional in-the-market new entrants may be quite limited. This is likely to be the case for, say, urban passenger commuter services and, possibly, non-bulk freight services.

There is some econometric evidence that there remain some economies of scale in train operations in the sense that costs increase less than proportionately to the volume of services provided over a given infrastructure (in part because it is usually possible to add additional carriages to existing trains rather than to operate new trains). This effect is known as “economies of density”. Several authors have noted the existence of economies of density in railway operations. For example, Pittman (2003) writes:

“There is a consensus among analysts that most modern railroads operate in a region of economies of density. The results of Ivaldi and McCullough (2001) ... are representative: they find returns to density at their sample means of 1.65, meaning that if all outputs are increased by one percent, costs (including track maintenance costs) increase by only 0.65 percent. They conclude that ‘even if railroads were separated into operational and infrastructure entities, the firms would still experience operations returns to density and (like airlines) would enjoy large market shares. ... An open access regime would not necessarily lead to competitive outcomes’”.⁵⁶

The Bureau of Transport and Regional Economics in Australia reaches similar conclusions:

“We should note the strong degree of economies of density in non-bulk freight train traffic. A consequence is that reform is highly unlikely to result in more than a few train operators providing

competing services ... [Similarly] the economics of bulk freight are that a given volume of freight is more efficiently operated with only one train".⁵⁷

Freebairn (1998), referring to the prospects for competition in train services, writes:

"Given likely scale economies associated with maintaining a range of services, with marketing, and the size of trains relative to current and prospective demands, it seems likely that a few operators rather than many, will dominate most lines, and in many of the intrastate lines there may be just one train operator".⁵⁸

In rail passenger services, the scope for competition is further restricted by consumers' preference for higher-frequency services. This preference is particularly strong on short to medium distance services, operating over distances of less than 200 km. For such services, Steer Davies Gleave (2004) argue that the total market demand would have to be very high for the market to support two operators competing on equal terms. For services up to 800 km, they consider that frequency of service is a less important consideration for end-users, "nevertheless, passenger volumes would still need to be above those required for a comparable air service for competition to be sustainable"⁵⁹. The authors explore in detail the scope for in-the-market competition in train services in four countries (Germany, Spain, Sweden and Hungary) and conclude that in the case of domestic routes route densities are generally too low to support direct on-rail competition between commercial domestic services except in the case of a few high-speed services on certain corridors (such as Madrid-Barcelona).⁶⁰

The limited scope for in-the-market competition is borne out in the experience of those countries which have liberalised rail transport services so far. In the case of passenger services, there are very few examples of sustained in-the-market competition between passenger train operators. For example, in Germany (which has been one of the most successful at introducing in-the-market competition for passenger services) the degree of competition from in-the-market passenger services is marginal at best:

"After just a few months, Connex discontinued an interregional train between Neuss and Rostock (InterConnex) in October 2003. Since then, there have been two regular services run by Connex (Gera-Berlin-Rostock and Cottbus-Berlin-Stralsund) and one night train service operated by Georg Verkehrsorganisation in cooperation with Swedish SJ, in addition to the DB AG products in the long-distance passenger sector. There are also a large number of seasonal and charter services offered by private companies in the non-subsidised long-distance passenger sector."⁶¹

There has been somewhat more success at introducing competition into freight services, but in all cases the freight market remains highly concentrated. In Germany, for example, competitors of Railion Germany AG (formerly DB Cargo) achieved a market share of 6.9 per cent in 2003.⁶² In Switzerland, BLS Cargo (which competes with SBB in the freight transport market) has seen its market share rise to 12 per cent in 2003.⁶³

Overall, while there is greater potential for effective competition in freight rather than passenger services, our expectations about the likely level of in-the-market competition that will arise in a regime of mandated access should, in both cases, be suitably modest.⁶⁴

The rest of this section looks at some of the problems that must be addressed under mandated access.

Costs of mandating access to the track infrastructure

In order to effectively regulate access to the track infrastructure, the regulator must partially shift its focus from regulating end-user services (prices and quality) to regulating an input service – access to the track (again, both price and quality). Is it easier for the regulator to meet the objectives above when

regulating the price and quality of end-user transport services, or when regulating the price and quality of access to the track infrastructure?

There are a number of arguments which suggest that achieving the desired objectives for the rail sector is, in some ways, harder when regulating access to the infrastructure than when regulating end-user services. These arguments relate to (a) economies of scope, on the one hand (which raises the cost of providing rail services through mandated access relative to an integrated operator) and (b) difficulties of establishing and enforcing the right regulatory incentives when regulating access to the infrastructure, relative to the case of regulating end-user transport services.

As will be seen shortly, many of these arguments will be more important the smaller the share of trains operated by the infrastructure manager. In many cases, the problems identified here will be quite small if the mandated access only applies to a very small share of the total train traffic. The full impact of these issues may only be felt when the mandated access reaches a point where the infrastructure manager provides very few, if any, trains of its own. In general, the greater the share of the independent train operators in the overall train traffic, the greater the importance of regulatory incentive mechanisms on the infrastructure owner to resolve congestion efficiently and to deliver the desired quality and investment in the infrastructure.

The reasons why it may be harder to achieve the objectives above when regulating access than when regulating end-user services, can be summarised as follows:

- *It may be harder for the regulator to set fully efficient prices for access to the track infrastructure when regulating the prices for the track infrastructure directly than when regulating the prices for the end-user services.*

If the track infrastructure must recover a contribution to its fixed costs through charging for some services above marginal cost, economic theory clearly demonstrates that it is efficient for the mark-up above marginal cost in the access charges to be related to the elasticity of demand for the end-user services produced using the access service (this is known as Ramsey pricing). But if the regulator does not know or cannot observe the precise nature of the goods or passengers carried by a train it cannot correctly relate the track access charges to the end-user demand for these services.

The last OECD roundtable on rail noted: “Separation of track from [train] services will make the application of Ramsey efficient pricing very difficult, if not actually impossible”.⁶⁵ BTRE (2003) adds: “This is because the infrastructure manager negotiates with the train operator, not with the train operator’s customer. As a consequence, the manager has a much-diminished ability to perceive the shipper’s price sensitivity”.⁶⁶ “In principle, *integrated* operators can use Ramsey-type price discrimination across freight commodities but it would be difficult to justify such discrimination across *operators*”.⁶⁷

The inability of the regulator to properly differentiate the track access charges may, in principle, limit the ability of rivals to compete and/or may undermine the ability of the track infrastructure to efficiently recover a contribution to its fixed costs. Since the fixed costs of the infrastructure are a larger share of total costs in rail than in other transport modes⁶⁸ this is a relatively more important issue than in other transport modes. The magnitude of this concern will depend on the share of the total train traffic operated by the infrastructure owner and whether or not the infrastructure owner attempts to recover all infrastructure costs in track access charges.⁶⁹

- *It may be harder to ensure efficient and timely investment in upgrades to the infrastructure.*

Upgrades to the rail infrastructure impose both costs and benefits on train operators. But different train operators will incur different shares of the total costs and benefits. In the case of a major investment project, some operators may benefit strongly while others may be made significantly worse off. Obtaining agreement to a network augmentation will therefore require either (a) prolonged and costly negotiations between the different parties, or (b) a decision by a regulatory authority at arms-length from the rail industry. Either way, the investment decisions are unlikely to be made in as timely and efficient a manner as would be the case if a single firm provided both track and train services: “A number of investments will be made that should never have seen the light of the day whereas other investments of great importance to the railway’s future competitive situation run the risk of not being implemented”⁷⁰

Kessides and Willig (1998) write: “The provision of many innovative and market-responsive rail services may require specific investment in infrastructure, such as maintenance or upgrading of way and structure facilities, construction of loading and transshipment facilities and building of spurs of track to reach a shipper’s location. It may be difficult and inefficient for any [train] operator to coordinate, as necessary with the infrastructure monopoly entity, especially if their incentives with respect to investment behaviour are not in harmony”.⁷¹

The smaller the share of the total train traffic operated by the infrastructure owner, the greater the cost of obtaining agreement on an efficient path of infrastructure investment. Even where the correct investment decisions are made an infrastructure owner which provides few train services of its own will not necessarily face strong incentives to carry out investments or upgrades at the minimum cost. Overall, the smaller the total train traffic of the infrastructure owner, the smaller the likelihood that the right investment is made, at the minimum cost and at just the right time (e.g., timed to coincide with upgrades in other parts of the network or to upgrades in the above-rail facilities).

- *It may be harder to manage congestion and ensure efficient use of the available infrastructure capacity.*

The addition of a new train service on part of the infrastructure may displace one or more existing services, particularly when the network is congested and/or the new service operates at a different speed to the existing services. In principle, adding a new service to an existing network is efficient only if the value of the new services exceeds the economic value of the displaced services. On an integrated rail network this analysis can be carried out as a simple internal cost-benefit trade-off. In a network in which there are a large number of independent operators, obtaining efficient use of capacity requires a mechanism for efficiently allocating scarce network capacity. Again, allocating scarce network capacity requires either prolonged and costly negotiations between the interested parties or a decision by an independent allocation authority. As before, an administrative allocation mechanism is unlikely to be able to obtain all the necessary information and make any necessary trade-offs efficiently. In some cases it is theoretically possible to allocate scarce capacity efficiently with an auction mechanism. In practice, it is not yet possible to point to examples of the use of auctions to allocate access to track infrastructure.

“Efficient, safe, and delay-minimising utilisation of track and yard facilities by trains, cars and shipments requires close coordination in accordance with priorities that are driven by considerations of both operations and shipper sensitivities. Competing [train] operators will

compete vigorously and acrimoniously over scarce or congested infrastructure facilities and constantly sorting out their claims will be important for the overall efficient and responsive operation of the rail system. This would be difficult for an unintegrated system with a monopoly infrastructure entity, but it seems virtually impossible to accomplish efficiently under conditions of rules against discrimination and infrastructure pricing that is either tightly regulated and/or ... politicised".⁷²

BTRE (2003) write: "When the railway is integrated, internal liaison between the infrastructure and train service areas is used to resolve conflicting objectives. ... With internal transactions, the firm's broad objectives are more likely to be shared by the constituent train service and infrastructure departments. When access is mandated, a greater degree of liaison is required and objectives are more likely to differ and conflict. ... As the number of external firms rise, the contractual arrangements and the number of interfaces are multiplied. These multiple interfaces duplicate the tasks originally coordinated internally by a single group of managers. The complexity of interaction between the infrastructure manager and the train operators increases disproportionately because, as arrangements become more intricate, disproportionately more resources are required to coordinate and resolve conflicts between the extra train path market players. The potential exists therefore, that where routes or networks are approaching capacity, the level of transaction and coordination costs may exceed the benefits flowing from the access reform".⁷³

ECMT (1996) summarises this problem as follows: "If capacity management (i.e., the allocation of timetable slots) is based on negotiation, settlement of conflicts (i.e., if a train is late or if traffic is disrupted for various reasons) may prove to be extremely complicated. ... There is no denying that, where lines are saturated, keeping an integrated railway would make it much easier to deal with infrastructure usage conflicts".⁷⁴

As before, the magnitude of this cost will depend in part on the share of the total train traffic operated by the infrastructure manager. The larger the proportion of traffic operated by the incumbent, the smaller the likely number of train operators which are affected by any new service.

- *It may be harder to properly control the external costs which trains may impose costs on other train operators, or on the infrastructure owner.*

A rail network which is operating close to full capacity is often likened to a very large machine – each component of the machine must inter-operate smoothly without inflicting harm or undue wear on other parts of the machine. At the same time each part of the machine must strictly maintain a pre-arranged schedule of movements to ensure the overall smooth operation of the machine.

A fault on one train can have significant follow-on consequences in the form of delays on other train services. In a fully-integrated rail industry the incumbent takes this "externality" into account when deciding how much to maintain the trains to prevent breakdown and delays. However, a new entrant, which only operates a small proportion of the total number of trains does not incur the full costs of delays caused by failures of its own trains – it only incurs the direct costs, so has less incentive to maintain its rolling stock. Efficient operation of the network requires, therefore, that the regulator develop mechanisms for internalising the costs of delays which train companies impose on other train operators. A mechanism of this kind was attempted in the UK. The experience with this mechanism is discussed in the next section below.

This need to minimise the impact of delays caused by new entrants is particularly important when rail forms part of a just-in-time production process: “When rail transport is a critical element of the production process, the production efficiency may be adversely affected by mandated access. For example, if a power station operates its own coal mine and train line, then mandated access may attract third-party train operations that affect the efficiency of that ‘conveyor-belt’-like production process”.⁷⁵

As already noted, new entrant trains may not only impose costs on other train operators but also on the track infrastructure in the form of damage or wear. In an integrated rail industry these costs are taken into account with no need for negotiation or explicit incentive arrangements. However, it may be necessary to develop explicit incentive mechanisms to induce independent train operators to take into account the effects of their decisions on the design or maintenance of the rolling stock on the infrastructure.

“The train operator may have less incentive than an integrated operator to introduce or maintain rolling stock that minimises wear and damage to the track. ... Further the train operator may have standards in wheel condition (and, possibly in overloading wagons) that differs from the integrated operator’s optimal wheel condition. ... More generally, to the extent that the wheel-rail interface emerges with separate train and track operations, incentives need to be set to optimise operator use or infrastructure provision. Damage to infrastructure can be considerable – especially where wheel defects lead to a derailment. Preventative maintenance and monitoring of wheel sets at terminals can minimise but not eliminate such events.”⁷⁶

As noted above, these problems may arise not just as a result of the failure to maintain the rolling stock but also in the design of the rolling stock itself. The BTRE notes that “The Chief Executive of Britain’s Network Rail apportioned blame for the British network’s endemic ‘gauge corner cracking’ problem (which led to the Hatfield accident in October 2000) to the stiffer suspension of new rolling stock.”⁷⁷

As before, it might be expected that the costs of enforcing standards requirements on train operators would increase with the share of the traffic provided by independent train operating companies.

- *Finally, it may be harder for the regulator to ensure adequate incentives to maintain the quality of the infrastructure.*

The previous paragraph noted that new entrant train operators can impose external costs on other train operators and the infrastructure. Even more importantly, the quality of the infrastructure can directly affect the ability of the train operators to deliver their services. The quality of the track infrastructure can affect the speed, safety, and timeliness of train services as well as the level of maintenance costs incurred by train operators. A key issue, therefore, is the ease of creating incentives to maintain infrastructure quality and the effectiveness of those incentives.

In the UK, the rail regulator sought to create incentives for maintaining track quality based on a set of indicators for monitoring the quality of the infrastructure.⁷⁸ However, it is not clear that the overall regulatory regime was effective at creating effective incentives to maintain track quality. Despite the measures described above, the UK government notes that “the Hatfield accident in 2000 revealed the extent of [the] deterioration [in the track] and the company’s poor understanding of asset conditions ... The wholesale imposition of speed

restrictions across the network caused a steep decline in reliability and required RailTrack to make vast penalty payments to the train companies”.⁷⁹

Furthermore, the UK regulatory regime explicitly recognised that a failure to maintain the track could lead to delays to the train operators. They implemented a system of financial incentives based on penalty payments for each minute a train was delayed. The number of minutes of delay was allocated to either a train company or to the track owner, RailTrack. In practice, however, these financial penalty payments were sufficiently large as to create substantial incentives on the train companies to seek have the blame for delays allocated somewhere else.

“In the three years to 2002/03, the train companies retained between £150 and £200 million of compensation paid to them by Network Rail. This meant that in each of the three years some train companies retained more compensation than their total operating profit. This can be a substantial distraction from the real tasks of improving performance and generating genuine income for the industry, as well as encouraging companies to seek to allocate responsibility for delays elsewhere, rather than prevent them”.⁸⁰ “More than 300 people are employed by railway companies to argue among themselves about who is to blame for late trains and who will pay... the high cost attached to delaying trains has been linked to a rise in unsafe working practices and a decline in maintenance standards”.⁸¹

Poorly maintained track can also have a direct impact on the wear on the rolling stock. “It has been estimated that between 40 per cent and 50 per cent of wagon maintenance costs and 25 per cent of locomotive maintenance costs are related to wheel maintenance”.⁸² “One British report has noted that the access charge should reflect track quality as rough track accelerates wear on rolling stock”.⁸³ Again, these costs are internalised in an integrated operator but must be explicitly incentivised when train operations are provided by an entity other than the infrastructure owner. The importance of these incentives is larger the smaller the share of the train traffic operated by the infrastructure provider.

Problems with quality and investment in infrastructure may take many years to be revealed. BTRE note that it may not be possible to assess the success of structural reforms on the basis of changes in freight rates and the market share of new entrants. “We have a concern about the cost recovery and sustainability of the railways. The detrimental impact of mandated access may only become apparent in the longer term, due to the ability of railways to run down their assets over extended periods without materially affecting the train operations”.⁸⁴

The paragraphs above have identified a number of potential issues, but what is the magnitude of these potential problems? This can only be answered empirically. As noted earlier, the issues identified above can be broadly viewed as arising from (a) economies of scope; and (b) the difficulty of establishing and enforcing effective incentive arrangements.

A full assessment of the problems created by inefficient regulatory incentives would be difficult, but there have been a few recent empirical studies which have attempted to assess the magnitude of the economies of scope from joint operation of trains and infrastructure. Other things equal, where there are economies of scope, the cost of separate provision of trains and infrastructure will be higher than integrated provision of these services. Studies of the magnitude of these economies of scope are important, because either (a) these increased costs must be borne exclusively by the access seekers, in which case access seekers will be at cost disadvantage relative to the incumbent and the resulting level of competition will be limited; or (b) the regulator will force all train operating companies (including those of the infrastructure

owner) to bear these costs, in which case productive efficiency will drop (and therefore the efficiency benefits of competition will need to be large in order to justify the move to mandated access).

As the following box reports, the consensus seems to be that there are real productive efficiency benefits from integration of infrastructure and operations.

Box 4. Empirical studies into the impact of mandated access and full vertical separation

In the last few years there have been several econometric studies of the rail sector with a view to understanding the extent of the economies of scope between infrastructure and operations.

A study by Ivaldi and McCullough (2004) of the freight railways in the US found that “there would be a 20-40 percent loss of technical efficiency if railroad freight operations were separated from infrastructure and an additional 70 percent loss of operational efficiency if on-rail operations were separated. In our view, this places a failure heavy burden of proof on proponents of separation to establish that (a) separated firms could coordinate infrastructure and operations efficiently using market mechanisms, and/or (b) the efficiency gains from on-rail competition would somehow offset the loss of vertical and horizontal efficiencies”.⁸⁵ The authors note that their results do not necessarily apply to European railways.

Nash et al (2004) cites two further studies: “Two recent studies have attempted econometric estimation of the impacts of separation of infrastructure from operations and of open access. Both seem to imply that whilst open access is desirable, separation of infrastructure from operations is more questionable.

The first study by Friebel et al⁸⁶ investigates to what extent third-party access, independent regulation and the separation of infrastructure from operations affect railway performance. The results showed that the introduction of reforms simultaneously does not improve efficiency but only when these are implemented one after another. Moreover, the results did not show any evidence that full separation of infrastructure from operations is a necessary condition for increasing railroad efficiency....

A second study found that separation of infrastructure from operations contributes negatively to technical efficiency while open access was found to contribute positively.⁸⁷ However, the results depend on the level of separation and open access in each case. For instance, the level and characteristics of vertical separation vary in each country. Moreover, many rail operations were still protected from competition in the analysed period, especially in the passenger sector. In fact, in most of the cases new entry has been implemented only for local or regional services and freight markets. As in the previous study, the results are not conclusive and better data is needed to corroborate the results. Thus, the effects of these reforms will need to be tested in further research to come to a final conclusion”

In addition to the empirical evidence set out in the box above, there is also a limited amount of direct experience in some OECD countries of the problems that may arise when mandating access to rail infrastructure. As mentioned above, the problems from mandated access are likely to be more important, the fewer the train services provided by the infrastructure owner. Therefore, problems from mandated access are most likely to emerge in the case of full vertical separation – where the infrastructure owner provides no train services of its own.

A few countries have moved in the direction of full vertical separation, of which the most important example is the UK. The experience in the UK is set out in the box below. In the UK there were clear problems with the failure of Railtrack to invest in and maintain the quality of the infrastructure. It is possible that this reflects either problems in the design of the regulatory incentives or management mistakes which were made in the past and can now, with the benefit of hindsight, be fully corrected. An alternative perspective is that the UK experience highlights the fundamental and largely insurmountable difficulties of correctly incentivising a separated track infrastructure company.

Box 5. Experience in the UK arising from the separation of infrastructure and train operations

“Initially it appeared that the British experience was very positive, with rapid growth in both passenger and freight traffic. Costs and subsidies declined, following an initial substantial increase in subsidies as a result of privatisation of infrastructure and rolling stock and the introduction of commercially based charges for their use. However, following a serious accident attributed to poor infrastructure maintenance and resulting severe speed restrictions and disruptions to service, the private infrastructure company, RailTrack was placed in the hands of receivers and a new not-for-profit company, Network Rail, took its place. The regulator concluded that spending on infrastructure maintenance and renewals needed to increase by more than 50% whilst increases in the costs of major projects, such as West Coast modernisation were even more alarming. At the same time there were concerns that the fragmented nature of the industry was leading to poor punctuality and timetables that were lacking in robustness and made poor use of capacity, and that some of the passenger franchisees had got into financial difficulties as a result of unrealistic bids. The result was the launching in January 2004 of a review of the structure of the railways in which most of the participants are arguing for a degree of reintegration”.⁸⁸

The 2004 review of the future of the UK rail industry summarised the strengths and weaknesses of the mandated access (and vertical separation) approach in the UK as follows:

“The split of responsibilities between Network Rail and the train companies has brought both benefits and problems. Train companies and Network Rail have been able to develop management expertise and focus on their own areas. The franchising system has improved knowledge of train company costs. And the delay attribution system has led to a better understanding of the causes of major incidents, which has helped both sides of the industry to reduce delays.

But costs have increased because of the complex commercial and bureaucratic relationships, the lack of clarity over responsibilities and the misaligned incentives between each part of the industry. And performance has also suffered because the industry is unable to react quickly to incidents. Dealing with an incident requires consensus between Network Rail, freight operators and train companies – all of whom may have conflicting priorities. And this applies in other areas: for instance, timetable changes and signal placements are currently decided by committee.

Relationships at the front-line have too often been adversarial, with problems being passed up the chain rather than tackled through collaborative working. When performance has deteriorated, there has been scope for the two sides of the industry to blame one another and pass the buck, rather than working in partnership to deliver improvements for their customers”.⁸⁹

Stagecoach Group, one of the train operating companies in the UK, expressed the following view on the problems arising from vertical separation:

“Stagecoach Group believes that the reason that Railtrack failed was as much structural as managerial. The fragmentation of the industry into a matrix of contractual relationships, the absence of a clear command and control structure and the lack of a cooperative culture have all combined to produce a sub-agenda of diverse and counter-productive objectives. ... The present structure presumes that Railtrack would take a long-term view of asset maintenance and renewal. It has singularly failed to do this and we are now experiencing the consequences with a deteriorating asset condition. Railtrack has focused on driving down the costs of its maintenance and renewals contracts through a short-term contracting strategy to achieve the lowest possible prices. The maintenance contractors make their profit margin from cost cutting within these contracts; have no accountability to the end customer and no means of securing long-term investment in more efficient maintenance technology. ... Safety responsibilities at the wheel/rail interface are blurred at best and flawed at worst. The operating companies find themselves trapped as the reliability of the infrastructure falls and they have to rely on Schedule 8 compensation payments from Railtrack rather than expanding their passenger base through delivering a high quality, reliable and punctual train service”.⁹⁰

Writing in May 2004, IBM notes:

“There is a widespread view in Great Britain, that the way the railway reforms were carried out was mistaken. Owing to insufficient investment in the British railway infrastructure, especially under the separate provider RailTrack, there is a vast increase in state aid for infrastructure maintenance and renewal. In July 2000, the Government announced that it would double railway investment over a 5 year period. Total investment in the four years to 2006 would be almost three times the investment at the time of privatisation. The ... cost of upkeep of Britain’s railways is

£1.5 billion a year more than was thought necessary just 3 years earlier.

The July 2004 review of the rail sector decided to retain the vertically-separated structure.⁹¹ This was not uniformly welcomed by the players in the UK rail industry. A recent newspaper article reports that "James Sherwood, president of GNER's parent company Sea Containers, said the government had ignored advice from rail firms that the network would work more efficiently if they had greater control over infrastructure in their geographical patches. He said the current regime involved the pointless circulation of millions of pounds. Train operating companies pay Network Rail for access to the track, but they received £350m compensation from the government-backed company last year to compensate for its share of delays. "The cost of operating separate infrastructure and train companies is much higher, in my opinion, than if we had an integrated railway," said Mr Sherwood. "The government has decided it does not want an integrated railway against the advice of all the leading train operators." Mr Sherwood stressed that his view was common to many of GNER's competitors. The chief executive of FirstGroup, Moir Lockhead, said earlier this month that he was "very keen to press for vertical integration" over the next five years. ... Train operators argue that integration would work best in areas where only one train firm uses the track. FirstGroup has suggested that its Scottish operation would be a classic case. Merseyrail has offered a similar argument, as have bidders for the new Kent franchise."⁹²

Problems similar to those in the UK have also arisen in Australia:

"Similar problems to Great Britain seem to have arisen following structural reforms in NSW, where a series of rail accidents and concerns over track maintenance standards resulted in an inquiry into the safety of the network. This safety audit, released in April 2000, noted that poor co-ordination among the new government-owned rail agencies had impeded the system's safety performance and that a cultural change was required to allow the 'effective delivery' of safety initiatives. In 2001, the businesses responsible for track access and maintenance were merged into a single entity, the Rail Infrastructure Corporation."⁹³

Is effective regulation of access more difficult in the rail sector than in other transport modes?

Of course, merely noting there is the potential for outcomes to be worse when regulating access to the infrastructure is not automatically an argument against mandated access / vertical separation. In fact, many of the issues mentioned above have parallels in other transport modes – most of which are also predominantly vertically separated.

Consider, for example, the case of the airline industry. Airports are usually vertically separated from airlines, so many of the observations above apply. For example, fully efficient recovery of the fixed costs of airports presumably requires charging a different price to different types of customers – but if airports cannot observe the types of passengers on each plane they cannot set different prices for different passengers.⁹⁴ So far this does not seem to be an insurmountable barrier to full cost recovery in the airline industry.

Furthermore, upgrades to airplanes – such as the new A380 "super-jumbo" – will require simultaneous upgrades to certain airports (such as wider and longer runways). Since different airlines will make different use of this plane, airlines differ in how much they will benefit from such upgrades. In principle this could lead to difficult and costly negotiations over how to share the costs and benefits of the upgrades. Some efficient new upgrades may not be undertaken at all.

Similarly, at congested airports, mechanisms must be devised to allocate the scarce capacity of the airport. At some airports this problem has been resolved through the allocation of take-off and landing slots. These slots are sometimes traded between airlines or bought and sold at auctions. The costs of these processes do not seem to be so significant as to justify vertical integration. Similarly, in principle, a failure to maintain planes could damage the runway or delay other planes but, perhaps for reasons specific to the airline industry, these issues have not been an obstacle to vertical separation. In what ways, then, does the rail industry differ from the airline industry?

The primary difference between the rail sector and these other transport modes appears to be that, in the case, of rail, the infrastructure and operations are much more intimately linked than in the other transport modes (road, air, maritime). As a result, the importance of coordination in investment and operation is relatively more important. Mechanisms to ensure coordination in investment and operation and manage congestion are relatively more important in rail than in these other modes.

In summary, allowing train operators access to track infrastructure owned by another company has the potential to promote in-the-market and for-the-market competition for certain rail services and to expand the range of seamless services which any one rail company can provide. However, the level of in-the-market competition that will arise is likely to be limited and a regime of mandated access may impose quite a significant burden on the regulator – as the share of the infrastructure owner in the total train traffic declines its incentives to maintain the infrastructure, and to invest in upgrading the infrastructure in a timely manner, also declines. The limited country experience with separation suggests that adequately replicating all of these incentives through regulatory mechanisms is difficult.

8. Structural reforms: Vertical integration versus vertical separation

The previous section we explored in detail the costs and benefits of mandating access to the track infrastructure. This section addresses the question whether the government should also prevent the owner of the track infrastructure from competing in the market for the provision of the given rail services.

It is widely recognised that under normal conditions, the owner of an essential facility which also competes in a related market will retain an incentive to restrict or deny access to the essential facility in order to restrict competition in the related market. This is explained further in the box below.

Box 6. Controlling the incentive to deny access

When a regulated firm is required to provide an essential input to a rival, the regulated firm may have a strong incentive to evade the regulation by setting a higher price or lower quality of access than the firm offers its own downstream affiliate.

This situation particularly arises when (a) the regulated firm's downstream services are regulated less tightly than the access services; and (b) the rival produces a service which is a close substitute for the regulated firm's own downstream services. In this case the regulated firm has a strong incentive to continually innovate in finding new ways to raise the price or lower the quality of the service it provides to rivals.

In the context of the rail sector the owner of the infrastructure can discriminate against rivals in a variety of ways. These ways might include raising the price of access, offering only undesirable time slots for the operation of trains⁹⁵ or imposing unnecessary conditions for access. It might also involve conducting maintenance at times which affects the rivals trains or resolving delays in a manner which favours its own trains at the expense of the rivals.

The EU writes: "If integrated railways are responsible for setting rules of charging, allocating capacity, timetabling, safety regulation or licensing they determine the conditions under which their competitors do their business. An infrastructure manager in such a railway has an incentive to further the interests of the whole undertaking, including transport services. At the same time, it is under an obligation to treat all railway undertakings equitably, which creates a conflict of interest".⁹⁶

Railway regulators seek to control this behaviour in a variety of ways, such as ensuring that train path allocation is carried out by an independent body, by requiring that the train controller function is carried out in an independent manner or by ensuring some form of separation between the track infrastructure and the contestable train services of the incumbent rail operator to ensure that any public subsidies for the provision of the infrastructure are not used to cross-subsidise the contestable train services.⁹⁷

The problem is that such regulation is unlikely to be fully effective. The OECD (2002) writes "Regulators can and do try to prevent the provider of the essential services from behaving in this [anti-competitive] way, but the task is

difficult. The regulated firm can use all the tools at its disposal, whether legal, technical or economic to delay, to lower the quality or raise the price of access. A well-resourced regulator, through persistence and vigilance, could hope to limit the anti-competitive activity of the incumbent, but the outcome is unlikely to be as much competition as would arise in the absence of the incentive to restrict competition. Potential entrants, fearing the effects of discrimination, despite the best efforts of the regulator, may hesitate to invest in new capacity".⁹⁸

The EU writes: "Where there is a dominant railway undertaking closely linked to the infrastructure manager, other railway undertakings may have reasonable fears about the impartiality of the allocation process. In this case the only effective solution is to require that the allocation process be performed by a body which is completely independent from any user of the infrastructure ... where there is not a clear legal and managerial separation of the infrastructure manager from railway undertakings then a separate allocation body must undertake this task".⁹⁹

A number of different policies are designed to either control the ability of the incumbent to discriminate against its rivals or to eliminate their incentive to do so. For example, (a) one possible approach is to place control of the essential facility and in the hands of an independent third-party; (b) alternatively ownership of the essential facility could be shared between the firms which compete in the related market; (c) finally, the owner of the essential facility could be prevented from competing in the related market. All three of these policies have direct application in the rail sector.¹⁰⁰

In those countries which retain a degree of integration between infrastructure and operations it often makes sense to place day-to-day control of the track infrastructure in the hands of an independent body. This is sometimes known as "functional" separation. This approach has direct parallels in other public utility industries. For example, in the aviation industry, air traffic control services are usually carried out by a body independent of airlines. In the electricity industry, especially in the US, the dispatch of electricity over a transmission network is often the responsibility of an independent body known as an "Independent System Operator".

In the context of the rail industry, this independent body would have responsibility for timetabling, scheduling, signalling and operational control. This body might also be responsible for monitoring and enforcing safety and quality standards. The recent EU directives require that certain roles (such as path allocation) be carried out by a body which is independent of railway undertakings.¹⁰¹

As long as the infrastructure owner retains some residual control over the infrastructure, placing control of the infrastructure in the hands of an independent body does not completely eliminate the ability of the owner of the essential facility to discriminate against new entrants. For example, the owner of the essential facility might use its ability to control either the timing or nature of maintenance or its control over investment to favour its own services over those of the entrants.¹⁰²

To eliminate the incentive to discriminate entirely requires more significant structural reforms. One possible approach is to allow competing train operators to jointly own key parts of the infrastructure. As one example, the main train terminal in Mexico City is jointly owned by the three major railroads in Mexico and the government. This approach ensures that the owner of the track infrastructure does not have an incentive to discriminate against the members of this ownership "club" (although it may still retain an incentive to discriminate against non-members).

The incentive to discriminate against new entrants can also, of course, be eliminated by simply preventing the owner of the infrastructure from providing the train services. In this case the owner of the infrastructure has nothing to lose from providing access and, indeed, provided the access charges are above the marginal cost of access, could be expected to actively market access to all train operators on a non-discriminatory basis. By eliminating the incentive to discriminate, this approach reduces the regulatory burden and increases the likely level of competition and therefore the extent to which the objectives above are achieved. This is explained further in the box below.

Commissioner Monti, in a speech about the rail industry, summarised some of the arguments for full vertical separation as follows:

“The problem with vertically integrated incumbents in an emerging competitive market is well known and is not new... In effect, and given the manifest ease with which it is able to evade action by even the most vigilant regulator, such a company is able to act as both judge and jury in its own cause. ... I do not believe that it is possible to engineer a properly functioning internal market by half-baked restructuring which maintains vertical integration. And I am strongly of the view that these deficiencies are much better tackled by structural reform than by *ex post facto* antitrust law enforcement. ...

... the only way I can see of removing these risks entirely when it comes to the allocation of capacity is the complete and irreversible structural separation of infrastructure from operations. In the absence of that ... as a bare minimum we should be looking for arrangements in which the allocation bodies take the lead, where there is one forum in which the slots are considered and that there is no presumption in favour of bids from incumbents”.¹⁰³

Commissioner Monti’s statements are consistent with the observations of the (vertically separated) owner of the interstate track infrastructure in Australia:

“ARTC has indicated in the past that evidence in several jurisdictions in Australia suggests that access regulation alone has not been particularly effective in bringing about above rail competition in jurisdictions that are operated in a vertically integrated environment. Above rail competition seems to be more active in those jurisdictions where structural separation of above and below rail activities has occurred”.¹⁰⁴

Merely placing the track infrastructure and train operations into separate corporate entities, wholly owned by a holding company is not sufficient to eliminate the incentive to discriminate. The EC, commenting on a case involving the Italian state railway (FS) and a new entrant train operator (GVG) which wanted to start a passenger service between Basel and Milan, writes:

“The fact that FS continued to refuse track access to GVG demonstrates that the infrastructure manager within a vertically-integrated structure, even if part of a holding structure as in the case of FS, faces a conflict of interest. Otherwise it is difficult to explain why the network operator FS (RFI) did not play a more pro-active role in marketing its own network capacity to GVG with a view to maximising revenue from infrastructure charges. This case therefore supports the view that the railway network must be completely separated from the transport service provider if the market is to operate in the public interest”.¹⁰⁵

What are the costs of preventing an owner of rail infrastructure from providing certain services? The previous section identified a number of costs – but these costs arise primarily from mandating access – that is, they result from having some train services provided by companies which do not provide the track infrastructure. How are these costs increased even further if the owner of the rail infrastructure is prevented from providing the given rail services entirely?

The previous section suggested that the smaller the number of trains operated by the owner of the track infrastructure, the greater the reliance on regulatory incentives to ensure the quality of the infrastructure and the efficiency and timeliness of new investment. The greater the range of services the owner of the track is prevented from providing, the smaller the proportion of the train traffic which is operated by the owner of the infrastructure and therefore, the greater the difficulty the regulator is likely to have in ensuring the quality of the infrastructure, the timeliness of investment and recovery of

infrastructure costs through access charges. On balance, therefore, vertical separation is more likely to be desirable in the case of those rail services which are a small component of the total traffic of the incumbent rail operator.

In mid-2004, following an extensive review of the current structural arrangements in the UK rail industry, the UK Department of Transport decided to retain the current vertically-separated industry structure in the UK. The following box considers the strengths and weaknesses of the arguments used by the UK Department of Transport in justifying continued vertical separation.

Box 7. Analysis of Recent Decisions in the UK

In recent months the UK has reaffirmed its commitment to full vertical separation in the rail sector. It is worth considering the arguments put forward by the UK in favour of full vertical separation in the light of the discussion above. The UK review of the future of the rail sector writes:

“There are a number of characteristics of the UK rail industry which suggest that a [vertically-integrated] structure would not be appropriate. The geography of the UK rail network means that a high proportion of track is shared by long distance and local passenger traffic, and by freight users. With combined ownership of track and train, this could cause serious conflicts of interest between the dominant company in a region and the other passenger and freight users who would need access to their track.

In addition, given the high levels of public funding required by the UK rail industry (in common with other European railways) having train operators compete for the right to operate services can be advantageous in terms of delivering improved value for money. It would be much more difficult to secure effective competition if track and train companies were merged to create regional monopolies”.

How do these arguments fare in the light of the discussion above? In the discussion above it was noted that the owner of the infrastructure could be prevented from providing certain other contestable rail services (such as certain long-distance passenger or freight services). This separation ensures that, in principle, the integrated operator no longer has an incentive to discriminate against these other services and, indeed, would welcome them on its network provided they paid at least the marginal cost of access (including the opportunity cost of any existing services which must be displaced). It seems to me that the claim that there would always be a “serious conflict of interest” in this context should be questioned.

The second argument made by the UK is that competition in the provision of the primary services is essential and that vertical separation facilitates that separation. This is true (although as argued above, separation of the primary user from the infrastructure has its own problems) but competition in the primary services need not take the form of competition between vertically-separated train operating companies. In principle, it is possible to conceive of competitive tendering for vertically-integrated services.

It is true, as noted earlier, that under competitive tendering for integrated services there remains the problem of ensuring that the quality of the infrastructure is maintained towards the end of the life of the franchise. However, under vertical separation this problem is increased rather than reduced – under vertical separation the government faces the problem of maintaining the quality of the infrastructure all the time – not just towards the end of the life of the franchise. In summary, it is not clear to me that it is “much more difficult to secure effective competition if track and train companies were merged”.

In recent discussions in the UK the possibility was raised of attempting a form of vertical integration in Scotland. In fact ScotRail operates in excess of 95% of the trains operating over the infrastructure in Scotland. The arguments above, therefore, suggest that this region is a strong candidate for re-integration. If the integrated entity were effectively regulated, vertical integration would reduce the risk of a reduction in the quality of the infrastructure. This move was opposed by the other operators which make use of the Scottish rail network (freight train operators and cross-border passenger services).¹⁰⁶ However, if ScotRail was prevented from providing these services itself it would have no reason to oppose or restrict access by these services to its network.

Box 8. Other arguments for separation

This paper has primarily focused on the competition argument for vertical separation. But other arguments have also been put forward. This box briefly reviews the merits of these arguments.

It has been argued that vertical separation:

- Enhances the transparency of costs and the allocation of government subsidies;

This argument is primarily an argument in favour of accounting separation of infrastructure and operation. It is not an argument why the owner of the infrastructure should be prevented from performing any particular rail services.

- Allows for specialisation in the provision of infrastructure and train services – in particular, it allows companies which are specialised in, say, providing consumer transport services (such as bus companies or airlines) to use these services in the rail sector without also having to gain expertise in providing track infrastructure.

The problem with this argument is that it is not clear why separation is necessary to achieve the benefits that might come by allowing a firm with specialist expertise to provide certain services. If, for example, a bus company could do a better job of providing rail services the incumbent infrastructure operator could purchase this expertise from the bus company, while still retaining an integrated structure.

9. Summary of principles and conclusions

This paper has explored the question of how the rail industry should be structured to best achieve a government's objectives for this sector. The analysis suggests that the optimal structure depends on a number of factors which will vary from country to country. "There is no single model for regulatory reform that can be applied to all railways. Different rail markets are likely to require different forms of regulation to maximise efficiency and the mix of markets for rail service differs from country to country".¹⁰⁷

The analysis has highlighted that, whatever other reforms are undertaken, where it is feasible, separating the infrastructure into separate companies along the major rail routes will enhance the scope for competition. Separation of this kind facilitates competition of various kinds – referred to here as competition on parallel paths, multi-modal competition, geographic competition and location competition.¹⁰⁸ Such competition is particularly important in the case of freight services. For many OECD countries, structural reform of this kind would be even more beneficial if it were simultaneously carried out in neighbouring countries.

In the case of passenger dominated railways, separation into vertically-integrated route-based rail companies is likely to be less effective in creating competition. Passengers are less prepared to travel alternative, longer routes, or to substitute either the origin or the destination. Nevertheless, separation of passenger railways along major track paths would enhance competition for some consumers.

Even where in-the-market competition between route-based integrated companies is not feasible, it is often feasible to rely on competition for-the-market in the form of periodic competitive tendering of vertically-integrated franchises, particularly for urban commuter services. Successful competitive tendering, however, requires attention to a number of issues such as minimising the problems that arise if incumbent franchisees fail to perform, ensuring incentives to maintain the infrastructure, and offsetting any incumbency advantages when the franchises come up for renewal.

Requiring an infrastructure owner to provide access to independent train operating companies introduces new costs (due to the need to develop mechanisms for resolving conflicts over investments and train operations) and increases the regulatory burden (due to the enhanced difficulty of ensuring efficient quality and timely investment). These costs are likely to be larger the smaller the share of the infrastructure owner in the volume of traffic over the infrastructure.

Preventing an infrastructure owner from providing certain services (or other structural arrangements such as joint ownership of an essential facility) eliminates the incentive on the infrastructure owner from discriminating against those services and therefore reduces the burden on the regulator in seeking to prevent discriminatory behaviour and also increases the likelihood that effective competition will emerge.

These principles do not allow us to make a precise prediction as to which structural approach will be optimal for any given service and piece of infrastructure in any given country. The optimal approach will vary from country to country depending on the relative importance of key factors. However, it is possible to identify a few broad principles:

- First, where restructuring to promote competition between vertically-integrated railways is possible (whether competition on parallel tracks, multi-modal competition, geographic competition, or location competition) such restructuring is probably desirable and should be pursued (especially in those countries in which the resources for sophisticated regulatory interventions are limited);
- Second, where (i) competition would be materially enhanced and (ii) the regulatory implications are minor (e.g., when the proportion of independent trains that will operate is small and when the network is largely uncongested) owners of infrastructure should be required to provide access to independent train operators for the provision of certain services. This might include, for example, access to a terminal or switching yards, limited access to a rival's network in the vicinity of a point where two networks interconnect (such as the 30-km rule in Canada) or access to an existing network to provide a secondary service, not already provided by the existing network (such as a passenger service on a freight-dominated railway).
- Third, where access is mandated for the provision of certain services as a result of principle (b), preference should be given to structural solutions which eliminate the incentive on the owner of the infrastructure to discriminate between train operating companies in providing the given services – such as vertical separation or joint ownership of the essential facility by the train operating companies. Decisions not to separate should only be made after careful consideration of the costs that will result in the form of the additional regulatory burden and on-going residual discrimination.
- Fourth, in some of the remaining cases, it may be possible to use competition for-the-market for the right to provide a given set of vertically-integrated services. However this approach introduces significant regulatory issues such as the problem of ensuring incentives to maintain the network assets are preserved as the end of the franchise approaches.

These principles are consistent, for example, with the approach chosen in Canada, the US, Argentina and Japan. In Canada, the US and Argentina, outside the major cities freight services are the primary user of the infrastructure and are provided by companies which also own the infrastructure. There is some mandated access at the margin (in the form of “trackage rights”). At the same time there are passenger services which are a minor user of the infrastructure operating under a regime of mandated access. The infrastructure owners do not provide passengers services themselves. In short, the model in the US, Canada and Argentina is vertical integration for freight services and vertical separation for passenger services.

In Japan quite different choices were made which are nevertheless consistent with the principles above. In Japan, passenger services are the dominant user of the rail infrastructure and are provided by vertically-integrated region-based rail companies. There is some co-operation between these region-based companies to provide long-distance high-speed (“Shinkansen”) passenger services which cross more than one region. Freight services are a secondary user and are provided by a company which does not own track infrastructure of its own.

It is useful to consider how the principles above might apply to, say, Italy. In Italy, freight services are only a small proportion of the total services (revenues from freight in Italy are only 8% of the total income to the rail sector)¹⁰⁹. As noted earlier, there is likely to be greater scope for in-the-market competition in rail freight services than in passenger services. At present there is separation between infrastructure and operations in Italy, but both parts are owned by a single holding company (see Table 2). Economic theory suggests that this holding-company structure is unlikely to eliminate the incentive to discriminate against rivals and, as noted earlier, there have been complaints to the European Commission over refusal by the infrastructure manager (RFI) to grant access to the track.

The principles above suggest that the level of competition could be improved (and indirectly, the government’s objectives better achieved) through a greater separation between infrastructure and freight services. If FS were prevented from providing freight services, RFI/FS would no longer have an incentive to discriminate against new entrant freight operators. Large shippers or logistics companies could enter the market to provide freight services either for themselves or to efficiently integrate the rail sector into a broader range of inter-modal services. At the same time, the rail passenger services in Italy might be allowed to remain integrated with the infrastructure to minimise the problems and costs identified earlier. It is interesting to note that the level of separation suggested by these principles is simultaneously greater and less than the level of separation required by the European Commission.

Beyond the principles identified above, it is difficult to derive further clear principles that might guide decisions over structural arrangements in rail. For example, in the case of a service which is both a “dominant” user of the track infrastructure and where there is scope for effective competition in-the-market, it is not clear whether the objectives set out above are best achieved through regulation of a vertically-integrated entity or through vertical separation, and regulation of access to the track infrastructure. This might be the case for, say, one of the coal-dominated rail lines in Australia. These lines are profitable and could probably sustain effective competition, especially if train operations were separated from the track infrastructure. On the other hand, such separation could risk creating problems in regulating quality and investment in the track infrastructure and could undermine the ability of these services to form part of a seamless just-in-time “production line” coal-mining process. The appropriate choice of policy is not clear.

At first glance, it might be thought surprising that the appropriate choice of policy is unclear. After all, the OECD countries collectively have many years experience with structural reform in the rail sector and the variety of approaches attempted in the rail sector is wider than in most other industries. However there are several reasons why the relative merits of different structural approaches are not yet apparent:

- First, in most cases structural reforms were accompanied by other reforms such as privatisation. In many countries it is very likely that a substantial portion of the productivity gains can be attributed to, say, privatisation alone. It is not yet clear what proportion of the benefits observed can be attributed to competition and, even less, to decisions over industry structure. In the case of the UK, structural separation was combined with a high degree of fragmentation of the industry. It is possible that the increased transactions costs resulting from the fragmentation may have masked some of the benefits of separation.

- Second, it is likely to take time to develop explicit arms-length regulatory mechanisms to replace processes which previously took place inside an integrated firm. It is possible that some of the undesirable outcomes that have been observed in practice are due to learning by regulatory authorities and will be improved in time.
- Third, some of the implications of structure decisions, particularly those relating to maintenance and investment will not become apparent in the short term but only after many years or decades of experience with the system. As the BTRE has said “The detrimental impact of mandated access may only become apparent in the longer term, due to the ability of railways to run down their assets over extended periods without materially affecting the train operations” 110.

At the present time there are many different approaches to structural reform in the rail sector across the OECD and sometimes many different approaches even in one country. These different approaches represent a “natural experiment” which will assist in clarifying in future which approaches are preferred. In the meantime it would be undesirable to enforce further harmonisation of rail industry structure, beyond consistency with the broad principles set out above.

NOTES

- 1 See for example Pfund (2002), Pfund (2003), Stagecoach (2001). In the recent review of the structure of the railways in the UK, several market participants (including Network Rail, the Strategic Rail Authority and the passenger train operating companies) argued for a degree of re-integration in the UK context (Nash, Shires and Matthews, 2004, page 23). In a recent newspaper article, several train operating companies are reported as being in favour of integration (Guardian, 25 November 2004 citing GNER, FirstGroup and MerseyRail).
- 2 Campos (2002), page 3 writes: “A ... distinct feature of the rail industry is that its output is *multidimensional* by its very nature. Railroads produce different types of services for different users, at different origins and destinations, at different times, and at different levels of quality”.
- 3 See, for example, Nash and Rivera-Trujillo (2004), page 10.
- 4 Of course, this varies from country-to-country according to the scope and quality of the road infrastructure. In some parts of Russia road access is limited or non-existent, especially at certain times of the year. In some European countries major road routes suffer from congestion, especially at peak times. In these cases, rail obviously has a stronger competitive advantage.
- 5 The BTRE cites this as a reason for rail’s competitive advantage in the transportation of bulk products. “Rail often has a comparative advantage in bulk haulage for a number of reasons, including the ability to provide a single-mode source-to-destination service (e.g., mine-to-port) and lower terminal handling and shunting costs”. BTRE (2003), page 6.
- 6 See Nash and Rivera-Trujillo (2004), page 4. BTRE (2003), page 107 writes: “The primary EU access reform objective is to achieve greater rail competitiveness through a higher quality of service – seamless operations. Co-operation between rail operations rather than competition between them is seen as the way to make rail more competitive relative to other modes”.
- 7 The relative importance of these reasons will vary from country to country. There may be some countries for which neither of these reasons apply. In these countries there may be no economic reason for any government intervention in the rail mode at all. This might be the case, for example, for inter-state freight in Australia.
- 8 This paper uses the term “market power” to refer to “the ability to raise prices above the price of substitute services without losing significant market share”. Market power does not imply excess returns if, as is often the case in the rail sector, the substitute services are under-priced.
- 9 Profillidis (2001) assesses the external costs of different transport modes and concludes “Internalization of external costs will surely benefit railways while making road transport much more expensive. EU Directive 93/89/EEC aimed to tackle this problem but did not achieve spectacular results. Internalizing the external costs of transport is strongly resisted by special interest groups such as the auto and oil industries and there are no guarantees it will ever be achieved” (page 23).
- 10 See, for example, CEC (1995).
- 11 This is discussed further in OECD (2004), page 29 and following.

- 12 ESCAP (2003), page 14: “Road transport does not fully internalise all the social costs that it generates and economists often recommend the use of congestion and/or pollution taxes, for example, to take this into account. However, when these mechanisms are not feasible or politically viable, it might be preferable to lower rail fares in order to obtain an overall improved cross-modal balance”.
- 13 This is consistent with the very rough observation that countries with passenger-dominated railways tend to subsidise their railways more than countries with freight-dominated railways.
- 14 See Owens (2003).
- 15 See PC (1999), page E4.
- 16 91/440/EEC Article 6.1.
- 17 91/440/EEC Article 6.3.
- 18 Strictly speaking, the comments here refer to Great Britain as the Northern Island railway has remained integrated.
- 19 Overall, the number of “incidents” and fatalities has not increased since separation was carried out in 1995. The number of incidents per million train miles has been slowly declining since at least 1975. The number of fatalities, while variable from year to year (with a high in 1999/2000), is, over the decade since separation, slightly lower than in the decade prior to privatisation.
- 20 See Steer Davies Gleave (2003).
- 21 For more information on the Australian experience see Owens (2003).
- 22 In this paper the term “cross-modal competition” will be used to refer to competition between rail and other transport modes. In contrast, the term “intra-modal competition” will be used to refer to competition between rail transport companies. In the jargon of the rail industry, the term “inter-modal” refers to transport services which make use of more than one transport mode (also known as “multi-modal” services).
- 23 If the owner of the infrastructure was successful, the outcome would be a vertically-integrated rail structure ex post. On the other hand, if the owner of the infrastructure was not allowed to participate in this tendering process or was not successful, the outcome would be a vertically-separated rail structure ex post.
- 24 ESCAP (2003), page 5.
- 25 Strictly speaking, productivity increased in the short-term. It is unclear whether or not, if maintenance and asset renewals had continued at its previous levels, whether productivity would have improved overall.
- 26 New Zealand Ministry of Transport (2004), page 3.
- 27 Subsidies affect not only competition between the rail sector and other transport modes but between rail companies, when subsidised rail companies are in competition. The EC notes that “the major role of public subsidy in railway infrastructure provision also goes some way to explaining why competition between national infrastructure managers may not be practicable or feasible, at least for the foreseeable future. Certainly, a taxpayer funded price way would not be a desirable outcome”. EC (2004), page 5.
- 28 And even more, it appears, when the rail company is state owned. See, for example, Nash and Rivera-Trujillo (2004), page 8: “the disadvantages of this monolith structure are ... it is difficult to provide incentives to improve efficiency and productivity in the industry. Moreover as the industry belongs to the

government, it is likely that the objectives are not in a commercial focus but a social basis. Thus, there may be limited pressure to improve productive efficiency and there is practically no possibility of bankruptcy”.

29 See, for example, Nash and Rivera-Trujillo (2004)

30 ECMT (1996), page 213.

31 A high-powered incentive towards a particular objective is a system of financial rewards and penalties for makes the firm’s profit very sensitive to effort exerted by the firm towards that objective. For example, a regulatory regime which sets a fixed regulated provides a high-powered incentive to reduce expenditure, since every \$1 reduction in expenditure leads to a \$1 increase in profit.

32 It should be noted, however, that the tracks are not necessarily strictly parallel – two different paths between two points may take two very different routes.

33 There remains some question whether having two competing railroads is sufficient for effective competition. The Canadian competition authority has argued that other railroads should be granted access to the track of the two incumbent railroads, Canadian National and Canadian Pacific, so as to increase the level of competition. See “Submission to the Canada Transportation Act Review Panel Regarding Rail Access and Related Issues”, Commissioner of Competition, 6 October 2000. See also “US railways wants track access”, *Globe and Mail*, 18 December 2000.

34 In addition, there is a small amount of “parallel” competition in that two different railways serve the cities of Monterrey, Tampico and Veracruz.

35 The material in this box comes from Campos (2002), page 12 and following.

36 Nash and Toner (1998), page 21. This competition only applies to a limited number of destinations, such as Exeter, Manchester, Birmingham, Glasgow and Edinburgh. There is also a degree of route-based competition for east-west transit traffic among the railways of the countries of eastern Europe.

37 See for example, Grimm, Curtis M., “Horizontal Competitive Effects in Railroad Mergers”, *Research in Transportation Economics*, Vol 2, 1985; MacDonald, James M., “Competition and Rail Rates for the Shipment of Corn, Soybeans and Wheat”, *Rand Journal of Economics*, 18, Spring 1987, 151-163; MacDonald, James M., “Concentration and Railroad Pricing” in *Concentration and Price*, edited by Leonard Weiss, 205-212, MIT Press, 198; Wilson, Wesley W., “Market-Specific Effects of Rail Deregulation”, *Journal of Industrial Economics*, 42, March 1994, 1-22. See also White (2002), Kwoka and White (1999) and Pittman (1990).

38 The larger the region the more likely it is that there are multiple paths between any two cities – so for example at the level of the EU it is possible to imagine competing independent train paths between a number of different cities. But, on a smaller scale the comment of Nash and Toner (1998), page 23 seems to apply: “Rail infrastructure remains a natural monopoly. In general, anyone wishing to run rail services between a particular pair of points is faced with a single provider of infrastructure”. “The setting of new railbeds is highly expensive because of the price of land and requirements of fixed equipment. These features and the maintenance costs explain configurations with minimised length of lines, and even the appearance of hub-and-spoke systems in some dense rail areas. However, the shorter the total length of lines, the longer the average duration of travel, which increases the operating costs. Therefore, since network planners have to take into account the total cost, the final layout is always a compromise that attempts to address this trade-off”. Campos (2002), page 4.

39 PC (1999), page E24.

40 PC, (1999), page E24.

- 41 In fact, the desire to promote the development of seamless rail services out of many regional rail networks was a primary driver in favour of mandated access / vertical separation in those countries with fragmented rail networks and little opportunity for wholesale restructuring to promote competition along major trade routes (e.g., the EU and in Australia).
- 42 One of the concerns in the break up of British Rail in the UK was that there would be a loss of “network benefits” from having a single integrated operator. Specifically there were concerns that (a) connections between rail services would be more risky (one operator’s trains would not necessarily wait for delayed passengers from another operator’s trains); (b) that in the event of a cancellation, tickets would not be operated by other operators; (c) that customers would have to purchase separate tickets from different companies to complete a single journey. See ECMT (1996), page 200.
- 43 Campos (2002), page 7. Nash and Toner (1998), page 25 write: “Traditionally, rail passenger services have operated as a network with through ticketing, comprehensive information and planned connections. There is considerable doubt as to whether market forces will be strong enough to preserve such arrangements, even where they are socially desirable. For instance, Else and James (1995) show that in the case of a complementary monopoly (i.e., a journey involving two or more monopoly operators) through prices will be higher than socially optimal, and it seems that similar arguments are likely to apply to connections and information”. Steer Davies and Gleave (2003) point out that in Sweden there have been calls for increased co-operation between operators on, say, “through ticketing and production of joint timetables. To date, these have been arranged between operators on a voluntary basis but not all tickets are interavailable”.
- 44 See Nash and Rivera-Trujillo (2004), page 9.
- 45 Steer Davies Gleave (2004), page 138. As noted earlier, the EC sees the existence of public subsidies as a further obstacle to competition between integrated railway companies: “the major role of public subsidy in railway infrastructure provision also goes some way to explaining why competition between national infrastructure managers may not be practicable or feasible, at least for the foreseeable future. Certainly, a taxpayer funded price way would not be a desirable outcome”. EC (2004), page 5.
- 46 See OECD (2003) and OECD (2001). More recently a major study by the ECMT on the future of the rail industry in Russia recommended: “creating a vertically separated structure with full organisational separation of infrastructure management from train operations, with cost-based access charges and without dominance by a single train operator or by separating the railways horizontally and establishing vertically integrated companies that would compete with one another”. ECMT (2004).
- 47 Nash and Toner (1998), page 20 observe that there are 12 commuter railroads in the US serving major conurbations. “Such services are run as franchises and as such give useful insights into the problems of rail franchise agreements. A series of case studies by NERA (1992) examined two USA commuter franchises – the Massachusetts Bay Transit Authority (MBTA) and the Southern California Regional Railway Authority (SCRAA). These are thought to have been successful, although there have been problems at the hand-over time from one franchisee to the next, since the unsuccessful franchisee has little incentive to maintain assets in good quality or to aid in the handover period”.
- 48 Steer Davies Gleave (2003), page 2. Competitive tendering for local services has also taken place in Italy in the Liguria, Veneto and Lombardia regions.
- 49 Littlechild (2001) notes that the cost to London Underground of tendering for its electricity distribution requirements (in a 30 year franchise) cost around 15 million pounds.
- 50 Williamson (1976) refers to this as “buying in” and argues that the winning bidder is likely to be the one with the best “political skills” allowing it to obtain the best renegotiated terms ex post. This effect reinforces the normal tendency for winning bidders to be over-optimistic (known as the “winners curse”).
- 51 Williamson (1976) referred to this as “frictionless takeover or transfer”.

- 52 An article in the Guardian newspaper of 17 December 2004 reports that: “a row broke out yesterday over a deterioration in the reliability of trains in Scotland, where punctuality fell from 87% to 82%. There were accusations that ScotRail's former operator, National Express, had "run down" the network before handing it over to a new franchisee. National Express was sacked by the Scottish Executive in June. A rival transport firm, FirstGroup, took over the network in October. "We inherited a declining trend in terms of performance," a FirstGroup spokeswoman said. "It appears to be in line with the fact that a change in franchise had been announced."
- 53 If the incumbent and the rival are equally efficient at providing the service and the incumbent knows the true cost of providing the service, while the rival is uncertain, the rival will only win the bidding process when it has been over-optimistic in its bidding – in other words, in this context the rival can never hope to profit from entering the bidding process.
- 54 BTRE (2003), page 12.
- 55 BTRE (2003), page 12.
- 56 Pittman (2003), page 7.
- 57 BTRE (2003), page 22.
- 58 Freebairn (1998), cited in Pittman (2003), page 7.
- 59 Steer Davies Gleave (2004), page 17.
- 60 Steer Davies Gleave (2004), page 20.
- 61 IBM (2004), page 50. In the UK the only new entrant train operating company which does not have a geographic franchise is Hull Trains which provides a service between Hull and London which is not otherwise provided by any other operator.
- 62 IBM (2004), page 50. The new entrants in this market include *TX Logistik* (which handles hinterland transport for the seaports of Hamburg and Bremerhaven as well as transporting new cars for BMW and VW), *rail4chem* (which handles inter-plant transport for BASF between Ludwigshafen, Schwarzheide and Antwerp), *Connex Cargo Logistics*, *Rhenus-Keolis* and *SBB Cargo*.
- 63 IBM (2004), page 84. Pittman (2003) summarises the situation as follows: “In those countries which have allowed some version of competitive track access – the UK, Sweden, ... the Czech Republic and the Netherlands – whether this has been accompanied by complete vertical separation of track owner from the train operator or not, there has been very little entry observed into freight train operation. What entry there has been has mostly been on the part of large shippers operating trains to ship their own goods”. Pittman (2003), page 7.
- 64 The actual number of new entrants is not strictly the relevant measure of the degree of competition as mandated access also increases the contestability of existing services. Since the freight market is often driven by long-term contracts, even where there is a strictly limited number of providers in the market at any one time, mandated access allows new entrants to compete for the business of shippers when those contracts come up for renewal.
- 65 OECD (1998), page 202.
- 66 BTRE (2003), page 17.
- 67 BTRE (2003), page 17.

- 68 See Pittman (2004). In the case of UK Railtrack the fixed costs account for some 90% of total costs and about 75% in the case of the SNCF: Profillidis (2001), page 21.
- 69 Profillidis (2001) reports that the cost recovery of track access charges ranges from near zero in the Netherlands to 15% in Sweden and Belgium, 30% in France, 40% in Italy and 70% in Switzerland.
- 70 Bruzelius, Nils, Jensen, Arne and Sjöstedt, (1996), “Swedish rail policy: a critical review”, *World Transport Research: Proceedings of the 7th World Conference on Transport Research*, Pergamom, Oxford, 449-462, cited in BTRE (2003).
- 71 Kessides and Willig (1998), page 164.
- 72 Kessides and Willig (1998), page 164.
- 73 BTRE (2003), page 15.
- 74 ECMT (1996), page 216. “The Strategic Rail Authority in the UK is proposing to restructure its passenger franchises into London termini – it believes that having a single operator using a station “would facilitate optimum capacity both in the station and on the approaches to the station” (SRA 2002).
- 75 BTRE (2003), page 16.
- 76 BTRE (2003), page 20.
- 77 BTRE (2003), footnote 15 citing the Railway Gazette International, 2002, “Getting the network back on the rails”, December, 755-758.
- 78 The ORR 1999 report on access charges included the following paragraph: “All track on the RailTrack network is monitored by use of a track geometry recording car. Depending upon the particular features of the unit, all relevant measures that categorise the infrastructure side of the wheel/rail interface are already measured in a robust and repeatable manner and summarised using developed analysis and reporting tools. RailTrack’s track geometry reports provide details of track condition in the form of vertical and horizontal alignment standard deviations, and several other parameters, plus listings of those measurements that exceed specified thresholds. Instead of combining parameters to form what are commonly called Track Quality (or Condition) Indices for given lengths of track, RailTrack report condition in terms of percentages of track above any given target for particular parameters. The result is readily usable by an interface quality reporting regime”. ORR (1999), para 171.
- 79 UK Dept of Transport (2004), page 13.
- 80 UK Dept of Transport (2004), page 19.
- 81 Financial Times 4 June 2001.
- 82 BTRE (2003), page 19 citing Railway Gazette International, 2003, “Knowledge of the wheel-rail interface incomplete”, July, 427.
- 83 BTRE (2003) page 19 citing ORR (1999).
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- 86 Friebel, G., M. Ivaldi and C. Vibes, (2003), "Railway (de)regulation: a European efficiency comparison", IDEI report no. 3 on passenger rail transport, University of Toulouse
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- 88 Nash et al (2004), page 23.
- 89 UK Dept of Transport (2004), page 21.
- 90 Stagecoach (2001), page 8.
- 91 See UK Dept of Transport (2004).
- 92 Guardian, 25 November 2004.
- 93 Owens (2003), page 8.
- 94 Airports can, however, identify the origin or destination of an air service and the type of plane and there may be some (imperfect) correlation between the willingness to pay of consumers and the origin/destination or type of plane.
- 95 Ted Krohn of the Federal Railroad Administration reports that the president of one US railroad said in a candid conversation about forced trackage rights: "I'll charge whatever you want, but if you let me do the scheduling I'll keep my monopoly advantage". OECD (1998).
- 96 EC (2004), page 5.
- 97 EC (2004), page 5: "Transparency between network subsidy and service subsidy is essential if taxpayers' money is to be used solely for the purpose intended".
- 98 OECD (2002), page 3.
- 99 EC (2004), page 6.
- 100 For a longer discussion on structural approaches to enhance access to essential facilities see OECD (2001b).
- 101 91/440/EEC Article 6.
- 102 In a situation where the new entrant could be forced to share in the costs of any upgrades to the infrastructure it may be the case that the infrastructure owner has an incentive to over-invest in assets which do not benefit the new entrant, in order to raise the costs of its rival.
- 103 Mario Monti, European Commissioner for Competition Policy, "Effective competition in the railway sector: a big challenge", speech at UNIFE annual reception, Brussels 21 May 2002.
- 104 ARTC, "QCA investigation: QR's 2005 Draft Access Undertaking: ARTC Comments", 2004.
- 105 Competition in railways, CPN 2003 Number 3.
- 106 See the submission by the Scottish Council for Development and Industry to the Scottish Parliament Transport and Environment Committee on the Inquiry into the Rail Industry in Scotland.

- 107 ECMT (2001), page 39.
- 108 In addition, the presence of a number of railway companies in the same jurisdiction enhances the ability of the regulator to use “yardstick competition” – that is, the ability to use inter-firm comparisons to improve the quality of the regulation on any one firm.
- 109 Source: NERA (2004), Table 6.2. A similar approach could be effective in several countries in Western Europe. In particular, in Great Britain, France, Spain, Italy and Belgium, total revenue from freight is less than 13% of total operating income of the rail sector. The freight operations in the Netherlands and Germany are merged and constitute around 16% of the combined income of the rail sector in the Netherlands and Germany.
- 110 BTRE (2003), page 22.

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NOTE DE RÉFÉRENCE

1. Introduction

La principale évolution intervenue dans la politique de réglementation au cours des vingt dernières années est peut-être la prise de conscience du fait qu'il est souvent plus facile d'atteindre les objectifs fixés par les autorités pour les secteurs assurant des services publics traditionnels en facilitant la concurrence dans les parties de ces secteurs capables de l'affronter. Cela exige généralement des mesures de la part des responsables de la réglementation, pour faire en sorte que les nouveaux venus sur le marché aient accès sans discrimination à des facteurs de production essentiels. L'application de ce principe a révolutionné les conceptions traditionnelles de la réglementation des services publics.

Le secteur du rail n'a pas échappé à cette tendance. En fait, plus de la moitié des pays de l'OCDE autorisent des opérateurs indépendants à assurer des services sur une grande partie des infrastructures ferroviaires existantes. Quelques pays sont allés plus loin encore pour empêcher leurs propriétaires d'exploiter des trains. Au Royaume-Uni, la responsabilité des infrastructures ferroviaires a été confiée pendant des années à une société privée à but lucratif soumise à la réglementation officielle.

On n'a pour l'instant qu'une expérience limitée de la garantie d'accès et de la séparation verticale dans le secteur ferroviaire mais jusqu'à présent, il n'en est résulté qu'une faible concurrence. Au Royaume-Uni, des erreurs ont été commises en ce qui concerne l'entretien des infrastructures ferroviaires. On ne sait pas encore si cela a été dû à une mauvaise gestion où aux difficultés inhérentes au modèle de séparation. Les critiques de la séparation verticale signalent que plusieurs pays de l'OCDE (en particulier en Amérique du Nord) disposent d'un réseau ferré (quoique utilisé essentiellement pour le trafic marchandises) qui atteint un haut niveau de productivité et d'innovation en faisant jouer la concurrence entre des compagnies de chemins de fer rivales et intégrées verticalement.

Ces dernières années, on a eu de plus en plus le sentiment, dans le secteur ferroviaire, qu'il fallait réexaminer les arguments en faveur de la garantie d'accès et de la séparation verticale dans le secteur du rail.¹ Celui-ci est-il quelque peu différent des autres modes de transport (route ou transports aériens et maritimes) pour lesquels la séparation verticale est la norme? Les décideurs devraient-ils se concentrer sur une autre approche pour encourager la concurrence dans le secteur du rail ?

Dans la présente étude, on revient sur la question de la séparation structurelle dans le secteur du rail. Qu'avons-nous appris de l'expérience des pays où celle-ci est une réalité ? Que nous dit la théorie sous-jacente à la séparation structurelle sur les cas où la garantie d'accès et/ou une séparation verticale sont souhaitables ? Dans quelle mesure cette théorie s'applique-t-elle au secteur du rail ? Quels facteurs détermineront la structure optimale d'un réseau ferré donné ?

2. Réglementation du secteur du rail

Il convient d'examiner tout d'abord certaines des caractéristiques fondamentales du secteur du rail - les services qu'il assure, le degré de concurrence qu'il doit affronter pour ces services et certaines des particularités du secteur. On peut les résumer ainsi :

- Le secteur du rail assure une large gamme de services de transport. Ces services peuvent et doivent être distingués tout au moins selon le type de trafic - voyageurs ou marchandises- et selon l'origine et la destination du service.² Il est souvent utile de distinguer les services qui sont

essentiellement autofinancés de ceux (comme la desserte des banlieues) financés principalement par des fonds publics.

- Différents services ferroviaires sont confrontés à divers degrés de concurrence de la part des autres modes de transport (transports aériens, routiers, maritimes et par voies navigables). L'ampleur de cette concurrence dépend en partie des caractéristiques géographiques, démographiques et économiques des différents pays et régions. C'est ainsi qu'aux Etats-Unis, au Canada et en Australie – pays à faible densité de population et où les grands centres urbains sont très distants les uns des autres- le trafic ferroviaire voyageurs représente une part du marché du transport de voyageurs plus faible qu'en Europe, où les densités de population sont plus fortes et où les routes sont généralement plus saturées.³
- En règle générale, le rail jouit d'un avantage concurrentiel sur la route pour le transport de grandes quantités de marchandises à faible valeur par poids unitaire, c'est-à-dire transportées en vrac comme les céréales, le charbon, le pétrole, les minéraux et les produits chimiques. Pour presque tous les autres services de transport de marchandises, le rail se heurte à une forte concurrence des transports routiers.⁴ Dans les pays gros producteurs de produits en vrac comme la Russie, la Chine et les Etats-Unis, le rail a tendance à détenir une part sensiblement plus grande de l'ensemble du marché du transport de marchandises.
- Lorsque le volume du trafic marchandises ayant un point de départ ou de destination donné est exceptionnellement important (par exemple dans le cas du charbon provenant d'une mine, ou des céréales acheminées vers un port), il peut y avoir intérêt à construire une ligne spécialisée aboutissant à cet endroit.⁵ Toutefois, pour la majorité des chargeurs, le recours au rail impliquera également l'utilisation d'un autre mode de transport (automobile ou camion par exemple) au point de départ ou d'arrivée, ou bien aux deux. Ces contraintes supplémentaires de « manutention » et d'« échange » rendent plus coûteux le trajet en train et l'allongent, ce qui le rend moins attractif par rapport au transport routier.
- Les utilisateurs finaux préfèrent généralement des services sans solution de continuité depuis le point de départ jusqu'à la destination finale. Lorsque des réseaux ferrés voisins desservent différentes zones géographiques, assurer ce type de service exige un certain degré de coordination et de coopération entre ces réseaux. Pour cela, il faut tout au moins qu'ils partagent des normes et spécifications techniques communes telles que l'écartement des voies, les systèmes de signalisation et le mode de traction. Dans les régions où des réseaux ferrés se sont développés pour desservir des zones distinctes d'un sous-continent (par exemple les réseaux des différents Etats d'Australie et les chemins de fer nationaux des pays d'Europe), on s'est employé activement à renforcer l'exploitation intégrée des réseaux ferroviaires voisins pour assurer des services sans solution de continuité sur une aire géographique plus vaste, afin de rendre le rail plus compétitif face aux transports routiers.⁶
- En règle générale, du fait des coûts fixes et irréversibles très considérables qu'implique la création d'une liaison ferroviaire entre deux points fixes, il n'est pas rentable de doubler une liaison existante sauf celle-ci a atteint sa limite de capacité. Il peut également ne pas être rentable de doubler d'autres infrastructures telles que des gares ou des postes d'aiguillage/gares de triage. D'autre part, les trains (locomotives et matériel roulant) n'impliquent généralement pas d'investissements non récupérables (dans certains cas, ils peuvent être loués ou même s'ils sont achetés, ils peuvent être revendus sur d'autres marchés). Mais dans certains pays, du fait de la nécessité d'investissements spécifiques au pays (en raison, par exemple, d'une signalisation spéciale ou de questions de force motrice), les locomotives et le matériel roulant peuvent aussi donner lieu à des investissements non récupérables pour l'essentiel. Aux fins de la présente étude,

on supposera toutefois que les services ferroviaires assurés au moyen du matériel roulant sont compétitifs, tandis que les infrastructures des voies (ainsi que celles qui sont liées à la signalisation et à la force motrice) sont considérées (au sens large) comme des « installations essentielles».

Dans pratiquement tous les pays de l'OCDE, les pouvoirs publics jouent traditionnellement un rôle majeur dans le secteur ferroviaire. Bien que les raisons de cette intervention aient pu évoluer au fil des ans, il est maintenant possible de déterminer les deux raisons suivantes (liées entre elles) pour lesquelles l'Etat continue à intervenir dans le secteur du rail.⁷

- L'existence d'un pouvoir de marché dans le secteur du rail (en particulier pour certains services tels que le transport de produits en vrac ou le trafic voyageurs en banlieue)⁸, et
- Le fait que souvent, les tarifs des autres modes de transport –en particulier les transports routiers– ne sont pas économiques. Bien que les routes à péage et diverses formes de redevances pour l'usage des routes soient de plus en plus courantes, les pays de l'OCDE n'ont pas encore pour pratique de faire payer directement aux usagers l'utilisation de la majeure partie du réseau routier. En conséquence, certains des coûts d'utilisation de ce réseau, comme le coût de la mise en place des infrastructures ou celui des encombrements peuvent être insuffisamment tarifés, voire pas du tout.⁹

La théorie économique démontre que lorsque deux services A et B sont des substituts, leurs prix économiques sont liés. Par exemple, si le tarif du service B n'inclut pas certains des coûts sociaux liés à la prestation dudit service, il devrait être accru (par exemple au moyen de taxes) pour couvrir ces coûts externes.¹⁰ Lorsque cela n'est pas possible, il conviendrait à défaut de réduire le tarif du service A pour rétablir l'« équilibre » entre la demande respective de services A et B.¹¹ Autrement dit, lorsque le tarif des transports routiers est inférieur à ce qu'il devrait être, il existe un argument économique également en faveur d'une réduction des tarifs des services ferroviaires.¹² En pratique, dans la plupart des pays de l'OCDE, le degré de sous-tarifcation des transports routiers est probablement plus grand pour le trafic voyageurs que pour le trafic marchandises.¹³

En tout état de cause, que le principal problème pour un service ferroviaire donné dans un pays donné soit un problème de pouvoir de marché ou bien de sous-tarifcation des substituts, les incidences économiques sont les mêmes : le tarif du service ferroviaire est « excessif » et le volume de services consommé est « trop faible » par rapport au niveau optimal d'un point de vue social.

C'est la raison pour laquelle on peut définir pour le secteur du rail un objectif général qui pourrait être appliqué en gros à tous les pays de l'OCDE. Il s'agit fondamentalement de fixer les tarifs payés pour les services ferroviaires par les utilisateurs finaux à un niveau économique (compte tenu du prix des services de remplacement), avec un niveau optimal de qualité et de variété de services (et par conséquent un niveau minimum de subventions là où il en existe), ainsi qu'un niveau constant et efficace d'investissement et d'innovation dans le secteur du rail. Cet objectif est énoncé dans l'encadré suivant, auquel on se référera fréquemment tout au long de la présente étude.

Box 1. Objectif général du secteur du rail :

L'objectif général des pouvoirs publics en ce qui concerne le secteur du rail est de faire en sorte que les tarifs payés par les utilisateurs finaux correspondent à un prix économique (compte tenu du prix des services de remplacement), avec un niveau optimal de qualité et de variété de services (et par conséquent un minimum de subvention), et un niveau constant et efficace d'investissement et d'innovation dans le secteur du rail.

Dans une large mesure, les objectifs énoncés dans l'encadré 1 sont précisément les objectifs classiques de tout gouvernement ou de tout organisme de réglementation confronté à un monopole naturel. Dans tous les secteurs faisant l'objet d'un monopole naturel, les pouvoirs publics sont soucieux d'une tarification et d'investissements efficaces ainsi que d'un niveau de qualité satisfaisant, etc. Le secteur du rail ne diffère qu'au sens où, à la différence des nombreux autres secteurs à monopole naturel, il est courant, dans les pays de l'OCDE, de subventionner directement le rail avec les deniers de l'Etat.

Les mérites de toute intervention dans le secteur du rail doivent se mesurer à sa contribution à la réalisation des objectifs énoncés dans l'encadré 1. Cette observation vaut en particulier pour la décision de faire respecter les principes de garantie d'accès et /ou de séparation verticale. Bien qu'une politique axée sur ces deux principes puisse contribuer à une intensification de la concurrence, celle-ci ne constitue pas un objectif en soi mais plutôt un moyen d'atteindre plus facilement les objectifs énoncés plus haut.

3. La réforme structurelle dans le secteur du rail

La présente section décrit les différentes façons d'envisager une réforme structurelle dans le secteur du rail.

Le débat sur l'intégration ou la séparation verticale dans le secteur du rail est compliqué par le fait que le principe d'intégration ou de séparation verticale s'applique non pas à l'ensemble du secteur, mais à différents services et/ou à différents éléments d'infrastructure. Etant donné que ce secteur comprend un grand nombre de services différents et différents ouvrages d'infrastructure, il peut présenter simultanément de nombreuses formes différentes d'intégration ou de séparation.

Pour un service ferroviaire donné, un élément donné d'infrastructure du réseau sera considéré comme soumis à un régime de *garantie d'accès* si le propriétaire/exploitant de l'infrastructure est tenu d'assurer l'accès à celui-ci à un exploitant de train indépendant, à des conditions réglementées afin d'assurer un service ferroviaire donné au moyen de l'infrastructure en question.

Pour un service ferroviaire et un élément d'infrastructure donnés, les termes de « séparation verticale » seront utilisés pour désigner le cas de figure dans lequel le propriétaire de l'infrastructure *n'est pas* autorisé à assurer le service ferroviaire en question sur cet élément d'infrastructure particulier (bien que son propriétaire puisse y assurer d'autres services, ou bien le même service sur une autre infrastructure). De même, pour un service et un élément d'infrastructure donnés, les termes « intégré verticalement » seront utilisés lorsque le propriétaire/exploitant de l'infrastructure ferroviaire *est* autorisé à assurer le service ferroviaire en question sur cette infrastructure. Ces termes sont récapitulés au Tableau 1 :

Table 3. Tableau 1 : Pour un service ferroviaire et un élément d'infrastructure donnés :

Les termes :	ont la signification suivante :
Garantie d'accès	Le propriétaire/exploitant de l'élément d'infrastructure est tenu d'assurer à un opérateur indépendant l'accès à ladite infrastructure pour assurer ledit service ferroviaire.
Séparation verticale	Le propriétaire/exploitant de l'infrastructure <i>n'est pas</i> autorisé à assurer lui-même ledit service ferroviaire sur ladite infrastructure (bien qu'il puisse être autorisé à y assurer d'autres services, ou bien ledit service sur d'autres éléments d'infrastructure).
Intégration verticale	Le propriétaire/opérateur de l'infrastructure est <i>autorisé</i> à assurer ledit service ferroviaire sur ladite infrastructure.

Il convient de souligner à nouveau que selon cette définition, l'intégration verticale et la garantie d'accès ne s'excluent pas mutuellement. En fait, l'approche réglementaire pourrait différer selon les services ou les divers éléments d'infrastructure. Il se peut par exemple que le réseau existant pour le trafic marchandises fasse l'objet d'une intégration verticale, mais qu'il y ait séparation verticale pour les services voyageurs (comme aux Etats-Unis). De plus certains éléments d'infrastructure peuvent faire l'objet d'une intégration verticale, mais d'une séparation verticale à certains points clés (ou goulets d'étranglement) du réseau (comme c'est le cas pour ce que l'on appelle aux Etats-Unis les « terminal railroads » (lignes assurant essentiellement des services d'enlèvement et de livraison). En Australie, bien que quelques services de banlieue restent intégrés verticalement, il y a garantie d'accès aux réseaux régionaux inter-Etats et une séparation verticale sur le réseau inter-Etats à voie normale.

Il est peu probable que l'approche réglementaire la mieux appropriée à un service ou à un élément d'infrastructure soit aussi celle qui convienne le mieux à un autre service ou à un autre élément d'infrastructure. En d'autres termes, on ne trouvera probablement pas de solution universelle.¹⁴

L'encadré 2 passe en revue les différents arrangements structurels existant à l'heure actuelle dans le secteur du rail de quelques pays.

Box 2. Brève description des différents arrangements structurels existant dans le secteur ferroviaire dans différents pays :

En Amérique du Nord, (c'est-à-dire au **Canada**, aux **Etats-Unis** et au **Mexique**), le fret joue un rôle prédominant dans les chemins de fer, qui sont intégrés verticalement. D'une façon générale, chaque société ferroviaire possède et exploite sa propre voie. D'importantes exceptions sont cependant à signaler. Il existe en particulier un grand nombre de très petites compagnies assurant des services d'enlèvement et de livraison et dont les grandes sociétés ferroviaires sont copropriétaires, ou bien qui appartiennent à des propriétaires privés. Ces compagnies assurent des services spéciaux d'enlèvement et de livraison notamment dans des grandes villes (comme au principal terminal ferroviaire de Mexico). En outre, au Canada et aux Etats-Unis, il existe une compagnie de transport de voyageurs utilisant des voies appartenant à des compagnies de transport de marchandises intégrées verticalement. Ce service est dans l'ensemble séparé verticalement (bien qu'en fait, Amtrak possède en propre quelques centaines de kilomètres de voies sur la côte est des Etats-Unis, où elle est intégrée verticalement). Au Canada, le service voyageurs (VIA Rail) est franchisé par l'Etat. Depuis peu, une intervention réglementaire exige (par exemple comme condition d'approbation d'une fusion) que certains chemins de fer intégrés accordent des droits d'accès aux trains de compagnies concurrentes, situation dans laquelle on parle aux Etats-Unis de « trackage rights » (droits d'utiliser les voies d'un concurrent). C'est là un exemple de ce que l'on appelle une « garantie d'accès » dans la présente étude. Au Canada, chaque compagnie de chemin de fer se voit se voir automatiquement garantir l'accès à l'infrastructure ferroviaire de ses concurrents dans un rayon de 30 kilomètres autour du point d'interconnexion des réseaux. La situation au Mexique est décrite plus en détails dans l'Encadré 3.

En **Argentine**, au début des années 90, le réseau ferré était divisé en six réseaux de transport de marchandises intégrés verticalement et sept réseaux de transport de voyageurs eux aussi intégrés verticalement. Ces réseaux ont

ensuite été franchisés pendant de longues périodes (30 ans, avec possibilité d'extension de 10 ans). Les services voyageurs interurbains (qui n'étaient pas rentables dans l'ensemble) ont été séparés verticalement et franchisés séparément. Les accords de franchise stipulent que les voies pourront être utilisées pour les services voyageurs interurbains moyennant une redevance d'accès.¹⁵

Dans l'**Union européenne**, les réseaux ferrés ont généralement une extension géographique correspondant en gros au territoire de chaque pays (jusqu'à présent, il n'y a pas eu de fusions transfrontières de compagnies de chemins de fer intégrées, bien que les services marchandises des sociétés ferroviaires allemande et néerlandaise aient fusionné). Les Directives européennes exigent, du point de vue comptable, une séparation infrastructure/exploitation dans les services ferroviaires.¹⁶ La nature exacte des arrangements structurels varie d'un pays à l'autre, comme le montre le tableau 2 ci-dessous. En outre, diverses fonctions réglementaires (licences, allocation des sillons, tarification des infrastructures et suivi des obligations de service public) doivent être « confiées à des instances ou entreprises qui ne sont pas elles-mêmes fournisseurs de services de transport ferroviaire ».¹⁷ Ces exigences font partie d'un programme qui a essentiellement pour but de faciliter le développement de services de fret par rail sans solution de continuité entre plusieurs pays voisins. On a pu observer quelques exemples de ce type d'opérations de fret transfrontières (dont Rail4Chem est le cas le plus connu).

Quelques pays, notamment le RU et la Suède, ont choisi d'aller plus loin en séparant la propriété de l'infrastructure des voies et l'exploitation ferroviaire.¹⁸ Le **RU** a également entrepris de privatiser le propriétaire/exploitant de l'infrastructure ferroviaire (Railtrack). Railtrack n'a pas suffisamment investi dans l'entretien des infrastructures ferroviaires. Des enquêtes effectuées après deux graves accidents ont révélé que celles-ci nécessitaient des investissements massifs.¹⁹ Le gouvernement britannique a refusé d'accroître les niveaux de financement, ce qui a entraîné la faillite de RailTrack. Il a créé une entreprise à but non lucratif, Network Rail, qui a succédé à RailTrack. En dehors de réseaux spéciaux comme le métro de Londres ou l'Island Rail (sur l'île de Wight), le réseau ferré britannique reste pour l'essentiel séparé verticalement. On trouvera dans l'Encadré 5 de plus amples détails sur l'expérience du RU.

En **Suède**, l'infrastructure et l'exploitation ferroviaires ont été séparées en 1988. Cette réforme visait essentiellement à appliquer les mêmes conditions au financement des infrastructures ferroviaires et routières. Encourager la concurrence sur le marché n'était pas un objectif majeur, bien que des appels d'offres (concurrence pour le marché) aient été rendus obligatoires pour tous les services qui ne peuvent pas être assurés de façon rentable par SJ (l'opérateur ferroviaire en place). On a lancé un grand nombre d'appels d'offres pour des services ferroviaires aussi bien locaux qu'interurbains et la part de marché de SJ n'est plus que de 90 % sur les grandes lignes et de 40 % pour l'ensemble des déplacements (y compris sur les lignes de banlieue).²⁰ SJ conserve le monopole des services interurbains rentables, bien que cette situation soit réexaminée.

Au **Japon**, une restructuration opérée dans les années 90 a abouti à la création de sept compagnies de transport de voyageurs intégrées verticalement et à vocation régionale. Ces compagnies régionales coopèrent dans une certaine mesure pour assurer des services interurbains à grande vitesse (Shinkansen). De plus, il existe un seul opérateur national de transport de marchandises, qui utilise les infrastructures appartenant à ces compagnies. A la différence des Etats-Unis, par exemple, le Japon a séparé verticalement ses services de fret et intégré verticalement ses services voyageurs.

En **Australie**, le secteur ferroviaire est depuis toujours compartimenté pour l'essentiel entre les différents Etats, l'écartement des voies n'étant guère normalisé entre eux. En dehors des trains de banlieue desservant les grandes villes et leurs environs et de quelques grandes lignes assurant des services voyageurs, les chemins de fer australiens se concentrent essentiellement sur le fret. En 1995 a été achevée l'installation d'un réseau national interurbain à voie normale. Actuellement, la plus grande partie de ce réseau inter-Etats appartient à une compagnie d'infrastructure ferroviaire qui en assure l'exploitation, quelques compagnies indépendantes assurant des services de transport de marchandises et de voyageurs. Dans les Etats du Victoria et du Queensland, des services de fret sont assurés par un opérateur ferroviaire intégré soumis à un régime d'accès garanti. Les services de desserte des banlieues de Melbourne font l'objet d'une franchise intégrée verticalement. On trouve donc en Australie des exemples de chacune des différentes formes d'organisation structurelle.²¹

Table 4. Tableau 2 : Structure du secteur ferroviaire dans l'UE, en Norvège et en Suisse

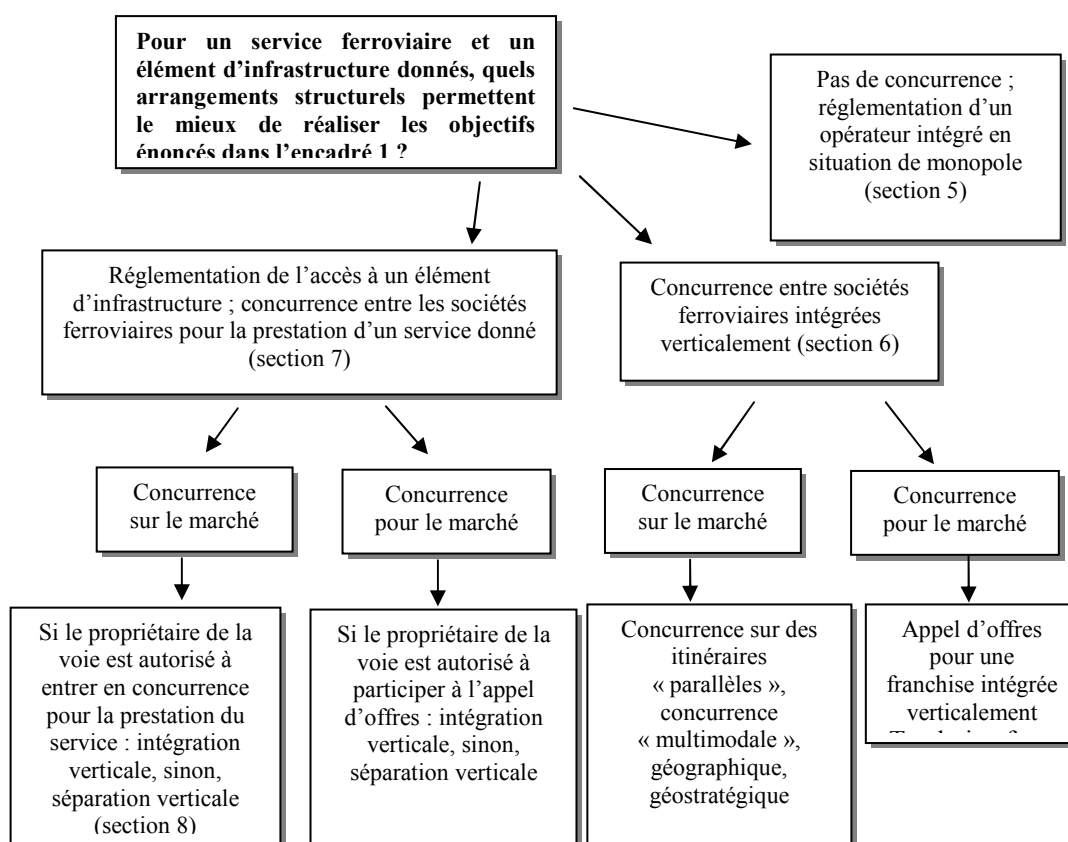
Pays	Organisation
Belgique, Grèce, Irlande, Espagne, Suisse et Luxembourg	La gestion des infrastructures et l'exploitation ferroviaire relèvent de services distincts de la même compagnie. Une séparation est prévue dans le cas de l'Espagne.
Allemagne, Italie.	La gestion des infrastructures et l'exploitation ferroviaire relèvent de compagnies séparées au sein d'une seule société holding (si Deutsche Bahn est privatisé, on ne sait pas exactement si la structure de holding sera maintenue).
France, Autriche	Système « hybride »- En France, RFF est propriétaire des infrastructures mais la SNCF s'occupe de l'entretien de la totalité des infrastructures par contrat avec RFF et en assure en partie la modernisation. En Autriche, SCHIG est chargé du financement des infrastructures mais OBB est responsable aussi bien de la gestion des infrastructures que de l'exploitation ferroviaire.
Portugal, Norvège, Pays-Bas, Suède, Danemark et Finlande.	La gestion des infrastructures et l'exploitation ferroviaire relèvent de compagnies ou d'organismes distincts, qui sont les unes et les autres sous le contrôle de l'Etat (il peut également y avoir des opérateurs privés indépendants). Les services voyageurs et marchandises sont également séparés au Danemark, aux Pays-Bas, en Norvège et en Suède.
Royaume-Uni (sauf Irlande du Nord)	La gestion des infrastructures est confiée à une compagnie privée réglementée indépendante et l'exploitation ferroviaire est assurée par des compagnies privées indépendantes du gestionnaire des infrastructures.

Source : NERA (2004)

4. Argumentaire de la présente étude

Après avoir présenté le secteur du rail et la terminologie clé, le reste de la présente étude porte sur la question de savoir quelle est l'approche structurelle la mieux à même de réaliser les objectifs énoncés dans l'encadré 1. Quand conviendrait-il éventuellement d'obtenir une garantie d'accès du propriétaire d'une infrastructure ? Et s'il est approprié de garantir cet accès, quand convient-il d'empêcher le propriétaire de l'infrastructure d'assurer un service ferroviaire donné ? La théorie économique fournit, en réponse à ces questions, certaines lignes directrices que nous appliquerons au secteur du rail dans les sections suivantes. La présente section expose un grand nombre des arguments qui seront développés plus en détail dans la présente étude. Celle-ci se présente sous la forme indiquée à la figure 1.

Figure 3. Figure 1 : Comment se présente l'étude



Il est à noter que même si, dans de nombreux pays de l'OCDE, beaucoup de services ferroviaires se heurtent à une concurrence intense des autres modes de transport, comme l'Etat subventionne le rail, la concurrence inter-modale²² n'impose guère de discipline au niveau de la concurrence, quand elle ne dissuade pas d'améliorer les performances du secteur.

Cette situation tient au fait que les pouvoirs publics ont de grandes difficultés à s'engager à limiter les subventions qu'ils sont prêts à accorder au secteur du rail. Si le montant de la subvention peut être influencé par les mesures prises par la société ferroviaire, celle-ci est d'autant moins incitée à améliorer ses performances. Elle jugera plus facile de concurrencer les autres modes de transport « en faussant les règles du jeu » (c'est-à-dire en accordant des subventions supplémentaires) que de tenter de devenir plus compétitive, dans des conditions de concurrence uniformes. C'est le problème classique des « contraintes budgétaires douces », qui est examiné plus en détail à la section 5. Il en résulte que dans beaucoup de pays de l'OCDE, l'importance de la concurrence intermodale est réduite et que les décideurs ne peuvent pas compter sur elle pour atteindre les objectifs énoncés dans l'encadré 1.

De plus, l'expérience montre qu'en l'absence de toute forme de concurrence au sein du secteur ferroviaire, il est difficile de réaliser les objectifs décrits dans l'encadré 1 en réglementant une société ferroviaire intégrée en situation de monopole. L'expérience historique de nombreux pays de l'OCDE montre qu'en l'absence de toute concurrence intermodale, le secteur du rail se caractérise par une faible productivité, des services de qualité médiocre, des investissements insuffisants et une incapacité à répondre aux exigences des consommateurs.

Pour déterminer le rôle que devrait jouer à la concurrence, et en fin de compte, la structure sectorielle la mieux adaptée, il convient de répondre à la question suivante : comment les effets de la réglementation d'une société ferroviaire intégrée diffèrent-ils de ceux que l'on pourrait attendre en réglementant une compagnie confrontée à une certaine concurrence intramodale ?

On examinera ici tout d'abord la portée de la concurrence classique sur le marché entre les sociétés intégrées verticalement. Comme nous le verrons à la section 6, quelques pays de l'OCDE sont dotés d'un secteur du rail dans lequel la concurrence joue entre des sociétés ferroviaires intégrées verticalement et opérant sur des itinéraires différents. Une structure de ce type facilite entre ces compagnies un certain degré de concurrence, que celle-ci porte sur des voies parallèles ou prenne la forme d'une concurrence « multimodale », « géographique » ou « géostratégique » (ces termes sont expliqués plus en détail à la section 6). Ces formes de concurrence sont généralement plus efficaces pour le fret que pour le trafic voyageurs.

En particulier dans le cas des chemins de fer pour lesquels le fret joue un rôle prédominant, il est éventuellement possible de procéder à une restructuration pour promouvoir ces formes de concurrence entre des entreprises intégrées verticalement. L'expérience des pays d'Amérique du Nord montre que la concurrence entre des sociétés ferroviaires intégrées verticalement a favorisé la productivité et l'efficacité dans le secteur du rail, avec une intervention relativement limitée au niveau réglementaire. Les interventions qui subsistent dans ce domaine peuvent être concentrées essentiellement sur la protection des utilisateurs finaux qui n'ont pas le choix du prestataire de services ferroviaires.

Tous les pays de l'OCDE ne seront pas en mesure de faire jouer la concurrence entre des sociétés ferroviaires intégrées verticalement. Les voyageurs sont généralement plus sensibles au facteur temps et sont généralement attachés à des itinéraires spécifiques. Ils ont donc moins tendance à voir dans des itinéraires de remplacement des solutions de rechange valables (en particulier lorsqu'un itinéraire implique un temps de trajet plus long et/ou un élément intermodal). Bien qu'une restructuration donnant lieu à la création d'entreprises spécialisées dans certains itinéraires soit appelée à susciter une certaine concurrence sur les itinéraires qui se trouvent être desservis par au moins deux sociétés, dans le cas du trafic voyageurs, il est souvent beaucoup plus difficile de compter sur la concurrence de type classique entre sociétés ferroviaires intégrées verticalement.

Il est parfois possible d'atteindre les objectifs énoncés dans l'encadré 1, même avec un prestataire intégré de services ferroviaires, en recourant à une forme ou une autre d'appel d'offres (« concurrence pour le marché ») portant sur la franchise ferroviaire intégrée verticalement. Comme on l'a vu à la section 6, le recours à un appel d'offres pose des problèmes particuliers mais lorsqu'il est possible, il permet de renforcer la discipline de la concurrence entre les sociétés ferroviaires et de contribuer ainsi à la réalisation des objectifs énoncés dans l'encadré 1.

Dans certains cas, plutôt que de s'en remettre à la concurrence entre sociétés ferroviaires intégrées, on peut parfois faciliter la concurrence entre des sociétés ferroviaires en faisant porter la réglementation non plus sur les services aux utilisateurs finaux, mais sur l'accès aux infrastructures ferroviaires. Le principal avantage de cette approche est de garantir une intensification de la concurrence dans le secteur ferroviaire même et par conséquent de permettre de mieux atteindre les objectifs évoqués dans l'encadré 1.

Comme auparavant, il est possible de concevoir deux types différents de concurrence pour la prestation d'un service ferroviaire donné sur une infrastructure donnée, à savoir une concurrence sur et pour le marché. On pourrait par exemple organiser une certaine forme d'appel d'offres pour le droit d'être le prestataire exclusif d'une série de services utilisant une infrastructure ferroviaire donnée. Si le propriétaire de cette infrastructure est autorisé à participer à l'appel d'offres, on a affaire à une forme d'intégration verticale selon les définitions données plus haut.²³ Inversement, ce même propriétaire pourrait

être empêché de soumissionner, ce qui constituerait une forme de séparation verticale. De même, dans le cadre d'une concurrence classique sur le marché pour assurer le service en question sur l'infrastructure ferroviaire mentionnée plus haut, le propriétaire pourrait être autorisé ou non à assurer ce service sur ladite infrastructure.

La réglementation de l'accès à une installation essentielle (comme une infrastructure ferroviaire) comporte à la fois des avantages et des coûts. En ce qui concerne les avantages, la garantie d'accès assure la concurrence de nouveaux venus sur le marché, en particulier de gros chargeurs qui peuvent désormais choisir d'exploiter leurs propres trains. Là où cette concurrence joue réellement, le responsable de la réglementation est en mesure d'en limiter le champ pour assurer une fixation efficace des tarifs, un bon niveau de qualité et des investissements judicieux dans le facteur de production essentiel, tout en faisant appel à la concurrence pour assurer des niveaux satisfaisants de prix, de qualité et d'investissement dans les services compétitifs connexes. Il est évident que l'ampleur de ces avantages dépend en partie du degré de concurrence auquel on peut s'attendre et de la difficulté qu'il y a à réglementer les services liés à la production par rapport à ceux qui sont assurés aux utilisateurs finaux. De plus, dans le contexte du secteur ferroviaire, la garantie d'accès et la séparation verticale pourraient avoir pour avantage supplémentaire d'accroître la gamme de services susceptibles d'être assurés sans solution de continuité par une même entreprise. Cela renforce la compétitivité du rail par rapport aux autres modes de transport comme la route.

Dans la section 7, on s'efforce de déterminer s'il n'est pas plus facile à l'Etat d'atteindre les objectifs souhaités en réglementant l'infrastructure ou bien les services assurés aux utilisateurs finaux. La présente étude soutient la thèse selon laquelle l'accès accordé à des opérateurs ferroviaires indépendants accroît certains coûts et alourdit à certains égards la charge pesant sur les responsables de la réglementation. Plus précisément, pour accorder des facilités d'accès à des opérateurs ferroviaires indépendants, il faut mettre en place de nouveaux mécanismes pour régler les différends liés aux décisions relatives à l'allocation des sillons horaires, faire respecter les normes à l'interface rail-route et déterminer qui est fautif en cas de retard. De plus, les responsables de la réglementation doivent mettre au point de nouveaux mécanismes pour garantir que les infrastructures ferroviaires permettent d'assurer des services de qualité (notamment en respectant les normes de sécurité) et de consacrer en temps voulu des investissements efficaces à la modernisation des infrastructures ferroviaires.

Ces coûts supplémentaires et la charge additionnelle liée à la réglementation sont d'autant plus considérables que la proportion de trains exploités par le propriétaire des infrastructures est faible. Un opérateur intégré soumis à une réglementation efficace est fortement incité à maintenir les infrastructures en bon état, non pas parce qu'il en tire un avantage immédiat, mais parce que l'entreprise sera ainsi certaine de pouvoir s'acquitter de ses obligations de résultats en ce qui concerne les services assurés aux utilisateurs finaux. Toutefois, plus la proportion du trafic ferroviaire assuré par le propriétaire des infrastructures est faible, moins celui-ci est incité à en assurer l'entretien car les avantages en seraient partagés avec d'autres sociétés ferroviaires indépendantes. Cela laisse à penser que les incitations réglementaires en faveur du maintien des infrastructures en bon état prennent d'autant plus d'importance que la part du trafic exploitée par leur propriétaire diminue. Lorsque celui-ci ne fournit pas de trains lui appartenant, les mécanismes d'incitation réglementaire revêtent véritablement une grande importance. Si ces mécanismes laissent à désirer, les objectifs énoncés dans l'encadré 1 seront d'autant moins bien atteints que la proportion de services ferroviaires assurés par le propriétaire des infrastructures sera faible.

Cependant, le fait d'autoriser le propriétaire des infrastructures à assurer lui-même des services ferroviaires risque d'avoir un effet sur la concurrence. Dans certaines conditions (habituelles), une entreprise intégrée sera fortement incitée à empêcher une intensification de la concurrence pour la prestation de services ferroviaires. Elle peut pour cela accroître l'accès ou les prix de gros par rapport aux tarifs payés par les utilisateurs finaux, réduire les facilités d'accès qu'elle accorde à ses concurrents par rapport à la qualité du service qu'elle assure elle-même ou, profiter, par d'autres moyens, du fait qu'elle

possède le facteur de production essentiel pour en faire profiter sa propre entreprise en aval au détriment de ses concurrents.

Les responsables de la réglementation peuvent (ce qu'ils font généralement) s'efforcer d'empêcher ce genre de comportement en contrôlant les tarifs, la qualité et le respect des délais en ce qui concerne les facilités d'accès. L'entreprise en place a cependant tout intérêt à innover continuellement en recherchant de nouveaux moyens d'élever les tarifs ou les facilités d'accès du point de vue de la qualité ou du respect des délais. Au lieu de s'opposer aux incitations de l'entreprise réglementée, l'Etat peut éliminer l'incitation qu'a celle-ci à limiter l'accès en interdisant au propriétaire du facteur de production essentiel d'assurer des services dans le domaine d'activité concurrentiel connexe, autrement dit, en exigeant une séparation verticale. Cette question est traitée plus en détail à la section 8.

En bref, que nous enseigne cette analyse quant à la structure qui devrait théoriquement être celle d'une société ferroviaire ? Nous ne pouvons malheureusement en tirer aucune leçon simple. L'analyse a révélé un certain nombre de facteurs pertinents qui varient d'un pays à l'autre. Il est toutefois possible de récapituler quelques principes généraux :

- Tout d'abord, lorsqu'il est possible de procéder à une restructuration pour promouvoir la concurrence entre des compagnies de chemin de fer intégrées verticalement (qu'il s'agisse de la concurrence sur des itinéraires parallèles, intermodale, géographique ou géostratégique), cette restructuration est probablement souhaitable et devrait s'effectuer (en particulier dans les pays ne disposant que de ressources limitées pour des interventions complexes dans le domaine réglementaire) ;
- Deuxièmement, lorsque (i) la concurrence serait concrètement renforcée et (ii) les incidences réglementaires sont faibles (par exemple, dans les cas où la proportion de trains exploités de façon indépendante est faible et où le réseau est loin d'être saturé), les propriétaires des infrastructures devraient être tenus de laisser des opérateurs indépendants assurer certains services. Il pourrait s'agir par exemple d'accorder accès à un terminus ou à une gare de triage, dans certaines limites au réseau d'un concurrent dans la région d'interconnexion des réseaux (voir à ce sujet la règle des 30 km au Canada) ou encore à un réseau existant pour assurer un service secondaire qui n'est pas déjà fourni par ce réseau (comme un service voyageurs sur une ligne assurant essentiellement le transport de marchandises).
- Troisièmement, lorsque l'accès est garanti pour la prestation de certains services, des solutions structurelles sont généralement indispensables pour que le propriétaire des infrastructures ne soit plus incité à avoir un comportement discriminatoire à l'égard des autres sociétés ferroviaires assurant les services en question. Parmi ces solutions pourraient figurer une séparation verticale ou la copropriété de l'installation essentielle par les sociétés ferroviaires.
- Enfin, dans certains des cas restants, on pourrait éventuellement faire jouer la concurrence pour le marché pour le droit d'assurer une série donnée de services intégrés verticalement. Cette formule soulève néanmoins des problèmes de réglementation considérables, consistant par exemple à offrir des incitations à assurer la préservation des infrastructures du réseau à l'approche de la date d'expiration de la concession.

La liste de ces principes n'est malheureusement pas exhaustive. Il reste un certain nombre de services pour lesquels il est difficile de dire s'il convient de choisir entre intégration et séparation verticales. C'est le cas par exemple des lignes à trafic intense pouvant faire l'objet d'une concurrence réelle et durable. En pareil cas, on ne sait pas exactement si la meilleure solution consiste à réglementer un monopole intégré, à

lancer un appel d'offres pour le droit d'assurer les services, ou bien à pratiquer une séparation verticale assortie d'une concurrence sur le marché pour les services en question.

Ces arguments sont développés dans les sections qui suivent.

5. Un prestataire intégré de services ferroviaires en situation de monopole

Avant d'examiner les coûts et avantages de différentes approches structurelles et leurs effets sur la concurrence, on présentera un aperçu des résultats à attendre d'un prestataire de services ferroviaires intégré verticalement en situation de monopole et exposé uniquement à une concurrence intermodale.

Comme on l'a vu, la plupart des services ferroviaires fournis dans la majorité des pays de l'OCDE se heurtent à une forte concurrence de la part des autres modes de transport. La concurrence intermodale peut-elle assurer à elle seule la discipline permettant de faire jouer une concurrence réelle dans le secteur du rail afin d'atteindre les objectifs énoncés dans l'encadré 1 ?

La réponse semble malheureusement être négative pour de nombreux pays de l'OCDE. Rares sont les gouvernements de ces pays qui peuvent s'engager à ne pas subventionner le secteur du rail ni à élever le niveau des subventions actuelles. Si les pouvoirs publics ne peuvent pas s'engager à limiter le montant des subventions qu'ils accordent au rail, la concurrence intermodale n'assure pas la discipline voulue pour faire jouer une concurrence réelle dans ce secteur et la direction jugera généralement plus facile de prendre des mesures stratégiques pour accroître le montant des subventions que d'améliorer les performances de l'entreprise, en particulier là où le secteur du rail est soumis à des obligations extra commerciales potentiellement considérables et non quantifiées (par exemple l'obligation de conserver une main-d'œuvre pléthorique).

La plupart des gouvernements des pays de l'OCDE ne peuvent se permettre de voir la part de marché du rail diminuer encore davantage. Tant que c'est le cas, les pouvoirs publics sont tenus par définition d'augmenter les subventions dans l'éventualité d'une baisse de la demande ou d'une hausse des coûts dans le secteur du rail. La plupart des gouvernements auraient des difficultés à déterminer si la diminution de la demande est due à une dégradation de la qualité des services, ou bien si la hausse des coûts est imputable à l'inefficacité de l'opérateur ferroviaire. Tant que les pouvoirs publics ne peuvent distinguer entre les raisons valables et les raisons injustifiées d'accroître les subventions, ils ne peuvent s'engager à ne pas les augmenter à la suite de mauvaises performances de la société ferroviaire. Selon la CESAP (2003) :

« Le problème tient au fait que tant que les [sociétés ferroviaires] recourent à un déficit budgétaire systématique pour maintenir le niveau de l'offre, elles ne sont guère incitées à être rentables ou à répondre de façon flexible à l'évolution de la demande des usagers ». ²⁴

L'expérience de la Nouvelle-Zélande illustre ce problème. Dans ce pays, le secteur du rail se heurte à une concurrence intense des transports routiers et par eau. En 1993, il a été vendu au secteur privé sous la forme d'une entité intégrée (et non réglementée). En fait, en effectuant cette vente, les pouvoirs publics s'engageaient à ne plus injecter de fonds supplémentaires dans le secteur ferroviaire. La productivité de celui-ci a immédiatement augmenté mais l'acheteur a choisi de ne pas investir dans l'avenir à long terme du secteur (sans que l'on ne sache exactement s'il souhaitait maximiser les profits ou bien s'il agissait en fonction de considérations stratégiques). ²⁵ On a donc assisté à « une diminution continue des investissements dans le secteur ferroviaire pendant un certain nombre d'années, ce qui a causé des problèmes liés au report de travaux d'entretien, entraînant eux-mêmes des problèmes de sécurité et une dégradation des services ». ²⁶ Dans l'impossibilité d'autoriser une réduction à long terme des services dans le secteur ferroviaire, le gouvernement a choisi de racheter les infrastructures à l'opérateur privé en 2004. En fait, les pouvoirs publics n'étaient pas crédibles lorsqu'ils se sont efforcés de ne plus injecter de fonds

supplémentaires dans le secteur du rail, même dans le cadre d'une privatisation pure et simple. Consciente de la situation, l'entreprise a pu maximiser ses profits à court terme en s'abstenant d'effectuer des investissements à long terme.

Si les pouvoirs publics ne peuvent s'engager à limiter le volume des subventions destinées au rail, il leur est impossible de compter sur la concurrence intermodale pour discipliner efficacement le secteur du rail. En fait, une discipline sous quelque forme que ce soit ne peut être assurée que par une certaine combinaison de réglementation et/ou de concurrence au sein même du secteur.²⁷

Toutefois, l'expérience dans le secteur ferroviaire (et en fait, dans d'autres services publics) a montré qu'il est difficile d'obtenir les résultats souhaitables en réglementant un secteur ferroviaire intégré et monolithique sans concurrence intramodale.²⁸ L'expérience de nombreux pays dans les années 70 et 80 montre que la tentative de réglementer un réseau ferré national intégré s'est soldée par des résultats médiocres : diminution de la part de marché du rail, faible productivité, qualité médiocre des services et manque d'investissement dans les infrastructures et le matériel roulant.²⁹

« Il est couramment admis que ce type d'entreprise [une compagnie nationale de chemins de fer intégrée], en situation de monopole pour l'usage de l'infrastructure, manque de dynamisme commercial et de productivité... De nombreux experts estiment qu'une seule société nationale de chemins de fer est beaucoup trop rigide pour pouvoir développer tous les produits susceptibles d'intéresser les différents segments de clientèle ».³⁰

Cela tient en partie aux imperfections de la gouvernance. On a souvent constaté un manque de politique commerciale claire et l'absence d'incitations propres à améliorer la qualité des services, en particulier dans le cas des chemins de fer nationalisés. Faute d'incitations commerciales claires, il est difficile, voire impossible, de recourir à des gratifications et pénalités financières pour favoriser de bonnes performances. En tout état de cause, des gratifications et pénalités financières destinées à accroître la productivité ne sont guère utiles si les autorités ne peuvent mesurer exactement –et conclure des contrats en conséquence– les autres aspects de la performance tels que la qualité du service ou la sécurité des trains et des voyageurs. Une puissante incitation³¹ à réduire les dépenses risque de ne pas être viable si la réduction des dépenses a pour contrepartie des risques d'accident accrus.

Il est possible que les techniques et procédures réglementaires se soient améliorées au point qu'aujourd'hui, des réseaux ferrés intégrés donnent de meilleurs résultats que dans les années 70 et 80. Certains pays d'Europe semblent obtenir des résultats acceptables dans le secteur du rail alors que la séparation formelle entre infrastructure et exploitation est très limitée. Au total, l'expérience des pays de l'OCDE semble cependant montrer qu'il est difficile d'atteindre les objectifs réglementaires énoncés dans l'encadré 1 tout en conservant un prestataire de services ferroviaires intégré en situation de monopole.

Bien que la réglementation d'une société ferroviaire intégrée soit difficile, il peut être également difficile d'atteindre les objectifs cités plus haut en faisant appel à la concurrence au sein du secteur du rail, ce qui signifie que dans ces pays, la meilleure solution implique nécessairement un compromis entre des approches imparfaites. Le reste de l'étude tente de déterminer dans quelle mesure nous pouvons compter sur la concurrence dans le secteur du rail pour atteindre les objectifs susmentionnés et sur le rôle des réformes structurelles pour faciliter cette concurrence.

6. La concurrence entre opérateurs ferroviaires intégrés

On examinera dans cette section la mesure dans laquelle les objectifs cités dans l'encadré 1 pourraient être atteints grâce à une concurrence entre sociétés ferroviaires intégrées verticalement.

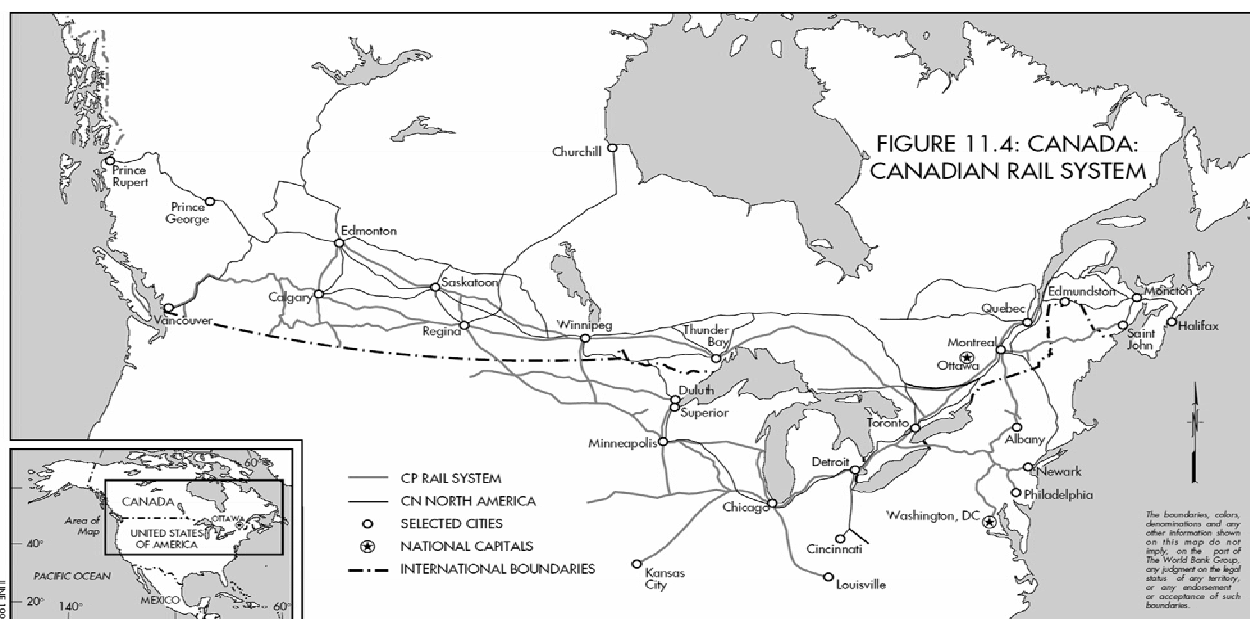
Comme indiqué dans la figure 1 de la section précédente, on peut envisager deux formes différentes de concurrence entre des sociétés ferroviaires intégrées verticalement : une concurrence classique « sur le marché » et des appels d’offres, ou bien une concurrence « pour le marché ». Cette section traite d’abord de la concurrence classique « sur le marché ». Est-il possible de la faire jouer efficacement entre des sociétés ferroviaires intégrées ? Dans l’affirmative, comment l’intensifier ?

Formes de concurrence entre sociétés ferroviaires intégrées

La concurrence classique « sur le marché » entre sociétés ferroviaires intégrées est possible dans certains cas. Par exemple, la concurrence pour des services ferroviaires au sujet de points d’origine et de destination spécifiques est possible lorsque ces deux points se trouvent être reliés par deux itinéraires utilisant des infrastructures appartenant à deux sociétés ferroviaires concurrentes. On parle parfois à ce sujet de concurrence sur des « itinéraires parallèles ».³²

C’est peut-être au Canada que l’on trouve l’exemple le plus clair de concurrence sur des itinéraires parallèles. Dans ce pays, les deux principaux réseaux ferrés (Chemins de fer nationaux et Compagnie de chemin de fer du Canadien Pacifique) couvrent tous les deux l’ensemble de la région sud du Canada, de l’Atlantique au Pacifique (voir carte ci-dessous). La plupart des grandes villes canadiennes sont desservies par ces deux compagnies, notamment Vancouver, Calgary, Edmonton, Saskatoon, Regina, Winnipeg, Toronto, Montréal et Québec. De plus, les deux réseaux possèdent aux Etats-Unis des voies desservant Minneapolis, Chicago et Detroit.³³

Figure 4. Figure 2 : concurrence sur des itinéraires parallèles au Canada : le réseau ferré canadien



Source : Banque mondiale (1995), page 286.

Légendes :

Figure 11.4 : Canada : réseau ferré national

- Réseau ferré CP
- Réseau CN en Amérique du Nord
- Villes principales
 - Capitales
- .-.-.- Frontières internationales

Les frontières, couleurs, dénominations et toute information figurant sur cette carte n’impliquent aucun jugement de la part du groupe de la Banque mondiale quant au statut juridique d’un territoire quelconque ni l’approbation ou l’acceptation des frontières en cause.

Aux Etats-Unis, le secteur du rail compte également un certain nombre de sociétés concurrentes, intégrées verticalement. L'aire géographique couverte par ces réseaux est très variable d'une société à l'autre, mais les plus grandes compagnies de chemin de fer des Etats-Unis ont des réseaux d'une longueur de dizaines de milliers de kilomètres couvrant plusieurs douzaines d'Etats. Ces différents réseaux se recoupent largement sur le plan géographique. Comme au Canada, de nombreuses villes américaines sont desservies par au moins deux sociétés ferroviaires indépendantes, intégrées verticalement. Bien qu'inévitablement, quelques clients n'aient toujours pas véritablement le choix entre deux sociétés ferroviaires, le secteur du rail des Etats-Unis est largement considéré comme compétitif et efficace pour l'essentiel et il détient une part relativement importante du marché du trafic marchandises à l'échelon national.

Certaines possibilités de concurrence peuvent exister entre sociétés ferroviaires intégrées verticalement, même lorsque leurs réseaux ne se recoupent pas. Il se peut par exemple qu'un chargeur soit désireux ou tenu de combiner le rail à d'autres modes de transport pour assurer le service de bout en bout (du point de départ au point de destination) qu'il souhaite. Dans ce cas, même si deux sociétés ferroviaires ne desservent pas les mêmes destinations, elles peuvent être en concurrence pour assurer une partie d'un transport multimodal plus long.

C'est ainsi qu'un chargeur installé à New York qui souhaite expédier un conteneur à Sydney (Australie), par exemple, peut avoir le choix entre au moins deux chemins de fer desservant différents ports de la côte ouest des Etats-Unis, d'où le conteneur peut être transféré sur un navire pour arriver à destination. Même si les chemins de fer ne desservent pas le même port, dans l'hypothèse où les deux trajets maritimes sont très similaires, les volumes de fret augmenteront au profit de leurs concurrents si une société ferroviaire ou un port tentent de relever leurs tarifs.

Examinons par ailleurs le cas d'un céréalier du centre des Etats-Unis qui désire transporter ses céréales par la route jusqu'au chemin de fer le plus proche, pour les acheminer ensuite jusqu'à un grand terminal céréalier. Supposons qu'il existe deux sociétés ferroviaires en mesure de le faire. Si le producteur se trouve à égale distance des lignes de ces deux sociétés, il optera pour celle qui offre les tarifs de fret les plus avantageux.

D'une façon plus générale, lorsque deux sociétés ferroviaires sont en concurrence pour assurer le même service de bout en bout nécessitant au moins deux modes de transport, la possibilité qu'a un prestataire de service ferroviaire d'augmenter ses tarifs par rapport à son concurrent est limitée par la différence de prix et de qualité des services de transport complémentaires correspondants. On parlera dans ce cas de concurrence « multimodale ».

On arrive à un résultat très similaire même lorsque deux sociétés ferroviaires sont en concurrence non pas pour assurer des services de transport de bout en bout, mais pour fournir des éléments d'un autre bien ou service eux-mêmes transportés pour être vendus sur un marché ouvert à la concurrence. Supposons par exemple qu'une mine de charbon ait le choix entre plusieurs sociétés ferroviaires pour acheminer son charbon jusqu'à deux endroits à partir d'où le charbon est converti en électricité par deux générateurs. Supposons que le coût du transport de l'électricité soit suffisamment bas pour que celle-ci soit vendue à un prix unique sur un marché concurrentiel. Dans ce cas, le pouvoir de marché de chaque société ferroviaire est limité en fait au degré de différence d'efficacité des deux générateurs. Si chacun d'eux est également efficace, les deux sociétés ferroviaires n'exercent qu'un pouvoir de marché très limité, bien qu'elles ne soient pas directement en concurrence pour assurer des services de bout en bout.

Enfin, lorsque la marchandise transportée n'est pas utilisée comme facteur de production mais simplement consommée à son lieu de destination, tant que le chargeur a un choix de destinations, le

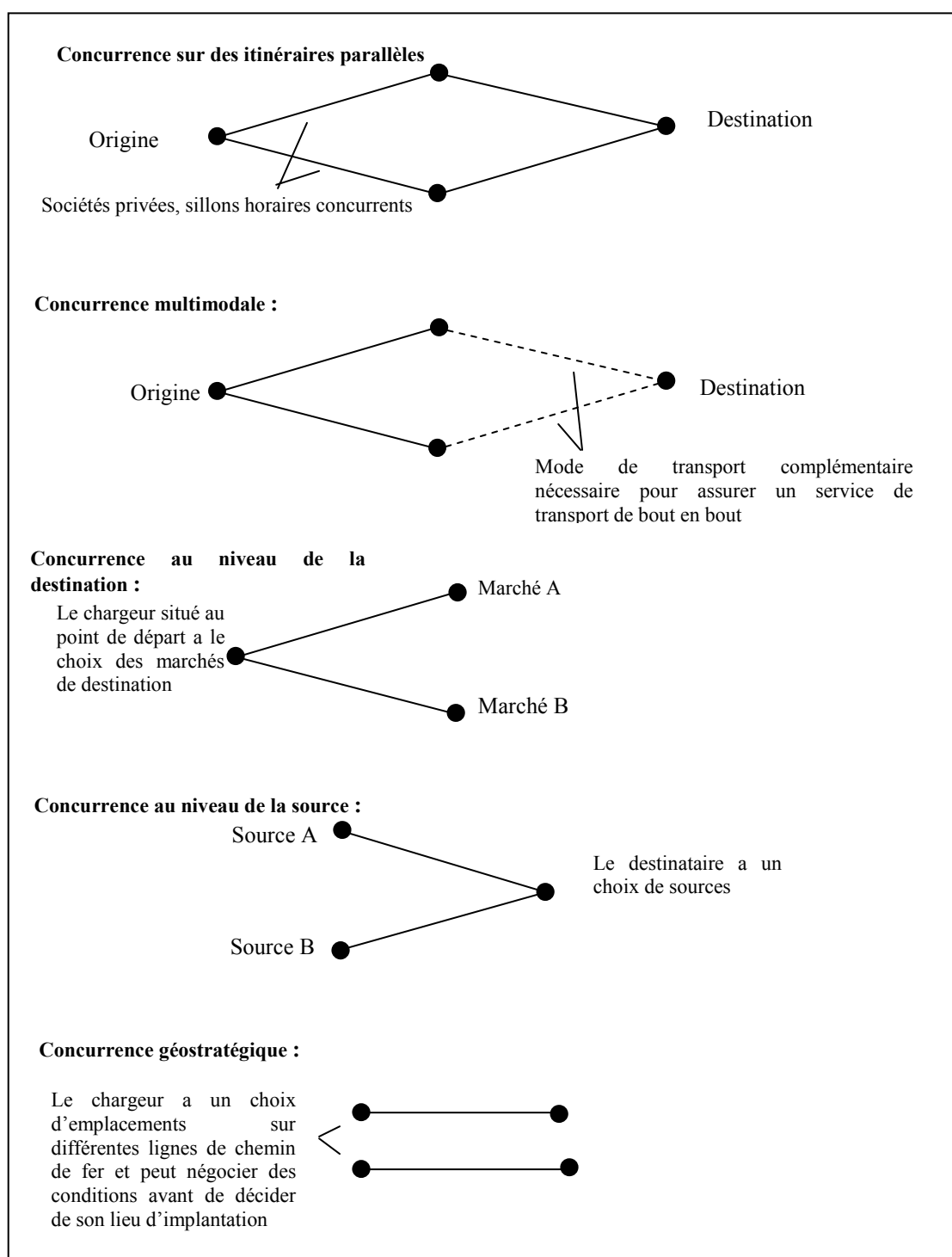
pouvoir de marché d'une société ferroviaire est limité à la différence de prix de la marchandise en question sur le marché selon les diverses destinations.

Cette forme de concurrence –qui est liée à la capacité qu'a un chargeur de réorienter ses produits vers différents marchés, est appelée « concurrence au niveau de la destination ». Ce type de concurrence, bien qu'imparfait, peut discipliner dans une certaine mesure le pouvoir de marché d'une société ferroviaire.

De même, l'acheteur d'une marchandise peut être en mesure de se la procurer auprès d'au moins deux sources. Si celles-ci sont desservies par différentes sociétés ferroviaires, là encore, une certaine concurrence joue entre elles en ce sens que si l'une tente de relever ses tarifs, les acheteurs s'adresseront ailleurs. On parle dans ce cas de « concurrence au niveau de la source ». Celle-ci, tout comme la concurrence au niveau de la destination, discipline partiellement le pouvoir de marché d'une société ferroviaire. La concurrence « au niveau de la source » et celle qui joue « au niveau de la destination » constituent à elles deux la concurrence « géographique ».

Il convient de mentionner également une autre forme de concurrence. Prenons le cas d'une entreprise qui prévoit de faire largement appel à des services ferroviaires et souhaite s'implanter à proximité d'une ligne de chemin de fer. Une fois qu'elle a pris cette décision, elle est en fait « captive » du propriétaire du chemin de fer en question et par conséquent, soumise à son pouvoir de marché. Toutefois, avant de prendre la décision d'immobiliser ses actifs à un emplacement particulier, cette entreprise peut avoir le choix entre un certain nombre de sites potentiels tout aussi attractifs. Si ceux-ci se trouvent sur différentes lignes de chemin de fer, l'entreprise peut s'efforcer de négocier un accord à long terme avec chaque société ferroviaire pour obtenir des services au meilleur tarif possible. Autrement dit, même si une société ferroviaire exerce un pouvoir de marché sur un chargeur une fois que celui-ci a choisi son lieu d'implantation, elle aura tendance à exercer un pouvoir de marché bien moindre sur celui qui ne l'a pas encore fait. On parlera alors de concurrence « au niveau de l'emplacement ».

Le diagramme suivant illustre ces différentes formes de concurrence :



Restructuration visant à promouvoir la concurrence entre des sociétés ferroviaires intégrées

Manifestement, pour que la concurrence joue efficacement entre les sociétés ferroviaires (qu'il s'agisse de la concurrence sur des itinéraires « parallèles », « géographique » ou « géostratégique »), différentes sociétés ferroviaires doivent posséder et exploiter différents sillons horaires. Une restructuration minutieuse d'une société ferroviaire intégrée peut augmenter le nombre de sillons horaires alternatifs sur les principaux itinéraires.

C'est peut-être la restructuration du secteur du rail au Mexique qui fournit le meilleur exemple de ce principe. Les chemins de fer nationaux ont été divisés en trois compagnies, qui desservent toutes les trois Mexico. Les deux sociétés du nord desservent l'une et l'autre les ports du Golfe du Mexique et du Pacifique et vers le nord, les deux assurent des services jusqu'à la frontière avec les Etats-Unis. Autrement dit, un chargeur installé à Mexico a le choix entre plusieurs sociétés ferroviaires pour importer ou exporter, par l'est, l'ouest ou le nord.³⁴ (voir carte ci-dessous). On trouvera dans l'encadré 3 des explications plus détaillées sur l'approche choisie par le Mexique.



Source : Banque mondiale

Box 3. La réforme structurelle au Mexique³⁵

« Au Mexique... lorsque les groupes de lignes principales à franchiser et les petites lignes qui s'y rattachent ont été conçus, on a estimé explicitement qu'autant que possible, aucun concessionnaire ne devrait avoir le monopole de l'accès aux grandes villes (Mexico, Monterrey et Guadalajara), aux zones industrielles –dans le centre-nord du pays) ou aux ports (Tampico et Vera Cruz).

La compagnie nationale de chemin de fer « a été divisée en trois lignes régionales ou principales, plusieurs lignes d'intérêt local et la gare centrale de Mexico... Pour chaque ligne et leur terminus, une seule entreprise contrôle en totalité les infrastructures et les opérations ferroviaires. Le terminus de Mexico, où s'effectue la plus grande partie des échanges entre les diverses compagnies, appartient conjointement et à parts égales à ces compagnies et à l'Etat, ce qui assure un accès égal aux entreprises en place.

Les concessions des trois sociétés régionales empêchent leurs détenteurs d'acquérir plus de 5 pour cent des autres compagnies régionales et les obligent à laisser jouer la concurrence à des points précis visés dans chaque clause. Rien n'empêche les transporteurs ferroviaires de construire et d'exploiter de nouvelles installations une fois qu'ils ont obtenu la concession correspondante, et leur participation dans d'autres secteurs des transports n'est pas soumise à restrictions. En fait, les sociétés régionales ont choisi pour des raisons stratégiques de se lancer dans le fret ferroviaire pour développer des réseaux de transports multimodaux qui leur permettent de renforcer leur compétitivité

sur d'autres marchés des transports...

Des tarifs maximum sont fixés par les concessionnaires et ne doivent pas être obligatoirement liés aux coûts. Les tarifs, notamment d'interconnexion, doivent être enregistrés auprès de l'organisme officiel SCT et ne pas être discriminatoires. Les contrats de services sont des accords privés et confidentiels et ne sont enregistrés que pour assurer que les tarifs maximum ont été respectés. En général, les concessionnaires fixent les tarifs maximum à un niveau élevé et accordent des réductions de façon discrétionnaire.

Le cadre réglementaire fixe des points d'interconnexion obligatoires et établit des pratiques non discriminatoires. En vertu de la loi sur les chemins de fer, la SCT est habilitée à imposer de façon contraignante des droits d'accès aux voies d'une autre société, ou bien de négocier les tarifs et les contrats dans le cadre de la concession pour promouvoir le trafic intercompagnies et encourager ainsi la concurrence sur les lignes principales. De plus, les règlements contraignent les chemins de fer connectés à échanger des wagons et permettent à la SCT de fixer des points d'interconnexion supplémentaires. A l'heure actuelle, la SCT a imposé dans 62 cas le droit d'utiliser les voies appartenant à une autre société sur des itinéraires précis. Il n'existe aucun droit de ce type reconnu à titre privé, ni de droits de négocier les tarifs et les contrats de façon contraignante ou volontaire. Dans la pratique, en raison à la fois du comportement stratégique relatif aux réductions de tarifs et de désaccords en matière d'interconnexion, le trafic intercompagnies est pratiquement interrompu.

Entre 1996 et 2003, le secteur ferroviaire a réalisé des gains de productivité et a commencé à reprendre une part de marché aux transports routiers. Le tonnage total transporté a augmenté de 53 % tandis que le nombre de tonnes-km progressait de 37 %. La productivité de la main-d'œuvre a augmenté de 357 %, celle des locomotives de 48 %, le rendement énergétique de 15 % et la densité du trafic de 37 %. Les indicateurs relatifs à la qualité du service se sont nettement améliorés. C'est ainsi que le nombre de plaintes des usagers a diminué de 66 % et celui des accidents, de 80 %.

A la fin de 1999, une grande majorité des investisseurs privés et des représentants des pouvoirs publics ont reconnu que, en particulier en comparaison de ce qui s'était passé dans d'autres secteurs, la restructuration des chemins de fer mexicains au moyen d'enchères ouvertes constituait un bon exemple de passage d'un modèle de domination du secteur public à un système d'exploitation privée d'une infrastructure de transport existante. On s'est attaqué aux problèmes de concurrence qui ont pu se poser au stade de la conception, avec l'aide de l'organisme compétent en la matière...

Directement ou grâce à sa participation à la Commission interministérielle de désinvestissement, l'organisme responsable de la concurrence (Comision Federal de la Competencia, CFC) a évalué la segmentation du réseau ferré pour déterminer les tronçons pour lesquels il était essentiel d'instituer des droits d'emprise ou de négociation des tarifs pour assurer que le service soit assuré dans un contexte concurrentiel et empêcher ainsi les concessionnaires d'exercer un pouvoir excessif. De plus, la CFC a formulé des suggestions concernant des aspects de la concurrence qui ont été inclus dans la loi et dans les contrats de concession »

Bien que la concurrence sur des itinéraires parallèles ait davantage de chances de jouer réellement pour les services de fret, la restructuration d'une société ferroviaire peut également favoriser la concurrence pour certains services voyageurs. La concurrence joue par exemple un peu sur les itinéraires parallèles entre les franchisés axés sur certains itinéraires au Royaume-Uni. Bien que les franchisés jouissent d'un monopole de fait sur des itinéraires, une certaine concurrence existe effectivement entre eux « lorsqu'au moins deux d'entre eux desservent les deux mêmes points et qu'une concurrence au niveau des tarifs est apparue sur un certain nombre d'axes ».³⁶

Il existe aux Etats-Unis une abondante bibliographie qui indique que le degré de concurrence entre les sociétés ferroviaires américaines intégrées verticalement influe directement sur les tarifs du fret ferroviaire. Comme on pouvait s'y attendre, des études ont montré que plus un chargeur a le choix entre diverses sociétés ferroviaires, moins les tarifs de fret sont élevés.³⁷ En même temps, la concurrence entre compagnies incite fortement celles-ci à être efficaces et novatrices et à consacrer en temps voulu des investissements efficaces à de nouvelles infrastructures et à un nouveau matériel roulant.

En présence d'une concurrence efficace entre des sociétés ferroviaires intégrées verticalement, l'intervention de l'Etat peut être limitée essentiellement à la protection des chargeurs qui n'ont pas

vraiment le choix entre plusieurs compagnies de chemin de fer pour tous les services ferroviaires souhaités. Certains chargeurs seront inévitablement « captifs » d'une seule société ferroviaire. Des mesures réglementaires peuvent être nécessaires en leur faveur (par exemple un contrôle direct des prix, de la qualité, etc. ou bien une garantie d'accès aux services).

De plus, l'ampleur de la concurrence entre sociétés ferroviaires intégrées verticalement peut souvent être accrue concrètement par des interventions réglementaires supplémentaires du type évoqué dans la suite de la présente étude. Il se peut par exemple que l'on puisse améliorer matériellement la concurrence en recourant de façon limitée à une garantie d'accès ou à une séparation verticale. C'est ainsi qu'aux Etats-Unis, il existe un grand nombre de compagnies de chemins de fer assurant des services d'enlèvement et de livraison qui permettent à d'autres compagnies importantes de partager l'accès à des équipements clés (par exemple dans les grandes villes). Aux Etats-Unis comme au Canada, certaines compagnies sont tenues d'assurer l'accès à d'autres sociétés ferroviaires, là encore dans le but d'intensifier la concurrence.

Evaluation des possibilités de restructuration en vue de promouvoir la concurrence entre sociétés ferroviaires intégrées

L'expérience des Etats-Unis et du Canada et la restructuration au Mexique laissent à penser que tout au moins dans ces pays, il est possible de structurer le secteur du rail de façon à faire jouer une certaine concurrence entre sociétés ferroviaires intégrées. Mais dans quelle mesure cette expérience est-elle transposable à d'autres pays ?

Tout d'abord, nous pouvons constater qu'une restructuration visant à promouvoir la concurrence entre sociétés ferroviaires intégrées verticalement a davantage de chances de jouer réellement pour le fret que pour le trafic voyageurs. Ces derniers (en particulier ceux qui voyagent pour affaires) sont davantage tenus par le temps et moins à même de s'accommoder d'itinéraires alternatifs. Dans l'éventualité d'une hausse de tarif sur un itinéraire A-B, seuls quelques voyageurs opteront pour l'itinéraire A-C en utilisant un autre mode de transport pour terminer le trajet B-C. Même lorsqu'il existe deux itinéraires A-B par le rail, ceux-ci sont probablement de longueur et de qualité inégales, l'un d'eux étant plus rapide que l'autre, ce qui lui donne un avantage comparatif. En bref, sur les lignes où prédomine le trafic voyageurs, on peut beaucoup moins compter sur la concurrence entre sociétés ferroviaires intégrées.

Même dans les pays où le trafic marchandises prédomine, les possibilités de restructuration pour faire jouer la concurrence sur des voies parallèles peuvent être limitées. Ce type de concurrence nécessite l'existence d'au moins deux sillons horaires sur les grands axes. Mais les économies de densité pour la fourniture de l'infrastructure ferroviaire tendent à limiter le nombre de sillons indépendants. Plus les économies de densité sont grandes, plus le réseau aura tendance à adopter une configuration « en étoile » suivant laquelle il n'existe qu'un itinéraire possible entre deux points quelconques du réseau.³⁸

Même lorsque des voies parallèles existent effectivement, leur séparation entre des compagnies concurrentes peut réduire l'efficacité de l'exploitation dans la mesure où elles peuvent parfois être exploitées de la même manière qu'une ligne à double voie, ce qui accroît sensiblement la capacité du réseau. Il se peut que certains de ces avantages d'une exploitation intégrée puissent être obtenus grâce à des accords entre les opérateurs de sociétés ferroviaires indépendantes et distinctes. C'est couramment le cas, par exemple aux Etats-Unis où « lorsque deux compagnies ont des voies parallèles, elles peuvent décider de les intégrer pour rendre l'exploitation plus efficace en formant une ligne à double voie ».³⁹ De plus, les compagnies peuvent décider d' « autoriser l'utilisation des voies d'une autre société ferroviaire pour éviter une perturbation temporaire des services due à des événements imprévus tels que des catastrophes naturelles ou des déraillements ».⁴⁰ Toutefois, des accords intercompagnies de ce genre risquent de limiter la concurrence et de ne pas constituer une solution de rechange idéale à une intégration totale des voies.

Une restructuration en plusieurs sociétés ferroviaires intégrées verticalement coûte cher en ce sens qu'elle réduit les possibilités de services de bout en bout, sans solution de continuité.⁴¹ Plus le réseau ferroviaire est « fragmenté », c'est-à-dire plus le nombre de sociétés ferroviaires est grand pour une infrastructure ferroviaire donnée, moins une compagnie de chemin de fer a de chances de pouvoir assurer à elle seule un service « de bout en bout ». Par conséquent, pour pouvoir acheter le service de bout en bout qu'il désire, l'utilisateur final doit acheter au moins deux services distincts à au moins deux compagnies de chemin de fer différentes. Cela pose deux problèmes :

- La nécessité de passer d'une compagnie à une autre entraîne une baisse de qualité globale (notamment de la ponctualité et de la fiabilité) du service de bout en bout par rapport au même service assuré par une seule compagnie.⁴² Campos (2002) écrit à ce sujet :

« Lorsqu'une activité n'est pas intégrée verticalement, chaque élément du processus de production relève d'entités distinctes dont les objectifs peuvent être divergents. Il risque d'en résulter un niveau de performance plus faible que si l'exploitation est confiée à un seul responsable. Supposons qu'un voyageur prenne le train pour aller du point A au point C et qu'il y ait un arrêt à un point B intermédiaire. Lorsque les tronçons AB et BC sont exploités par différents transporteurs, il est peu probable que l'arrivée au point B et le départ de ce point s'effectuent à la même gare, ou que les horaires soient compatibles, ou que les bagages ne doivent pas être à nouveau enregistrés, etc. Dans toutes les activités de transport, une intégration verticale peut faciliter la solution des problèmes aux points névralgiques, en particulier le transbordement de marchandises en cas de transport multimodal ».⁴³

- La nécessité d'acheter deux services distincts pour obtenir le service de bout en bout souhaité accroît le prix de ce service en raison du problème de la « double marginalisation ».

Si chaque réseau dispose d'un certain pouvoir de marché sur son propre itinéraire, la somme des tarifs des ces services distincts dépassera le coût marginal à long terme d'un service de bout en bout intégré. Par exemple, si une compagnie de chemin de fer joue un rôle dominant pour les services de A à B et une autre, pour les services de B à C, un utilisateur final cherchant à se rendre de A à C peut se trouver contraint d'acheter séparément un service à ces deux sociétés ferroviaires. Il se heurte ainsi à un problème de « double marginalisation » en ce sens que la majoration effective par rapport au coût marginal du service combiné est égale à la somme des majorations sur chacun des services distincts, et qu'elle risque d'être supérieure à la majoration économique sur le service de bout en bout recherché. Une seule entreprise regroupant les deux compagnies existantes pourrait pratiquer pour le trajet A-C un prix économique qui serait différent de la somme des tarifs pour les tronçons A-B et B-C.⁴⁴

Comme on l'a vu, ces problèmes (l'absence de service sans solution de continuité et le problème de la « double marginalisation ») sont partiellement compensés par le fait que deux réseaux voisins peuvent (ce qu'ils font souvent, comme l'expérience le montre) négocier un accord mutuel en vertu duquel ils décident l'un et l'autre volontairement d'assurer l'accès à des trains de l'autre réseau, de sorte que les deux réseaux peuvent assurer une large gamme de services de bout en bout et sans solution de continuité. Lorsqu'ils sont conclus volontairement, ces accords n'ont généralement pas pour effet d'intensifier la concurrence entre les deux réseaux concernés. Ils élargissent cependant la gamme de services sans solution de continuité assurés par chacun d'eux.

Une restructuration bien conçue visera à maximiser les possibilités de concurrence intramodale tout en limitant le volume de trafic qui doit passer entre les transporteurs ferroviaires. Il semble toutefois inévitable que toute restructuration aboutissant à des compagnies intégrées verticalement et axées sur des itinéraires accroisse le volume du trafic entre les réseaux.

La restructuration en compagnies intégrées verticalement et fondées sur des itinéraires poserait un problème en Europe, par exemple là où historiquement, les sociétés ferroviaires desservait non pas des itinéraires différents, mais des territoires nationaux différents. Pour restructurer des chemins de fer régionaux en compagnies axées sur des itinéraires internationaux, il faudrait s'attaquer à des problèmes tels que l'écartement des rails, l'état des voies, les systèmes de signalisation et les différences de systèmes de force motrice qui sont apparues dans différents pays. L'UE s'efforce de développer les itinéraires de fret trans-européens. On peut imaginer qu'à l'avenir, différentes compagnies de chemin de fer posséderont et exploiteront différents itinéraires de fret (est-ouest ou nord-sud). Une étude concernant l'Union européenne évoque brièvement l'éventualité d'une structure similaire pour le trafic voyageurs :

« Idéalement, les marchés ferroviaires ne devraient pas être définis par rapport aux frontières nationales car cela entraînerait inévitablement des facteurs d'inefficacité. En fait, l'autre solution consistant à définir le marché libéralisé par rapport à un réseau de grandes lignes donné (comme on l'a fait pour la libéralisation du fret) pourrait être préférable en principe... Toutefois, l'existence de différents régimes contractuels applicables au service public dans le cadre des frontières nationales oblige, à ce stade du développement de la Communauté, à prendre en compte les frontières géographiques ». ⁴⁵

En bref, malgré les économies d'échelle considérables réalisées au niveau de la mise en place de l'infrastructure ferroviaire, il existe parfois des possibilités de concurrence entre compagnies de chemin de fer intégrées. Cette concurrence a des chances d'être particulièrement intense lorsqu'il existe de multiples sillons le long des grands axes commerciaux ou lorsque des services multimodaux constituent un substitut satisfaisant à des services ferroviaires directs. Du fait que les services de fret sont généralement moins sensibles au facteur temps et à une destination précise que les services voyageurs, la gamme de substituts potentiels à un service ferroviaire donné est plus large. Les diverses formes de concurrence évoquées plus haut (concurrence multimodale, géographique et géostratégique) risquent d'être plus intenses pour le fret que pour le trafic voyageurs.

Une restructuration minutieuse d'un réseau ferré existant en compagnies différentes exploitant des sillons horaires distincts peut créer une concurrence réelle, en particulier pour le fret. Cette forme de concurrence semble être particulièrement attractive dans les pays dotés d'un réseau ferré assez dense qui pourrait être séparé pour faire place à un certain nombre d'opérateurs concurrents et pour lequel le secteur public ne dispose guère des compétences ou de l'expérience des modalités réglementaires qu'implique la garantie d'accès aux infrastructures ferroviaires (voir ci-après). Pour ces raisons, le Secrétariat de l'OCDE pour la concurrence a recommandé que cette approche soit examinée par les responsables du secteur du rail en Russie et en Chine. ⁴⁶

Possibilités d'appel à la concurrence

Jusqu'à maintenant, on a examiné dans la présente section les possibilités de concurrence classique sur le marché entre les compagnies de chemin de fer intégrées verticalement. Il est également possible d'envisager une concurrence entre des sociétés ferroviaires intégrées verticalement sous la forme d'une concurrence pour le marché ou d'un appel d'offres.

Dans le cadre d'un appel à la concurrence, les pouvoirs publics fixent, dans une série de documents, les tarifs applicables à l'utilisateur final et les services qu'il désire, la longueur de la « période de franchise » (et éventuellement d'autres obligations comme le niveau d'investissement que nécessitent les voies ou d'autres infrastructures). Les pouvoirs publics acceptent ensuite des offres de prestataires de services potentiels le montant qu'ils seraient disposés à payer ou bien la subvention qu'ils devraient recevoir, en échange de la prestation de services spécifiques.

Le recours à des appels d'offres pour l'exploitation de services ferroviaires intégrés verticalement est relativement courant dans les pays de l'OCDE, en particulier pour la desserte des banlieues.⁴⁷ L'encadré 3 ci-dessus évoque l'expérience du Mexique concernant les appels d'offres pour des franchises intégrées verticalement à très long terme. En Suède, les appels d'offres sont obligatoires pour les itinéraires déficitaires de la SJ (l'ancienne société nationale de chemin de fer). Un grand nombre de lignes d'intérêt local ou de grandes lignes ont fait l'objet d'appels d'offres, au point que la SJ joue maintenant un rôle secondaire sur le marché ferroviaire local/régional ouvert à la concurrence, avec six concurrents actifs, et quatre autres pour les grandes lignes. La part de la SJ dans les recettes assurées par le trafic voyageurs au niveau national est tombée de 97 pour cent en 1998 à 73 pour cent en 2000.⁴⁸

L'appel à la concurrence pose cependant un certain nombre de problèmes auxquels il faut s'attaquer :

- Le risque de « retenue » ou la menace de réclamer une renégociation des conditions contractuelles si des performances médiocres imposent des coûts à l'Etat ;
- Le risque que le franchisé n'investisse pas dans de nouvelles infrastructures ou n'assure pas l'entretien de celles qui existent à l'approche de la date d'expiration de la franchise ;
- L'absence de parité entre le franchisé en titre et les soumissionnaires concurrents au moment du renouvellement du contrat ;
- La manière exacte dont les tarifs et les services requis évolueront pendant la durée de vie de la franchise.

Dans bien des cas, le franchisé retenu imposerait un coût considérable à l'Etat s'il cessait d'assurer les services franchisés ex post. Ce pourrait être le cas soit parce que les coûts d'une interruption du service seraient très considérables pour les consommateurs, soit parce que les coûts de re-franchisage du service sont eux-mêmes importants.⁴⁹ Lorsque le franchisé peut imposer des coûts considérables à l'Etat en cessant de fournir les services franchisés, les pouvoirs publics risquent de se retrouver dans une impasse en ce sens que le franchisé peut s'efforcer de renégocier le contrat pour obtenir de meilleures conditions ex post. En prévision de cette éventualité, le franchisé peut faire preuve d'un optimisme excessif en tentant d'obtenir la franchise ex ante.⁵⁰

Au Royaume-Uni, de nombreux adjudicataires pour les services ferroviaires franchisés ont fini par faire faillite. On ne sait pas exactement si cela a été dû à des prévisions irréalistes au moment du processus d'appel d'offres, ou bien à l'anticipation stratégique de futurs sauvetages. En tout état de cause, des sauvetages s'annonçaient. Le gouvernement britannique a été obligé de porter le volume de la subvention à un niveau sensiblement supérieur au montant des offres des entreprises. A Melbourne (Australie), l'un des deux adjudicataires de services de train de banlieue a ultérieurement décidé de cesser d'assurer ces services, qui ont été repris (à un prix renégocié) par le franchisé restant.

Les pouvoirs publics peuvent prendre quelques mesures pour réduire le risque d'interruption a posteriori.⁵¹ Ils peuvent par exemple exiger des franchisés qu'ils déposent un cautionnement important et/ou qu'ils conservent en interne les compétences nécessaires pour assurer les services offerts en cas de défaillance d'un franchisé. Au total, toutefois, plus le processus d'appel d'offres est conséquent et complexe et plus le service est sensible d'un point de vue politique, plus une interruption de ce genre est probable.

Un autre problème clé auquel il convient de s'attaquer au stade de la conception d'un processus d'appel d'offres concerne les incitations à entretenir des infrastructures dont la durée de vie est supérieure à celle de la franchise. Si cette dernière est plus courte que celle des infrastructures en question, le

franchisé risque de ne pas consacrer d'investissements suffisants aux infrastructures ou de les laisser se dégrader à l'approche de la date d'expiration de la franchise. Ce problème se pose parce que le franchisé en titre ne peut être assuré d'obtenir à nouveau la franchise à l'avenir. Tout avantage futur que l'entreprise tire de la modernisation de l'infrastructure (après le renouvellement de la franchise) doit être nuancé compte tenu du fait que la franchise risque de ne pas être renouvelée.

Si les pouvoirs publics pouvaient observer directement la qualité de l'infrastructure, ils pourraient spécifier l'état dans lequel les infrastructures devraient être maintenues et y subordonner l'octroi de la franchise. Il est toutefois difficile d'évaluer exactement l'état de l'infrastructure, de telle sorte qu'un mécanisme d'incitation à la maintenir en bon état ne peut être qu'imparfait. Le franchisé risque donc de ne pas investir dans l'infrastructure à mesure que la date d'expiration de la franchise se rapproche. Il paraît qu'au Royaume-Uni, des franchisés ont laissé la qualité des services se dégrader après l'annonce d'un prochain changement de franchisé.⁵²

De plus, en cas d'appel d'offres comme en cas de réglementation des prix de type classique, le gouvernement doit bien préciser à l'avance le prix et la qualité des services à fournir et faire respecter les règles en la matière a posteriori. Toutefois, les exigences en matière de services évoluent avec le temps. Il peut y avoir intérêt à baisser ou augmenter les tarifs, à assurer de nouveaux services et /ou à en supprimer. Plus la période de franchise est longue (par exemple, de 5 à 10 ans au moins), plus il est difficile de spécifier à l'avance par contrat le tarif et la qualité des services requis pendant la durée de vie de la franchise.

Dans le cas du Mexique, de l'Argentine, du Chili et du Brésil, les procédures d'appel d'offres peuvent donner lieu à de très longues périodes de franchise. Cela atténue les problèmes liés au maintien d'incitations à investir alors que la date d'expiration de la franchise approche. Cela aggrave cependant le problème consistant à préciser à l'avance quels services doivent être fournis et à quels prix pendant la durée de vie de la franchise. En conséquence, dans le cas des franchises de très longue durée, il convient soit de ne pas spécifier les niveaux requis de prix/qualité/investissement à moyen et long terme (ce qui signifie que ces éléments doivent pour une large part ne pas être réglementés, comme cela a été le cas au Mexique) soit spécifiés périodiquement par un organisme de réglementation indépendant, auquel cas la méthode de recours à la concurrence est foncièrement la même que l'approche fondée sur la « réglementation » évoquée plus haut à la section 5.

Les appels d'offres posent un autre problème : celui de la parité des offres au moment du renouvellement de la franchise. Le franchisé en titre est inévitablement avantagé par rapport aux autres soumissionnaires en matière d'informations et de ressources. Il a déjà supporté tous les coûts irrécupérables liés à la prestation des services, tels que ceux qu'implique le fait d'apprendre comment assurer ces services efficacement. Il a également des contrats en cours avec le personnel qui détient collectivement la quasi-totalité du capital humain lié à l'histoire et à l'exploitation de la franchise. Il dispose également d'une documentation sur l'exploitation des actifs de la franchise, notamment sur tout système de TI qu'il a mis au point, et il a une connaissance approfondie des coûts d'entretien probables, des techniques de maintenance et des besoins probables en investissements à l'avenir. Si cet avantage en matière d'information et de ressources est considérable, les concurrents potentiels ne seront pas disposés à soumissionner contre le franchisé en place, ce qui réduira la concurrence au moment du renouvellement de la franchise.⁵³

Les autorités peuvent prendre certaines mesures pour améliorer la parité des offres au moment du renouvellement de la franchise, par exemple en autorisant un audit détaillé des actifs existants, et/ou en veillant à ce que le personnel représentant un capital humain clé soit transféré au nouveau franchisé. On peut également améliorer le processus d'appel d'offres en créant un nombre plus ou moins similaire de franchises attribuées à d'autres entreprises. D'une façon analogue à la concurrence « de référence »,

l'opérateur d'une franchise existante dans le même pays est moins désavantagé qu'un nouveau venu en matière d'information. En maintenant un certain nombre de services fournis par différentes entreprises, on conservera une réserve de soumissionnaires potentiels à mesure que les franchises viendront à être renouvelées.

Comme sur tout marché, la mesure dans laquelle un appel d'offres assurera un gain d'efficacité ou une amélioration de la qualité du service dépendra du degré de liberté commerciale accordé aux adjudicataires. Si ceux-ci sont sérieusement limités par les conditions de la franchise, par exemple s'ils ne peuvent que dans certaines limites optimiser la taille ou la qualité de la main-d'œuvre ou choisir le matériel roulant qu'ils peuvent utiliser, les avantages attendus de l'appel d'offres seront eux aussi limités.

Comme on l'a vu, un appel d'offres portant sur des services intégrés verticalement est relativement courant pour la desserte ferroviaire des banlieues. Des appels d'offres pour les services de fret sur les grandes lignes ont eu lieu au Mexique et en Argentine. Il est trop tôt pour dire si des problèmes d'entretien des infrastructures ou de parité des offres se poseront au moment du renouvellement de ces contrats.

7. Réglementation de l'accès aux infrastructures ferroviaires

Après avoir examiné les possibilités d'appel à la concurrence tout en conservant des services ferroviaires intégrés, on examinera ici la principale solution de rechange, à savoir la concurrence entre des sociétés exploitant des trains sur la base d'une réglementation des conditions d'accès des opérateurs indépendants aux infrastructures ferroviaires possédées ou exploitées par une autre société.

Comme l'indique la figure 1, la concurrence entre des opérateurs ferroviaires peut prendre une des deux formes suivantes : ou bien une concurrence classique sur le marché, ou bien une concurrence pour le marché (appel d'offres). Dans les deux cas, le propriétaire des infrastructures pourrait être autorisé à participer à cette concurrence (« intégration verticale ») ou en être empêché (« séparation verticale »). Toutefois, il ne s'agit pas ici de déterminer si le propriétaire des infrastructures est autorisé à assurer les services ferroviaires en question (point abordé dans la section suivante). La présente section traitera plutôt des coûts et avantages que comporte le fait d'exiger de ce propriétaire qu'il permette à des opérateurs indépendants d'assurer les services ferroviaires en question.

Avantages d'un accès garanti aux infrastructures ferroviaires

Le principal avantage qu'il peut y avoir à autoriser des opérateurs ferroviaires à accéder aux voies est qu'en élargissant le champ de la concurrence, on a plus de chances d'atteindre les objectifs énoncés dans l'encadré 1, à savoir fournir efficacement et à un prix économiques les services ferroviaires que désirent les clients, en consacrant par ailleurs des investissements réguliers dans la qualité et l'innovation, du moins dans les éléments du secteur du rail autres que les infrastructures. Le BTRE (2003) explique comme suit les avantages, du point de vue de la concurrence, de la garantie d'accès dans le secteur du rail :

« La garantie d'accès aux infrastructures ferroviaires peut utiliser la concurrence au niveau des voies pour encourager le dynamisme et l'efficacité des services techniques ou de production. La réforme de l'accès offre aux opérateurs ferroviaires un moyen d'être en concurrence pour assurer les services de fret. On peut pour cela faire appel à de nouveaux opérateurs, notamment à des chargeurs exploitant leurs propres trains. Ce recours à la concurrence et à de nouveaux opérateurs favorise l'innovation. La baisse des coûts d'exploitation des trains permet alors aux opérateurs d'offrir des tarifs de fret plus avantageux et davantage de services de fret adaptés aux clients. Cela contribue également à une amélioration à la compétitivité des services ferroviaires par rapport aux services routiers ».⁵⁴

La garantie d'accès aux infrastructures ferroviaires comporte un second avantage important en ce sens qu'il permet d'assurer plus facilement des services ferroviaires sans solution de continuité. Le BTRE (2003) explique comme suit cet avantage :

« Depuis le développement des chemins de fer, les trains de marchandises ont tendance à ne pas sortir du réseau du propriétaire des voies. En conséquence, à mesure que les flux de fret [inter-compagnies] se sont allongés, les problèmes de coordination se sont aggravés étant donné que ces flux sortent du cadre de ces réseaux... La séparation du contrôle des trains et des voies permet le développement séparé d'opérations ferroviaires (sans solution de continuité) sur les réseaux d'infrastructures et permet au rail d'élargir son marché géographique... Ces progrès renforceront donc la compétitivité du rail ». ⁵⁵

Manifestement, la mesure dans laquelle la garantie d'accès contribue à la réalisation des objectifs fixés dépendra du niveau effectif de la concurrence entre les sociétés ferroviaires (qu'il s'agisse de la concurrence pour ou sur le marché). Dans le cas de certains services ferroviaires, il se peut que même avec un accès total et non discriminatoire aux infrastructures, la concurrence créée par les nouveaux venus de type classique sur le marché risque d'être très limitée. C'est probablement le cas, par exemple pour la desserte ferroviaire des banlieues et peut-être pour le transport de marchandises autres que les produits en vrac.

Quelques données économétriques montrent qu'il reste possible de réaliser certaines économies d'échelle au niveau de l'exploitation ferroviaire en ce sens que les coûts n'augmentent pas en proportion du volume des services assurés sur une infrastructure donnée (en partie parce qu'il est généralement possible d'ajouter des wagons supplémentaires aux trains existants plutôt que d'exploiter de nouveaux trains). On parle à propos de cet effet d'« économies de densité ». Plusieurs auteurs ont noté l'existence d'économies de ce type au niveau de l'exploitation ferroviaire. Pittman (2003) écrit par exemple :

« Les analystes sont d'accord pour estimer que la plupart des chemins de fer modernes opèrent dans une région permettant des économies de densité. Les résultats d'Ivaldi et de McCullough (2001)... sont représentatifs. Ils révèlent en effet que le rendement de la densité pour leur échantillon est en moyenne de 1,65, ce qui signifie que si tous les résultats augmentent d'un pour cent, les coûts (y compris d'entretien des voies) n'augmentent que de 0,65 pour cent. Ils concluent que « même si les chemins de fer étaient divisés en entités différentes pour l'exploitation et les infrastructures, les entreprises tireraient encore parti de la densité de leurs opérations et (comme les compagnies aériennes), elles bénéficieraient de parts de marché considérables... Un système d'accès ouvert ne favoriserait pas nécessairement la concurrence ». ⁵⁶

En Australie, le Bureau des transports et de l'économie régionale parvient à des conclusions similaires :

« Il convient de signaler le degré élevé d'économies de densité pour le transport des marchandises autres que les produits en vrac. En conséquence, cette réforme risque d'avoir pour seul résultat l'existence de quelques opérateurs de trains assurant des services compétitifs... [De même], selon les principes économiques des cargaisons en vrac, un volume donné de marchandises est transporté plus efficacement par un seul train ». ⁵⁷

Au sujet des perspectives de concurrence pour les services ferroviaires, Freebairn (1998) écrit :

« Étant donné les économies d'échelle liées au maintien d'une gamme de services, la commercialisation ainsi que la taille des trains par rapport aux exigences actuelles et potentielles, il

semble probable qu'un petit (plutôt qu'un grand) nombre d'opérateurs dominera la plupart des lignes et qu'un grand nombre de lignes inter-Etats seront exploitées seulement par un seul opérateur ».⁵⁸

Pour le trafic voyageurs, les possibilités de concurrence sont limitées encore davantage par la préférence des clients pour les services à haute fréquence. Cette préférence est particulièrement marquée pour les services à courte et moyenne distance, c'est-à-dire de moins de 200 km. Pour ces services, Steer Davies Gleave (2004) soutient que la demande totale du marché devrait être très forte pour permettre à deux opérateurs d'être en concurrence sur un pied d'égalité. Pour les services sur une distance maximum de 800 km, ils considèrent que la fréquence du service est une considération moins importante pour les utilisateurs finaux, « mais le nombre de voyageurs devrait encore être supérieur à celui que nécessite un service aérien comparable pour que la concurrence puisse être soutenable ».⁵⁹ Les auteurs examinent en détail les possibilités de concurrence sur le marché pour les services ferroviaires dans quatre pays (Allemagne, Espagne, Suède et Hongrie) et concluent que dans le cas des itinéraires nationaux, les densités sont généralement trop faibles pour permettre une concurrence directe entre des services intérieurs commerciaux, à l'exception de quelques services à grande vitesse sur certains axes (comme Madrid-Barcelone).⁶⁰

L'expérience des pays qui ont libéralisé leurs services de transports ferroviaires à ce jour témoigne des possibilités limitées de concurrence sur le marché. Dans le cas du trafic voyageurs, il existe très peu d'exemples de concurrence soutenue sur le marché entre opérateurs ferroviaires. En Allemagne –un des pays qui a fait jouer le plus efficacement la concurrence pour le trafic voyageurs), par exemple, le degré de concurrence de la part des services voyageurs sur le marché est au mieux marginal :

« Après quelques mois seulement, Connex a mis fin à son service intrarégional entre Neuss et Rostock (InterConnex) en octobre 2003. Depuis lors, Connex assure deux services réguliers (Gera-Berlin-Rostock et Cottbus-Berlin-Stralsund) et un service de nuit assuré par Georg Verkehrgorganisation, en coopération avec la SJ suédoise, en plus des produits DB AG pour le trafic voyageurs à longue distance. Il existe également un grand nombre de services saisonniers ou affrétés offerts par des entreprises privées dans le secteur non subventionné du trafic voyageurs sur les grandes lignes ».⁶¹

On a réussi un peu mieux à faire jouer la concurrence pour le trafic marchandises mais dans tous les cas, ce marché reste très concentré. En Allemagne, par exemple, les concurrents de Railion Germany AG (ancienne DB marchandises) se sont assurés une part de marché de 6,9 pour cent en 2003.⁶² En Suisse, BLS Cargo (qui est en concurrence avec la SBB sur le marché du transport de marchandises) a vu sa part de marché passer à 12 pour cent en 2003.⁶³

Au total, bien qu'il y ait davantage de possibilités de concurrence réelle pour le fret que pour le trafic voyageurs, nous nous attendons dans les deux cas à un niveau de concurrence sur le marché assez modeste dans le cadre d'un régime d'accès garanti.⁶⁴

On examinera dans le reste de cette section certains des problèmes qu'il convient de résoudre en cas de garantie d'accès.

Coûts de la garantie d'accès aux infrastructures ferroviaires

Pour régler efficacement l'accès aux infrastructures ferroviaires, le responsable de la réglementation doit, dans une certaine mesure, axer dorénavant son attention moins sur la réglementation des services aux utilisateurs finaux (tarifs et qualité) que sur celle d'un service lié à la production, à savoir l'accès aux voies (là encore du point de vue à la fois des tarifs et de la qualité). Est-il plus facile pour le responsable de la réglementation d'atteindre les objectifs énoncés plus haut en réglementant la tarification

et la qualité des services des transports assurés aux utilisateurs finals, ou en réglementant le prix et la qualité de l'accès aux infrastructures ferroviaires ?

Un certain nombre d'arguments laissent à penser qu'à certains égards, il est plus difficile d'atteindre les objectifs souhaités pour le secteur du rail en réglementant l'accès à l'infrastructure plutôt que les services assurés aux utilisateurs finaux. Ces arguments concernent : (a) les économies de gamme, d'une part (ce qui accroît le coût de la prestation de services ferroviaires grâce à une garantie d'accès plutôt qu'en faisant appel à un opérateur intégré) et (b) les difficultés qu'il y a à établir et faire respecter les mesures incitatives réglementaires appropriées en réglementant l'accès à l'infrastructure plutôt que les services assurés aux utilisateurs finaux.

Comme on va le voir, beaucoup de ces arguments seront d'autant plus importants que la proportion des trains exploités par le gestionnaire des infrastructures sera faible. Dans bien des cas, les problèmes recensés ici seront très limités si la garantie d'accès ne s'applique qu'à une part très faible de l'ensemble du trafic. Ces problèmes risquent de ne se faire pleinement sentir que lorsque la garantie d'accès atteint un point où le gestionnaire des infrastructures n'assure lui-même que très peu de services ferroviaires, voire pas du tout. En général, plus la part de l'ensemble du trafic assurée par des opérateurs indépendants est grande, plus les mécanismes réglementaires ont un effet important sur le propriétaire des infrastructures en l'incitant à régler efficacement les problèmes de saturation, à assurer le niveau de qualité voulu et à investir suffisamment dans les infrastructures.

On peut résumer comme suit les raisons pour lesquelles il peut être plus difficile d'atteindre les objectifs cités plus haut en réglementant l'accès plutôt que les services assurés aux utilisateurs finaux :

- *Il peut être plus difficile pour les responsables de la réglementation de fixer des prix économiques corrects pour l'accès aux infrastructures en réglementant directement les prix relatifs aux infrastructures ferroviaires plutôt que les tarifs applicables aux services assurés aux utilisateurs finaux.*

Si l'on veut que l'infrastructure ferroviaire recouvre une partie de ses coûts fixes en tarifant certains services à un niveau supérieur au coût marginal, la théorie économique démontre clairement qu'il est efficace de lier, dans les redevances d'accès, la majoration par rapport au coût marginal à l'élasticité de la demande de services assurés aux utilisateurs finaux en utilisant le service d'accès (ce que l'on appelle le principe de tarification de Ramsey). Mais si les responsables de la réglementation ne connaissent pas ou ne peuvent pas observer la nature exacte des marchandises ou des voyageurs transportés par un train, ils ne peuvent pas lier correctement les redevances d'accès aux voies à la demande de ces services de la part des utilisateurs finaux.

Lors de la dernière table ronde de l'OCDE sur le rail, on a fait l'observation suivante : « En séparant les services relatifs aux infrastructures de l'exploitation [des trains], on rendra très difficile, voire impossible l'application du principe de tarification de Ramsey ». ⁶⁵ Le BTRE ajoute (2003) : « Cela est dû au fait que le gestionnaire de l'infrastructure négocie avec l'opérateur ferroviaire et non avec son client. En conséquence, il est beaucoup moins à même de se faire une idée de la sensibilité du chargeur aux tarifs ». ⁶⁶ En principe, des opérateurs *intégrés* peuvent appliquer la discrimination par les prix de type Ramsey aux différentes catégories de fret, mais la même discrimination serait difficile à justifier entre *opérateurs*. ⁶⁷

L'incapacité des responsables de la réglementation à différencier de façon appropriée les redevances d'accès aux voies peut en principe empêcher dans une certaine mesure des rivaux de se concurrencer et/ou risque de ne guère permettre à l'infrastructure ferroviaire de

recouvrer efficacement une contribution à ses coûts fixes. Ceux-ci représentant une part plus grande des coûts totaux pour le rail que pour les autres modes de transport⁶⁸, cela pose un problème relativement plus important dans ce secteur. L'ampleur de ce problème dépendra de la part de l'ensemble du trafic ferroviaire exploitée par le propriétaire de l'infrastructure et de la question de savoir si celui-ci s'efforce ou non de recouvrer la totalité des coûts d'infrastructure dans les redevances d'accès aux voies.⁶⁹

- *Il peut être plus difficile d'assurer des investissements efficaces et en temps opportun à la modernisation de l'infrastructure.*

La modernisation des infrastructures comporte à la fois des coûts et des avantages pour les opérateurs ferroviaires. Toutefois, la part des coûts et avantages globaux variera selon les opérateurs. Dans le cas d'un grand projet d'investissement, certains opérateurs peuvent être très avantagés et d'autres, fortement pénalisés. L'obtention d'un accord pour agrandir un réseau nécessitera donc ou bien (a) des négociations longues et coûteuses entre les différentes parties, ou bien (b) une décision d'un organisme de réglementation prise en toute indépendance de l'industrie du rail. Dans les deux cas, les décisions d'investissement ont peu de chances d'être aussi efficaces et opportunes que si une seule entreprise assurait à la fois les services au niveau des voies et l'exploitation des trains : « On effectuera un certain nombre d'investissements qui n'auraient jamais dû être réalisés tandis que d'autres investissements très importants pour la compétitivité future de la société ferroviaire risquent de ne jamais voir le jour ».⁷⁰

Selon Kessides et Willig (1998) : « La fourniture de nombreux services ferroviaires novateurs et adaptés au marché peut nécessiter des investissements spécifiques dans les infrastructures, par exemple l'entretien ou la modernisation d'équipements structurels, la construction d'installations de chargement et de transbordement ainsi que d'embranchements auxquels les chargeurs puissent accéder directement. Il peut être difficile et inefficace pour un opérateur ferroviaire quel qu'il soit d'assurer la coordination voulue avec l'entité ayant le monopole de l'infrastructure, en particulier si leurs incitations en matière d'investissement ne coïncident pas ».⁷¹

Plus la part du trafic ferroviaire totale assurée par le propriétaire de l'infrastructure est faible, plus il sera coûteux de se mettre d'accord sur un programme d'investissement efficace dans l'infrastructure. Même lorsque les bonnes décisions d'investissement sont prises, un propriétaire d'infrastructure n'assurant lui-même que peu de services ferroviaires ne se sentira pas nécessairement très motivé pour effectuer des investissements ou procéder à des modernisations aux moindres frais. En fin de compte, plus le trafic total assuré par le propriétaire de l'infrastructure est faible, plus il y a de chances que le bon investissement soit effectué, au coût minimum et au bon moment (c'est-à-dire en même temps que la modernisation d'autres éléments du réseau ou d'équipements tels que le matériel roulant).

- *Il peut être plus difficile de gérer les problèmes de saturation et d'assurer une utilisation efficace de la capacité d'infrastructure disponible.*

L'addition d'un nouveau service ferroviaire sur une partie de l'infrastructure risque de supplanter un ou plusieurs services existants, en particulier lorsque le réseau est saturé et/ou que le nouveau service est assuré à une vitesse différente de celle des autres. En principe, il n'est efficace d'ajouter un nouveau service à une infrastructure existante que si la valeur des nouveaux services est supérieure à la valeur économique de ceux qui ont été supplantés. Sur un réseau ferré intégré, cette analyse peut prendre la forme d'un simple calcul des rapports

coûts/avantages internes. Dans le cas d'un réseau utilisé par un grand nombre d'opérateurs indépendants, pour exploiter efficacement la capacité, il faudra appliquer un mécanisme permettant de répartir efficacement la capacité limitée du réseau. Là encore, cela implique soit des négociations longues et coûteuses entre les intéressés, soit une décision d'un responsable de la répartition indépendant. Comme auparavant, un mécanisme administratif de répartition ne permettra guère d'obtenir toutes les informations nécessaires et de faire les choix qui s'imposent. Dans certains cas, il est théoriquement possible de répartir efficacement une capacité limitée grâce à un système d'enchères. Dans la pratique, il n'est pas encore possible de se référer à des exemples de recours à cette formule pour répartir l'accès à des infrastructures ferroviaires.

« L'utilisation efficace, sûre (et permettant de réduire les retards) des voies et des gares de triage par les trains, les wagons et le fret nécessite une coordination étroite conforme aux priorités dictées à la fois par les opérations et par la sensibilité des chargeurs. Des opérateurs [ferroviaires] concurrents s'affronteront vigoureusement et avec acrimonie au sujet d'infrastructures limitées ou saturées, et pour assurer globalement un fonctionnement efficace et approprié du réseau ferré, il importera d'examiner constamment leurs réclamations. Cela serait difficile pour un système non intégré coiffé par une entité ayant le monopole des infrastructures, mais cela paraît pratiquement impossible à accomplir efficacement avec des règles visant la discrimination et une tarification des infrastructures faisant l'objet d'une réglementation rigide et/ou ...dictée par des considérations politiques ». ⁷²

Selon le BTRE (2003) : « lorsque la société ferroviaire est intégrée, la liaison interne entre les infrastructures et l'exploitation des services ferroviaires permet de concilier des objectifs contradictoires... Avec des transactions internes, les objectifs généraux de l'entreprise ont davantage de chances d'être partagés par les départements responsables des services ferroviaires et des infrastructures. Lorsque l'accès est garanti, un degré de liaison plus poussé s'impose et les objectifs risquent davantage de diverger ... A mesure que le nombre d'entreprises extérieures augmente, les arrangements contractuels et le nombre d'interfaces se multiplient. Ces interfaces multiples entraînent un doublement des tâches coordonnées en interne par un seul groupe de directeurs. La complexité de l'interaction entre le gestionnaire de l'infrastructure et les opérateurs des trains augmente de façon disproportionnée parce qu'à mesure que les arrangements deviennent plus complexes, on a besoin de ressources supplémentaires de façon disproportionnée pour coordonner et résoudre les différends entre les nouveaux intervenants sur le marché des sillons horaires des trains. Lorsque les itinéraires ou les réseaux approchent leur limite de capacité, le niveau des coûts de coordination et de transaction risque donc d'être supérieur aux avantages découlant de la réforme des modalités d'accès ». ⁷³

La CEMT résume comme suit ce problème : « Si l'allocation des capacités, c'est-à-dire l'affectation des sillons ferroviaires, peut être négociée, le règlement des différends (en cas de retard d'un train ou de perturbations pour diverses raisons) peut, quant à lui, s'avérer extrêmement délicat. ... Il est indéniable que lorsque les lignes sont saturées, il est beaucoup plus facile de régler les différends portant sur l'usage de la voie en conservant une structure intégrée ». ⁷⁴

Comme auparavant, l'ampleur de ce coût dépendra en partie de la part du trafic ferroviaire total assurée par le gestionnaire de l'infrastructure. Plus celui-ci gère une part importante du trafic, moins les opérateurs affectés par un nouveau service risquent d'être nombreux.

- *Il peut être plus difficile de contrôler de façon appropriée les coûts externes que les trains peuvent imposer à d'autres opérateurs de trains ou au propriétaire de l'infrastructure.*

Un réseau ferré opérant pratiquement à pleine capacité est souvent comparé à une très grosse machine, dont chaque élément doit fonctionner de façon harmonieuse avec les autres sans les abîmer ou les user. En même temps, chaque élément de la machine doit respecter strictement un programme préétabli de mouvements pour assurer le fonctionnement harmonieux de l'ensemble de la machine.

La défaillance d'un train peut avoir de fâcheuses retombées sous la forme de retards pour d'autres services ferroviaires. Dans un secteur du rail pleinement intégré, la société en place prend cette « externalité » en compte lorsqu'elle décide dans quelle mesure il convient d'entretenir les trains pour empêcher des pannes ou des retards. Toutefois, un nouveau venu qui n'exploite qu'une faible partie du nombre total de trains ne supporte pas le coût intégral des retards causés par des défaillances de ses propres trains. Il n'en supporte que les coûts directs, de telle sorte qu'il est moins incité à entretenir son matériel roulant. Le bon fonctionnement du réseau implique donc que les responsables de la réglementation mettent au point des mécanismes d'internalisation des coûts des retards que les sociétés ferroviaires imposent à d'autres opérateurs ferroviaires. Un mécanisme de ce type a été mis à l'essai au Royaume-Uni. Les résultats de cette expérience sont décrits ci-dessous.

Cette nécessité de réduire l'impact des retards causés par les nouveaux venus sur le marché est particulièrement impérieuse lorsque le rail constitue un élément d'un processus de production en flux tendu : « Lorsque le transport ferroviaire constitue un élément critique du processus de production, la garantie d'accès peut nuire à l'efficacité de la production. Par exemple, si une centrale électrique exploite sa propre mine de charbon et sa propre ligne de chemin de fer, la garantie d'accès peut attirer d'autres opérateurs de trains et nuire ainsi à l'efficacité de ce processus de production de type « courroie de transmission ». ⁷⁵

Comme on l'a vu, les nouveaux venus dans le secteur ferroviaire risquent d'imposer des coûts non seulement aux autres opérateurs mais aussi aux infrastructures en endommageant ou en usant les voies. Dans une industrie du rail intégrée, ces coûts sont pris en compte sans nécessiter de négociations ni de systèmes d'incitations explicites. Il peut toutefois être nécessaire de mettre au point des mécanismes d'incitation explicites pour pousser les opérateurs de trains indépendants à prendre en compte les effets de leurs décisions sur la conception ou l'entretien du matériel roulant sur l'infrastructure.

« L'opérateur de trains peut être moins incité qu'un opérateur intégré à mettre en service ou entretenir un matériel roulant qui réduise au maximum l'usure des voies... De plus, il peut avoir, en ce qui concerne l'état des roues (et éventuellement la surcharge des wagons) des normes différentes de celles de l'opérateur intégré quant à l'état optimal des roues... D'une façon plus générale, dans la mesure où l'interface rail-route s'accompagne d'opérations distinctes pour les trains et les voies, il faut offrir des incitations à optimiser l'utilisation des opérateurs ou la fourniture d'infrastructures. Les dégâts causés à celles-ci peuvent être considérables, en particulier lorsque des défauts des roues provoquent un déraillement. Un entretien et un contrôle préventifs des roues dans les terminaux peuvent réduire ces risques, sans toutefois les éliminer ». ⁷⁶

Comme on l'a vu, ces problèmes peuvent tenir non seulement à un manque d'entretien du matériel roulant, mais aussi à la conception de ce matériel proprement dit. Le BTRE observe que « le haut responsable des chemins de fer britanniques attribue à la suspension moins

souple du nouveau matériel roulant le problème endémique que constituent les fissures dans le congé de roulement, à l'origine de l'accident de Hatfield en octobre 2000.⁷⁷

Comme auparavant, on pourrait s'attendre à ce que les coûts à supporter pour faire respecter les normes techniques par les opérateurs augmentent en proportion de la part du trafic assurée par des sociétés ferroviaires indépendantes.

- *Enfin, il peut être plus difficile aux responsables de la réglementation d'offrir des incitations suffisantes à maintenir l'infrastructure en bon état.*

Il a été dit au précédent paragraphe que les opérateurs ferroviaires nouveaux venus sur le marché pouvaient imposer des coûts externes aux autres opérateurs et à l'infrastructure. Qui plus est, la qualité de celle-ci peut influencer directement sur la capacité des opérateurs de trains à assurer leurs services. L'état des voies peut influencer sur la vitesse, la sécurité et la ponctualité des services ainsi que sur le niveau des coûts d'entretien supportés par les opérateurs de trains. Il est donc crucial de pouvoir offrir facilement des incitations à préserver la qualité de l'infrastructure et l'efficacité de ces incitations.

Au RU, les responsables de la réglementation des chemins de fer se sont efforcés de créer des incitations à maintenir les voies en bon état sur la base d'une série d'indicateurs pour assurer le contrôle de la qualité de l'infrastructure.⁷⁸ On ne sait cependant pas exactement si l'ensemble du système réglementaire a réussi à offrir des incitations suffisantes à veiller au bon état des voies. Malgré les mesures décrites plus haut, le gouvernement britannique note que « l'accident de Hatfield de 2000 a révélé l'ampleur de la détérioration des voies et l'incompréhension du problème de la part de la société ferroviaire... L'imposition de limites de vitesse sur l'ensemble du réseau a entraîné une forte perte de fiabilité et a contraint RailTrack à payer des pénalités considérables aux sociétés ferroviaires ».⁷⁹

De plus, le système réglementaire britannique a explicitement reconnu que le manque d'entretien des voies pouvait entraîner des retards pour les opérateurs de trains. On a adopté un système d'incitations financières fondé sur le paiement de pénalités pour chaque minute de retard. Le nombre de minutes de retard a été attribué soit à la société ferroviaire, soit au propriétaire des voies, RailTrack. Mais dans la pratique, le montant de ces pénalités a suffi à inciter fortement les sociétés ferroviaires à ne plus être la cause de retards.

« En trois ans, jusqu'en 2002/2003, les sociétés ferroviaires ont reçu de Network Rail entre 150 et 200 millions de £ d'indemnités. Cela signifie qu'au cours de chacune de ces trois années, certaines sociétés ont reçu des indemnités d'un montant supérieur à celui de leur bénéfice d'exploitation total. Cela risque fort de détourner leur attention des tâches concrètes consistant à améliorer les performances et à dégager des recettes véritables pour le secteur, ainsi qu'à encourager les sociétés à s'efforcer à chercher ailleurs les responsables des retards, plutôt que de les en empêcher ».⁸⁰ Les sociétés ferroviaires emploient plus de 300 personnes qui discutent entre elles du point de savoir qui est responsable des retards des trains et qui paiera... le coût élevé des retards des trains a été lié à la progression de pratiques de travail peu sûres et à une diminution des normes d'entretien ».⁸¹

Des voies mal entretenues peuvent également contribuer directement à l'usure du matériel roulant. « On a estimé qu'entre 40 et 50 pour cent des coûts de maintenance des wagons et 25 pour cent de ces coûts pour les locomotives étaient liés à l'entretien des roues ».⁸² « Un rapport britannique a indiqué que la redevance d'accès devrait être en rapport avec la qualité des voies étant donné qu'une voie usée accélère elle-même l'usure du matériel roulant ».⁸³

Une fois encore, ces coûts sont internalisés par un opérateur intégré mais ils doivent donner lieu à des incitations explicites lorsque les mouvements des trains sont assurés par une entité autre que le propriétaire de l'infrastructure. Ces incitations sont d'autant plus importantes que le fournisseur de l'infrastructure assure une faible part du trafic.

Les problèmes liés à la qualité de l'infrastructure et aux investissements qui y sont consacrés peuvent mettre des années à se manifester. Le BTRE observe que l'on ne peut pas nécessairement évaluer le succès de réformes structurelles en fonction de modifications des tarifs du fret et de la part de marché des nouveaux venus. « Nous nous préoccupons du recouvrement des coûts et de la viabilité des chemins de fer. L'effet négatif de la garantie d'accès peut ne se faire sentir qu'à plus long terme du fait que les sociétés ferroviaires peuvent réduire leurs actifs sur de longues périodes sans que cela n'affecte les opérations des trains sur le plan matériel ». ⁸⁴

Dans les paragraphes qui précèdent, un certain nombre de problèmes potentiels ont été relevés, mais quelle en est l'ampleur ? On ne peut répondre qu'empiriquement à cette question. Comme on l'a vu, les problèmes recensés plus haut peuvent être considérés d'une façon générale comme étant liés (a) à des économies de gamme, et (b) à la difficulté à mettre en place et d'appliquer des systèmes d'incitation efficaces.

Il serait difficile d'évaluer exactement les problèmes dus à l'inefficacité des mesures d'incitation réglementaires, mais on a réalisé récemment quelques études empiriques qui se sont efforcées d'évaluer l'ampleur des économies de gamme découlant de l'exploitation conjointe des trains et des infrastructures. Toutes choses étant égales par ailleurs, là où des économies de gamme sont réalisées, la fourniture de trains et d'infrastructures sera plus coûteuse si elle est séparée que si elle est intégrée. Les études sur l'ampleur de ces économies de gamme sont importantes car soit (a) ces coûts accrus doivent être supportés exclusivement par ceux qui cherchent à accéder au marché, auquel cas ces derniers seront désavantagés par rapport à ceux qui sont déjà en place et le degré de concurrence sera donc faible, soit (b) les responsables de la réglementation contraindront toutes les sociétés ferroviaires (y compris celles du propriétaire de l'infrastructure) à supporter ces coûts, auquel cas la productivité chutera (et par conséquent les effets positifs de la concurrence en matière d'efficacité devront être considérables pour justifier l'adoption du principe de la garantie d'accès).

Comme l'indique l'encadré suivant, il semble que l'on soit d'accord pour estimer que l'intégration de l'infrastructure et des opérations peut véritablement favoriser des gains d'efficacité.

Box 4. Etudes empiriques sur l'impact de la garantie d'accès et d'une séparation verticale intégrale

Au cours des dernières années, on a réalisé plusieurs études économétriques sur le secteur du rail en vue de comprendre l'ampleur des économies de gamme entre l'infrastructure et les opérations.

Une étude d'Ivaldi et McCullough (2004) sur le fret ferroviaire aux Etats-Unis a révélé que « l'efficacité diminuerait de 20 à 40 pour cent si les opérations dans ce domaine étaient séparées de l'infrastructure, et l'on subirait une perte d'efficacité opérationnelle supplémentaire de 70 pour cent si les opérations sur rail étaient menées séparément. A notre avis, il incombe aux partisans de la séparation de prouver que (a) des entreprises distinctes pourraient coordonner efficacement l'infrastructure et l'exploitation en faisant jouer les mécanismes du marché et/ou que (b) les gains d'efficacité assurés par la concurrence relatives aux services ferroviaires compenserait d'une façon ou d'une autre la perte de facteurs d'efficacité verticaux et horizontaux ». ⁸⁵ Les auteurs signalent que leurs résultats ne s'appliquent pas nécessairement aux chemins de fer européens.

Nash et al. (2004) citent deux autres études : « Deux études récentes ont tenté une estimation économétrique des effets de la séparation de l'infrastructure et de l'exploitation ainsi que ceux d'un accès libre. Ces deux études semblent conclure que même si la liberté d'accès est souhaitable, une séparation de l'infrastructure et de l'exploitation

est plus discutable.

La première étude de Friebel et al.⁸⁶ tente de déterminer dans quelle mesure l'accès d'une tierce partie, une réglementation indépendante et la séparation infrastructure/exploitation influent sur la performance des chemins de fer. Les résultats ont montré que des réformes assurent des gains d'efficacité quand elles sont exécutées non pas simultanément mais successivement. De plus, rien ne prouve qu'une séparation totale infrastructure/exploitation soit une condition nécessaire d'une amélioration de l'efficacité des chemins de fer...

La seconde étude a révélé que cette séparation nuit à l'efficacité technique tandis que la liberté d'accès joue un rôle positif dans ce domaine.⁸⁷ Les résultats dépendent toutefois, dans chaque cas, du degré de séparation et de liberté d'accès. Par exemple, le niveau et les caractéristiques de la séparation verticale varient d'un pays à l'autre. En outre, de nombreuses opérations ferroviaires étaient encore protégées de la concurrence durant la période sur laquelle a porté l'analyse, en particulier dans le cas du trafic voyageurs. En fait, dans la plupart des cas, il n'y a eu de nouveaux arrivants sur le marché que pour les services locaux ou régionaux et pour le trafic marchandises. Comme dans la présente étude, les résultats ne sont pas concluants et de meilleures données sont nécessaires pour les confirmer. Les effets de ces réformes devront donc être vérifiés dans le cadre de futures recherches si l'on veut parvenir à une conclusion définitive ».

En plus des données empiriques présentées dans l'encadré ci-dessus, certains pays de l'OCDE ont une expérience directe - quoique limitée- des problèmes que peut poser la garantie d'accès aux infrastructures ferroviaires. Comme on l'a vu, ces problèmes risquent d'autant plus graves que le nombre de services ferroviaires fournis par le propriétaire des infrastructures est faible. Par conséquent, c'est en cas de séparation verticale totale que ces problèmes risquent le plus de se poser, lorsque le propriétaire n'assure pas lui-même de services ferroviaires.

Quelques pays se sont orientés vers une séparation verticale totale, l'exemple le plus notable étant celui du Royaume-Uni. L'expérience de ce pays est décrite dans l'encadré ci-dessous. Au RU, on a constaté clairement des problèmes dus au fait que RailTrack n'a pas entretenu les infrastructures de façon appropriée et n'y a pas consacré d'investissements. Il est possible que cela corresponde soit à des problèmes au niveau de la conception des incitations réglementaires, soit à des erreurs de gestion commises dans le passé et qu'avec le recul nécessaire, on peut maintenant corriger. On peut aussi considérer que l'expérience du RU fait ressortir les difficultés fondamentales et largement insurmontables qu'il y a à donner des incitations appropriées à une société séparée s'occupant de l'infrastructure ferroviaire.

Box 5. Expérience du Royaume-Uni en ce qui concerne la séparation infrastructure/exploitation

« Il est apparu initialement que l'expérience britannique était très positive, avec une croissance rapide du trafic aussi bien voyageurs que marchandises. Les coûts et les subventions ont diminué après une forte augmentation initiale des subventions, consécutive à la privatisation de l'infrastructure et du matériel roulant et à l'institution de redevances commerciales pour leur usage. Toutefois, à la suite d'un grave accident attribué au mauvais entretien de l'infrastructure et en raison des strictes limitations de vitesse et des perturbations qui en ont résulté, la société d'infrastructure privée, RailTrack, a été placée entre les mains d'administrateurs judiciaires, et une nouvelle société à but non lucratif, Network Rail, lui a succédé. Les responsables de la réglementation ont conclu qu'il fallait augmenter d'au moins 50 % les dépenses d'entretien et de renouvellement du matériel tandis que l'accroissement des coûts de grands projets comme le projet de modernisation de la côte ouest était encore plus alarmant. En même temps, on a craint que la fragmentation du secteur n'entraîne des problèmes de ponctualité, une mauvaise coordination des horaires et une utilisation inefficace de la capacité. On a également jugé préoccupant le fait que certains des franchisés pour le trafic voyageurs aient connu des difficultés financières en raison d'offres irréalistes. En janvier 2004, on a donc commencé à réexaminer la structure des chemins de fer à laquelle la plupart des parties souhaitent être réintégrés à des degrés divers ».⁸⁸

L'examen en 2004 de l'avenir du secteur du rail au RU a résumé comme suit les points forts et les faiblesses de la formule de garantie d'accès (et de séparation verticale) adoptée au RU :

« Le partage des responsabilités entre Network Rail et les sociétés ferroviaires a comporté à la fois des avantages et des inconvénients. Ces sociétés et Network Rail ont été en mesure d'acquérir une expérience de la gestion et de se concentrer sur leurs domaines de responsabilité. Le système de franchisage a permis de mieux connaître les coûts des sociétés ferroviaires. De plus, le système d'enquête sur les causes de retards a permis de mieux comprendre les facteurs à l'origine des accidents graves, ce qui a aidé les deux parties du secteur à réduire les retards.

Mais les coûts ont augmenté à cause de rapports commerciaux et administratifs complexes, du caractère mal défini des responsabilités et de l'incohérence des incitations entre les deux secteurs de l'industrie. Par ailleurs, les performances se sont également ressenties de l'incapacité du secteur du rail à réagir rapidement aux incidents. Face à un incident, un consensus est indispensable entre Network Rail, les opérateurs de fret et les sociétés ferroviaires, qui peuvent chacun avoir des priorités difficilement compatibles. Cette observation vaut dans d'autres domaines : par exemple les changements d'horaires et les emplacements des signaux sont actuellement décidés par un comité.

Les rapports entre les principaux intéressés sont trop souvent conflictuels, les problèmes étant évacués plutôt qu'examinés dans le cadre dans un climat de collaboration. Lorsque les performances se sont détériorées, les deux secteurs de l'industrie du rail ont pu se faire mutuellement des reproches et se laver les mains des problèmes plutôt que de collaborer en vue d'assurer de meilleurs services à leurs clients ».⁸⁹

Le Stagecoach Group, l'une des sociétés ferroviaires opérant au Royaume-Uni, a exprimé le point de vue suivant sur les problèmes résultant de la séparation verticale :

« Le Stagecoach Group est persuadé que l'échec de RailTrack a des causes aussi bien structurelles que gestionnelles. La fragmentation du secteur en un écheveau de relations contractuelles, l'absence de système clair de commandement et de conduite des opérations et l'absence d'une culture consensuelle sont autant de facteurs qui ont abouti à un programme hétéroclite d'objectifs aussi divers que contreproductifs... La structure actuelle repose sur le principe que RailTrack adoptera une optique à long terme de l'entretien et du renouvellement du matériel. RailTrack a notoirement échoué et nous en subissons maintenant les conséquences sous la forme d'une dégradation de l'état du matériel. RailTrack s'efforce de faire baisser les coûts de ses contrats d'entretien et de renouvellement en suivant une stratégie de sous-traitance à court terme pour obtenir les prix les plus bas possibles. Les entrepreneurs chargés de l'entretien réalisent des profits en réduisant les coûts dans le cadre de ces contrats, ils ne rendent aucun compte aux utilisateurs finaux et n'ont aucun moyen de consacrer des investissements à long terme à des techniques d'entretien plus efficaces... Les responsabilités de la sécurité à l'interface rail/route sont floues dans le meilleur des cas et doivent être fondées sur les indemnités de RailTrack prévues dans l'Annexe 8 plutôt que sur l'augmentation du nombre de voyageurs que l'on pourrait obtenir en assurant des services ferroviaires de haute qualité, fiables et ponctuels ».⁹⁰

En mai 2004, IBM a fait les remarques suivantes :

« Il est largement reconnu en Grande-Bretagne que les réformes des chemins de fer ont été mal conduites. Faute d'investissements suffisants dans les infrastructures ferroviaires britanniques, en particulier dans le domaine de responsabilité distinct de RailTrack, l'Etat a accru considérablement son aide pour l'entretien et le renouvellement des infrastructures. En juillet 2000, les pouvoirs publics ont annoncé qu'ils doubleraient en 5 ans leurs investissements dans ce secteur. Le montant total des investissements de 2002 à 2006 correspondra à près du triple de celui des investissements effectués à l'époque de la privatisation. Le coût de l'entretien des chemins de fer britanniques est supérieur de 1,5 milliards de £ au montant jugé nécessaire il y a seulement trois ans.

Lors de l'examen du secteur du rail effectué en juillet 2004, on a décidé de conserver le système de séparation verticale.⁹¹ Cette décision n'a pas fait l'unanimité parmi les parties prenantes. Un article récemment publié dans la presse signale que « James Sherwood, président de la société mère de GNER Sea Containers, a déclaré que le gouvernement n'avait pas tenu compte de l'avis des sociétés ferroviaires, qui estimaient que le réseau fonctionnerait mieux si elles contrôlaient les infrastructures dans leurs zones géographiques respectives. D'après James Sherwood, le système actuel implique la circulation injustifiée de millions de livres sterling. Les sociétés ferroviaires paient à NetworkRail une redevance d'accès, mais elles ont reçu l'an dernier de la compagnie soutenue par l'Etat une indemnité de 350 millions de £ à titre d'indemnité pour sa responsabilité dans les retards enregistrés. « A mon avis, il est beaucoup plus coûteux d'exploiter des sociétés séparées infrastructure/exploitation qu'une compagnie de chemin de fer intégrée » a déclaré M. Sherwood. « Le gouvernement s'est déclaré opposé à une société ferroviaire intégrée, contre l'avis de tous les principaux opérateurs ferroviaires ». M. Sherwood a souligné que son avis était partagé par de nombreux concurrents de GNER. Le président directeur général de FirstGroup, M. Moir Lockhead, a déclaré au début du mois qu'il était « très favorable à une intégration verticale » au cours des cinq prochaines années.... Les opérateurs ferroviaires affirment que l'intégration donnerait les meilleurs résultats dans les zones où une seule société ferroviaire utilise la voie. FirstGroup a suggéré que ses opérations en Ecosse seraient un cas d'école. Merseyrail a présenté un

argument similaire, de même que les soumissionnaires pour la nouvelle franchise du Kent ».⁹²

Des problèmes semblables à ceux qu'a connus le RU se sont également posés en Australie :

« Des problèmes semblables à ceux qu'a connus la Grande-Bretagne semblent être apparus à la suite des réformes structurelles entreprises en Nouvelles Galles du Sud, où une série d'accidents et des inquiétudes au sujet des normes d'entretien des voies ont abouti à une enquête sur la sécurité du réseau. Les résultats, diffusés en avril 2000, ont révélé qu'une mauvaise coordination entre les nouvelles sociétés ferroviaires d'Etat avait nui à la sécurité du réseau et qu'un changement d'attitude était nécessaire pour permettre l'« exécution efficace » de mesures de sécurité. En 2001, les entreprises responsables de l'accès aux voies et de l'entretien de celle-ci ont été regroupées en une seule entité appelée la Rail Infrastructure Corporation ».⁹³

Une réglementation efficace de l'accès est-elle plus difficile dans le secteur du rail que pour les autres modes de transport ?

Naturellement, le simple fait de signaler que les résultats risquent d'empirer lorsque l'on réglemente l'accès aux infrastructures ne constitue pas automatiquement un argument contre la garantie d'accès/séparation verticale. En fait, une grande partie des problèmes signalés plus haut s'observe également dans le cas des autres modes de transport, qui se caractérisent pour la plupart par une séparation essentiellement verticale.

Prenons par exemple le cas des transports aériens. Les aéroports sont généralement séparés verticalement des compagnies aériennes, ce qui fait que les observations qui précèdent sont en grande partie valables. Par exemple, le recouvrement intégral des coûts fixes des aéroports implique probablement que l'on fasse payer un tarif différent aux différentes catégories de clients, mais si les aéroports ne peuvent différencier ces catégories dans chaque avion, ils ne peuvent appliquer des tarifs différents aux différents passagers.⁹⁴ Jusqu'à maintenant, cela ne semble pas avoir constitué un obstacle insurmontable à un recouvrement intégral des coûts dans le secteur des transports aériens.

De plus, la modernisation des avions – comme en témoigne la création du nouveau « super jumbo » A 380 – nécessitera des travaux de modernisation simultanés dans certains aéroports (comme l'allongement et l'élargissement des pistes). Etant donné que différentes compagnies utiliseront différemment cet avion, il est difficile de dire dans quelle mesure elles bénéficieront de ces améliorations. En principe, cela risque d'entraîner des négociations coûteuses et délicates sur les modalités de partage des coûts et avantages des améliorations en question. Il se peut que certaines mesures d'amélioration utiles ne soient pas prises.

De même, dans les aéroports saturés, il faut mettre au point des mécanismes pour répartir la capacité limitée disponible. Dans certains aéroports, on a résolu ce problème en attribuant des créneaux de décollage et d'atterrissage. Ces créneaux sont parfois négociés entre compagnies aériennes ou achetés et vendus aux enchères. Les coûts de ces procédures ne semblent pas assez importants pour justifier une intégration verticale. De même, des avions mal entretenus risquent en principe d'endommager les pistes ou de retarder d'autres avions mais, peut-être pour des raisons propres aux transports aériens, ces problèmes n'ont pas fait obstacle à une intégration verticale. De quelles façons le secteur du rail diffère-t-il donc des transports aériens ?

La principale différence entre le secteur du rail et les autres modes de transport semble être que dans le cas du rail, les infrastructures et les opérations sont beaucoup plus étroitement liées que ce n'est le cas pour les transports routiers, aériens et maritimes. En conséquence, la coordination des investissements et de l'exploitation est relativement plus importante. Les mécanismes destinés à assurer cette coordination et à gérer les problèmes de saturation sont relativement plus importants pour le rail que pour les autres modes de transport.

En bref, en autorisant les opérateurs ferroviaires à accéder aux infrastructures ferroviaires appartenant à une autre société, on peut promouvoir la concurrence sur et pour le marché dans le cas de certains services ferroviaires et élargir la gamme de services sans solution de continuité qu'une société donnée peut assurer à elle seule. Toutefois, le degré de concurrence sur le marché qui en résultera risque d'être limité et un régime d'accès garanti risque d'imposer une charge très considérable aux responsables de la réglementation étant donné que si le propriétaire des infrastructures voit sa part du trafic total diminuer, il sera d'autant moins incité à entretenir les infrastructures et à investir en temps voulu dans leur modernisation. Les pays n'ayant qu'une expérience limitée de la séparation, il paraît difficile de généraliser de façon appropriée toutes ces incitations par le biais de mécanismes réglementaires.

8. Réformes structurelles : intégration et séparation verticales

Dans la section précédente, nous avons examiné en détail les coûts et avantages de la garantie d'accès aux infrastructures ferroviaires. Nous allons à présent nous efforcer de déterminer si les pouvoirs publics devraient également empêcher le propriétaire des infrastructures ferroviaires d'affronter la concurrence du marché pour assurer les services ferroviaires en question.

Il est largement reconnu qu'en temps normal, le propriétaire d'une installation essentielle qui affronte des concurrents sur un marché connexe conservera des raisons de limiter ou de refuser l'accès à cette installation essentielle afin de réduire la concurrence sur le marché en question. L'encadré ci-après fournit de plus amples détails à ce sujet.

Box 6. Contrôler l'incitation à refuser l'accès

Lorsqu'une entreprise réglementée est tenue de fournir un facteur de production essentiel à un concurrent, elle peut être fortement incitée à se soustraire à la réglementation en fixant un tarif plus élevé ou de moins bonnes conditions d'accès que pour sa propre filiale en aval.

C'est en particulier le cas lorsque (a) les services de l'entreprise réglementée en aval sont soumis à une réglementation moins stricte que les services d'accès ; et (b) le concurrent fournit un service qui est un proche substitut aux services que l'entreprise réglementée assure elle-même en aval. Celle-ci est dans ce cas fortement incitée à innover continuellement en recherchant de nouveaux moyens de relever les tarifs ou de réduire la qualité du service qu'elle assure à ses concurrents.

Dans le contexte du secteur du rail, le propriétaire de l'infrastructure peut prendre diverses mesures discriminatoires à l'encontre de ses concurrents. Il peut par exemple augmenter les redevances d'accès, n'offrir que des créneaux horaires défavorables pour l'exploitation des trains⁹⁵ ou bien imposer des conditions d'accès injustifiées. Il peut aussi effectuer des travaux de maintenance à des moments qui entraînent des perturbations pour les trains de ses concurrents ou régler les problèmes de retard d'une façon qui avantage ses propres trains, au détriment de ses concurrents.

Selon l'UE : « Si les sociétés ferroviaires sont chargées de fixer les règles de tarification, d'allouer les capacités, d'établir les horaires et les règles de sécurité ou d'accorder des licences, elles déterminent les conditions dans lesquelles opèrent leurs concurrents. Dans une société de ce genre, le gestionnaire des infrastructures est incité à défendre les intérêts de l'entreprise tout entière, et notamment les services de transport. Il est tenu en même temps de traiter équitablement toutes les entreprises ferroviaires, ce qui crée un conflit d'intérêt ».⁹⁶

Les responsables de la réglementation des chemins de fer s'efforcent de contrôler ce comportement de différentes façons, notamment en veillant à ce que la répartition des sillons horaires soit confiée à un organisme indépendant, en exigeant que la fonction de contrôle des trains soit exercée en toute indépendance ou en assurant une certaine séparation entre les infrastructures ferroviaires et les services contestables de l'opérateur en place pour faire en sorte qu'aucune subvention publique destinée à la mise en place d'infrastructures ne serve à subventionner indirectement les services contestables d'exploitation ferroviaire.⁹⁷

Le problème tient à ce qu'une réglementation de ce genre a peu de chances d'être totalement efficace. Selon l'OCDE (2002), « les responsables de la réglementation peuvent (ce qu'ils font d'ailleurs) tenter d'empêcher le

prestataire de services essentiels de se comporter de cette façon [nuisible à la concurrence], mais c'est là une tâche délicate. L'entreprise réglementée peut utiliser tous les instruments –juridiques, techniques ou économiques- pour temporiser, réduire le niveau de qualité ou relever les tarifs d'accès. Des responsables de la réglementation bien dotés en ressources pourraient, à force de persistance et de vigilance, espérer limiter l'activité anticoncurrentielle de l'entreprise en place, mais la concurrence risque alors d'être moins vive que ce ne serait le cas en l'absence de l'incitation à limiter la concurrence. Les nouveaux venus potentiels sur le marché, craignant les effets d'une discrimination malgré tous les efforts des responsables de la réglementation, risquent d'hésiter à investir dans de nouvelles capacités ».⁹⁸

D'après l'UE, « lorsqu'une société ferroviaire dominante est étroitement liée au gestionnaire des infrastructures, d'autres sociétés ferroviaires sont en droit d'avoir des doutes quant à l'impartialité du processus d'allocation. Dans ce cas, la seule solution réaliste consiste à exiger que ce processus soit mené par un organisme totalement indépendant de tout utilisateur des infrastructures... en l'absence d'une claire séparation juridique et gestionnelle entre le gestionnaire des infrastructures et les sociétés ferroviaires, la tâche doit être confiée à un organisme distinct chargé du processus d'allocation ».⁹⁹

Un certain nombre de politiques ont pour but soit de contrôler la capacité de la société en place à agir de façon discriminatoire à l'égard de ses concurrents, soit d'éliminer les raisons qu'elle aurait de le faire. Par exemple, (a), une option envisageable consiste à confier le contrôle d'une installation essentielle à une tierce partie indépendante ; (b) sinon, les entreprises concurrentes pourraient être copropriétaires de cet équipement ; (c) enfin, on pourrait empêcher le propriétaire de l'équipement essentiel d'entrer en concurrence sur le marché. Ces trois politiques ont toutes des applications directes dans le secteur du rail.¹⁰⁰

Dans les pays qui maintiennent un certain degré d'intégration entre infrastructure et exploitation, il est souvent rationnel de confier le contrôle courant des infrastructures ferroviaires à un organisme indépendant. Dans ce cas, on parle souvent de séparation « fonctionnelle ». On observe des méthodes tout à fait parallèles dans d'autres services publics. C'est ainsi que dans les transports aériens, les services de contrôle aériens relèvent généralement d'un organisme indépendant des compagnies aériennes. En ce qui concerne l'électricité, en particulier aux Etats-Unis, c'est souvent un organisme indépendant appelé « Independent System Operator » qui est responsable du dispatching du courant sur un réseau de transport.

Dans le contexte du rail, cet organisme indépendant serait responsable de l'établissement des horaires, de la programmation, de la signalisation et du contrôle d'exploitation. Il pourrait être également chargé de vérifier et de faire respecter les normes de qualité et de sécurité. Les récentes directives de l'UE exigent que certains rôles (tels que l'allocation des sillons horaires) soient confiés à un organisme indépendant des sociétés ferroviaires.¹⁰¹

Tant que le propriétaire des infrastructures conserve un minimum de contrôle sur celles-ci, le fait de le confier à un organisme indépendant n'empêche pas complètement le propriétaire d'équipements essentiels de pouvoir se comporter de façon discriminatoire à l'égard des nouveaux venus sur le marché. Il peut ainsi utiliser le pouvoir qu'il a de contrôler le calendrier ou la nature des travaux d'entretien ou le contrôle qu'il exerce sur les investissements pour favoriser ses propres services par rapport à ceux des nouveaux venus.¹⁰²

Éliminer totalement l'incitation à la discrimination exige plus que des réformes structurelles ambitieuses. Une solution consisterait à permettre à des opérateurs ferroviaires concurrents d'être copropriétaires d'éléments majeurs d'infrastructures. Par exemple, les trois principales sociétés ferroviaires du Mexique et l'Etat sont copropriétaires de la gare centrale de Mexico. Ce système garantit que le propriétaire des infrastructures des voies n'est pas incité à faire preuve de discrimination à l'égard des membres de son propre « club » de propriétaires (bien qu'il puisse encore être incité à agir ainsi à l'encontre de non membres).

Naturellement, on peut aussi mettre fin à l'incitation à la discrimination à l'égard des nouveaux venus sur le marché en empêchant simplement le propriétaire des infrastructures d'assurer les services ferroviaires. Ce dernier n'a ainsi rien à perdre à y assurer l'accès et en fait, à condition que les redevances d'accès soient supérieures au coût marginal d'accès, il pourrait même commercialiser activement l'accès auprès de tous les opérateurs de trains, sans discrimination. En éliminant l'incitation à la discrimination, cette méthode réduit les contraintes réglementaires et augmente le degré probable de concurrence, ce qui donne de meilleures chances de réaliser les objectifs cités plus haut. L'encadré qui suit fournit des explications complémentaires à ce sujet.

Dans un discours sur l'industrie du rail, le Commissaire Monti a résumé certains des arguments en faveur d'une séparation verticale totale :

« Le problème que posent les sociétés intégrées verticalement et déjà en place sur un marché concurrentiel émergent est bien connu et n'est pas nouveau...En effet, compte tenu de la grande facilité avec laquelle elles sont capables de se soustraire à l'action même du responsable le plus vigilant de la réglementation, elles peuvent être à la fois juge et partie dans la défense de leurs propres intérêts... Je ne pense pas qu'il soit possible de mettre en place un marché intérieur efficace en ne procédant qu'à une restructuration partielle maintenant une intégration verticale. De plus, je suis absolument convaincu qu'il est très nettement préférable de remédier à ces déficiences au moyen d'une réforme structurelle qu'en appliquant une loi antitrust a posteriori...

... la seule solution que j'envisage pour éliminer complètement ces risques lorsqu'il s'agit d'allouer la capacité est la séparation totale et irréversible entre infrastructure et exploitation. Faute de quoi... au strict minimum, nous devrions nous orienter vers des arrangements suivant lesquels les organismes d'allocation joueraient un rôle de pointe, les sillons étant examinés devant une seule instance et sans favoritisme à l'égard des offres soumises par les sociétés déjà en place ».¹⁰³

Les déclarations du Commissaire Monti concordent avec les observations du propriétaire des infrastructures ferroviaires australiennes (séparées verticalement) :

« L'ATRC a indiqué dans le passé que dans plusieurs régions d'Australie, il semble que la réglementation de l'accès n'ait pas suffi à elle seule à faire jouer la concurrence au niveau du matériel roulant dans les régions où les opérations sont intégrées verticalement. Ce type de concurrence semble jouer davantage là où la séparation structurelle entre les activités relatives aux infrastructures et au matériel roulant a été opérée ».¹⁰⁴

Le simple fait de confier les infrastructures ferroviaires et l'exploitation des trains à des entreprises distinctes contrôlées entièrement par une société de holding ne suffit pas à éliminer l'incitation à la discrimination. A propos d'une affaire concernant les chemins de fer italiens (FS) et un opérateur (GVG) nouveau sur le marché qui désirait inaugurer un service voyageurs entre Bâle et Milan, la CE a déclaré :

« Le fait que la FS ait continué à refuser à la GVG l'accès aux voies démontre que le gestionnaire des infrastructures dans le cadre d'un système intégré verticalement, même s'il s'agit d'un élément d'une société de holding comme dans le cas de la FS, se heurte à un conflit d'intérêt. Sinon, il est difficile d'expliquer pourquoi l'opérateur du réseau FS (RFI) ne s'est pas employé à vendre plus énergiquement sa propre capacité de réseau à GVG en vue de tirer un maximum de recettes des redevances d'utilisation des infrastructures. Cette affaire confirme donc que le réseau ferré doit être totalement séparé du prestataire de services de transport si l'on veut que le marché fonctionne en répondant à l'intérêt public ».¹⁰⁵

Quels sont les coûts à supporter pour empêcher un propriétaire d'infrastructures ferroviaires d'assurer certains services ? Un certain nombre de coûts ont été recensés dans la section précédente, mais ils sont liés essentiellement à la garantie d'accès, ce qui signifie qu'ils tiennent au fait que certains services de transport sont assurés par des compagnies qui ne fournissent pas les infrastructures ferroviaires. Dans quelle mesure ces coûts augmentent-ils encore davantage si l'on empêche le propriétaire des infrastructures d'assurer entièrement les services de transport en question ?

La section qui précède laissait à penser que plus le nombre de trains exploités par le propriétaire des infrastructures ferroviaires est faible, plus on recourt à des incitations réglementaires pour assurer la qualité des infrastructures ainsi que l'efficacité et l'opportunité des nouveaux investissements. Plus la gamme des services que l'on empêche le propriétaire des voies d'assurer est large, plus la proportion du trafic ferroviaire assuré par le propriétaire des infrastructures est faible, et par conséquent, plus il risque d'être difficile aux responsables de la réglementation d'assurer la qualité des infrastructures, l'opportunité des investissements et du recouvrement des coûts d'infrastructure sous la forme de redevances d'accès. Au total, une séparation verticale est donc probablement plus souhaitable dans le cas des services ferroviaires qui constitue une faible part du trafic total de l'opérateur en place.

Au milieu de 2004, après un examen approfondi de la configuration structurelle actuelle du secteur du rail au Royaume-Uni, le ministère des transports de ce pays a décidé de conserver la structure actuelle séparée verticalement. Dans l'encadré ci-après, on examinera la validité et les faiblesses des arguments avancés par le ministère des transports du RU pour justifier le maintien d'une séparation verticale.

Box 7. Analyses de décisions prises récemment au Royaume-Uni

Ces derniers mois, le RU a réaffirmé son attachement à une séparation verticale complète dans le secteur du rail. Il convient d'examiner les arguments avancés par ce pays en faveur de cette séparation à la lumière des considérations qui précèdent. Dans le cadre de cet examen de l'avenir du rail, il est dit que :

« Au RU, le secteur du rail comporte un certain nombre de caractéristiques qui laissent à penser qu'une structure [intégrée verticalement] serait inappropriée. Du fait de la géographie du réseau ferré britannique, une part importante des voies est utilisée à la fois pour le trafic voyageurs local et à longue distance ainsi que par des trains de marchandises. Si le propriétaire des voies et des trains est le même, cela risque de causer de graves conflits d'intérêt entre la société dominante dans une région et les autres utilisateurs de service de fret ou de transport de voyageurs qui auraient besoin d'accéder à sa voie.

De plus, étant donné les niveaux élevés de financements publics que nécessite le secteur du rail au RU (tout comme dans d'autres pays d'Europe), il peut y avoir intérêt à mettre en concurrence des opérateurs ferroviaires pour la prestation de services en vue d'obtenir un meilleur rapport qualité/prix. Il serait beaucoup plus difficile de faire jouer effectivement la concurrence si les sociétés propriétaires des infrastructures et celles qui exploitent les trains fusionnaient pour créer des monopoles régionaux ».

Quel est le poids de ces arguments à la lumière du débat qui précède ? Comme on l'a vu, le propriétaire des infrastructures pourrait être empêché d'assurer certains autres services ferroviaires contestables (comme certains services de voyageurs ou de marchandises à longue distance). Cette séparation garantit qu'en principe, l'opérateur intégré n'est plus incité à avoir un comportement discriminatoire à l'égard de ces autres services et qu'en fait, il se féliciterait de les voir assurés sur son réseau à condition qu'ils lui rapportent au moins l'équivalent du coût marginal d'accès (y compris le coût d'opportunité de tout service existant et devant être supplanté). Il me semble qu'il faut contester la thèse selon laquelle il y aurait toujours de « graves conflits d'intérêt » dans ce contexte.

Le deuxième argument avancé par le RU est que la concurrence pour la prestation de services primaires est essentielle et qu'elle est facilitée par une séparation verticale. Cela est vrai (bien que, comme indiqué plus haut, la séparation entre l'utilisateur primaire et les infrastructures pose un problème particulier) mais la concurrence pour les services primaires ne doit pas nécessairement prendre la forme d'une concurrence entre des sociétés ferroviaires séparées verticalement. En principe, il est envisageable de lancer des appels d'offres pour les services intégrés

verticalement.

Il est vrai, comme on l'a vu, que si on lance des appels d'offres pour des services intégrés, il reste à faire en sorte que la qualité des infrastructures soit maintenue lorsque la date d'expiration de la franchise approche. Toutefois, dans un contexte de séparation verticale, ce problème s'aggrave plutôt qu'il ne s'atténue et dans ce contexte, les pouvoirs publics sont confrontés au problème consistant à maintenir constamment les infrastructures en bon état, et pas seulement à l'approche de l'expiration de la franchise. En bref, il m'est difficile de dire qu'« il serait beaucoup plus difficile de faire jouer véritablement la concurrence si les sociétés exploitant respectivement les voies et les trains fusionnaient ».

Lors de récents débats au RU, on a évoqué une éventuelle forme d'intégration verticale en Ecosse. En fait, ScotRail exploite plus de 95 % des trains opérant sur les infrastructures écossaises. Par conséquent, les arguments invoqués plus haut laissent à penser que cette région se prêterait fort bien à une réintégration. Si l'entité intégrée était effectivement réglementée, l'intégration verticale réduirait le risque d'une baisse de qualité des infrastructures. Cette initiative a suscité l'opposition des autres opérateurs qui utilisent le réseau ferré écossais (opérateurs de trains de marchandises et services voyageurs internationaux).¹⁰⁶ Cependant, si ScotRail était empêché d'assurer ces services, cette entreprise n'aurait pas de raison d'interdire ou de restreindre l'accès de ces opérateurs à son réseau.

Box 8. Autres arguments en faveur de la séparation

La présente étude traite essentiellement de l'argument en faveur de la séparation verticale fondé sur la concurrence, mais d'autres arguments ont également été avancés. On s'efforcera dans cet encadré d'en examiner le bien-fondé.

Il a été dit que la séparation verticale :

1. Accroît la transparence des coûts et facilite l'allocation des subventions de l'Etat ;

Il s'agit là d'un argument essentiellement en faveur d'une séparation comptable entre l'infrastructure et l'exploitation. Cela ne signifie pas qu'il conviendrait d'empêcher le propriétaire des infrastructures d'assurer un quelconque service ferroviaire.

2. Permet de se spécialiser dans la prestation de services relatifs aux infrastructures et aux trains. Cela permet en particulier aux sociétés spécialisées par exemple dans la prestation de services de transport de voyageurs (par exemple les compagnies d'autobus ou les compagnies aériennes) d'utiliser ces services dans le secteur du rail sans être également obligées d'acquérir des compétences en ce qui concerne les infrastructures ferroviaires.

Cet argument pose un problème en ce sens que l'on ne sait pas exactement pourquoi une séparation est nécessaire pour se procurer des avantages que l'on pourrait obtenir en autorisant une société aux compétences spécialisées à assurer certains services. Si, par exemple, une compagnie d'autobus pouvait assurer plus efficacement des services ferroviaires, l'opérateur des infrastructures en place pourrait acheter ces compétences à la compagnie d'autobus, tout en conservant une structure intégrée.

9. Résumé des principes et conclusions

La présente étude porte sur la question de savoir comment l'industrie du rail devrait être structurée pour permettre à un gouvernement d'atteindre ses objectifs le plus efficacement dans ce secteur. L'analyse laisse à penser que la structure optimale dépend d'un certain nombre de facteurs qui varient d'un pays à l'autre. « Il n'existe pas de modèle unique de réforme de la réglementation susceptible d'être appliqué à toutes les entreprises ferroviaires. Il est probable que des marchés ferroviaires différents exigent des formes de réglementation différentes pour maximiser l'efficacité. En outre, la composition des marchés des services ferroviaires varie d'un pays à l'autre ».¹⁰⁷

L'analyse a bien montré que, quelles que soient les autres réformes entreprises, chaque fois que cela est possible, la séparation des infrastructures entre des sociétés distinctes le long des grands axes ferroviaires élargira le champ de la concurrence. Cette séparation facilite la concurrence sous diverses formes, appelées ici concurrence sur des sillons parallèles, multimodale, géographique et géostratégique¹⁰⁸. Cette concurrence est particulièrement importante dans le cas du trafic marchandises. Dans beaucoup de pays de l'OCDE, une réforme structurelle de ce type serait encore plus bénéfique si elle était entreprise simultanément dans les pays voisins.

Dans le cas des chemins de fer où le trafic voyageurs joue un rôle prédominant, la séparation entre sociétés ferroviaires intégrées verticalement et axées sur des itinéraires a moins de chance de faire jouer la concurrence. Les voyageurs sont moins disposés à emprunter des itinéraires de remplacement plus longs ou à changer de point de départ ou de destination. Néanmoins, la séparation des services voyageurs le long des grands axes renforcerait la concurrence dont certains clients font l'objet.

Même là où une concurrence sur le marché entre sociétés intégrées axées sur certains itinéraires n'est pas possible, on peut souvent recourir à la concurrence pour le marché en lançant périodiquement des appels d'offres pour des franchises intégrées verticalement, en particulier pour les lignes de banlieue. Une adjudication appelle toutefois l'attention sur un certain nombre de problèmes consistant par exemple à atténuer les problèmes qui se posent si les franchisés en place ne remplissent pas leur contrat, en offrant des incitations à entretenir les infrastructures et en compensant tout avantage dont jouissent les franchisés en place lorsque les franchises doivent être renouvelées.

Le fait d'exiger du propriétaire d'infrastructures qu'il assure l'accès à des sociétés ferroviaires indépendantes implique de nouveaux coûts (du fait de la nécessité de mettre au point des mécanismes pour régler les différends portant sur les investissements et l'exploitation ferroviaire) et accroît les contraintes réglementaires (du fait qu'il devient plus difficile d'assurer des investissements de bonne qualité et en temps voulu). Ces coûts risquent d'être d'autant plus conséquents que la part du propriétaire des infrastructures dans le volume du trafic utilisant celles-ci sera faible.

En empêchant un propriétaire d'infrastructures d'assurer certains services (ou d'autres arrangements structurels comme la copropriété d'une installation essentielle) on cesse de l'inciter à avoir un comportement discriminatoire à l'égard de ces services, ce qui facilite la tâche des responsables de la réglementation lorsqu'ils s'efforcent de prévenir ce type de comportement et rend plus probable l'apparition d'une concurrence réelle.

Ces principes ne nous permettent pas de prédire exactement quelle sera l'approche structurelle optimale pour un service ou un élément d'infrastructure donnés dans un pays donné. L'approche optimale variera d'un pays à l'autre en fonction de l'importance relative de facteurs clés. Il est cependant possible de citer quelques principes généraux :

- Tout d'abord, lorsqu'une restructuration visant à promouvoir la concurrence entre des sociétés ferroviaires intégrées verticalement est possible (qu'il s'agisse de concurrence sur des itinéraires parallèles, multimodale, géographique ou géostratégique), cette restructuration est probablement souhaitable et devrait être entreprise (en particulier dans les pays disposant de moyens limités pour des interventions complexes dans le domaine de la réglementation) ;
- Deuxièmement, lorsque (i) la concurrence s'intensifierait concrètement et (ii) les incidences réglementaires sont mineures (par exemple lorsque la proportion de trains indépendants qui seront exploités sera faible et là où le réseau n'est pas saturé dans l'ensemble), les propriétaires d'infrastructures devraient être tenus d'assurer l'accès à celles-ci à des opérateurs ferroviaires indépendants pour assurer certains services. Il pourrait s'agir par exemple de l'accès à un

terminal ou à des gares de triage, de l'accès limité au réseau d'un concurrent à proximité du point d'interconnexion de deux réseaux (voir la règle des 30 km au Canada) ou de l'accès à un réseau existant pour assurer un service secondaire qui n'est pas déjà fourni par le réseau existant. (comme un service voyageur sur une ligne où prédomine le trafic marchandises).

- Troisièmement, lorsque l'accès est garanti pour la prestation de certains services en raison du principe (b), il conviendrait d'accorder la préférence à des solutions structurelles grâce auxquelles le propriétaire des infrastructures ne serait plus incité à avoir un comportement discriminatoire à l'égard des sociétés ferroviaires pour la prestation de services donnés. Ces solutions prendraient la forme d'une séparation verticale ou d'une copropriété des installations essentielles entre les sociétés ferroviaires. Il convient de décider de ne pas procéder à une séparation verticale seulement après un examen minutieux des coûts qui en résulteront sous la forme d'une contrainte réglementaire supplémentaire et de la persistance d'une certaine discrimination.
- Enfin, dans certains des cas restants, on pourrait peut-être faire appel à la concurrence pour le marché pour accorder le droit d'assurer une série donnée de services intégrés verticalement. Cette approche crée cependant de sérieux problèmes réglementaires consistant notamment à offrir des incitations à faire en sorte que les infrastructures du réseau soient en bon état à l'approche de la date d'expiration de la franchise.

Ces principes sont compatibles par exemple, avec l'approche adoptée au Canada, aux Etats-Unis, en Argentine et au Japon. Au Canada, aux Etats-Unis et en Argentine, en dehors des grandes villes, les infrastructures sont utilisées essentiellement pour le trafic marchandises qui est assuré par des sociétés également propriétaires des infrastructures. Un certain accès garanti à la marge (sous la forme de « droits d'accès aux voies d'une autre société »). Il existe en même temps des services voyageurs qui utilisent peu les infrastructures soumises au régime d'accès garanti. Les propriétaires des infrastructures n'assurent pas eux-mêmes de services voyageurs. En bref, le modèle aux Etats-Unis, au Canada et en Argentine est l'intégration verticale pour les services de fret et la séparation verticale pour les services voyageurs.

Au Japon, on a fait des choix tout à fait différents qui sont néanmoins compatibles avec les principes énoncés plus haut. Dans ce pays, les infrastructures ferroviaires sont utilisées principalement pour les services voyageurs qui sont assurés par des sociétés ferroviaires à caractère régional et intégrées verticalement. Il existe une certaine coopération entre ces compagnies régionales pour assurer des services de transport de voyageurs à grande vitesse (« Shinkansen ») qui traversent plus d'une région. Les services de fret sont secondaires et sont assurés par une société qui ne possède pas elle-même d'infrastructure.

Il est intéressant de voir comment les principes énoncés plus haut pourraient s'appliquer par exemple à l'Italie. Dans ce pays, les services de fret ne constituent qu'une faible partie de l'ensemble des services (les recettes du fret ne représentent en Italie que 8 % des recettes totales du secteur du rail)¹⁰⁹. Comme on l'a vu, il semble que le trafic marchandises offre de meilleures possibilités d'intensifier la concurrence sur le marché que le trafic voyageurs. A l'heure actuelle, il existe une séparation entre infrastructure et exploitation en Italie, mais les deux sont sous le contrôle d'une seule société holding (voir Tableau 2). Selon la théorie économique, cette structure en société holding risque de ne pas éliminer l'incitation à faire preuve de discrimination à l'égard des concurrents et comme indiqué plus haut, des plaintes ont été soumises à la Commission européenne parce que le gestionnaire des infrastructures (RFI) avait refusé l'accès aux voies.

Les principes qui précèdent laissent à penser que l'on pourrait élever le niveau de concurrence (et indirectement, atteindre plus facilement les objectifs du gouvernement) en séparant davantage les infrastructures et les services de fret. Si l'on empêchait FS d'assurer des services de fret, RFI/FS ne serait

plus incité à faire preuve de discrimination à l'égard des opérateurs de fret nouveaux venus sur le marché. De gros chargeurs ou des sociétés de logistique pourraient pénétrer sur le marché pour assurer des services de fret soit pour leur propre compte, soit pour intégrer efficacement le secteur du rail dans un ensemble plus large de services intermodaux. En même temps, les services voyageurs en Italie pourraient être autorisés à rester intégrés à l'infrastructure pour atténuer les problèmes et les coûts évoqués plus haut. Il est intéressant de noter que le degré de séparation qui découle de ces principes est à la fois supérieur et inférieur à celui qui est requis par la Commission européenne.

En dehors des principes évoqués plus haut, il est difficile de définir d'autres principes clairs dont on puisse s'inspirer pour prendre des décisions concernant la structuration du secteur du rail. Par exemple, dans le cas d'un service auquel l'utilisation des infrastructures ferroviaires est majoritairement consacrée et pour lequel il existe des possibilités de concurrence réelle sur le marché, on ne sait pas exactement si les objectifs énoncés plus haut peuvent être atteints le plus efficacement grâce à la réglementation d'une entité intégrée verticalement ou par une séparation verticale et la réglementation de l'accès aux infrastructures ferroviaires. Cela pourrait être le cas, par exemple, d'une des lignes utilisées essentiellement pour le transport de charbon en Australie. Ces lignes sont rentables et pourraient probablement affronter une concurrence réelle, en particulier si l'exploitation des trains était dissociée des infrastructures ferroviaires. En revanche, cette séparation risquerait de créer des problèmes du point de vue de la réglementation de la qualité et de l'investissement dans les infrastructures ferroviaires et d'empêcher dans une certaine mesure ces services de faire partie d'un processus de production de charbon en flux tendu sans solution de continuité. Le choix de la politique appropriée n'est pas clair.

Au premier abord, on pourrait juger surprenant le fait que le choix de la politique appropriée ne soit pas clair. Après tout, les pays de l'OCDE ont accumulé collectivement de nombreuses années d'expérience de la réforme structurelle dans le secteur du rail et les formules mises à l'essai dans ce secteur sont plus variées que dans la plupart des autres secteurs. Plusieurs facteurs expliquent toutefois pourquoi les mérites relatifs des différentes approches structurelles ne sont pas encore apparents :

- Tout d'abord, les réformes structurelles s'accompagnent le plus souvent d'autres réformes telles qu'une privatisation. Dans beaucoup de pays, une part importante des gains de productivité peut très probablement être attribuée à la seule privatisation. On ne sait pas exactement dans quelle mesure les avantages observés sont imputables à la concurrence et moins encore, aux décisions relatives à la structure du secteur. Dans le cas du RU, la séparation structurelle est allée de pair avec un degré élevé de fragmentation du secteur. Il est possible que les coûts de transaction accrus résultant de cette fragmentation aient dissimulé certains des avantages de la séparation.
- Ensuite, il faut en principe un certain temps pour élaborer des mécanismes réglementaires de pleine concurrence pour remplacer les procédures auparavant en vigueur dans une entreprise intégrée. Il se peut que certains des résultats indésirables observés dans la pratique soient dus au fait que les responsables de la réglementation ont encore beaucoup de choses à apprendre, et que la situation s'améliore par la suite.
- Enfin, certains des effets des décisions d'ordre structurel, en particulier celles qui concernent l'entretien et l'investissement ne se feront pas sentir à court terme mais seulement après de nombreuses années ou décennies d'expérience du système. Pour citer le BTRE : « l'effet négatif de la garantie d'accès risque de ne se faire sentir qu'à plus long terme, du fait que les sociétés ferroviaires peuvent laisser se dégrader leurs infrastructures pendant de longues périodes sans affecter concrètement l'exploitation des trains ».¹¹⁰

A l'heure actuelle, la réforme structurelle du secteur du rail est envisagée de bien des façons dans les différents pays de l'OCDE et parfois dans un même pays. Ces différentes approches constituent une

« expérience naturelle » qui aidera à préciser à l’avenir les options qui seront retenues. En attendant, il ne serait pas souhaitable d’aller, du point de vue d’une harmonisation plus poussée du secteur du rail, au-delà du respect des principes généraux exposés plus haut.

NOTES

¹ Voir par exemple Pfund (2002), Pfund (2003), Stagecoach (2001). Dans le récent examen de la structure des chemins de fer britanniques, plusieurs opérateurs (dont Network Rail, le Strategic Rail Authority et les sociétés ferroviaires assurant des services voyageurs) ont préconisé une certaine réintégration dans le contexte britannique (Nash, Shires et Matthews, 2004, P. 23). Dans un article paru récemment dans la presse, plusieurs sociétés ferroviaires se seraient déclarées en faveur d’une intégration (The Guardian du 25 novembre citant GNER, FirstGroup et MerseyRail)

² Campos (2002), page 3 écrit: “Une... caractéristique particulière du secteur du rail est que sa production est *pluridimensionnelle* de par sa nature même. Les chemins de fer produisent différents types de services pour différents utilisateurs, à des point d’origine et de destination différents, à des moments différents, et à différents niveaux de qualité.»

³ Voir par exemple Nash et Rivera-Trujillo (2004), page 10.

⁴ Naturellement, cela varie d’un pays à l’autre selon la gamme et la qualité des infrastructures routières. Dans certaines régions de Russie, l’accès à la route est limité, voire inexistant, surtout en certaines saisons. Dans plusieurs pays d’Europe, les grands axes routiers sont saturés, en particulier en période de pointe. Dans ce cas, le rail jouit manifestement d’un net avantage concurrentiel.

⁵ Le BTRE y voit une raison de l’avantage concurrentiel du rail pour le transport des produits en vrac. “Le rail dispose souvent d’un avantage comparatif pour le transport des produits en vrac, et ce pour un certain nombre de raisons, notamment en permettant de recourir à un seul mode de transport du point de départ à la destination (par exemple d’une mine à un port) et parce que les coûts des opérations de manutention et des manœuvres dans les terminaux sont moindres”. BTRE (2003), page 6.

⁶ Voir Nash et Rivera-Trujillo (2004), page 4. Le BTRE (2003) dit ceci à la page 107: “L’objectif principal de la réforme de l’UE en matière d’accès est d’assurer une plus grande compétitivité du rail en améliorant la qualité du service et en effectuant des opérations sans solution de continuité. La coopération plutôt que la concurrence entre les opérations ferroviaires est considérée comme le moyen de rendre le rail plus compétitif par rapport aux autres modes de transport”.

⁷ L’importance relative de ces raisons varie d’un pays à l’autre. Il peut y avoir des pays dans lesquels aucune de ces raisons n’est valable. Il se peut qu’aucune intervention des pouvoirs publics dans le secteur du rail ne s’y justifie d’un point de vue économique. Cela pourrait être le cas, par exemple, pour le fret entre les Etats d’Australie.

⁸ L’expression “pouvoir de marché ” désigne ici “ la capacité de relever les tarifs au-dessus de celui de services de substitution sans perdre une part de marché significative”. Le pouvoir de marché n’implique pas de rendement excessif si, comme c’est souvent le cas, les tarifs des services de substitution sont inférieurs à ce qu’ils devraient être.

⁹ Profillidis (2001) évalue les coûts externes des différents modes de transport et conclut que « l’internalisation des coûts externes profitera sûrement aux chemins de fer tout en rendant beaucoup plus

coûteux les transports routiers. La Directive de l'UE 93/89/EEC a tenté de s'attaquer à ce problème, mais sans grand succès. Certains groupes d'intérêts comme la construction automobile et l'industrie pétrolière s'opposent farouchement à l'internalisation des coûts externes des transports et rien ne dit que celle-ci se concrétisera un jour" (page 23).

10 Voir par exemple CEC (1995).

11 Cette question est examinée plus avant dans OCDE (2004), page 29 et après.

12 CESAP (2003), page 14: "Les transports routiers n'internalisent pas pleinement la totalité des coûts sociaux qu'ils génèrent, et les économistes recommandent souvent le recours à des redevances d'encombrements et/ou de pollution, par exemple, pour tenir compte de cette réalité. Toutefois, lorsque ces mécanismes ne sont pas possibles ou politiquement viables, il vaudrait peut-être mieux abaisser les tarifs du rail pour assurer d'une façon générale un meilleur équilibre intermodal ».

13 Cela concorde avec l'observation très générale selon laquelle les pays où le trafic voyageurs joue un rôle prédominant dans le secteur du rail tendent à subventionner leurs chemins de fer davantage que les pays où c'est le trafic marchandises qui prédomine.

14 Voir Owens (2003).

15 Voir PC (1999), page E4.

16 91/440/EEC Article 6.1.

17 91/440/EEC Article 6.3.

18 En fait, ces observations valent pour la Grande-Bretagne étant donné que les chemins de fer d'Irlande du Nord sont restés intégrés.

19 Au total, le nombre d'accidents et de victimes n'a pas augmenté depuis la séparation intervenue en 1995. Le nombre d'accidents par millions de kilomètres-trains diminue lentement depuis au moins 1975. Le nombre de victimes, tout en étant variable d'une année à l'autre (avec un chiffre record en 1999/2000), est, durant la décennie qui a suivi la séparation, un peu plus faible que pendant la décennie antérieure à la privatisation.

20 Voir Steer Davies Gleave (2003).

21 Pour de plus amples détails sur l'expérience de l'Australie, voir Owens (2003).

22 Dans la présente étude, l'expression "concurrence intermodale" désignera la concurrence entre le rail et les autres modes de transport. En revanche, l'expression "concurrence intramodale" désignera la concurrence entre les sociétés ferroviaires. Dans le jargon du secteur du rail, l'expression "inter-modale" s'applique aux services de transport qui recourent à plus d'un mode de transport (services également appelés "multimodaux").

23 Si le propriétaire des infrastructures est parvenu à ses fins, il en résultera une structure ferroviaire intégrée verticalement a posteriori. En revanche, s'il n'a pas été autorisé à participer à cet appel d'offres ou si sa soumission n'a pas été acceptée, il en résultera une structure ferroviaire séparée verticalement a posteriori.

24 CESAP (2003), page 5.

25 A strictement parler, la productivité a augmenté à court terme. On ne sait pas exactement si l'entretien et le renouvellement des équipements se sont maintenus à leurs niveaux antérieurs et si la productivité se serait améliorée globalement.

26 Ministère des Transports de Nouvelle-Zélande (2004), page 3.

27 Les subventions affectent non seulement la concurrence entre le secteur du rail et les autres modes transport, mais aussi entre les sociétés ferroviaires lorsque des compagnies de chemin de fer subventionnées sont en concurrence. La CE note que "le rôle majeur des subventions de l'Etat dans la fourniture d'infrastructures ferroviaires explique également en partie pourquoi une concurrence entre les gestionnaires des infrastructures nationales peut n'être ni pratique ni possible, du moins dans l'avenir prévisible. Il est certain qu'une solution impliquant une participation financière des contribuables ne serait pas souhaitable". CE (2004), page 5.

28 Et plus encore, semble-t-il, lorsque la société ferroviaire est sous le contrôle de l'Etat. Voir par exemple Nash and Rivera-Trujillo (2004), page 8: "l'inconvénient de cette structure monolithique est qu'... il est difficile d'offrir des incitations à améliorer l'efficacité et la productivité dans le secteur. De plus, comme celui-ci est sous le contrôle de l'Etat, il est probable que les objectifs ont un caractère plus social que commercial. Les pressions dans le sens d'une productivité et d'une efficacité accrues risquent ainsi d'être limitées et la possibilité d'une faillite est pratiquement inexistante".

29 Voir par exemple Nash et Rivera-Trujillo (2004)

30 CEMT (1996), page 213.

31 Une puissante incitation à atteindre un objectif particulier est un système de gratifications et de pénalités financières qui fait dépendre largement les profits réalisés par l'entreprise des efforts qu'elle déploie elle-même pour atteindre l'objectif en question.. C'est ainsi qu'un régime réglementaire rigoureux incite fortement à réduire les dépenses étant donné qu'un dollar économisé se traduit par un bénéfice d'un dollar.

32 Il convient toutefois de noter que les voies ne sont pas nécessairement strictement parallèles, deux trajets différents entre deux points pouvant s'effectuer par des itinéraires très différents.

33 Reste à savoir, dans une certaine mesure, s'il suffit de disposer de deux compagnies de chemin de fer différentes pour faire jouer réellement la concurrence. Les responsables canadiens de la concurrence soutiennent que d'autres entreprises devraient se voir accorder l'accès aux voies des deux sociétés déjà en place – les Chemins de fer nationaux et la Compagnie de chemin de fer du Canadien Pacifique- de façon à intensifier la concurrence. Voir "Rapport à la Commission chargée d'examiner la Loi sur les transports du Canada concernant l'accès au rail et d'autres questions connexes", Commissaire de la concurrence, 6 octobre 2000. Voir également "US railways wants track access", Globe and Mail, 18 décembre 2000.

34 Il existe en outre une certaine concurrence "parallèle" en ce sens que deux sociétés ferroviaires différentes desservent les villes de Monterrey, Tampico et Veracruz.

35 Les éléments d'information figurant dans cet encadré proviennent de Campos (2002), page 12 et suivantes.

36 Nash et Toner (1998), page 21. cette concurrence ne joue que pour un petit nombre de destinations, comme Exeter, Manchester, Birmingham, Glasgow et Edimbourg. Il existe également une certaine concurrence au niveau des itinéraires pour le trafic de transit est-ouest entre les chemins de fer des pays d'Europe de l'est.

37 Voir par exemple, Grimm, Curtis M., "Horizontal Competitive Effects in Railroad Mergers", *Research in Transportation Economics*, Vol 2, 1985; MacDonald, James M., "Competition and Rail Rates for the Shipment of Corn, Soybeans and Wheat", *Rand Journal of Economics*, 18, printemps 1987, 151-163; MacDonald, James M., "Concentration and Railroad Pricing" in *Concentration and Price*, edited by Leonard Weiss, 205-212, MIT Press, 198; Wilson, Wesley W., "Market-Specific Effects of Rail

Deregulation”, *Journal of Industrial Economics*, 42, March 1994, 1-22. Voir également White (2002), Kwoka et White (1999) et Pittman (1990).

38 Plus la région est grande, plus il y a de chances qu’il existe de multiples itinéraires entre deux villes données, ce qui fait qu’au niveau de l’UE, il est possible d’imaginer des itinéraires ferroviaires concurrents entre un certain nombre de villes différentes. Mais à plus petite échelle, l’observation de Nash et Toner (1998), page 23, semble juste: “L’infrastructure ferroviaire reste un monopole naturel. En général, toute personne souhaitant exploiter des services ferroviaires entre deux points donnés doit s’accommoder d’un seul prestataire d’infrastructure”. “L’installation de nouvelles voies ferrées est très coûteuse à cause du prix des terrains et de la nécessité de disposer d’équipements fixes. Ces facteurs et les coûts de maintenance expliquent des configurations caractérisées par des lignes les moins longues possibles et même par l’apparition de systèmes de desserte en étoile dans les régions à forte densité de voies ferrées. Toutefois, plus la longueur totale des lignes est faible, plus la durée moyenne des trajets est courte, ce qui accroît les coûts d’exploitation. C’est la raison pour laquelle, puisque les planificateurs du réseau doivent prendre en compte les coûts totaux, la configuration finale correspond toujours à un compromis ». Campos (2002), page 4.

39 PC (1999), page E24.

40 PC, (1999), page E24.

41 En fait, le désir de promouvoir le développement de services ferroviaires sans solution de continuité à partir de nombreux réseaux ferroviaires régionaux a été un des principaux facteurs favorisant la garantie d’accès/ séparation verticale dans les pays où les réseaux ferroviaires sont fragmentés et où il n’est guère possible de procéder à une restructuration globale pour promouvoir la concurrence sur les principaux axes commerciaux (par exemple dans l’UE et en Australie).

42 L’une des conséquences à redouter du démantèlement de British Rail au RU était la perte des “avantages de réseau” liés à l’existence d’un seul opérateur intégré. On craignait plus précisément que (a) les connexions entre services ferroviaires soient plus aléatoires (les trains d’un opérateur n’attendraient pas nécessairement les voyageurs en retard empruntant les trains d’un autre opérateur); (b) en cas d’annulation, les billets ne soient pas acceptés par les autres opérateurs; (c) les clients soient contraints d’acheter des billets différents à des compagnies différentes pour effectuer un seul voyage. Voir CEMT (1996), page 200.

43 Selon Campos (2002), page 7. Nash et Toner (1998), page 25 : “Traditionnellement, les services voyageurs opèrent comme un réseau avec billetterie intégrée, des informations détaillées et des correspondances prévues. On est tout à fait en droit de se demander si les mécanismes de marché seront suffisamment solides pour préserver ces dispositions, même lorsqu’elles sont souhaitables d’un point de vue social. Par exemple, Else et James (1995) montrent que dans le cas d’un monopole complémentaire (c’est-à-dire un trajet faisant intervenir au moins deux opérateurs en situation de monopole) les tarifs multi-opérateurs seront plus élevés que le niveau socialement optimal, et il semble que des arguments similaires valent pour les correspondances et les renseignements”. Steer Davies et Gleave (2003) signalent qu’en Suède, on a réclamé une coopération accrue entre les opérateurs par exemple sur “ la billetterie multi-opérateurs et l’établissement d’horaires communs ». A ce jour, des mesures en ce sens ont été prises volontairement par les opérateurs, mais tous les billets ne sont pas valables uniformément”.

44 Voir Nash et Rivera-Trujillo (2004), page 9.

45 Steer Davies Gleave (2004), page 138. Comme on l’a vu, la CE voit dans l’existence de subventions de l’Etat un obstacle supplémentaire à la concurrence entre des compagnies de chemin de fer intégrées: “le rôle majeur des subventions consacrées par l’Etat à la mise en place d’infrastructure ferroviaires explique également dans une certaine mesure pourquoi la concurrence entre les gestionnaires des infrastructures nationales risque de n’être ni pratique ni même possible, du moins dans un avenir proche. Il est certain qu’une solution financée par les contribuables ne serait pas souhaitable”. CE (2004), page 5.

- 46 Voir OCDE (2003) et OCDE (2001). Plus récemment, une importante étude de la CEMT sur l'avenir du secteur du rail en Russie a recommandé de « diviser les chemins de fer soit verticalement en deux entités distinctes - l'une chargée de gérer les infrastructures et l'autre, d'exploiter les trains, ses redevances d'accès étant fondées sur les coûts et ces entités échappant par ailleurs à la domination d'un opérateur ferroviaire unique- soit horizontalement en plusieurs entreprises concurrentes intégrées verticalement. CEMT (2004)
- 47 Nash et Toner (1998), page 20, font observer qu'il existe aux Etats-Unis 12 compagnies de trains de banlieue desservant d'importantes agglomérations. « Ces services sont exploités sous forme de franchises et des ce fait, elles fournissent des enseignements utiles sur les problèmes des accords de franchise ferroviaire. Une série d'études de cas de la NERA (1992) a examiné deux franchises de trains de banlieue aux Etats-Unis – la Massachusetts Bay Transit Authority (MBTA) et la Southern California Regional Railway Authority (SCRRA). Les deux sont considérées comme des réussites, bien que le délai de transfert d'un franchisé à un autre ait posé des problèmes étant donné que le franchisé ayant perdu sa franchise n'a guère intérêt à maintenir les équipements en bon état ni à coopérer durant la période de transfert »
- 48 Steer Davies Gleave (2003), page 2. Des appels d'offres pour des services locaux ont également eu lieu en Italie dans les régions de Ligurie, de Vénétie et de Lombardie.
- 49 Littlechild (2001) note que, pour le métro de Londres, le coût d'appels d'offres pour les besoins en électricité (dans le cadre d'une franchise de 30 ans) s'élève à environ 15 millions de livres.
- 50 Williamson (1976) parle à ce sujet d' « achat par une organisation commune de marché » et prétend que l'adjudicataire est probablement celui qui a les « meilleures compétences politiques » qui lui permettent d'obtenir les meilleures conditions renégociées a posteriori. Cet effet renforce la tendance normale qu'ont les adjudicataires à faire preuve d'un optimisme excessif (ce que l'on appelle aussi la « malédiction du vainqueur »).
- 51 Williamson (1976) parle à ce sujet de « reprise ou de transfert sans heurt ».
- 52 D'après un article paru dans le « Guardian » du 17 décembre 2004 : « une controverse a éclaté hier au sujet de la fiabilité décroissante des trains en Ecosse, où le taux de ponctualité est tombé de 87 % à 82 %. National Express, ancien opérateur de ScotRail, a été accusé d'avoir « épuisé » le réseau avant de le transmettre à un nouveau franchisé. National Express a été déchargé de ses fonctions en juin par l'Exécutif écossais. Une entreprise de transport concurrente, FirstGroup, a repris le réseau en octobre. « Nous avons hérité d'un niveau de performance qui a tendance à décliner » a déclaré une porte-parole de FirstGroup. « Cela semble tenir au fait qu'un changement de franchise avait été annoncé ».
- 53 Si l'entreprise en place et son concurrent assurent des services également efficaces et si la première connaît le coût effectif de la prestation de service tandis que le concurrent ne le connaît pas exactement, celui-ci ne décrochera le marché que s'il a fait preuve d'un optimisme excessif en soumissionnant, ce qui signifie que dans ce contexte, le concurrent ne pourra jamais espérer participer avec profit à la procédure d'appel à la concurrence.
- 54 BTRE (2003), page 12.
- 55 BTRE (2003), page 12.
- 56 Pittman (2003), page 7.
- 57 BTRE (2003), page 22.
- 58 Freebairn (1998), cité dans Pittman (2003), page 7.
- 59 Steer Davies Gleave (2004), page 17.

60 Steer Davies Gleave (2004), page 20.

61 IBM (2004), page 50. Au RU, la seule nouvelle société exploitant des trains qui ne dispose pas d'une franchise géographique est la compagnie Hull Trains, seule à assurer la liaison Hull-Londres.

62 IBM (2004), page 50. Parmi les nouveaux venus sur ce marché figurent *TX Logistik* (qui assure les transports terrestres pour les ports maritimes de Hambourg et Bremerhaven et transporte aussi les nouvelles voitures pour BMW et VW), *rail4chem* (qui assure les transports entre usines pour BASF entre Ludwigshafen, Schwarzhede et Anvers), *Connex Cargo Logistics*, *Rhenus-Keolis* et *SBB Cargo*.

63 IBM (2004), page 84. Pittman (2003) résume comme suit la situation : "Dans les pays qui ont autorisé une certaine concurrence pour l'accès aux voies – le RU, la Suède ... la République tchèque et les Pays-Bas – que cela ait été accompagné ou non d'une séparation verticale totale entre le propriétaire des voies et l'opérateur ferroviaire, il n'y a eu que peu de nouveaux venus dans le domaine du fret ferroviaire. Les rares nouveaux venus ont été essentiellement de gros chargeurs exploitant des trains pour expédier leurs propres produits". Pittman (2003), page 7.

64 Le nombre effectif de nouveaux venus sur le marché ne constitue pas à une idée juste du degré de concurrence étant donné que la garantie d'accès accroît également la contestabilité des services existants. Étant donné que les contrats à long terme prédominent souvent sur le marché du fret, même lorsqu'à tout moment, ce marché ne compte qu'un nombre strictement limité de prestataires de services, la garantie d'accès permet aux nouveaux venus d'offrir leurs services aux chargeurs lorsque ces contrats doivent être renouvelés.

65 OCDE (1998), page 202.

66 BTRE (2003), page 17.

67 BTRE (2003), page 17.

68 Voir Pittman (2004). Dans le cas de la société britannique Railtrack, les coûts fixes représentent environ 90% des coûts totaux, et quelque 75% dans le cas de la SNCF: Profillidis (2001), page 21.

69 Profillidis (2001) signale que le taux de recouvrement des coûts pour les redevances d'accès aux voies est presque nul aux Pays-Bas et est compris entre 15% en Suède et en Belgique, 30% en France, 40% en Italie et 70% en Suisse.

70 Bruzelius, Nils, Jensen, Arne et Sjöstedt, (1996), "Swedish rail policy: a critical review", *World Transport Research: Proceedings of the 7th World Conference on Transport Research*, Pergamon, Oxford, 449-462, cité dans BTRE (2003).

71 Kessides et Willig (1998), page 164.

72 Kessides et Willig (1998), page 164.

73 BTRE (2003), page 15.

74 CEMT (1996), page 216. "La Strategic Rail Authority du RU propose de restructurer ses franchises de trafic voyageurs dans les terminus de Londres, étant convaincue que si un seul opérateur utilise une gare, "cela permettra d'utiliser plus facilement la capacité optimale aussi bien dans la gare même qu'à proximité" (SRA 2002).

75 BTRE (2003), page 16.

76 BTRE (2003), page 20.

77 BTRE (2003), note de bas de page 15 citant Railway Gazette International, 2002, "Getting the network back on the rails", décembre, 755-758.

78 Le rapport ORR de 1999 sur les redevances d'accès comprenait le paragraphe suivant: "Toutes les voies du réseau RailTrack network sont contrôlées au moyen d'un wagon spécial enregistrant leurs caractéristiques géométriques. En fonction des caractéristiques particulières de l'unité, toutes les mesures pertinentes de l'aspect infrastructure de l'interface route/rail sont déjà faites d'une façon sérieuse et répétable, et résumées au moyen d'instruments d'analyse et de notification très élaborés. Les rapports de RailTrack fournissent des détails sur la géométrie des voies sous la forme d'écart types d'alignement vertical et horizontal et plusieurs autres paramètres, et également des listes des mesures dépassant des seuils précis. Au lieu de combiner des paramètres en vue de former ce que l'on appelle communément des Indices de qualité (ou d'état) des voies, pour des tronçons donnés, RailTrack rend compte de l'état des voies en termes de pourcentages de voies supérieurs à un objectif donné pour des paramètres particuliers. Le résultat obtenu est facilement utilisable pour la notification de la qualité de l'interface". ORR (1999), para 171.

79 Ministère des Transports du RU (2004), page 13.

80 Ministère des Transports du RU (2004), page 19.

81 Financial Times, 4 juin 2001.

82 BTRE (2003), page 19 citant la Railway Gazette International, 2003, "Knowledge of the wheel-rail interface incomplete", juillet, 427.

83 BTRE (2003) page 19 citant ORR (1999).

84 BTRE (2003), page 22.

85 Ivaldi and McCullough (2004), page 16.

86 Friebel, G., M. Ivaldi and C. Vibes, (2003), "Railway (de)regulation: a European efficiency comparison", IDEI report no. 3 on passenger rail transport, Université de Toulouse.

87 Rivera, C., (2004), *Measuring the Productivity and Efficiency of Railways (An international comparison)*, PHD Thesis, Université de Leeds.

88 Nash et al (2004), page 23.

89 Ministère des Transports du RU (2004), page 21.

90 Stagecoach (2001), page 8.

91 Voir Ministère des Transports du RU (2004).

92 Guardian, 25 novembre 2004.

93 Owens (2003), page 8.

94 Les aéroports peuvent toutefois identifier l'origine ou la destination d'un service aérien et le type d'avion utilisé, et il peut y avoir une certaine corrélation (imparfaite) entre la disposition des consommateurs à payer et l'origine/destination ou le type d'avion.

- 95 Ted Krohn, de la Federal Railroad Administration, signale que le président d'une société ferroviaire américaine a fait l'aveu suivant lors d'une conversation sur les droits d'accès contraignants aux voies d'une autre société: "Je vous ferai payer ce que vous voudrez, mais si vous me laissez fixer les horaires, je garderai mon avantage monopolistique". OCDE (1998).
- 96 CE (2004), page 5.
- 97 CE (2004), page 5: « La transparence entre la subvention consacrée respectivement au réseau et au service est indispensable si l'on veut que l'argent des contribuables soit utilisé exclusivement aux fins prévues ».
- 98 OCDE (2002), page 3.
- 99 CE (2004), page 6.
- 100 91/440/EEC Article 6.
- 101 91/440/EEC Article 6.
- 102 Dans une situation où le nouveau venu sur le marché pourrait être contraint de partager les coûts de toute amélioration apportée aux infrastructures, le propriétaire de celles-ci peut avoir intérêt à surinvestir dans des équipements qui ne bénéficient pas au nouveau venu, afin d'accroître les coûts supportés par son concurrent.
- 103 Mario Monti, Commissaire européen pour la politique de la concurrence, "Effective competition in the railway sector: a big challenge", allocution prononcée lors de la réception annuelle de l'UNIFE, Bruxelles 21 mai 2002
- 104 ARTC, "QCA investigation: QR's 2005 Draft Access Undertaking: ARTC Comments", 2004.
- 105 Competition in railways, CPN 2003, numéro 3.
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- 108 De plus, la présence d'un certain nombre de sociétés ferroviaires dans la même juridiction rend le responsable de la réglementation encore mieux à même d'utiliser la "concurrence de référence", c'est-à-dire la capacité d'utiliser des comparaisons entre entreprises pour améliorer la qualité de la réglementation applicable à une entreprise donnée.
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AUSTRALIA

I. Overview of Australia's rail sector

Australia's railway systems were largely developed in the nineteenth century as separate publicly-owned systems to serve the needs of the individual Australian colonies. Although the States were federated in 1901, State governments retained much of the constitutional responsibility for the management, funding and legislation of the transport sector including railways. Thus for the greater part of the 20th century, railways were managed to meet the specific economic and social objectives of individual State governments rather than that of national markets. This resulted in uncoordinated and fragmented rail systems across States of varying gauges which operated in different legislative and institutional environments.

The objective of successive national governments was to meet the developing needs of Australia as a single national community rather than individual State based economies. Despite the constitutional division of responsibilities between the States and the national government (Australian Government), the Australian Government undertook a series of actions designed to put in place a national freight and passenger rail service owned and operated by the national government. This was intended to service interstate transport needs between major cities and across long distances. A particular focus of this investment was the east-west rail link between the east coast and the sparsely populated west coast of Australia. Another was the protracted efforts to achieve a standard gauge link between capital cities, finally achieved in 1995. More recently the Australian Government has invested in the north-south link between Darwin and Adelaide.

The industry setting in the early 1990s involved a number of States operating vertically integrated railways, providing capital city commuter services, freight services and inter-urban passenger services. The Australian Government operated both freight and passenger services for interstate markets, as well as intrastate railways in South Australia and Tasmania. All public railway operations were loss making, and with some exceptions generally suffering from long term under-investment in rolling stock and infrastructure. A few major iron ore railways were built in the isolated Pilbara region of Western Australia from the mid-1960s; they form the backbone of iron ore exports.

There were significant deficiencies in the Australian rail system at this time. Despite ownership, investment and operation of parts of the trans-continental railway by the national government, a continuing focus on intrastate operations by the major State rail systems and aggressive competition from road transport for non-bulk freight saw a continuing decline in rail's market share. Limited alignment between the rail sector and national transport markets resulted in poor links between rail systems at borders and limited investment in rolling stock and infrastructure. There was pressure on governments to contribute budget funding to provide operating subsidies to meet the deficits and investment costs of rail operations.

Recent reforms in the rail sector

In the 1990s, Governments commenced a process of commercialisation, consolidation and opening to private sector involvement that continues to this day. In 1993, the National Rail Corporation, jointly owned by the Australian, New South Wales and Victorian governments, took over operation of interstate freight operations. This action, backed by substantial investment in locomotives, sought to improve rail's efficiency in cross-border traffic.

Since 1995 the policy reform task in the rail sector has been pursued by Australian Governments through the application of the general provisions of the National Competition Policy (NCP) agreements and a series of intergovernmental agreements designed to address institutional and regulatory barriers to competition. The agreements are underpinned by payments made by the Australian Government to the States in recognition of the fiscal dividend from implementation of the agreed reform commitments. A particular virtue of the agreements has been their effect in overcoming differential regulation and treatment of economic sectors based on political boundaries.

The major competition policy reforms implemented in the rail sector include:

- Application of competitive neutrality principles through the commercialisation, corporatisation, and in many cases subsequent privatisation of government rail businesses;
- Structural separation (both vertical and horizontal) of passenger and freight into separate businesses. By 2002 only the Queensland government has retained ownership of a corporatised vertically integrated freight rail operation;
- The enacting of access regimes to provide third party access to essential rail facilities in all mainland jurisdictions through State-based rail access legislation;
- Establishing regulatory pricing and rail access oversight institutions; and
- Introduction of specific policies to promote competition “for “ and “in” the market including franchise arrangements for rail metropolitan passenger services (Victoria); increased use of contract bidding for commercially viable bulk minerals contracts (eg Queensland and NSW) and contracted maintenance arrangements.

Outside of the NCP reforms, governments have undertaken greater efforts to harmonise regulations and standards across jurisdictions. Most recently, an intergovernmental agreement was made in 2003 to establish the National Transport Commission, a statutory body charged with progressing development of nationally consistent safety regulations for the rail industry.

The Australian Government also made substantial infrastructure investments during the reform period in the 1990s, principally through agreements on specific structural reform or policy changes with various parties. In 1997, an entity was created through an intergovernmental agreement to be largely responsible for train operators seeking access to the interstate rail network. The Australian Rail Track Corporation (ARTC), owned by the Australian Government was established as a “one stop shop” to manage track and access to the interstate network which included a lease of the interstate track in Victoria. In 2002, the national regulator, the Australian Competition and Consumer Commission (ACCC) approved the ARTC access regime for the interstate freight track.

More recently the Australian Government has agreed to provide assistance to the rail industry through its land transport funding program, *AusLink*, announced in June 2004. This includes a total of \$1.8 billion in rail projects, including \$872 million that the ARTC will invest under its 60-year lease of the NSW interstate and Hunter Valley rail networks. Some of the key reform objectives under *AusLink* are to promote further investment in rail and improve interstate and interregional connectivity.

Together, these reforms have had an effect on improved market operation including greater operating efficiencies, cost reductions in fees and charges, improved service capacity such as reduced time, on-time running, and reliability.

Current rail industry structure

These reforms have markedly changed the structure and institutional arrangements in the rail industry. Most interstate rail networks have been structurally separated and/or privatised, and are now subject to access regimes under state or national legislation. Management or provision of access to the interstate freight network, extending from Perth to the Queensland border, rests with the ARTC. A series of private sector acquisitions has resulted in considerable industry consolidation with three large freight operators – Pacific National (owned by a Toll and Patrick consortium that in turn have major inter-modal and ports operations), Australian Railroad Group and Queensland Rail, a government owned vertically integrated corporation.

Intrastate regional freight networks in Victoria, Western Australia, South Australia and Tasmania are now operated by privately owned, vertically integrated companies, and are subject to mandated access regimes legislated by the individual States.

Metropolitan passenger rail services have been retained as government corporations in New South Wales, Queensland, Western Australia and South Australia. In the case of Victoria franchise agreements have been renegotiated with a single integrated provider (following the failure of a more diverse set of franchise arrangements).

II. Role for Competition

Competition in the Australian rail industry has increased significantly following reforms in the 1990s. The general competition reforms under NCP initiated by all Governments to commercialise corporatise and/or privatise rail operations, and application of competitive neutrality principles have resulted in improvements in productive efficiency. Commercially viable lines such as bulk coal haulage have benefited in particular from pro-competitive reforms. Competition in rail services has been facilitated through formal access arrangements. Since 1998, Victoria, Western Australia, New South Wales and the Australian Government have all privatised operators. There has been considerable consolidation and restructuring in the market – as at February 2005, there are 9 passenger rail and 15 freight operators excluding heritage operators. However, there are at most two direct competitors on individual routes. Tables 1 and 2 have further detail on infrastructure managers and train operators.

Competition on interstate and regional non-bulk lines is primarily competition ‘in the market’ where above rail operators can seek access to track, which is predominately provided by the ARTC. Intrastate bulk networks are sometimes subject to ‘competition for the market’ between vertically integrated operators to provide bulk freight services.

Pacific National, formed in 2001 from the joint acquisition of Freight Corp and National Rail by a private sector joint venture, is a dominant player in the Australian rail freight industry. Since 2004 Pacific National has also owned above and below rail operations in Victoria and Tasmania. The Victorian Government gave approval for Pacific National to purchase Freight Australia from Rail America. Pacific National intends to merge Freight Australia with its NSW operations making it a dominant player on the eastern seaboard lines. There has been industry speculation that Pacific National may prove to be a major competitor for coal haulage networks currently provided in Queensland by the publicly owned Queensland Rail, though the latter has won contracts to move coal in NSW. The extent to which Pacific National’s dominance raises concerns of monopoly pricing for non-bulk freight will depend on the constraints provided by competition. The actual number of rail-based competitors is likely to be affected by the economies of scale and density that are available.

Significant intermodal competition from road transport exists for most non bulk and passenger rail transport services. The degree of intermodal competition along the north-south corridor (i.e. between the capital cities of Melbourne, Sydney and Brisbane), was cited as a competitive constraint on the behaviour of Pacific National following its formation in 2001. The ACCC found that attempts to increase prices for the carriage of goods between Melbourne, Sydney and Brisbane would likely see rail customers switch to road transport. This acquisition is discussed in more detail in Section V.

One area in which the Government may need to consider further reform is road user charging. Currently road user charging does not efficiently distribute the cost of road use between users. Road user charging structures do not adequately take into account mass and distance charging for heavy vehicles, thus contributing to the competitive neutrality imbalance between road and rail. Intermodal competition has meant there are limited opportunities for profitable competitive entry in the non bulk and passenger rail networks. Rail does not experience intermodal competition for bulk freight on intrastate lines as rail has a competitive advantage for transportation of large quantities of goods which have a low value per unit weight.

III. Role for Regulation

Competition regulation is most actively used to facilitate competition in the market, through the use of mandated access regimes. The role for regulation can arise where, to varying degrees, rail operations can potentially exercise market power. In the case of vertically separated track providers, the exercise of market power may manifest as monopoly pricing and/or lower service quality. In the case of vertically integrated track providers, additional incentives to engage in anti-competitive conduct may exist.

In Australia, governments at state and national levels have varied in their regulatory responses to these perceived market problems. In general, where rail operations have remained vertically integrated (such as in Queensland and Western Australia), the regulatory response has been to prescribe access regimes that include provisions for “ring fencing” the monopoly part of the business from the contestable part. Such provisions include requirements for accounting separation and restrictions of the use of confidential information.

There has been some variation in State governments’ approach to regulation of similar market structures. Faced with a vertically integrated intrastate freight provider, Victoria implemented a regulatory framework with a low level of prescriptiveness. This effectively left most access issues to be negotiated between access provider and seeker with the State-based regulator acting as arbitrator where commercial negotiations failed. This differs substantially from the approaches taken in Queensland and Western Australia. The Victorian government is currently reviewing its regulatory access framework for rail to bring it more into line with regimes operating in Queensland and Western Australia, and in part, the ARTC regime.

Part IIIA of the Trade Practices Act 1974 establishes three pathways for a party to seek access to an infrastructure service¹:

- Through declaration;
- By using an existing effective access regime certified by the National Competition Council (NCC); or
- Under terms and conditions set out in a voluntary undertaking approved by the ACCC.

The ACCC has approved one access undertaking for part of the interstate track controlled by the ARTC. The ACCC also has a role in arbitrating disputes regarding conditions of access to a declared service. However, to date, no rail services have been declared.

The NCC's process of certifying existing access regimes for the purposes of Part IIIA is a mechanism for minimising inconsistencies between access regimes. While all mainland States have put in place access regimes under NCP reforms, most have not been certified as "effective regimes" by the NCC. However interaction between individual States and the national regulator have resulted in greater consistency on approaches to core elements of rail access regimes.

IV. Vertical structural issues

The Australian rail industry consists of varying vertical structures in different markets.

As outlined above, the interstate rail system has been largely structurally separated, while many intrastate regional networks are provided by vertically integrated operators. The ARTC was formed with the intention of providing a 'one stop shop' for the provision of interstate rail access on all interstate rail track, a task nearing completion with the competition of arrangements to lease the NSW mainline track in June 2004. However, it should be noted that these negotiations were facilitated by the fact that ARTC is a vertically separated common track provider.

Regional rail networks may be vertically separated depending on the jurisdiction, with Western Australia, Queensland and Victoria remaining vertically integrated, while New South Wales is vertically separated. A number of bulk rail lines have been subject to competitive tendering, providing 'competition for the market'.

Competitive tendering processes for franchises have been used to promote 'competition for the market' in vertically-integrated urban passenger services and above-rail non-urban passenger services in Victoria, albeit with mixed results (due to the withdrawal of a major franchisee from its two contracts). The conditions on which contracts are awarded for the supply of rail services may vary according to whether a railway is commercial or not commercial. The relatively small size of many urban passenger markets in Australia is likely to limit the scope for competition between train operators (such is the case in major cities such as Sydney). In these circumstances competition for the market through competitive tendering of vertically integrated rail operations is more likely to result in improvements in efficiency than seeking to increase competition in the market.

Vertical separation of interstate track in the Australian context has played an important role in market development, competition and improved efficiency. Vertical separation of interstate track has promoted competition between train operators for train schedules and facilitated market segmentation and product differentiation. This has encouraged niche players to enter the market. See Table 2 for train operators in Australia. Vertical separation also avoids several costs associated with integration, such as more highly prescriptive access regimes that provide for various ring fencing arrangements and the greater role for a regulator.

However, vertical separation can raise a number of problems. Vertical separation may result in high transaction and coordination costs between the above-rail and below-rail activities. Competition benefits from vertically separated track and freight business may be outweighed by technical inefficiencies or interface problems associated with separation. Rail accidents have generated litigation costs arising from disputes between above and below track operators over the cause of the accident and there is ongoing disagreement over the source of train delays. Furthermore, there are difficulties in coordinating and agreeing investment priorities between above-rail and below-rail entities, in part reflecting past

underinvestment in rail track, and continuing expectations of government contributions. Finally, there can be cost apportionment issues in considering investment in new technologies that could change the boundaries of responsibility between track and train operators.

It can be argued that vertical integration of track ownership provides better incentives for maintenance and investment in rail track, thus maintaining infrastructure quality and safety standards and aiding in the provision of seamless networks.

In its 1999 report 'Progress on rail reform' the Productivity Commission considered the most appropriate structural arrangement depended on the level of demand for transport services in a particular area. Economic efficiency gains are enhanced by vertical separation where rail networks possess natural monopoly characteristics but where track infrastructure and train operations are relatively independent.

Where there is competition in the market and competition is strengthened by vertically separated rail operations, there is still a need for appropriate regulatory mechanisms to ensure that the market power is not used to restrict output at high prices. Third party access regimes need to be detailed and prescriptive to facilitate multiple train operators and high volume networks. The access arrangements for low volume regional networks should be tailored to ensure contestability and efficient operations. International experience suggests that regulated access regimes in vertically separated environments are most effective for largely uncongested networks with a small number of independent train operators, where access would materially enhance competition.

Common elements of access regimes covering both types of market structure include:

- Specification of the negotiation framework;
- Pricing principles;
- Dispute resolution procedures;
- Rules for allocating and managing network capacity;
- Provisions for augmenting capacity; and
- Quality and performance monitoring.

There is significant scope for harmonisation of rail access regimes across the Australian rail network. The establishment of the ARTC as a 'one stop shop' for national rail operators is a significant step towards achieving this goal. Where multiple access regimes exist access seekers may be required to deal with a number of regimes and regulators, therefore resulting in ultimately higher transaction costs and greater uncertainty. However there will always exist differences in access regimes and rail access pricing structures due to geographical/locality factors and differences in the type of rail network, eg intermodal, bulk or non-bulk.

The existing methods of regulating access do give track owners scope to pursue different strategies for recovering the relatively large fixed costs associated with track maintenance. For example, the interstate track managed under the ARTC is unlikely to meet long term network costs unless significant volume growth eventuates and generates significantly greater revenue to off-set current price settings.

V. Competition law enforcement

The application and enforcement of Australia's competition law relating to misuse of market power and collusive behaviour is the responsibility of the ACCC.

The ACCC has not, to date, taken enforcement action in respect of conduct which may constitute misuse of market power or collusive behaviour in the rail industry.

Australia's merger law is set out in section 50 of the TPA, which prohibits acquisitions which would have the effect, or be likely to have the effect of substantially lessening competition in a substantial market in Australia, including in a region of Australia. The ACCC has considered all significant acquisitions in the rail industry.

Box 9. Case study - The proposed acquisition of FreightCorp and National Rail by Pacific National

In 2001 the ACCC gave informal clearance to the proposed joint acquisition of FreightCorp and National Rail by Pacific National. Pacific National is a joint venture comprising Toll Holdings, a major provider of transport and logistical services, and Patrick Corporation, a major provider of stevedoring services.

FreightCorp and National Rail were the two main operators of standard gauge railways in Australia. The principal business of National Rail was the interstate carriage of general freight, while FreightCorp's business was mainly in the carriage of bulk freight in New South Wales. Toll Holdings and Patrick Corporation both had fledgling rail operations at the time of the proposed acquisition. Overlap between the parties existing operations and the sale assets was confined to the carriage of general freight.

In reaching the decision to grant informal clearance, the ACCC considered whether the proposed acquisition would lead to a substantial lessening of competition in a number of relevant areas including the carriage of general freight along the north-south and east-west corridors of Australia.

It was found that with respect to the movement of general freight along the north-south corridor (i.e. between the capital cities of Melbourne, Sydney and Brisbane), road transport would act as a competitive constraint on the behaviour of Pacific National following the proposed acquisition. The ACCC found that attempts to increase prices for the carriage of goods between Melbourne, Sydney and Brisbane would likely see rail customers switch to road transport.

With respect to the movement of general freight across the east-west corridor (i.e. between Melbourne, Adelaide and Perth), the ACCC found that other rail providers already operating between these destinations would act as a competitive constraint on Pacific National post acquisition.

The proposed acquisition raised additional vertical competition concerns due to Toll Holdings existing freight forwarding operations, and the fact that many competing freight forwarders relied on rail services provided by National Rail. However the ACCC decided that foreclosure strategies were unlikely as competing freight forwarders provided in excess of 70 percent of National Rail's east-west revenues, and that there were considered to be opportunities for freight forwarders to sponsor entry by an alternative rail operator.

On the basis of these considerations the ACCC concluded that the proposed acquisition would not lead to a substantial lessening of competition in any relevant markets.

VI. Conclusion

The productivity gains from reform of the rail sector since the early 1990s are clear and are likely to be ongoing based on industry reporting around costs and charges, and increased freight tasks on major routes.² However, the extent to which these can be ascribed to competition policy reforms, i.e access and vertical separation, as against generic corporatisation, privatisation and regulatory reforms, and investment in rail infrastructure is unclear. Furthermore, these reforms have been to an extent interdependent. Of these reforms, it seems likely that commercialisation and industry restructuring, the application of competitive neutrality and the application of mechanisms to promote competition have had the greatest impact on allocative and productive efficiency. However, vertical separation and access have had an important catalytic role in fostering market development, disengagement by government and in some cases on track competition. Nonetheless, these measures raise important efficiency issues and will need to be monitored for the future.

Table 5. Table 1.

INFRASTRUCTURE MANAGEMENT OF PRIMARY RAILWAYS IN AUSTRALIA*			
<i>Structure</i>	<i>Organisation</i>	<i>Ownership</i>	<i>Location</i>
Vertically separated	Australian Rail Track Corporation (ARTC)	Public	SA (interstate); Vic (interstate); WA (interstate, west to Parkeston); NSW (outside Sydney)
Vertically integrated	Queensland Rail (QR)	Public	QLD
	Australian Railroad Group (ARG)	Private	WA SA (most intrastate)
	NRG	Private	SA (Leigh Creek–Stirling North)
	Asia Pacific Transport Consortium	Private	Tarcoola–Darwin
	Pacific National	Private	Tasmania, Vic (intrastate)
	RailCorp (CityRail)	Public	Sydney
	BHP-Billiton	Private	WA (Pilbara)
	Pilbara Rail (Hamersley/Robe)	Private	WA (Pilbara)
	Comalco	Private	QLD (Weipa)
	TransAdelaide	Public	Adelaide (broad gauge)
	Transperth	Public	Perth
	Connex	Private (public franchise)	Melbourne

Excluding "heritage" railways

* Note that Rail Infrastructure Corporation (RIC) has leased interstate and secondary track to ARTC; however, most other RIC track is also managed by ARTC (and informally called "Country Regional Network").

Table 6.

Table 2.

PRINCIPAL TRAIN OPERATORS IN AUSTRALIA*			
<i>Type of operation</i>	<i>Organisation</i>	<i>Ownership</i>	<i>Principal location</i>
Freight	Pacific National	Private	National
	QR/Interail	Public	QLD, Brisbane–Melbourne
	Silverton Rail	Private	NSW
	Patrick Portlink	Private	SA, Victoria
	Lachlan Valley Rail	Private	NSW
	Freight		
	GrainCorp	Private	NSW, Victoria
	Australian Railroad Group	Private	WA, SA
	FreightLink	Private	Tarcoola–Darwin
	South Spur Rail	Private	WA, NSW
	Specialized Container	Private	Melbourne–Perth
	Transport		
	Southern Shorthaul	Private	Victoria, NSW
	Railroad		
	BHP-Billiton	Private	WA (Pilbara)
	Pilbara Rail	Private	WA (Pilbara)
	Comalco	Private	QLD
NRG	Private	SA (Leigh Creek–Stirling North)	
Passenger	Great Southern Railway	Private	National
	Transperth	Public	Perth
	TransAdelaide	Public	Adelaide
	Connex	Private (public franchise)	Melbourne
	CityRail	Public	Sydney
	CountryLink	Public	NSW
	QR	Public	QLD
	Airtrain	Private	Brisbane
	V/Line Passenger	Public	Victoria

* Excluding "heritage" operator

NOTES

- ¹ Competition law in Australia is generally governed by the *Trade Practices Act 1974* (the TPA), the enforcement of which is the responsibility of the Australian Competition and Consumer Commission.
- ² In 1999 the Productivity Commission completed an assessment of the impact of policy reforms in the rail sector which reported that over the period of 1989-90 to 1997-98 annual average productivity growth of Australia's railways was about eight per cent. On the east-west route rail has increased its share of the total freight task from 65 per cent in 1995-96 to around 80 per cent in 2004. The ARTC 2004 Annual Report indicates a 23 per cent reduction in access costs and a significant decline in real rail freight tariffs.

AUSTRIA

This paper briefly explains the status quo concerning structural reform in the rail sector. To get the best overview of changes in the last years, the Austrian FCA asked the Austrian Rail Regulator to summarize the most important developments.

1) **Liberalisation of the Railway Market in Austria**

Situation and targets until end of 2004:

The Austrian railway market is dominated by the Österreichische Bundesbahnen (Federal Austrian Railway, OEBB) but there is also a small number of private railway enterprises which are in the hands of provinces (Länder) or communities. Access to the Austrian network is unrestricted for railway-undertakings with an Austrian license. The shortcomings of state owned railways led the European Union to consider strategies for improving the structure of the whole industry. To achieve a competitive industry it is necessary to separate infrastructure from transport services. Directive 91/440/EEC introduced the targets of the EU.

After joining the EU Austria implemented EU law and introduced a regulatory body, the Schienen-Control GmbH, in 2000. The rail regulator monitors all aspects of competition on the railway market. Schienen-Control GmbH has laid down the rights and duties of infrastructure managers and railway enterprises in detail.

The legal basis of the regulatory body is section 54 of the Austrian Railway Act (Eisenbahngesetz, EIsbG 1957).

The purpose of the provisions contained in this section is to ensure the efficient use of railways in Austria:

- With creating fair and effective competition between railway enterprises in the railway transport market on main and secondary lines;
- With promoting the entry of new railway enterprises onto the railway transport market;
- By assuring access to railway infrastructure for those entitled to it;
- By establishing competition regulation to protect companies entitled to access from abuse by dominant market positions; and
- By promoting the integration of railway systems.

Source: Foelzer/Brandl: "European Integration, Regional Structural Change and Cohesion in Austria"; Eureco working paper 2004.

Situation in the Austrian rail industry since 01.01.2005:

With the new Austrian legislation of the rail industry (2004) the former Federal Austrian Railway (OEBB) was split up into nine separated companies under the head of the holding company OEBB Holding AG. A separation between infrastructure and service is provided because on the one hand OEBB Infrastruktur Betrieb AG (infrastructure operating manager) and OEBB Bau AG (infrastructure building and maintenance) and on the other hand Rail Cargo Austria (RCA) and OEBB Personenverkehrs AG (passenger transport) were established.

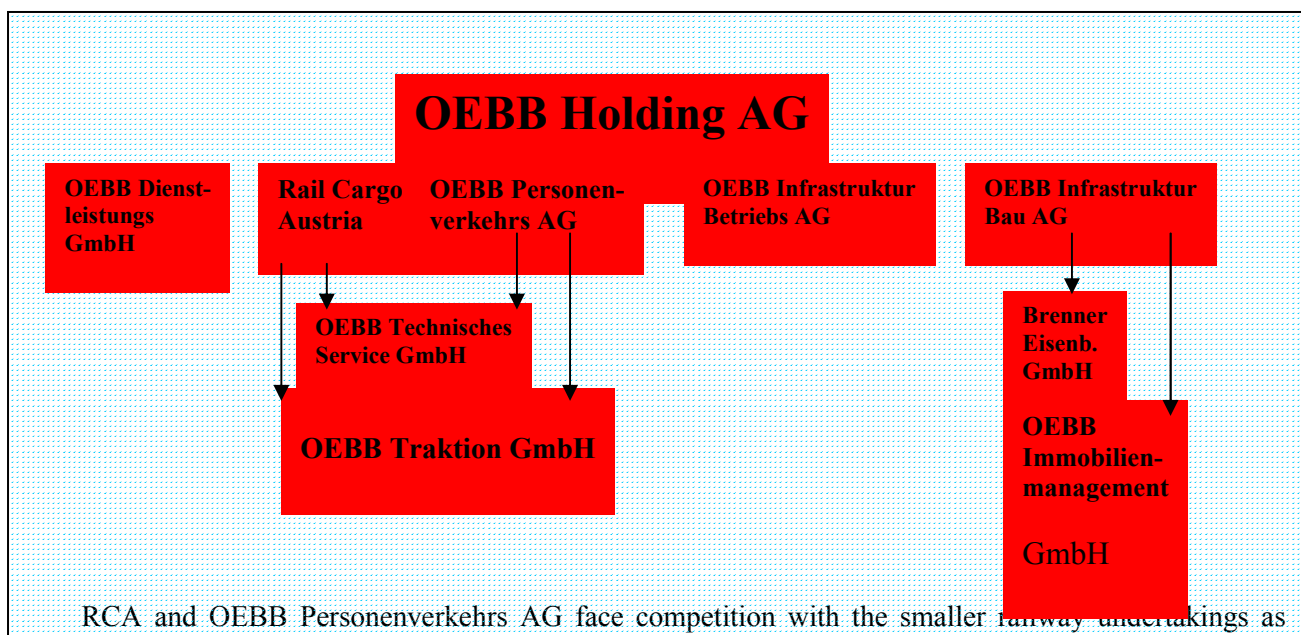


Table 7. Infrastructure and service companies:

Graz Köflacher Eisenbahn Ges.m.b.H.	Köflacher Gasse 35-41 8020 Graz
Stern & Hafferl Verkehrsges.m.b.H.	Kuferzeile 32 4810 Gmunden
Steiermärkische Landesbahnen	Eggenburger Str. 20 8020 Graz
Salzburger Stadtwerke AG Sizb. Lokalbahn	Plainstraße 70 5021 Salzburg
Raab-Oedenburg-Ebenfurter Eisenbahn AG	Bahnhofsplatz 5 7041 Wulkaprodersdorf
Montafonerbahn AG	Batloggstraße 20-22 6780 Schruns
Wiener Lokalbahnen AG	Eichenstraße 1 1121 Wien
Cargo-Center-Graz Betriebsges.mbH & CoKG	Am Terminal 1 8402 Werndorf

Table 8.

Service companies:

LTE Logistik- und Transport GmbH	Köflachergasse 41 8010 Graz
Steiermarkbahn Transport und Logistik GmbH	Eggenburger Str. 20 8020 Graz
City Air Terminal BetriebsgesbmH (CAT)	1300 Wien-Flughafen
Logistik Service GmbH (LogServ)	Lunzer Str. 41, 4031 Linz
TX-Logistik GmbH	Karl-Loy-Strasse 12 4600 Wels
DB Regio AG Region Bayern Regionalverkehr Südbayern	Richelstraße 3 D-80634 München
Lokomotion Gesellschaft für Schienentraktion mbH	Hofbräuallee 11 D-81829 München
Bayerische Cargo Bahn GmbH	Bahnhofplatz 1 D-83607 Holzkirchen
SüdostBayernBahn DB RegioNetz Verkehrs GmbH	Bischof-von-Ketteler-Straße 1 D-84453 Mühldorf

Although OEBB Holding AG still has a dominant position on the market, its market share decreases slightly from about 96% to 92% both in freight and passenger transport. Due to the liberalization of the railway market within the EU ten out of 17 companies mentioned above were established. Since the directives were brought into Austrian law no other conclusions can be drawn because of the short period of time.

It is not really foreseeable to what extent railway undertakings (especially foreign ones) will make use of the expansion of access rights due to the implementation, which already happened in an Austrian law act 2004, of Directive 2001/12/EC, Directive 2001/13/EC and Directive 2001/14/EC. Austrian railway undertakings already show their interests in transnational rail transport services. But for cross border traffic within the EU it is very difficult for railway undertakings to implement a service for their costumers within the member states. Every country of the EU 25 has its own technical standard and its own backpack of rules and instructions. Unfortunately there are barriers, which are sometimes not noticeable for an average customer directly at first sight (e.g. it is not possible to use the same locomotive in different countries for one transport, drivers are not allowed to cross the borders without special training and education etc.). There are efforts in the EU to harmonize these technical standards with the TSI-rules (Technical Specification for the Interoperability), some of them are already implemented. But it will take years to finish harmonization in reality to reach competitive cross border traffic in the railway market.

Furthermore there are efforts to hand over financial resources and the full responsibility for ordering services in local traffic from the Federal Ministry of Transport, Innovation and Technology to the nine provinces this year. This primarily would be a step into regionalization of public services in local traffic, but also might change the habits of ordering these services deeply and so change the market shares held by OEBB and competitors.

2) Austrian Rail Regulatory Body

In Austria the competences of the regulatory authority for the railway transport market according to Directive 2001/14/EC are administrated by the Schienen-Control GmbH (SCG) and the Schienen-Control Kommission (SCK).

Conflicts of utilization (e.g. if the request of a railway undertaking for conclusion of a contract governing the allocation of rails/trainpaths is turned down) are decided by the SCK, that may also act ex officio on all matters relating to the access to railway infrastructure. This body operates like an independent administrative court and consists of three members and three substitutes. The chairman and his substitute are judges. The others are (technical and economic) experts for traffic systems. The members are completely independent. They are not bound by any governmental instructions. Appeals against SCK rulings go directly to the Administrative Court of Appeal.

The SCG, that also runs the office of the SCK, is (among other things) responsible for market monitoring with respect to competition trends and for supervising the legal duties of railway infrastructure managers to provide and report information (e.g. contracts governing connection and co-use, material changes in the quality of capacity and railway infrastructure, schedules etc.). Moreover SCG frequently acts as intermediary to iron out differences between railway transport firms and railway infrastructure managers as early as possible.

3) Duties of the infrastructure manager:

Railway infrastructure managers must draw up general terms and conditions governing all important administrative, technical and financial modalities via which other railway undertakings have access to railway infrastructure on main and secondary lines. Infrastructure managers must also make other services and facilities available to licensed railway undertakings: on a non-discriminatory basis, in return for reasonable compensation of their costs and a charge which reflects the costs must be paid if such services and facilities are necessary for access to railway infrastructure (traction, energy, etc.). This is subject to the availability of capacity and to the principle of reasonableness. General terms and conditions also have to be drawn up to govern these matters.

The terms and conditions for the use of infrastructure and of other services and facilities must be cleared by the SCK, so have to any amendments. Once approved, they must be published in the Internet by the railway companies free of charge.

According to Article 57 of the Austrian Railway Act access to railway infrastructure on main and secondary lines has to be permitted to:

- Railway transport firms with seat in Austria, which are entitled to do rail transport services on main and secondary lines.
- International groupings
 - (a) For transnational rail transport services of or to Austria if one of their members has its seat in Austria or
 - (b) For transnational rail transport services in the transit between member states, in which the members of the international groupings have their seats.

- Railway transport firms, whose activities are not limited to the regional traffic, with seat in one of the Member States of the EU or of a contracting party of the agreement over the European Market for rail transport services concerning transnational combined transport of goods.
- Railway transport firms with seat in one of the Member States of the EU or of a contracting party of the agreement over the European Market for other transnational rail freight transport services, as far as reciprocity is guaranteed and as far as access to service facilities for railway transport firms is permitted in the respective country.
- Railway undertakings with seat in other countries, as far as state-contractual regulations concerning the access to railway infrastructure exist.
- Railway undertakings with seat in other countries, if the access to railway infrastructure is in public interest of traffic and if reciprocity is guaranteed, whereby implementation rules have to be specified in intergovernmental agreements.

DENMARK

(1)

Denmark is a small country, and the geography is characterized by islands, peninsulas, straits and fjords. Parts of Denmark, primarily western and northern Jutland, are fairly sparsely populated.

It is a generally accepted policy that all parts of Denmark must be covered by cheap public transportation. After the opening of the Great Belt Bridge in 1997, all major parts of Denmark are now directly connected by road and rail. More remote localities and smaller islands are serviced by bus transportation with connections to the rail system or to ferries.

Danish railway passenger transport is massively subsidised. Without public service contracts, passenger railway services would not be provided in large parts of the country, except from highly populated areas and between major cities.

Being an EU Member, Denmark has implemented the EU Rail Directives.¹ It has thus been necessary to reorganize the rail sector from one single unit to independent organisations and authorities.

The regulatory authority on track infrastructure is now Rail Net Denmark (Banedanmark). The regulatory authority on rail operation is the National Rail Authority (Trafikstyrelsen) under the Danish Ministry of Transport. Both units are organised under the Danish Ministry of Transport but have independent authority.

The incumbent state railway traffic provider DSB is a state owned company. The shares of DSB are managed by the Danish Ministry of Transport.²

From 1 January 1997, the track infrastructure (except from local rail) was separated from the incumbent rail operator DSB by the forming of Rail Net Denmark. Rail Net Denmark is a state-owned enterprise that operates under the auspices of the Danish Ministry of Transport.³ From 1 January 2005, all construction and maintenance of Rail Net Denmark's tracks is subject to public procurement.

The National Rail Authority was established 1 July 2003. It is responsible for securing the provision of railway transport services by putting out to tender contracts for the operation of the services determined by the government. The National Rail Authority is also regulatory authority on railway safety matters.

Commercial rail freight was introduced in Denmark from 1 January 1999. The freight section of DSB was divided from the passenger transport and sold. All Danish rail freight is now commercialized. The former DSB freight section is since 1 January 2001 run by the private company Railion Danmark (owned by Stinnes AG which also owns Railion Deutschland and Railion Nederland).

Since 1 January 2000, it has been possible to provide commercial passenger railway transport. The only condition is that the capacity of the infrastructure allows for more traffic.⁴ The incumbent, DSB, is obliged to provide any winner of public service traffic under public procurement with rolling stock.⁵

Rail freight does not play a significant role in Danish rail (around 5 pct. of the total amount of rail transportation).

On most long distance, inter city and regional routes, the Ministry of Transport negotiates public service agreements with DSB.⁶ This traffic is not subject to public procurement. In 2002, the Ministry of Transport submitted a few regional routes in Jutland to public procurement. An alternative provider (Arriva) now carries out public railway passenger traffic on these routes. According to a political agreement from November 2003, at least 1/3 of all regional routes now serviced by DSB will become subject to public procurement before 2014, starting with the densest route ("Kystbanen" from Elsinore through Copenhagen and Copenhagen Airport to Malmö in Sweden) in 2008.

There are two types of urban rail in Copenhagen: The "S-train" which is part of DSB, and the Metro run by the Ørestad Development Corporation which is owned 55 pct. by the City of Copenhagen and 45 pct. by the Ministry of Transport.

There are 13 local railway traffic companies in Denmark. They are all owned and run by local or regional authorities. It is planned to submit local railway traffic to public procurement within a few years.

(2)

At present, there is no commercial/non-subsidised passenger railway transportation in Denmark. There is thus no competition in the market. As mentioned above, there is competition "for-the-market" on a few routes which have been submitted to public procurement.

Competition from other transport modes is highly relevant. Competition from private cars is relevant both on short and longer distances within Denmark, especially after the opening of the Great Belt Bridge. On transportation between different parts of the country the combination of car and ferry is very common.

Also private bus companies are directly competing with rail on long distance bus travel, sometimes combined with ferry transportation included in the bus ticket.

On some routes, train and air travel is in direct competition. For instance, travelling from Copenhagen (centre) to Aarhus (Denmark's second largest city) takes 2.45 hours by train and nearly the same by plane, due to transportation to and from airports, check in etc. On the other hand, travelling by train from Copenhagen to Aalborg (fourth largest city) is no option to business travellers compared to going by plane, as the train takes 5 hours compared to max. 2 hours by plane (including transport to and from airports).

All operators are free to do freight train operation in Denmark. Railion Danmark only provides freight rail on the main routes and not north of Aarhus. This is due to the fact that one is hardly ever more than 50-100 km's away from the nearest large harbour. For freight destined to Denmark it will often be cheaper to combine sea transport with road transport. The majority of freight by rail is passing Denmark in transit from Sweden to Germany and reverse.

(3) Freight rail services in Denmark are not subsidised.

Charges for using the Great Belt Bridge are regulated with consideration to competing private ferry transportation. The balance between charges for trains and cars using the bridge is politically decided. In 2002, the Danish Competition Authority investigated if charges for freight train were distorting competition for the detriment of road transport. The Competition Council found that the charges did not distort competition.⁷

Public service passenger traffic is subsidised through subsidies on each ticket. The size of the subsidies is determined in the public service contracts or in public procurement contract.

For long distance, inter city and regional train operation which is not subject to public procurement, the Ministry of Transport negotiates public service contracts with the incumbent, DSB. The contracts determine capacity, frequencies, requirements for connections to other routes or other modes of transport etc. Routes in public procurement are subsidised according to public procurement contracts under regulation by the National Rail Authority. Public service contracts for local rail are determined by the local regulatory authorities.

Around 15 pct. of Danish passenger rail traffic is subject to public procurement. The share will rise significantly when the regional rail from Elsinor to Malmö (Kystbanen) is submitted to public procurement.

In 2003, the subsidies to DSB according to public service contracts were 4.147 mio. DKR (557 mio. Euro). The income from sale of tickets was 3.888 mio. DKR (522 mio. Euro). In 2003, the subsidy to each ticket was larger than the price paid by the traveller. The picture is similar on local rail.

Subsidies to local train operation are determined in local or regional service contracts. The average cost of a passenger kilometre is around 2 DKR (0.27 Euro) – a little less on long distance, inter city and regional routes, a little more on local routes. More than half of this is covered by subsidies.

(4)

	Operator	Ownership	Regulator
Tracks (long distance, inter city and regional)	Rail Net Denmark	Ministry of Transport	Rail Net Denmark
Tracks (urban rail: S-train and Metro)	Rail Net Denmark	Ministry of Transport	Rail Net Denmark
Tracks (local rail)	Local / regional authorities	Local / regional authorities	Local / regional authorities
Tracks (Great Belt Bridge and Øresund Bridge)	Rail Net Denmark (Great Belt Bridge and Danish part of Øresund Bridge)	A/S Great Belt (Danish Ministry of Transport) and A/S Øresund (Swedish and Danish Ministries of Transport)	Rail Net Denmark
Construction and maintenance of tracks (except from local rail)	Rail Net Denmark or other bidders in public procurement		Rail Net Denmark
Passenger train stations (buildings)	DSB	Ministry of Transport	National Rail Authority
Freight stations	DSB / Railion Danmark	Ministry of Transport / Stinnes AG	National Rail Authority
Passenger trains (long distance, inter city and regional)	DSB / Arriva (by public procurement)	Ministry of Transport / Arriva	National Rail Authority
Freight trains	Railion Danmark and other freight train operators	Stinnes AG and others	National Rail Authority
S-trains (Copenhagen urban rail)	DSB	Ministry of Transport	National Rail Authority
Metro (Copenhagen urban rail)	Ørestad Development Corporation	City of Copenhagen (55 pct.) and Ministry	National Rail Authority

	Operator	Ownership	Regulator
		of Transport (45 pct.)	
Local rail	Local / regional authorities	Local / regional authorities	Local / regional authorities

(5) Go to (6).

(6)

The opening up for third party access in Denmark to tracks and other rail infrastructure were initiated by the EU Rail Directives.

No new operators have yet expressed any wish to start operating Danish passenger rail in competition with the incumbent. The major obstacle seems to be the lack of profitability: Providing passenger rail traffic in Denmark seems to depend on access to public subsidies.

Prices for third party access to tracks are regulated.⁸

(7)

Sector specific regulation has been necessary in the transition period from state-owned public monopoly to a more competitive and liberalised design. This is the reason why there are yet no significant experiences with enforcing competition regulation in the context of the Danish rail sector.⁹ But with an increasing degree of liberalisation, it must be emphasized that competition regulation will play a more significant role in the coming years.

NOTES

¹ Railway Act, Consolidated Act No. 1171, 2004-12-02.

² DSB Act, No. 485, 1998-07-01.

³ Present regulation: Rail Net Denmark Act, No. 1222, 2003-12-27.

⁴ Executive order No. 1311, 2004-12-14.

⁵ Section 8 of the Railway Act, Consolidated Act No. 1171, 2004-12-02.

⁶ Section 8 of the Railway Act, Consolidated Act No. 1171, 2004-12-02.

⁷ DTL complaining over charges on the Great Belt Bridge, Council Decision of 27 February 2002, <http://www.ks.dk/konkurrence/afgoerelser/2002/02-27/dtl-takster-kl/>.

⁸ Executive order No. 1311, 2004-12-14.

⁹ Except from complaint over charges on the Great Belt Bridge, see note 7.

FRANCE

Le groupe de travail n°2 sur la concurrence et la réglementation, organise une table ronde sur la réforme structurelle dans les chemins de fer le 14 février 2005. En 1997, le comité avait déjà organisé une table ronde sur ce sujet et la délégation française, dans sa contribution, avait exposé les perspectives de libéralisation.

Le secteur ferroviaire français a connu d'importantes évolutions depuis 1997. La concurrence se développe surtout à travers l'inter modalité même si le fret international est ouvert depuis mars 2003. Les 2^{ème} et 3^{ème} paquets ferroviaires devraient être l'occasion d'une large ouverture malgré une situation financière du secteur très préoccupante.

1. Les évolutions du système ferroviaire depuis 1997

Le système ferroviaire français a connu d'importantes évolutions depuis 1997 avec la création de RFF et la régionalisation mais le monopole reste la règle. La concurrence intermodale avec l'avion se développe sur certains axes.

La création de RFF et la régionalisation

Le système ferroviaire a connu une première évolution avec la création de Réseau ferré de France (RFF) en 1997, structure chargée de gérer l'infrastructure ferrée et concrétisant la séparation entre opérateur ferroviaire et gestionnaire du réseau. Cette opération était un préalable à l'ouverture à la concurrence.

RFF est chargée de construire et d'entretenir le réseau ferré et perçoit, en contrepartie, des péages pour son utilisation.

La seconde évolution est survenue en 2002 avec la régionalisation du transport de voyageurs. La loi Solidarité et renouvellement urbain (SRU) a fait des régions des autorités organisatrices de transport ferroviaire, ce qui leur a permis d'investir dans ce secteur pour favoriser le développement des trains express régionaux (TER) : des investissements importants ont été réalisés, notamment dans les matériels roulants.

Cette régionalisation sera achevée en juillet 2005 avec le transfert du syndicat des transports d'Île-de-France (STIF) à la région.

Ces deux évolutions devraient contribuer à sortir du modèle centralisé et intégré pour passer à un système ouvert et spécialisé selon les métiers, garanti d'une meilleure efficacité.

Une situation financière qui reste préoccupante

La situation financière du secteur ferroviaire est préoccupante. Fin 2004, les dettes cumulées de la SNCF, de RFF et du SAAD¹ ont été estimées par une mission d'évaluation et de contrôle parlementaire à 42 Milliards d'euros.

La charge de cette dette, dont plus de la moitié est supportée par RFF, limite les marges de manœuvre nécessaires au développement du secteur ferroviaire. A titre d'exemple, le coût de construction de la 1^{ère} tranche de la ligne LGV Est est évalué à 3 milliards d'euros.

En outre, le montant total des concours publics au secteur ferroviaire s'est élevé à 10,8 Milliards d'euros en 2004, ces concours comprenant aussi bien les dotations pour investissement (LGV Est par exemple) que les contributions liées au régime de retraite des cheminots.

2. Situation concurrentielle du secteur ferroviaire

Le secteur ferroviaire (déjà dit), a connu une double ouverture.

L'ouverture du fret international

Le premier paquet ferroviaire a été transposé par le décret du 7 mars 2003 qui prévoit l'ouverture à la concurrence du fret international.

Ce texte organise dans un premier temps la procédure d'attribution des *licences* et des *certificats de sécurité* pour les entreprises ferroviaires, puis dans un second temps, celle de l'accès au réseau par l'attribution de *sillons* et la possibilité d'utiliser l'ensemble des services liés au réseau.

Depuis la publication du décret, deux licences ont été attribuées et d'autres entreprises ont effectué des demandes. Cependant, cette activité est peu attractive, la rentabilité du fret ferroviaire n'étant pas toujours assurée au regard des investissements à consentir. Il semble que l'on s'oriente de plus en plus vers un marché de niches.

La concurrence intermodale dans le transport de voyageur

Le développement du TGV et notamment des branches nord et sud a permis à la concurrence intermodale avec le transport aérien de se développer. Aujourd'hui, sur Paris-Londres ou Paris-Marseille, la part de marché du TGV excède 60 % alors que celle du transport aérien se contracte, malgré l'arrivée de compagnies « low costs ». Sur des destinations comme Paris-Bruxelles ou Paris-Lyon, la part de l'aérien est même devenue marginale.

Cette concurrence intermodale se traduit par la multiplication d'offres commerciales et une certaine opacité tarifaire pour les voyageurs qui peuvent néanmoins bénéficier de remises importantes, jusqu'à 50 %, en utilisant par exemple, les services de l'Internet.

Cependant si le TGV représente 50 % du chiffre d'affaires de la branche transport de voyageurs de la SNCF et si cette activité est rentable pour l'entreprise, il n'en reste pas moins que sur la grande majorité des origines destinations, la concurrence ne joue pas ou joue très faiblement.

3. Les perspectives d'ouverture du secteur

Le secteur ferroviaire va poursuivre son ouverture, à l'ensemble du fret ferroviaire (prévu en 2007), voire au trafic international de voyageurs, comme le propose la Commission dans le 3^{ème} paquet ferroviaire (celle-ci propose à cet égard la date de 2010).

Dans ce cadre, la SNCF devrait distinguer comptablement son activité fret, et à l'intérieur de son activité voyageurs, s'organiser en deux grandes branches transport :

- d'une part, ses missions de service public (Transilien, TER et Corail) pour lesquelles elle perçoit des subventions,
- d'autre part, son activité commerciale (TGV et TEOZ) qui se trouve en concurrence intermodale et sera demain en concurrence avec d'autres entreprises ferroviaires.

L'activité de transport international de voyageurs est filialisée (EUROSTAR et THALYS) et contrôlée via la holding SNCF-participations. L'activité de ces deux sociétés représente la moitié du trafic ferroviaire international de voyageurs au sein de l'Union européenne.

Par ailleurs, la SNCF a lancé, avec les pouvoirs publics (800 M d'euros de concours publics +700M d'euros d'investissement de l'établissement public) un plan important de redressement du fret. L'objectif est de faire de cette activité lourdement déficitaire (- 400 M euros en 2003) une activité à même d'affronter la concurrence..

4. Brève analyse de la jurisprudence du Conseil de la concurrence relative à la séparation ferroviaire

Le Conseil de la concurrence s'est prononcé essentiellement à deux reprises sur l'application du droit de la concurrence dans le secteur du transport ferroviaire, dans le cadre de l'avis n°95-A-18 du 17 octobre 1995 relatif aux problèmes soulevés par les activités de messagerie de la SNCF au regard de la concurrence et de l'avis n°97-A-09 du 26 mars 1997 relatif à un projet de décret concernant les redevances d'utilisation du réseau ferré national. Seul ce dernier avis concerne à proprement parler les questions susceptibles de découler de la séparation ferroviaire.

Avis n°95-A-18 du 17 octobre 1995 relatif aux problèmes soulevés par les activités de messagerie de la SNCF au regard de la concurrence

Dans cet avis, le Conseil de la concurrence devait examiner le fonctionnement du service national des messageries de la SNCF, usuellement désigné Sernam, évaluer son impact sur le marché de la messagerie et proposer au besoin de modifications permettant de garantir le respect des règles de concurrence. Le Sernam était un service de messagerie interne de la SNCF, sans personnalité juridique qui s'est rapidement trouvé en concurrence avec des entreprises de messagerie issues du secteur privé ayant pour objet de transporter des colis pesant de quelques grammes à plusieurs tonnes, par voie ferroviaire ou routière.

Sollicité pour mettre en évidence et résoudre les problèmes liés à la présence de la Sernam sur un marché concurrentiel, le Conseil de la concurrence a proposé diverses modifications de ce service de la SNCF de nature à garantir le respect du droit de la concurrence. Les problèmes principaux soulevés par le Conseil concernaient l'intégration des comptes du Sernam dans ceux de la SNCF, l'utilisation du réseau commercial de la SNCF sur tout le territoire, l'existence de facturation réciproques imprécises et l'utilisation de la notoriété et du personnel de la SNCF.

Le Conseil de la concurrence a donc proposé deux solutions alternatives. La première consistait à maintenir le Sernam au sein de la SNCF en instaurant une transparence comptable et financière entre la SNCF et son service de messagerie tandis que la seconde envisageait la filialisation du Sernam afin d'éliminer les risques de discrimination par rapport à ses concurrents et de permettre au contrôle du respect des règles de concurrence de s'exercer plus efficacement.

Avis n°97-A-09 du 26 mars 1997 relatif à un projet de décret concernant les redevances d'utilisation du réseau ferré national

Le projet de décret analysé par le Conseil concernait l'application de l'article 13 de la loi du 13 février 1997 portant création de l'établissement public « Réseau Ferré de France » en vue du renouveau du transport ferroviaire, qui précisait les éléments à prendre en compte pour le calcul des redevances d'utilisation de l'infrastructure ferroviaire. La loi du 13 février 1997 s'inscrivait elle-même dans le cadre des directives n°91/440/CEE du Conseil du 29 juillet 1991 relative au développement des chemins de fer communautaires et n° 95/19/CE du Conseil du 19 juin 1995 concernant la répartition des capacités d'infrastructure ferroviaire et la perception de redevances d'utilisation de l'infrastructure ferroviaire.

Dans cet avis, le Conseil de la concurrence s'est prononcé sur la structure, les critères de modulation et le plafonnement des redevances ainsi que sur la mise en œuvre des dispositions du décret et les litiges éventuels. Le Conseil de la concurrence a considéré qu'en l'état, le projet de décret soumis à son examen définissait de manière générale les conditions de fixation des redevances et, en raison de son imprécision laissait une marge d'appréciation importante aux autorités chargées de l'élaboration et de l'application des barèmes de redevances.

Le Conseil de la concurrence a donc recommandé, de manière à garantir des possibilités d'accès non discriminatoires au réseau ferré national, que soient précisés dans le décret le mode de calcul du terme forfaitaire de la redevance, les objectifs poursuivis pour chacun des paramètres de modulation et de majoration des autres termes de la redevance, les coefficients de modulation, les conditions de remboursement en cas de non utilisation d'une réservation, les bases de facturation des prestations complémentaires énumérées à l'article 7 et les conditions particulières de fixation des redevances liées à l'utilisation de certaines infrastructures.

ANNEXE

LES PAQUETS FERROVIAIRES

1 - Rappel

Dans le but de redynamiser le transport ferroviaire et dans une vision globale de rééquilibrage des flux de marchandises et de voyageurs au profit du rail (livre blanc du 30/07/96 – *Une Stratégie pour revitaliser les chemins de fer communautaires*), la commission européenne, en liaison avec les administrations concernées des pays membres a élaboré une première série de textes dénommée « Paquet Rail » puis 1^{er} Paquet Ferroviaire.

Le premier paquet ferroviaire comprend trois directives datées du 26 février 2001 (2001/12 à 2001/14) qui modifient trois autres directives de 91 et 95. Il a principalement pour but d'ouvrir progressivement le rail à la concurrence et d'améliorer le fonctionnement de ce marché très cloisonné.

Ces trois directives ont été transposées par le décret du 7 mars 2003 et par plusieurs arrêtés d'application.

Ce dispositif ne concerne que le fret international transitant par la France.

b) Le deuxième paquet ferroviaire complète la démarche engagée mais ne concerne pas le trafic voyageur. Il a été adopté lors du Conseil du 28 mars 2003.

Il comprend 4 projets de directives et un projet de règlement :

- Interopérabilité (réseaux, normes, matériels),
- Sécurité,
- Développement des chemins de fer communautaire,
- Adhésion de l'UE à l'OITF (office International du Transport Ferroviaire),

le projet de règlement concerne la création d'une Agence Européenne chargée de veiller à l'harmonisation des normes techniques et des procédures. **Cette agence sera basée à Valenciennes.**

c) Un troisième paquet a été proposé par la commission le 3 mars 2004. Il contient 2 projets de directives et 2 projets de règlements :

- directive relative à l'ouverture du marché des services internationaux de voyageurs à l'horizon 2010,
- directive relative à la certification des conducteurs de locomotive affectés au transport de voyageurs,
- règlement relatif aux droits des passagers,

- règlement relatif à la qualité des services de transport de marchandise par chemin de fer.

2 - Point sur l'ouverture du fret ferroviaire

L'ouverture du fret ferroviaire est effective depuis le 15 mars 2003. C'est Réseau ferré de France (RFF) qui est chargé de coordonner l'ensemble des procédures. Celles-ci se déclinent en 3 étapes :

- obtenir une *licence d'entreprise ferroviaire* (3 licences ont été à ce jour délivrées : SNCF, Europorte2, filiale d'Eurotunnel, et CFTA, filiale de Connex).
- obtenir le *certificat de sécurité*, délivré lui aussi par le Ministre chargé des transports après avis de RFF. Cette procédure qui impliquait la SNCF est en cours de modification. A cet égard, un décret vient d'être publié en attendant la création d'une autorité nationale de sécurité.
- obtenir des *sillons* de circulation sur le réseau ferroviaire. C'est RFF qui pilote ces demandes mais avec du personnel mis à disposition par la SNCF.

En outre, une instance d'appel placée auprès du Ministre chargé des transports et composée de 2 magistrats (Cour des Comptes et Conseil d'Etat) et d'un ingénieur général des ponts a été mise en place.

RFF a mis en place un guichet unique et sur son site Internet, en 3 langues (Français, anglais et allemand) le document de référence du réseau ferré national qui précise l'ensemble des procédures à mettre en œuvre pour pouvoir accéder au réseau français.

Après un an de mise en route, le bilan est très mitigé. Le secteur ferroviaire nécessite des investissements lourds amortissables sur de longues durées. Il s'ouvre lentement à la concurrence et ne concerne, s'agissant du fret, que des marchés de niche ou des transports sur de longues distances.

NOTES

- ¹ Le SAAD est le Service annexe d'amortissement de la dette, structure de défaisance qui porte 8,87 Milliards d'euros, contre 25,45 pour RFF, le solde figurant au bilan de la SNCF

GERMANY

1 Overview of the Rail Sector

1.1 Objectives of the 1994 rail reform

In the last 10 years the German rail sector has undergone fundamental changes. This development was initiated by the rail reform in 1994 which brought about radical structural changes.

The objectives of the 1994 rail reform can be summarized as follows:

- Transformation of Deutsche Bundesbahn (DB) and Deutsche Reichsbahn (the state-owned rail company of the former GDR) into a profit-oriented enterprise in the legal form of a joint-stock company.
- Reduction of the financial burden incurred by the German taxpayer in connection with the railway system
- Prevention of further market share losses of the rail traffic sector vis-a-vis other means of transport in the transportation of passengers and goods and
- Compliance with European Law requirements on non-discriminatory access to the railway network for other railway companies.

1.2 Structure of the Deutsche Bahn Group

Other than Deutsche Bundesbahn and Deutsche Reichsbahn, which were managed under direct federal administration, Deutsche Bahn has been organised as an affiliated group under civil law (Deutsche Bahn AG) since the 1994 rail sector liberalisation. However, the state still owns all shares of Deutsche Bahn AG.

The company heading the Deutsche Bahn group is Deutsche Bahn AG. The different areas of transport services offered by Deutsche Bahn AG are organised in independent subsidiaries. These include long-distance passenger rail transport (DB Fernverkehr AG), local public passenger transport (DB Regio AG) and rail freight transport (Railion Deutschland AG, former DB Cargo AG). Deutsche Bahn is still dominant in all three areas. In addition, Deutsche Bahn AG operates the rail network via its subsidiary DB Netz AG. The two subsidiaries DB Station & Service and DB Projektbau GmbH complement the work of DB Netz AG. DB Station & Service operates, maintains and develops train stations and provides services for travellers and railway companies. DB Projektbau GmbH comprises all capacities for the design, project management and monitoring of infrastructure projects of the Deutsche Bahn AG. Finally, the services sector, part of Deutsche Bahn's core business, comprises the following six business sectors: DB Energie, DB Fuhrpark, DB Services, DB Systems, DB Telematik and vehicle maintenance.

1.3 Regulatory authorities in the rail sector

The Federal Railway Office (Eisenbahn-Bundesamt, EBA) was also established in the course of the rail reform. It is a higher federal authority responsible to the Federal Ministry of Transport, Building and Housing (Bundesministerium für Verkehr, Bau- und Wohnungswesen). The EBA has supervisory functions, in particular in the field of legal procedures for rail track construction, monitoring of compliance with technical safety standards and granting of operating licenses for railway companies. In addition, the EBA helps to ensure non-discriminatory access to the railway network.

These sector-specific powers of the EBA do not affect the general competence of competition authorities to apply competition law (as laid down in the Act Against Restraints of Competition, ARC) in the rail sector. There is no regulation which requires the EBA as a sector-specific regulatory authority to reach consensus with the Bundeskartellamt, as is the case in the telecommunications and postal sector. However, the two authorities must inform each other on any proposed decisions.

1.4 Amendments to railway legislation

In the context of the implementation of the EU directives on infrastructure, the third amendment to the legislation covering the regulation of the German rail sector is under way. Most affected are the General Railway Law, (Allgemeines Eisenbahngesetz, AEG) and the Regulation on railway infrastructure use (Eisenbahninfrastruktur-Benutzungsverordnung, EIBV). The amendment aims to further advance the opening up of the rail sector to competition and, in order to do so, enforce the principle of non-discriminatory access to infrastructure more effectively. For this purpose, the definition of railway infrastructure and thus the right to non-discriminatory access thereto will be extended to facilities at the “last mile” stage of rail transport services, such as loading and unloading facilities. Furthermore, a new provision will be introduced which commits railway companies to provide non-discriminatory information services, including information on train connections offered by other providers, in their timetable information systems.

As regards institutional changes, a railtrack agency (*Trassenagentur*) will be established at the EBA which will monitor non-discriminatory train-path allocation and access conditions, thus complementing the powers of the EBA and the competition authorities. The main task of the railtrack agency will be to monitor the preparation of an annual working timetable defining all planned train and rolling-stock movements by DB Netz AG and to solve train-path allocation conflicts arising in this context. As the legislative process has not been completed, it cannot be assessed yet whether and in which way the powers of the railtrack agency will affect the competencies of the EBA and the competition authorities.

2. Role for competition and role for regulation

Since the rail reform and the liberalisation of the rail sector, railway services have had to be subjected to the principle of competition. There are two forms of competition in this context: intermodal competition with other means of public transport and intramodal competition between individual railway companies.

2.1 Intermodal competition

As regards intermodal competition with other means of public transport, one has to consider that various forms of state aid are granted to the transport sector as a whole. Such aid can be provided through tax advantages and/or disadvantages granted for individual means of transport by having different tax rates apply to certain types of energy and fuel. For example, rail transport is burdened with a mineral oil tax, while air traffic and inland waterway transport are exempted from this tax. Due to the infrastructural responsibilities laid down in the Constitution, the federal government is responsible for the construction and maintenance of the federal traffic routes, including the rail tracks of the federal railway companies, the

federal highways and the federal waterways. On this basis, the federal government invested approx. 41 billion euro in rail infrastructure between 1994 and 2004.

2.2 Intramodal competition

As regards intramodal competition, one has to differentiate between the individual railway service sectors. Long-distance passenger rail transport and freight rail transport are subject to competition within the market. DB Netz AG provides several railway companies with the necessary infrastructure for their respective services.

Especially in the area of freight rail transport competition has heightened. One of the reasons for this development is the fact that industrial companies have taken up business in this sector, usually as joint ventures. As many of them use their own railways (*Werksbahnen*) they have the necessary know-how in terms of railway operation. For example, BASF AG, together with the Swiss carrier Bertschi AG, the German logistics company Hoyer GmbH and VTG Lehnkering AG, which belongs to the Preussag group, founded a railway company specialised in the transport of chemical goods, the rail4chem Eisenbahngesellschaft mbH. In addition, some foreign companies have also become active in freight rail transport. The activities of the new companies are currently still confined to individual transport projects on specific routes. Apart from Deutsche Bahn and its daughter Railion currently 120 railway companies offer freight rail transport services. In 2003 their market share amounted to 6.8 per cent. The heightened competition in the freight rail transport sector has induced Deutsche Bahn to adapt its market behaviour. It has expanded its activities in carrier and logistics services and is making increased efforts to improve cross-border freight rail transport. In the field of long-distance passenger rail transport, there is currently only one competitor, the Connex group which belongs to the Vivendi group. It offers regular train connections on the routes Gera-Leipzig-Berlin-Rostock and Zittau-Görlitz-Berlin-Stralsund.

As regards local public passenger transport, new competition is arising due to the fact that some *Länder*, in order to meet their responsibility to provide and finance services in the local public passenger transport, have started to issue public invitations to tender for transport contracts for specific routes and parts of the rail network (competition for the market). In the past, most of the transport service contracts were awarded to DB Regio AG without public invitations to tender. DB Regio AG still holds a market share of approx. 90 per cent in the local public passenger transport sector. The remaining market shares are distributed between approx. 60 transport companies.

2.3 Regulated sectors

Companies wishing to take up business in the rail transport sector need a general operating licence which is issued by the EBA. Prior official authorisation for transportation conditions in the passenger rail transport sector and for transportation conditions and fees in the local passenger transport sector is required. The EBA also issues technical quality and security requirements and monitors compliance therewith.

3. Vertical structural issues

There is only one significant infrastructure provider in the German rail sector. Apart from Deutsche Bahn's railway network which covers about 36,000 track kilometres, only few regional or local railway networks exist in ports or industrial estates. Deutsche Bahn is thus the largest network provider and at the same time the leading provider in all railway services sectors. Within the framework of the amendment of the AEG, the abandonment of a complete separation between the network and operation sectors is, however, to be compensated for by establishing DB Netz AG's independence from intragroup instructions regarding the establishment of train-path pricing and allocation of train paths, a strict separation, in accounting terms,

between track network and operation, and increased transparency requirements for the service relationships between DB Netz AG and other DB group companies. This is the context in which the planned establishment of an independent railtrack agency (Trassenagentur) has to be

3.1 *The principle of non-discriminatory access*

In accordance with the objectives of the rail reform the railway companies must be granted non-discriminatory access to Deutsche Bahn's railway network in all transport sectors, cf. Art. 14(1) of the AEG. Access is provided by DB Netz AG which allocates rights of use for individual route sections to the railway companies, i.e. the companies within the Deutsche Bahn group on the one hand and private railway companies on the other. For this purpose temporary exclusive operator contracts are concluded for specific infrastructure segments which do not involve an actual transfer of the infrastructure (which would correspond to vertically integrated franchise operations) but merely its use. This also means that maintenance and servicing of these infrastructure segments continue to be the responsibility of DB Netz AG as the infrastructure provider; the railway company which was granted access is under no obligation to provide these services. The rights granted to the railway companies for the use of a certain part of the infrastructure at a certain time are called "train paths" (*Trassen*). The allocation of train paths and train-path pricing are under the exclusive competence of DB Netz AG (in accordance with future legal provisions), these are not transactions subject to agreement by the group executive board.

3.2 *Deutsche Bahn's train-path pricing system*

The railway companies have to pay a train-path fee which is based on the most up-to-date version of Deutsche Bahn's train-path pricing system. In 1999 and 2000 the Bundeskartellamt examined the train-path pricing system in place since 1998 (TPS 98) and found that the costs incurred by a DB subsidiary, DB Regio AG, were up to 40 per cent lower than those of its competitors. This was primarily due to a two-stage degressive tariff structure which included a basic price calculated per track kilometre and a price calculated per train kilometre covered. The price per train kilometre decreased with increasing train frequency. However, only Deutsche Bahn's subsidiaries were able to benefit substantially from these degressive effects. By introducing TPS 98 Deutsche Bahn, the dominant provider of rail infrastructure, thus violated the ban on abusive practices. Private railway companies in the market for local passenger transport were unfairly hindered. In 2001 Deutsche Bahn introduced a new train-path pricing system (TPS 01). TPS 01 was characterised by a linear tariff which provided a different train-path price for different categories of routes (route quality) and types of transport. However, the essential feature was that, on the basis of this linear tariff, each transport company operating in a specific route section at a specific time by using a specific type of transport paid the same price per train kilometre covered. In 2003 Deutsche Bahn included a regional factor in this train-path pricing system. Deutsche Bahn thus addressed the problem of a lack of cost recovery in route sections which are not used to full capacity, trying, in accordance with transport policy provisions, to avoid shutting down these routes. Recently another new train-path pricing system (TPS 05) has been introduced which provides for a 10 per cent surcharge on the price in cases where so-called "special train paths" (*Sondertrassen*) are notified. The EBA prohibited this surcharge stating that it was not consistent with the principles for calculating train-path prices laid down in the currently applicable EIBV regulation on railway infrastructure use. However, the decision is not yet final as DB Netz AG has appealed against it.

3.3 *Powers of intervention of the EBA*

As mentioned above, the EBA has also competencies to ensure non-discriminatory access to the railway network. Access to the network is generally negotiated between the railway company and the network operator (see also Section 14 (4) of the AEG). Where an agreement is not reached between the railway company and the rail infrastructure operator, the EBA decides either upon request of a company

concerned or ex officio whether a discriminatory conduct of Deutsche Bahn AG can be affirmed, which is to be prohibited under Section 14 (5) AEG. Such an intervention by the EBA can substitute for an agreement between the parties.

In the past, the EBA has repeatedly exercised its powers in the area of non-discriminatory access to the railway network. Such interventions concerned on the one hand train-path allocation conflicts between DB subsidiaries and competing providers of rail transport services. However, the proceedings also concerned individual technical details of network access, such as the extent to which DB Netz AG had to provide specific services (e.g. manning periods of signal boxes) or the extent to which technical requirements had to be fulfilled by railway companies seeking access.

4 Competition Law Enforcement

4.1 Merger control

Increased merger activities could merely be perceived in the local public transport sector, not in the main rail transport sectors. However, when these cases were examined, local rail public transport was also taken into consideration. Due to the specific regulatory and competitive conditions in this market segment, some proposed mergers had to be abandoned (for the time being) and some were only cleared under obligations directed at opening up the market.

4.2 Abuse control

After the impediments to non-discriminatory competition created by the TPS 98 had been removed, the complaints of private railway companies about potentially abusive practices of Deutsche Bahn and its subsidiaries shifted to other areas. However, so far there has been no need to initiate formal abuse proceedings or to issue prohibition decisions. This was also due to the fact that, in the course of the investigation of facts by the Bundeskartellamt, in individual cases an amicable agreement could be reached between the parties involved. This applies inter alia to complaints relating to the problem of non-discriminatory access to the “last mile” in the rail freight transport sector, i.e. in particular access to loading, unloading and shunting facilities (rail freight villages, railway sidings) which were operated by Railion (at that time: DB Cargo AG) on the basis of exclusive agreements. Since non-discriminatory access to these infrastructure facilities is a basic prerequisite for non-discriminatory access to the network, the Bundeskartellamt saw a potentially increasing need for investigations in this area. The amendment to the AEG stipulates that the term “railway infrastructure” includes the facilities of the so-called “last mile” thus extending the right to non-discriminatory access to these facilities.

In February 2003 the Bundeskartellamt initiated investigation proceedings on account of the refusal of Deutsche Bahn AG to include information on timetables and fares for two long-distance routes operated by the Connex group in DB information and timetable systems. In parallel, the Connex group took legal action before the civil courts and obtained a preliminary injunction obliging Deutsche Bahn to include the timetable data of Connex connections in their timetable information systems. The proceedings are pending because Deutsche Bahn AG has submitted an appeal against this decision. However, the draft amendment to the AEG will also contain a corresponding provision under which railway companies will be obliged to provide non-discriminatory information services, including information on train connections offered by other providers, in their timetable information services.

HUNGARY

This submission provides an overview of the Hungarian rail sector from a liberalisation perspective. The market opening is quite a recent development, therefore we have no widespread market experience and the regime is still evolving. This paper describes the current regulatory framework, but it has to be noticed that the new Railway Act (originally intended to pass the Parliament in 2002, but still delayed) is under elaboration and might finally be adopted in 2005. This January the Minister of Economic Affairs and Transport appointed the Commissioner of Rail Regulation to co-ordinate the accomplishment of the new Act and to establish the Hungarian Rail Office. The adoption of the new Act might partially or completely overwrite the system described below.

Overview of the Rail Sector

(1)

The Hungarian railway sector has historically two – still vertically integrated – incumbents: the Hungarian State Railways (*Magyar Államvasutak*, hereinafter referred to as “MÁV”) and the *Győr-Sopron-Ebenfurti Vasút* (hereinafter referred to as “GySEV”). The major incumbent MÁV covers about 98% of the rail market and provides all possible rail services. Recently the lack of adequate government support resulted in a critical financial situation and has made a reorganisation process inevitable. The other incumbent GySEV has a special status, it operates a fraction of the Hungarian and the Austrian rail track between two cities (Győr (in Hungary) and Ebenfurt (in Austria)) under concession and provides passenger and freight services on that infrastructure. This railway company is registered in and controlled by both states (the Hungarian state has a majority: 61%). Its market share in Hungary does not exceed 2%. Hungary’s extensive infrastructure is mostly unexploited (only 60% of the network is frequently utilised) and needs development. The role of railway companies changed considerably in the past fifteen years. Nowadays the rail services represent only about 40% of their level in the eighties, the sector faces intensive inter-modal competition and also has to keep up with the railway companies of the surrounding countries, as transit transport is an important factor in this region. Until 1993, the incumbents acted as single operators, then the new legislation started to diffuse gradually the former state rail monopoly and transform the incumbent companies and the whole railway industry.

The railway sector is regulated by the *Railway Act*¹. The major objectives for the sector appear in the preamble of the Act: the promotion of rail (and multi-modal) transport for environmental reasons and the provision of public services. These objectives are applied together with the goals of the general transport policy like the development of infrastructure, the improvement of transport safety, the preference of public transport to individual means, the requirement of efficient operation etc. In the process of establishing the legal background for rail transport, it has always been important to follow the EU transport rules and harmonize our legislation – with a view to the distinctive features and possibilities inherent in the Hungarian situation. Hence the major characteristics of the regulatory regime are similar to those of the EU Directives. Besides the reasons mentioned above, the aim to minimise subsidies as well as employment aspects have always played a decisive role in government measures concerning the railway industry for the past ten years.

The Railway Act defines public railways as track railway (responsible for the construction, development, modernisation, maintenance and operation of the infrastructure) and train-operating railway

(providing passenger and freight transport services, and traction). These activities can be performed within one vertically integrated organisation – the railway company. The accounting separation of these activities is compulsory, but the Act does not require structural separation. The services provided by the incumbents are currently carried out in four divisions: (1) infrastructure management, (2) passenger transport, (3) freight transport and (4) engineering (traction). In the short term, it seems that the incumbents will not be legally reorganised into two or three distinct companies. A ministerial decree setting the principles and rules of accounting separation was issued in 2003². At the same time professional administrations for the separate activities were established. During the streamlining process, a range of activities – which do not belong directly to the core activities – were also separated and formed into distinct companies (e.g. real estate management). The objectives of the accounting separation were to limit the financial responsibility of the state and the local authorities, to enable the establishment of competitive conditions for transport activities on the track railway and also to enable other rail operators to enter into the market.

A ministerial decree³ regulated the licensing of railway companies. It defines the operating licence granted by the Central Transport Authority (KKF) as a prerequisite for any transport activity carried out on the traction. The detailed conditions of granting the licence are laid down in the decree. The regulation ensures that the applicant is obliged to meet the requirements relating to good repute, financial fitness and professional competence. The regulation entered into force in July 2002, providing that the incumbents should obtain the licence within a certain period of time. A ministerial decree issued in 2004⁴ determines the rules for granting a safety certificate. The Railway Act set up the capacity allocation body (CAB) and the regulatory body (RB) of the rail sector and relating ministerial decrees⁵ prescribe their tasks and procedure. The CAB is an independent, state-owned institution, and is responsible for the allocation of railway infrastructure capacity and the charging of infrastructure fees. The RB operates besides the Supreme Transport Authority (KFF) and is only entitled to deal with appeals against the decisions of the CAB, but lacks other sector specific competences. Both the CAB and the RB are very small institutions, their staff combines is below 20, and work temporarily until the regime is finalised according to the new Railway Act.

On 1 May 2004 the completion of the legal framework created the possibility of market opening. This year four Hungarian private train operating companies (TOCs) – *Magyar Magánvasút Rt.*, *Floyd Kft.*, *MÁV-Hajdú Kft.*, *CER Rt.* – applied for operating licences and were already granted licences. However, the entry was limited under the negotiated access regime. The new TOCs managed to operate only a few trains over the past 8 months.

Role for competition and role for regulation

Under the Hungarian regulatory regime, rail freight services and engineering are operated on a commercial basis, while rail passenger transport services remain (to-be-regulated) public services, since the present market situation does not allow for competition in the passenger transport services sector. Track operation constitutes public service as well.

(2) Competition is supposed to play the main role

Considering the rail freight transport market, both inter-modal and intra-modal competition exist, road transport still poses serious challenge to railway companies. The important role of inter-modal competition even has an impact on prices. Though the rail market was opened for competition in May – in the form of conventional competition in the market – and new train operators have already entered the market providing freight transport and traction services, intra-modal competition is still at its infancy. Railway infrastructure is managed by the vertically-integrated incumbents, but they have to provide access to TOCs: thus the service-providing divisions of the incumbents operate in theory simultaneously in the

market with new entrants. The incumbents have considerable market power, the new entrants' market presence represent less than 1%.

In freight transport the role of railways decreased radically in the last decade, now the government transport policy aims to drive it back – at least partially – from road to rail or water by means of indirect or regulatory measures (e.g. allowances for multi-modal transport) and possible government subsidies (e.g. investments in equipment necessary for combined transport) as well. Facilitation of competition between TOCs through mandatory access is expected to affect the competitiveness of the whole rail sector, the variety of rail services might contribute to the promotion of non-road or combined transport modes and thus the government objectives.

(3) Regulation is supposed to play the main role

As mentioned above, scheduled domestic local and long-distance passenger transport services are provided on the basis of public service obligation. It means that almost all domestic passenger services – even services like inter-city or urban commuter trains – are defined as public services, except for special trains (ordered individually, independent of the working timetable). International passenger transport is obviously excluded from the public service category, it is operated by the incumbents on a commercial basis and especially in cooperation with other national flag-carriers. Under public service obligation the railway company is obliged to conclude contracts in order to perform these services. Accordingly, the tariffs are officially regulated through the fixing of maximum prices and the general service contract terms (e.g. timetable, quality and safety requirements) are also under ministerial oversight.

Similarly, infrastructure management is also a government responsibility: in these segments the incumbents serve as a means to provide for public service activities and deliver the governmental objectives for the sector. The responsibilities and obligations of both parties are set out by regulation and specified by the annual agreements between the state and the incumbents, e.g. the role of state in financing the basic level of service and the investments required, and in improving the efficiency of the operation. In general, the costs of track maintenance and investment are covered partially by infrastructure charges paid by train operators, and the rest should have been financed by the state. On the other hand, the government is to control the use of infrastructure (e.g. approval of infrastructure charges).

Public service passenger transport receives two kinds of government subsidies. On the one hand, consumer price subsidy as part of transport fare policy: this support means the compensation for discount passes and tickets (law prescribes the system of discounts available for preferred passenger groups like students, senior citizens). On the other hand, government is to finance the costs (not covered by revenues) of public domestic passenger transport services provided by the incumbents – however, for budgetary reasons, the amounts paid by governments only partially (25% as estimated) cover these costs and the resulting losses of MÁV has to be restructured periodically (every 2-3 years). This compensation does not always take the form of direct subsidy, but a bank loan with government guarantee. The regulatory control of the former raises no problems (the present ticketing system and the counting of passengers mostly fulfil this function, but a more adequate intelligent ticketing system is under development); for the latter, there exists no institutional control mechanisms, only public procurement might provide an indirect control over the use of subsidies. Moreover, the reorganization process of the incumbent railway companies also requires government subsidy in the short run, while in longer term, the reforms aim at cutting down costs and these supports.

Vertical structural issues

(4) Major categories of the infrastructure

The Railway Act categorises the infrastructure (i.e. the railway network and its accessories) by the owner: most of the railway lines are owned exclusively by the state (national network) or local authorities (local networks like tramways) and can be used publicly, and there is a small number of privately-owned and used railway tracks. The national public railway network is operated by the infrastructure management divisions of the incumbents, while local public networks are operated by companies of the local authorities. The national network is used for all kinds of freight and passenger transport services, while the local networks are primarily to arrange local passenger transport.

Privately-owned (industrial) lines are used within the premises of industrial customers. However, the law allows that certain lines managed by the incumbent are classified as “industrial”, thus making access to certain assets impossible. There are 12 narrow-gauge separate regional networks in operation. The tracks are owned by the state. The narrow gauge railways operate in a vertically integrated structure. Four narrow-gauge networks are operated by MÁV; the others are operated by private or municipality-owned companies. There are two running pilot-projects to divest branch lines from MÁV in a similar manner. In the future, the establishment of regional integrated networks might be possible under the new Railway Act.

The Network Statement makes a different categorisation: it divides the infrastructure into three categories on the basis of complex quality criteria. All three categories can be used for both freight and passenger transport.

(5) Access I.

The Railway Act states that the infrastructure manager (the track railway or the railway company) is obliged to grant access – according to the capacity allocation process and in return for a specified fee – to the infrastructure to:

- Any domestic train-operating railway or any international grouping founded by a domestic operator;
- Any train-operating railway seated abroad in case of international agreement or reciprocity;
- Any train-operating railway seated in the EEA in order to provide international inter-modal freight transport services on the national public railway lines;
- Any international grouping founded by a railway company seated in the EEA in order to provide transit services on the national public railway lines;
- Any train-operating railway seated in the EEA in order to provide international freight transport services on the trunk railway lines.

According to derogatory provisions of the Accession Treaty, from 1 May 2004 until 31 December 2006 only 20% of the network capacity of the TERFN (which covers most of the Hungarian railway lines) can be used by railway companies seated in the EEA. From 1 January 2007, they will have access to the whole TERFN in Hungary. Until now, no EEA-seated railway company has entered the market, so the available limited network capacity is not even utilised.

(6) Access II.

The market opening in Hungary mainly resulted from the requirements of EU law and the objectives defined therein (primarily the promotion of seamless services within the European market), consequently the principles for capacity allocation and charging follow more or less the directions of the First EU Railway Package.

As the infrastructure is operated by the vertically-integrated incumbents, the capacity allocation process and the charging are managed by the CAB (formally) independently of railway companies to ensure that access is granted on a non-discriminatory basis. The TOCs apply for infrastructure capacity to the CAB. Requests for yearly timetable paths have to be filed in twelve months before the timetable period, but it is also possible to present ad hoc requests. The CAB consults the infrastructure manager and takes its decision depending on data provided by the infrastructure manager. The CAB resolution itself does not allow for track use, the TOC is obliged to conclude an access agreement with the infrastructure manager, defining the concrete terms of track use on the basis of the Network Statement and the CAB decision (thus the current regime is a negotiated access regime). The Network Statement that was worked out by infrastructure managers and CAB, and approved by the minister determines the general contracting terms and conditions for allocation and access: procedural rules together with the scheme of charging and discounts applicable. Under the access agreement the infrastructure manager is in general obliged to provide infrastructure services (provision of infrastructure elements and train control), and the TOC is obliged to satisfy the safety and traffic requirements and pay the infrastructure charge. The TOCs are to pay the settled yearly infrastructure fee in monthly instalments, while ad hoc requests have to be paid in advance.

Besides state funding and surpluses from other commercial activities of the infrastructure manager, infrastructure charges shall provide the recovery of operational costs of the infrastructure manager and infrastructure expenditure. The infrastructure charges are defined by the CAB and published in the Network Statement, which must officially be issued – in accordance with the EU legislation – at least half a year before the deadline of applying for yearly timetable paths. Infrastructure charges consist of basic, additional, ancillary and extra charges.

- The basic charge consists of a reservation fee (fix charge/train) and a charge for running of a train (dependent on performance, defined in per trainkilometre): it provides for the handling of capacity requests, the permission to use capacity, the use of the requested train path and its accessories (e.g. passing tracks, safety and signalling systems), and train control;
- At the request of the TOC, the infrastructure manager render the use of certain facilities (e.g. electricity supply, refuelling facilities, stations, marshalling yards, storage siding, maintenance and other technical facilities) possible for an additional charge: the additional charge covers in passenger transport the catenary usage fee, the charge for using of stations for stopping, the charge for access to stations for reversing directions, the charge for shunting, while in freight transport the catenary usage fee, the charge for access to marshalling yards, the charge for shunting, the charge for access to serving facilities and the charge for serving of a train;
- The charge of ancillary services: e.g. the charge for dangerous goods or the charge for extraordinary goods;
- An extra charge can be applied in case of scarcity of capacity (congestion), certain investment projects or environmental effects, but these have not been calculated yet.

The infrastructure charge can be increased or decreased by mark-ups or discounts. For combined traffic, there is no surplus calculated for dangerous and/or extraordinary consignment.

The state-owned Hungarian railway track is operated by MÁV and – to a negligible extent – GySEV. As vertically-integrated companies, they provide train services as well. Their market share in the total train traffic is nearly 100%: only incumbents participate in passenger transport, and they almost cover the freight transport market too. Half year ago three private TOCs providing freight transport and traction services appeared as competitors, but their market presence have not really changed the share-structure of the industry, since their market share is yet less than 1%. The new entrants try to offer lower prices and better service quality than the incumbents. On the one hand, they look for new businesses especially in transit traffic, on the other hand obtain businesses detriment to the incumbents. Their market entrance and few-month operation has not been without difficulty, and has certainly reflected to some critical points and brought to light inconsistencies of regulation and resistance of incumbents. The complaints already arisen mainly relate to the capacity allocation process: the non-discriminatory allocation of train paths and the conclusion (contracting terms) of access agreements. The incumbents have decisive role in the capacity allocation process, as the CAB has no other choice but to rely on data provided by the incumbent and following the CAB decision the incumbents can easily delay or render the conclusion of the agreement difficult. It is not clear from the regulation which parts of the infrastructure can be accessed by the new TOCs. In the absence of clearly defined distinction between public and private lines and rights to access to station facilities each transport is negotiated in a very time consuming process without regulatory oversight.

The minimal operation and track use of the new TOCs have not raised any concern about their impact (e.g. damage) on infrastructure.

The market opening in the Hungarian rail sector in May have not yet led to material increase in competition, but it is primarily owing to the provisional derogation won by the Hungarian government during the accession negotiations. From 2007, foreign TOCs are expected to enter the market and that might change the overall market situation for the incumbents and the small private TOCs. At present the competition problems faced by new market actors mainly result (or are thought to result) from the inadequate – only accounting and functional, but not structural – separation of the incumbents. The market effects of the non-competitive activity of MÁV seems to overweight the contingent synergies of vertical integration as it tends to eliminate the development of intra-modal competition and the general sectoral objectives.

Competition Law Enforcement

(7)

The Hungarian Competition Authority has not yet conducted any formal investigations in the rail sector.

NOTES

- 1 Act XCV of 1993 on Railway (it has been amended several times)
- 2 Joint Decree 34/2003 (V.28.) GKM-PM on the Unbundled Accounting of Railway Activities
- 3 Decree 15/2002 (II.27.) KőVIM on the Licensing of Railway Companies
- 4 Decree 51/2004 (IV.22.) GKM on the Railway Safety Certificate
- 5 Decree 67/2003 (X.21.) GKM on the Allocation of Railway Track Capacities; Decree 66/2003 (X.21.) GKM on Determining Fees for Railway Track Use

ITALY

1. Introduction

Italy has transposed all the relevant EU directives of liberalization on railways. Nonetheless, with the exception of a still limited entry in freight transport, competition has not become the driving force of market discipline. Directive 91/440/EEC on the *Development of the Community's railways*, the first and main initiative that the Community has taken to increase competition in rail, has been transposed in Italy with the Presidential Decree n. 277/1998. Other relevant directives have also been transposed into Italian legislation¹.

As regard the separation between infrastructure management and transport services, Directive n. 91/440 requires Member States to introduce an accounting separation between transport services and infrastructure management (art. 6). The approach adopted in Italy was, at first, to maintain an integrated enterprise, Ferrovie dello Stato, but forming two distinct units within it, each one with some accounting autonomy and certain financial responsibilities (Infrastructure Division and Transport Division). In 2001 Ferrovie dello Stato has been further restructured and the infrastructure management and transport operation have been divided into two separate legal entities owned by a holding company, Ferrovie dello Stato: Rete Ferroviaria Italiana (RFI) and Trenitalia. In particular, RFI is the company responsible for the design, construction, commissioning, management and maintenance of railway infrastructure. It manages the control and safety systems connected with train operations, contracts with railway companies, and draws up the timetables for the rail network. Trenitalia runs the medium and long haul passenger services, metropolitan commuter and regional traffic, and freight traffic. Table 1 provides the main statistics of the Italian rail system.

Table 9. Tab.1 – Length of the national rail network
(kilometers)

	1998	1999	2000	2001	2002
Total network	16.080	16.092	15.974	16.035	15.985
<i>(of which)</i>					
electrified	10.488	10.661	10.714	10.864	10.891
%	65,2%	66,3%	67,1%	67,8%	68,1%
non electrified	5.592	5.431	5.260	5.171	5.094
%	34,8%	33,7%	32,9%	32,2%	31,9%
single track	9.945	9.889	9.818	9.805	9.720
%	61,8%	61,5%	61,5%	61,1%	60,8%
double track	6.135	6.203	6.156	6.230	6.265
%	38,2%	38,5%	38,5%	38,9%	39,2%

Source: FS Group

No special EU provision requires horizontal separation between passenger and freight transport. Consequently, Trenitalia, beyond providing the medium and long haul passenger services, operates in freight transport in competition with other (few) operators, without any sort of separation whatsoever. It is only organized internally with three different divisions: passengers, regional and freight transport.

This report is organized along the following lines. The next section will contain a brief overview of recent developments in the organizational structure of the industry, while in the following one a description of the possibility competition can have in freight, passenger services and local transport. The regulation of network access and capacity allocation will follow in section 4. The description of the constraints in the availability of traction and rolling stock will be contained in section 5, while a brief discussion of the separation between track and train will follow. Section 7 will describe how bilateral agreements between carriers for international transport operate and section 8 will provide an evaluation of new entry in freight services on the Italian market. Section 9 concludes the report.

2. Recent developments in the organizational structure of the industry

Before 2001 Ferrovie dello Stato was a State owned vertically integrated monopolist for over 90 years. In 2001, following EU Directive 440/91, a holding company, FS, was created and Ferrovie dello Stato was split in two companies (controlled 100% by FS which in turn is controlled 100% by the Ministry of the Economy), one responsible for the track infrastructure (Rete Ferroviaria Italiana – hereinafter RFI) and one for transport services (Trenitalia). This solution fulfils the legal requirement of vertical separation because of the corporate nature of RFI and Trenitalia.

In particular FS controls:

- RFI, the infrastructure manager of the national network, which is considered as a natural monopoly. It was created on the 1st of July 2001 and received a special licence by a Minister of Transport Decree (n.138T/2000);
- Trenitalia, by far the largest Italian railway undertaking (also defined as train operating company – TOC) carrying both passengers and freight (Trenitalia Cargo, now Global Logistics) across the domestic network. It was created in May 2000 as the result of the changes in the legal framework following the European directives and soon after was granted an operating licence by the Transport Ministry;
- Other companies involved in other core and non-core activities, such as engineering services (e.g. Cesifer), real estate assets portfolio management, railway station management, provisions of road transport services integrated into Trenitalia's rail services, financial services.

The Public sector is an important stakeholder in the rail sectors, in terms of policy, regulation, financing and control. The Ministry of Transport is responsible in Italy for transport policy across modes of transport, covering road, rail, air and sea transport. With respect to the rail sector the Ministry:

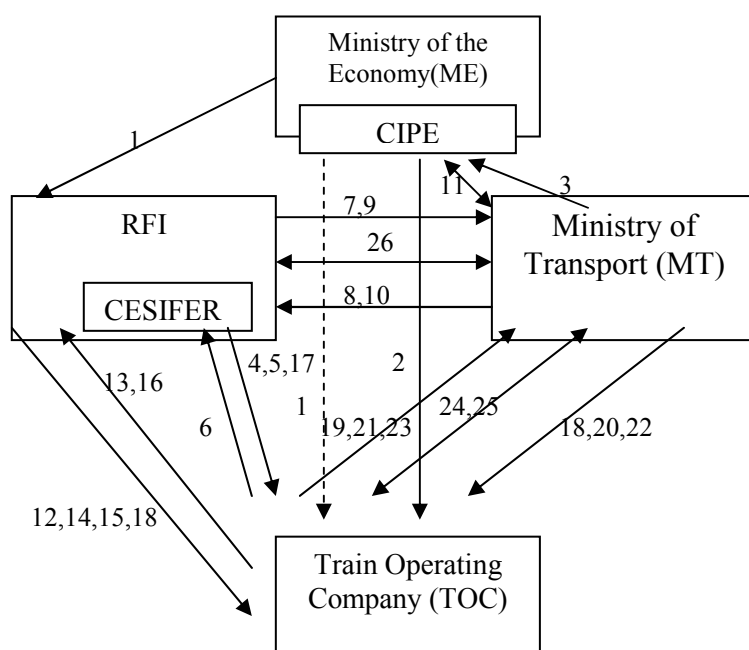
- Awards operating licences to railway undertakings;
- Defines safety standards, largely on the suggestion of RFI;
- Defines the methodology for track access charges and sets up the corresponding tariffs;
- Defines the fare schemes for passenger transport services;
- Grants public service contracts of national interest;
- Regulates the rail sector;
- Issues a technical pre-approval of all the investment plans;

–Deals with accident investigation.

The Ministry plays also a significant role in funding the rail sector, by drafting, together with RFI, a contractual agreement (Contratto di Programma) where capital investment in the infrastructure and its financing are planned for a period of five years. At the same time the Ministry decides on the contributions to be awarded for the provision of universal service obligations. Finally state subsidies for combined road/rail freight transport are awarded subject to the approval of the European Commission.

The Ministry of the Economy is first of all the shareholder of FS, and, through the Interministerial Committee on Economic Planning (Comitato Interministeriale per la Programmazione Economica, CIPE), establishes the tariff structures (i) for passenger transport services (proposed by the Transport Ministry) and (ii) for access to the national network. CIPE also approves all investment plans in the rail sector, including investment in rolling stocks, while the “Contratto di Programma” refers only to investments in the infrastructure, after a preliminary approval by the Transport Ministry. According to this institutional setting ownership and regulation are somehow separated, given that effectively it is the Transport Ministry that regulates rail services in Italy, while the Ministry of the Economy (who owns FS) has only one vote over 11 in CIPE decisions.

A graphical representation summarizes most of the relations between the players involved underlining the multiple functions and links between them².



Source: adapted from Erail - Study submitted to EU Commission, DG Transport and Energy (May 2004)

The Ministry of the Economy controls RFI and Trenitalia (1), and, through CIPE, participates in the regulatory process establishing the tariff structure for passenger transport services (2) under a proposal by the Ministry of Transport (3). RFI issues safety certificates to train operating companies (TOC) through its engineering department (CESIFER) (4) and is responsible for safety inspections of railway operations (5). TOC must show that all its rolling stock, equipment and staff operate according to all relevant requirements (6). RFI must suggest new standards to the Ministry of Transport (7) for endorsement (8). RFI must develop a framework for track access charges and send it to the Ministry of Transport (9) for

endorsement (10) through CIPE (11). RFI is responsible for publishing the approved tariffs (12) and collecting the charges (13). RFI must develop a system for allocating rail transport capacity, publish it (14) and allocate capacity to the TOC (15) while considering the TOC requests (16). RFI (CESIFER) checks (sub)systems for their compliance with technical specifications for interoperability (17), and in case of non-conformity RFI and/or the Ministry of Transport can take appropriate measures (18). In case all conditions are met, TOC can ask the Ministry of Transport for a licence to operate on the network (19). Before granting a licence, the Ministry of Transport checks that all requirements specified in Dir. 95/18/CE and Dir. 2001/13/CE are met and is obliged to provide an answer within a pre-specified period of time (20). In case of a conflict between RFI and a TOC concerning charges or capacity allocation, the TOC can ask the Ministry of Transport for a ruling (21) that the Ministry is obliged to provide within two months (22). If a TOC files a complaint concerning the process of allocation of slots (23), the Ministry of Transport will form an arbitration court to deal with the matter, which will include representatives from TOC as well (24). The Ministry of Transport and TOC can sign a contract concerning PSO (25). In the case of an accident the Ministry of Transport and RFI form a special commission for investigation (26).

3. Models of competition in the rail sector in Italy

The rail sector can be roughly divided into three main sub-sectors, each one with its own particular features in terms of prospects for competition:

- The freight market is at the moment fully liberalised in Italy (both international and national freight services), where the deadline of 2006 set by the Second European Package has been anticipated. The model chosen is a sort of mandated access within a (soft) vertical separation framework. Freight rates for shippers are not regulated.
- The long-distance passenger transport liberalization was not a priority of the First and Second European Package as competition is much more difficult to introduce than in freight, also because of the existence of public service obligations (PSOs). At the present time a domestic undertaking could operate passenger services in competition with Trenitalia only in principle since Trenitalia extensive network and the low tariffs set by CIPE make this opportunity almost a theoretical one³. On the other hand existing legislation limits the possibility of a foreign rail companies to operate domestically even through cabotage. The only way a foreign railway undertaking from another Member State can obtain access to the rail passenger transport market of Italy for the provision of international passenger transport services by entering into an “international grouping”⁴.
- Regional rail transport is part of local transport and will not be addressed in this submission. According to the latest legislative framework (December 2004), Regions should issue public tenders by January 2006, in order to choose the provider of local rail services for a period of exclusive franchising (“competition for the market”).

4. Network access and capacity allocation

Rail companies wishing to operate on the Italian railway network are required to obtain safety certification from RFI (concerning the safety of rolling stock and the technical capability of personnel) and an operating license from the Ministry of Transport.

The safety certificate granted by Cesifer, the engineering subsidiary of RFI, is limited to the specific part of the network for which an authorization was requested. In the case of a geographical extension of the service a new certificate is needed. The certificate shows that the train operating company operates a particular line or service according to the standards set out by the ministry of Transport⁵. The licence,

released by the Ministry of Transport, can refer to the entire Italian network, and is different for passengers and freight transport⁶.

Rail companies that have been granted a licence and given a safety certificate must request access rights some months before they are willing to start the new service (terms and conditions for accessing the network are fully in compliance with EC Directive 2001/14). RFI must guarantee that capacity is allocated on an equal and non-discriminatory basis, and that the allocation leads to efficient and optimal utilization of the railway infrastructure. RFI must either approve or reject requests within two months. RFI is strongly encouraged to try to accommodate all requests by new entrants and to try to rearrange schedules before taking a negative decision that access would not be granted⁷. Capacity granted to an operator cannot be transferred to another operator⁸.

Charges for accessing the rail infrastructure are calculated and collected by RFI on a non-discriminatory basis. Access charges are proposed by RFI and must be approved by the Ministry of Transport and by C.I.P.E.. Charges reflect direct and indirect costs of running railway services and energy costs. They are calculated on a "per km" basis, the parameters being applied (on a full-equivalence basis between Trenitalia and other competitors) are⁹:

- Saturation of the track in terms of trains per single track and usage intensity of nodes;
- Weight of the train;
- Speed of the train;
- Energy consumption, linked to the type of traction;
- The quality of the railway infrastructure as well as its maximum speed and technical facilities.

5. Traction and rolling stock

In order to be able to provide rail services, a rail company needs to have *traction* - i.e. a locomotive and a driver - to move the train on the network. At this stage in the process of liberalising the rail transport sector in the EU, there are a number of technical, legal and economic barriers to the provision of traction for rail transport services, especially across borders. Each national railway has adopted its own technical and administrative standards according to national requirements. As a result, there are 15 different national signalling systems and 5 different systems for electricity supply (voltage). National systems differ in their operating procedures, length of passing tracks, safety systems, driver training and information on the route. Furthermore, contrary to air transport where English is the operating language, each country uses its own language for technical communications.

The fact that different technical standards continue to exist across member States has prevented interoperability in the European market for rail services. Therefore, unless locomotives are equipped with multiple technology (multi-system locomotives), they have to be changed when crossing borders. Similar barriers also exist for drivers, who need to be informed on the route, hold a national licence and be equipped with language skills. To provide traction, a railway undertaking would have to set up separate locomotives and driver pools in every State where it wishes to operate. This can result economically non-viable below a certain level of traffic.

As for domestic routes, there are some constraints in the availability of locomotives and rolling stock for potential new entrants. A new entrant can buy new equipment but, given the fact that the Italian standard is unique (in the same way as the standard of almost every other country in the EU), the time necessary for the manufacturer to deliver new rolling stock is very often longer than the time required to fulfil the obligation to provide service once a licence has been granted. As for used equipment it is all owned by Trenitalia that could easily use this privilege and not supply its competitors. New entry, also in freight, is therefore quite difficult and is taking more time than necessary.

Trenitalia's competitors in freight claim that one of the main problems they face is the lack of availability of traction and rolling stock. It takes between 18 and 36 months to have a new train delivered and second hand locomotives are not available domestically, while foreign used locomotives would require a costly conversion in order to be adapted to the Italian standard. Furthermore Italy did not establish any organization for the leasing of rolling stock as in the UK¹⁰.

Both Trenitalia and its main competitors have recently ordered some new trains or bought second-hand ones from Poland and Slovenia (which have the same voltage as in Italy). When an operator buys a second-hand locomotive he then needs the "homologation" to use it on the national network. Apparently it takes some time for getting the homologation, as there are not clear procedural rules in place, with subsequent delays in starting new services. A potential conflict of interest originates from the fact that Certifer, a division of RFI, is in charge of the homologation, while some tests (i.e. on the engine) are performed by Italcertifer, a subsidiary of Trenitalia¹¹.

6. Separation between track and train

The introduction of corporate separation is not sufficient for eliminating the incentives of FS to behave as a single integrated company, as the European Commission recognized in the GVG case (COMP/37.685 GVG/FS)¹². The lack of full separation is particularly important with respect to freight where the opportunity for competition are much higher than for passenger services¹³. A brief overview of the access problems a new entrant would face are given below:

a) Access to tracks, stations and information

Up to now the access to the tracks and to the stations has not created any real problem for competing freight services, since the network manager RFI has been able to satisfy all requests smoothly and speedily.

b) Access to terminals, marshalling yards, refuelling points and other services

With reference to terminals and yards although they are owned by RFI, they are in practice run by Trenitalia or Multimodal Transport Operators controlled or participated by it. This might create problems for access by other railway companies - as outlined in an opinion the Italian Competition Authority submitted to Government and to Parliament in August 2003 - in terms of refusals, delays and obstacles in accessing the facilities and in the provision of rail services inside the terminal.

c) Access to maintenance services

The same may happen with maintenance, where the facilities to provide maintenance services belong to RFI, while they are run by Trenitalia. Other railway companies may be discriminated in terms of refusals, delays and obstacles in accessing these facilities.

7. Bilateral agreements between carriers for international transport

As already mentioned, an undertaking from one Member State can obtain access to the rail passenger transport market of another Member State for the provision of international passenger transport services by entering into an "international grouping". Indeed, for freight transport across borders, it is the burden of technical (e.g. availability of traction, drivers' licence) and organizational requirements (back up services, economies of network) that make some forms of cooperation among carriers in different member States necessary. Two new entrants in the freight rail service market, namely RTC and Rail Italy (now Swiss Rail Cargo Italy) had to link with Deutsche Bahn (Germany) and SBB (Switzerland) in order to develop international freight services with Germany and Switzerland. Trenitalia recently developed rail alliances

with Railion (DE) and Rail Cargo Austria (OS) for services via Brenner (“Brenner Rail Cargo” - RBC) and with Logistix, a German logistic operator with a licence for freight rail service. Trenitalia operates also Sideuropa JV with SNCF for railways transport of iron and steel between Italy and France.

8. Service providers

There are currently 35 operating licence holders in Italy, 15 of these hold a safety certificate, which gives the possibility to ask for access rights to the Italian rail network and operate rail services. Many of these licence holders operate on niche markets in freight transport (such as RTC for the routes between Italy and Germany crossing the Brenner) or are participated by the incumbent or by previous local licensees for local passengers transport. Actually, the main freight operator competing with Trenitalia are Rail Traction Company (RTC), Ferrovie Nord Cargo and, more recently, SBB Cargo Italia .Table 2 provides some indications on the recent developments of the Italian freight service market.

Table 10. Tab.2 – Freight transported by main rail providers

Tons ('000)	2001	2002	2003	2004
Trenitalia	86.478	83.209	82.120	n.d.
RTC	-	1.445	2.445	2.940
Ferrovie Nord Cargo	-	-	549	n.d.
Number of trains ('000)				
Trenitalia	205.609	207.077	n.d.	n.d.
RTC		1.556*	3.383*	4.091*
Ferrovie Nord Cargo	192	799	3.231	7.667
SBB	-	-	-	2.000*

Source: data supplied by undertakings

* estimates

The experience of these companies shows how difficult it is to operate train services cross border and the necessity for them to sign a joint venture agreement with an established operator in the country of destination. RTC operates as a pure rail company (it also provides traction) since October 2001, mainly focusing on combined transport from the North East of Italy to Germany via Brenner (in 2003 16 trains per day between Italy and Germany were operated). RTC performs directly the Italian leg of the service, up to the Brenner, while the foreign portion of the route to Germany (mainly to Munich) is operated through Lokomotion (a company headquartered in Munich holder of a railway license in Germany), a company jointly owned by RTC and by the German logistic operator Kombiverkehr.¹⁴

Ferrovie Nord Cargo Spa (FNC) operates in the international transport of goods by rail and is 100% owned by the holding company Ferrovie Nord Milano Esercizio Spa (controlled by the Lombardy Region)¹⁵. FNC is active on international routes connecting several North Italian inland terminals to destinations in Switzerland, Germany and Holland via Domodossola and Chiasso (as a competitor of Trenitalia).

SBB Cargo Italia Srl (100% owned by the Swiss national rail operator SBB Cargo AG) operates freight rail services between Switzerland and Italy via Lötschberg and S. Gottardo (as a competitor of Trenitalia)¹⁶. SBB recently won the tenders for rail services issued by the logistic operators Hupac (on connections between Italy and Germany) and Intercontainer-Interfrigo (between Italy and Belgium). Moreover it will manage the RAlpin rail connection between Freiburg and Novara. SBB actually operates around 40-50 trains per week and, due the new services, will increase services to 210 trains per week.

9. Conclusions

As in many other countries, the corporate separation of Ferrovie dello Stato did not lead to much improvements in terms of overall efficiency of rail services in Italy. The overall coverage of costs by fare revenues, remained stable at around 50% (Table 3). A decision was taken however to have the company controlling the infrastructure (RFI) keep most of the debts, so that for RFI fare revenues represent only around 20% of total costs (Table 4). Trenitalia's budget, because of the low level of access charges, is almost in equilibrium (Table 5). The low level of access revenues is not only a regulatory problem, but it also depends on the fact that the law requires RFI to cover with access charges only total costs net of depreciation charges¹⁷. Every year depreciation of the rail infrastructure is therefore unfounded and requires some sort of State intervention. A major reform of regulation would be required so as to phase out State subsidies in rail.

Table 11. Tab.3 – Financial data for Ferrovie dello Stato
(millions of Euros)

Consolidated budget	2001	2002	2003
<i>Total costs</i>	7.200	6.898	6.959
Revenues from fares	3.463	3.453	3.492
% Revenues / costs	48%	50%	50%

Source: Fs group

Table 12. Tab.4 – Financial data for Trenitalia
(millions of Euros)

	2002	2003
<i>Total costs</i>	5.172	5.169
Revenues from fares	3.357	3.358
% Revenues / costs	64%	65%

Source: Fs group

Table 13. Tab.5 – Financial data for RFI
(millions of Euros)

	2002	2003
<i>Total costs</i>	4.760	4.721
Revenues from fares	1.244	1.191
% Revenues / costs	26%	25%

Source: Fs group

The role of competition has been almost non existent in rail passenger services. On the other hand there is a great potential for competition to develop in freight and in only a few years, new competitors were able to increase service quite substantially. Overall however, given the importance of the incumbent operator, competition in freight is still in an infancy and limited to niche segments (see Table 2). Given the important regulatory role that RFI plays in authorising entry, guaranteeing conditions of equal access in freight services would require introducing a greater separation between the incumbent freight service operator and RFI. In practice this would imply privatising the freight service arm of Trenitalia. Freight

services of the incumbent operator would therefore be subject to a strong budget constraint, in analogy with its smaller competitors, thus eliminating the common practice of below costs fares.

More in general, however, in order to favor entry, a major reform would be to unify the technical characteristics of European rail, both in terms of voltage and of technical instructions for conductors, so that entry either of foreign based operators or the utilization of foreign used rolling stock would be feasible. Furthermore, especially for some services that are indispensable for entry, a stronger separation should be introduced and Trenitalia should no longer be used by RFI to provide ancillary rail services. For example, terminals and yards, although they are owned by RFI, they are sometimes in practice run by Trenitalia, making access by other railway companies more difficult. The same may happen with maintenance, where the facilities to provide maintenance services belong to RFI, while they are run by Trenitalia. Other railway companies may be discriminated in terms of refusals, delays and obstacles in accessing these facilities and obtaining the safety certification in order to operate.

NOTES

- ¹ Presidential Decree n. 146/1999 has transposed Directives 95/18 on the *Licensing of railway undertakings* and the Directive 95/19 on the *Allocation of capacity and changing of access to the railway infrastructure*; Legislative Decree n. 299/2001 has transposed Directive 95/48 on the *Interoperability of the trans-European high-speed rail system*. Legislative Decree n.188/2003 has transposed: Directive 2001/12 on the *Development of the Community's railways*; Directive 2001/13 on the *Licensing of railway undertakings* and Directive 2001/14 on the *Allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification*. Directive 2001/16 on the *Interoperability of the trans-European conventional rail system* has to be transported by 2008 and has not been implemented yet.
- ² Single functions and the different relationships between players (ownership, control, regulation, contractual) are described along the section.
- ³ The last increase authorised by CIPE was in 2001 (+5,2% in average). Italian passenger train tariffs are widely recognised among the lowest within the EU15.
- ⁴ The “Third Package” proposed by the Commission (March 2004) states that from 1 January 2010, railway undertakings which have a licence and the required safety certificates should be able to operate international services in the Community. It is proposed that operators be permitted to pick up and set down passengers at any station on an international route, including stations located in the same Member State. This has been organised in such a way as to safeguard the economic equilibrium of public service contracts which could be affected by this, while at the same time not placing exaggerated constraints on the operating conditions of new international operators. This additional phase in the setting up of an internal market for rail services comes at a time when traditional international rail services are facing increasing pressure from low-cost airlines.
- ⁵ The railway undertaking states that the personnel in charge of operating and accompanying the train used for the services possess the education and knowledge necessary to meet the safety and operational requirements imposed by RFI. The train operating company also states that the rolling stock has been registered, certified and subjected to all checks prescribed. RFI (Cesifer) will check regularly the conformity to the safety standards, and can revoke a certificate. Safety certificates can take between three and nine months to be processed, on the basis of technical compliance of applicants and cost circa €30,000 (source: Steer Davies Gleave, 2004).
- ⁶ Within three months of the application, the M.T. shall issue the licence. If it decides to deny the licence, it must issue a written explanation within the same period. The licence must indicate what type of national/international railway services the TOC will provide (if international the licence is valid in every EU country).
- ⁷ In the process of capacity allocation RFI gives priority to (i) services that satisfy the mobility needs of citizens as indicated by Public Service Obligations; (ii) high-speed services that make use – even partially – of dedicated infrastructures, or freight services that use lines that are constructed for that very purpose; (iii) Services that operate on a clock-face timetable; (iv) services that contribute to realise a coherent national service.
- ⁸ TOCs and international transport consortia have the option to appeal against RFI’s decisions on capacity allocation or charging.
- ⁹ Coefficient may be applied in order to internalise external effects of train traffic. A lowering of user charges can for instance reflect rail transport’s comparatively low impact on the environment.
- ¹⁰ The problems incurred in managing the scarcity of locomotive and rolling stock has been investigated by the Italian Competition Authority that within an opinion submitted to Parliament, the Government and the

Regional Governments regarding the procedures for procuring rolling stock for the provision of local rail transport services through public tenders (June 2003, opinion S541).

¹¹ FS itself recognized that RFI has not all the skills and facilities to grant the homologation certificate.

¹² On 25 August 2003, the EU Commission has adopted the decision which recognized three abuses of dominant position in breach of Article 82 of the EC Treaty, put in practice by Ferrovie dello Stato S.p.A. (FS) against Georg Verkehrsorganisation GmbH (GVG), a Community railway undertaking providing international rail passenger service between Germany and Italy on the Domodossola-Milan route. In particular the abuses refers to the refusals *(i)* to enter into an international grouping with GVG (abuse of dominant position on the Italian market for passengers freight transport), *(ii)* to deal effectively with GVG's requests for access to the railway network between Domodossola and Milan (abuse of dominant position on the market for access to the infrastructure), *(iii)* to provide traction to GVG in the form of a locomotive, a qualified driver with route knowledge and back-up services (abuse of dominant position on the tractionmarket). These behaviours prevented GVG from entering the market in international rail passenger transport.

The Commission didn't impose any fine because of the novelty of the case, as GVG has been the first and only new entrant railway undertaking to approach FS with a view to forming an international grouping. Moreover, FS has proposed undertakings which ensure that FS will not repeat the abuses in the future and which should contribute significantly to the dismantling of entry barriers for international rail passenger services into Italy.

¹³ The following points are the result of empirical surveys, press releases and interviews with rail service undertakings.

¹⁴ The shareholders of RTC are: Società di Trasporti su Rotaia (48.57%), which is 88% owned by Autostrada del Brennero; Ferrotramviaria S.p.A. (24.29%), a private company that constructs and operates transportation services (e.g. the Bari-Barletta railway under a concession from the Ministry of Transportation); SAE S.p.A. (12.14%), a multi-modal operator; Reset 2000 S.r.l. (10%) a company active in investment and management operations in the transportation sector; Fercam S.p.A. (5%), a multi-modal operator.

¹⁵ Since August 2003, FNC is a separate company belonging to the holding Gruppo Ferrovie Nord Milano (before it operated as a division of Gruppo Ferrovie Nord Milano). The various companies of Gruppo Ferrovie Nord Milano operate in the fields of *(i)* transport of passengers by railway and by road (Ferrovie Nord Milano Esercizio, Ferrovie Nord Milano Trasporti and Ferrovie Nord Milano Autoservizi), *(ii)* goods (Ferrovie Nord Cargo, Eurocombi and Cargo Clay), *(iii)* airport passenger transfers (Malpensa Express), *(iv)* transport by helicopter and territorial aerial monitoring (AvioNord), *(v)* engineering and designing transport and infrastructures (Ferrovie Nord Milano Ingegneria), *(vi)* telecommunications (NordCom) and *(vii)* energy (Nord Energia).

¹⁶ On the Basilea-Lötschberg-Domodossola route SBB Cargo Italia Srl has a share of 21% in terms of number of trains, while on the Basilea-S.Gottardo-Luino/Chiasso reaches a share of 72%.

¹⁷ See article 17 of Legislative Decree 188/2003 which transposes EU Directive 2001/14.

JAPAN

1. Overview of the Government's Policy for the Rail Industry

The major objectives of the Japanese government's policy for the rail industry can be summarized as follows;

- Development of a national railway network which can provide convenient and high quality service,
- Promotion of railway development designed to meet the new demands of the society, and
- Efficient and prioritized implementation of railway development.

In order to pursue the policy objectives above, the Japanese government has been adopting policy measures designed to support the railway companies' construction projects or those for service improvement under such programs as the urban railway development subsidies regime or the legal and financial scheme to make railway facilities more accessible to handicapped and disabled passengers.

2. The Rail Industry and Its Regulatory Authorities in Japan

There are three categories of railway companies which provide passenger services on a relatively large scale in Japan.

- Six Ex-National Railway Companies (JR companies)

When the national railway was privatized in 1987, its passenger services were divided into six regional companies. (JR Hokkaido, JR East Japan, JR Central Japan, JR Western Japan, JR Shikoku and JR Kyusyu)

- Major Urban Railway Companies

Fifteen private companies are operating passenger services in the four largest metropolitan areas, which are Tokyo-Yokohama, Nagoya, Kyoto-Osaka-Kobe and Fukuoka.

- Subway Systems in Major Cities

There are ten subway systems in major cities. Nine of them are being operated by the municipalities, and the other, Tokyo Metro, previously a government-funded corporation, was recently privatized.

The Japan Freight Railway (JFR) is the only company which provides freight services across the country, by using tracks belonging to the six regional JR companies. The JFR was established through privatization of the freight services unit of the national railway.

These railway companies are subject to regulations implemented by the Ministry of Land, Infrastructure and Transport.

3. Rail Industry Reform

The most substantial rail industry reform in Japan was the privatization of the Japan National Railway (JNR), which was put into effect in 1987.

- JNR recorded a loss in 1964 for the first time in its history and did not return to profit after that year. The annual deficit exceeded one trillion yen in the 1980s and the situation worsened to the extent that government subsidies could no longer cover JNR's interest payments on its debt. After 1981, JNR repeatedly raised its fares with a view to increasing its operational revenues but these fare hikes just led to a decreased number of passengers. Finally, the government decided to introduce a drastic reform package designed to transform JNR into new business entities with the capability to compete in the market economy. It was expected that the privatization of JNR would also have a revitalization effect across the rail industry.
- With regard to the "vertical separation" question, the privatization package chose an approach which made each of the newly privatized companies responsible for the management of train operations and the maintenance of its own infrastructure. On the other hand, the passenger service unit was divided into six companies on a region-by-region basis.

4. Japanese Government's Stance on "Vertical Separation" in the Rail Industry

The Japanese government has begun to take advantage of the "vertical separation" concept in its policy concerning the development of railway infrastructure. The basic ideas behind the concept were presented through the policy recommendation in 2000 by the Transport Policy Advisory Committee, which function was to examine and make recommendations for the Transport Minister on important policy issues. An excerpt and supplementary explanation are as follows:

- An initiative by the private sector should primarily play a leading role in projects to construct or improve railway infrastructures. However, for projects which the government should prioritize based on policy consideration, it is essential that the public sector actively support promotion of these projects by providing subsidies or other types of financial assistance to the development company jointly funded by the public and the private sectors. It is expected that the public sector can supplement the private sector's initiative appropriately through such financial assistance.
- Furthermore, when the approach described above does not work well, it is necessary to introduce the "vertical separation" concept into the railway infrastructure development. There are two types of development finance schemes based on this concept.

Vertical Separation for Recovery of Infrastructure Development Cost

Under this scheme, a public organization or an organization funded by the public sector constructs a railway infrastructure and, after the completion, provides this infrastructure for train service operations by a private company in return for payment to recover the construction cost. Although the infrastructure is owned by the public or publicly funded organization during the period for the cost recovery, the ownership goes to the operating company when all the scheduled payments are finished. As the construction project can be started only after agreement between the public or publicly funded organization and the operating company is made on all the conditions relating to it, the operation company is specified from the beginning.

Vertical Separation for Developing and Owning Infrastructure by Public Sector

Under this scheme, a public organization constructs a railway infrastructure by using its own financial resources and, after the completion, provides this infrastructure for train service operations by a private company in return for an agreed level of regular payment. This payment is not designed to entirely recover the construction cost and the constructed infrastructure continues to be owned by the public organization. As the construction project can be started only after agreement between the public or publicly funded organization and the operating company is made on all the conditions relating to it, the operation company is specified from the beginning.

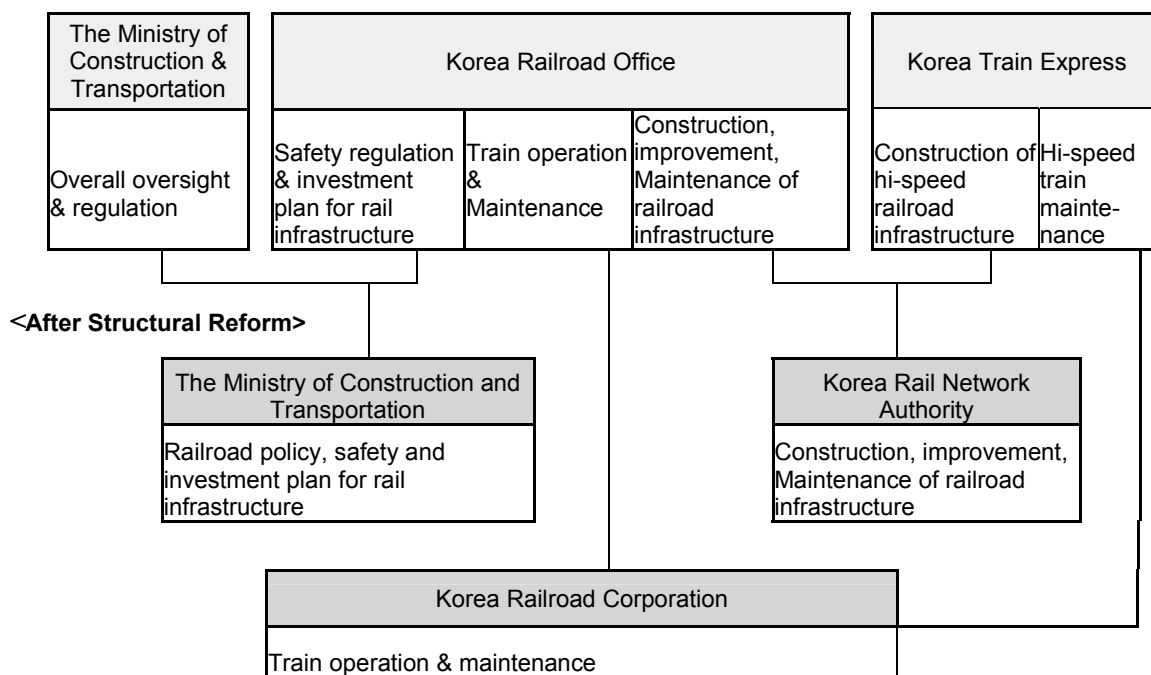
The two types of financial schemes for railway infrastructure construction have already been utilized in some railway construction projects in Japan. For example, two projects for construction and extension of urban railways in the Osaka area have been promoted under the financial scheme as described in 2) a) above. On the other hand, the scheme as described in 2) b) above has been particularly effective in promotion of the projects for the bullet train (Shinkansen) network extension. So far tracks and other specific facilities for approximately 340 km have been completed and have become available for services by regional JR companies and an additional 400 km is under construction using the same scheme.

KOREA

I. Overview of the Rail Sector

In the past, the Korea Railroad Office had owned, managed the railroad infrastructure and operated the rail trains. However, recently, the infrastructure part and operation part were separated through structural reform in the rail industry. The railroad infrastructure, such as track, electricity and signal are state owned while the Korea Rail Network Authority oversees infrastructure management, integrating the overall railway routes. On the other hand, the Korea Railroad Corporation provides both passenger and freight transportation service, owns and manages management facilities, such as railway station, and trains. The Ministry of Construction and Transportation and the Korea Rail Network Authority is responsible for Maintenance and improvement of railroad infrastructure. In order to improve the safety of train service through strengthened interface of the railway, the work on the maintenance is undertaken by the Korea Railroad Corporation through contract between the Korea Rail Network Authority and the Korea Railroad Corporation.

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The Ministry of Construction and Transportation, a government ministry, is monitoring the railroad work, and regulating the charge and access rights. The Korea Rail Network Authority, in charge of infrastructure management, is 100% state owned non-profit special entity, established by the Special Act to perform the national work as agency. The Korea Railroad Corporation is public corporation, 100% financed by the government.

Before the structural reform, the railroad industry in Korea had suffered from recession, including reduced demands and chronic deficits, by losing its competition with other transportation methods, such as bus and airline. With the clear recognition, the discussion on its structural reform was launched in 1980. Based on the result of analyzing business management of the Korea Railroad Office in 1998, the government decided to pursue structural reform in May 1999. Through in-depth discussion of the deliberation committee on railroad industrial structure and the result of implementation work, reform has been carried out. In this process, structural reform has faced difficulties in compromising among different interests such as employment succession and retirement fund by labor union.

The publications related to the structural reform in the railroad industry include “Development of Implementation Method of Structural Reform (2000, the Samil PricewaterhouseCoopers)”, “Rail Track Usage Charge relative to Rail Structural Reform, Public Service Obligations, How to Establish Construction Investment System (2002, the Korea Transport Institute, the Korea Maritime Institute)”, and “Structural Reform of the Railway Industry relative to Measures to improve the safety regulation system (2002, the Korea Railroad Research Institute)”.

II. The role of Competition and Regulation

There is no internal competition in the railroad industry on the railroad transportation service, only existing the inter-model competition with other transportation modes, such as cars, bus and airlines. However, in case of the routes, which the Korea Railroad Corporation suspended or abandoned the operation, and newly set up, new entrant of rail operation is possible by getting an approval from the Minister of Construction and Transportation. Therefore, potential competition environment is created. If this is the case, there will be a competition between companies providing railway transportation service on the state-owned railway infrastructure. As there has not been any substantial competition so far, it is hard to analyze its influence on price or productivity.

There are two regulations against the railway industry, the entry regulation and price regulation. Before the Korea Railroad Office became the Korea Railroad Corporation, the Korea Railroad Office monopolized the state-owned railroad. Private participation was allowed only for the exclusive railroad, which the private sector individually installs and operates to perform its own goal depending on the demands.

After transferring into the Korea Railroad Corporation, participation into the railroad transportation operation has become possible by getting an approval from the Minister of Construction and Transportation. However, in effect, participation into the routes operated by the Korea Railroad Corporation is restrained while it is possible to participate in the routes, whose operation is suspended or abandoned by the Korea Railroad Corporation.

So far, the railway charge has been set by getting an approval from the Minister of Construction and Transportation. However, from July 2005, it is scheduled to be changed to the system reporting its upper limits (price cap). In other words, the Minister of Construction and Transportation just set and notifies the upper ceiling of charge. Within that range, the railway manager can voluntarily report the set price.

Under the Korea Railroad Office, the government subsidy to the railway sector had been supported from the government’s general accounts based on the principle of balanced budget of revenue and expenditure. Under the Korea Railroad Corporation, based on the compensation contract with the government, the government subsidy can be paid only to the service that can be regarded as public, such as operation of the route in remote place, and discount in charge under the law. The government finances the construction costs for the railroad infrastructure, such as the track, as they are state-owned. A train operator

such as the Korea Railway Corporation pays the fee for using the track through the contract on usage of the track.

III. Vertical Structural Issues

Social infrastructure, such as railway track, is divided into general railway and super hi-speed railway. The super hi-speed train refers to the one that can run at above 200km per hour while the others are defined as general train.

Both general railway and hi-speed railway are state-owned in terms of their infrastructure while the Korea Rail Network Authority is in charge of construction work and infrastructure management work. The Korea Railroad Corporation provides the rail service by using the track.

The party managing and owning the track allows train operators such as the Korea Railway Corporation providing passenger and freight service to have an access to the track based on the contract using the track. The reason for opening the access to the track is to promote the quality of railway service and to prevent any inefficient business management arising from moral hazard, by creating competition environment.

The access to the track is carried out based on the procedure of contract on using the track pursuant to the Railway Industry Development Act. The contract parties include the Korea Rail Network Authority and the Korea Railway Corporation. The period of contract is less than 5 years while the usage fee for track is set within the total amount of maintenance and repair of infrastructure based on the consultation between the government and the Korea Rail Network Authority.

The track allocation is set by the consultation between the contract parties based on the guidelines to allocate the track notified by the government and needs to get a final approval from the government (Minister of Construction and Transportation).

The improvement work, such as double tracking the line and making the line for electric railway, is undertaken by the Korea Rail Network Authority while the maintenance and repair of the infrastructure are covered by the Korea Railway Corporation under the government's support.

The standards for fee in using the track are different for general railway and hi-speed railway. In case of the general railway, the fee is set by the consultation among the government, the Korea Rail Network Authority and the Korea Rail Corporation within the total amount of maintenance and repair of the facilities (in 2005, 70% of maintenance and repair of infrastructure). On the other hand, as 65% of construction cost is financed by debt for hi-speed railway, the fee for using the track is set within the scope to finance the construction debt and maintenance and repair costs of infrastructure for 30 years. In this case, the double charge or the peak time charge is not applied.

Based on the principle of separation of operation and ownership, railway service using the track is provided by the Korea Railway Corporation, which does not own nor manage the track. The Korea Railway Corporation, which provides the railway transportation service, manages the assets such as trains and operates the routes succeeded from the past Korea Railway Office. So far, there has not been any participation of the new corporation in train operation

IV. Competition Law Enforcement

By 2004, the railway had been managed as a state monopoly based on the Railway Act and the Special Act on the Management of the State-owned Railway. Therefore, there was no application of competition law. As it is only in 2005, when the Korea Railway Corporation has come to provide the

railway transportation service and the access to the track by the third party comes to be allowed, there is no application case of the competition law to date.

As infrastructure, such as the track, is owned by the government rather than the private company, and the access to the track is controlled by the government, there is no concern over the refusal of access.

MEXICO

Introduction

Mexico's rail network is mainly used for freight service. It consists of three regional, vertically integrated companies and a number of short lines. Until railroad privatisation, Ferrocarriles Nacionales de Mexico (FNM) was the exclusive operator of the railroad system. By the early 1990's many of its operational indicators pointed to inefficiency, low levels of safety, overstaffing, and low productivity. In 1997, FNM was divested and operational control and ownership of most railways were transferred to the private sector.

Before privatisation got underway, there were a number of hurdles that required a solution.¹ One of these was FNM's severe economic burden arising from the payment of wages, salaries, and pensions to an excessively large staff. Divestiture required significant changes to its labour agreements and obligations that would allow the government to grant railroad concessions without passing on any economic burdens to private investors. It is estimated that restructuring cost the federal government \$37,202 million pesos in 2002 (about US\$3.3 billion).²

The relative success of restructuring in the railroad system may be demonstrated by productivity enhancements. The share of traffic lost in favour of road freight transport, for example, recovered. The sector's overall performance is positive as measured by the quality of the service delivered to users, lower tariffs, and the elimination of a fiscal deficit.

On the negative side, important inefficiencies have arisen, including a large number of regulatory conflicts and an absence of effective intra-modal competition in interlinear traffic. Private disagreements among concessionaires have now turned into complaints brought before the sectoral regulator and the Federal Competition Commission (FCC or Commission) as well as into private litigation pursued in courts. Over the last few years, the Commission has issued opinions on regulations and reviewed a number of cases involving mergers, competition conditions, and anticompetitive practices in the sector.

There is now an urgent need to develop a detailed scheme for defining access payments and conditions and to ultimately encourage intra-modal competition. It is also urgent to design an adequate regulatory framework that ensures certainty to concessionaries and that more effectively mediates or resolves conflicts among concession holders. The solution should contemplate the creation of a strong independent regulator to oversee the sector.

Regulatory framework

Privatisation required changes to the legislation that would allow private ownership of railways. The process began with Congress's approval of changes to article 28 of the Constitution allowing private participation in the sector in February 1995. Sectoral legislation was issued in April and the guidelines for privatisation were published in November. Finally, in June 1996 the National Commission for Foreign Investment determined that foreign capital investment in the sector could exceed 49%, with some exceptions, and subsequent sectoral regulation was issued in September.

The current regulatory framework for the sector is based on the following: article 28 of the Constitution; the 1995 Railroad Services Law (RSL) and the 1996 Regulations to the RSL (RRSL); the concession titles; and several secondary regulations containing both administrative and technical elements. There is no independent regulator for railroads, and sectoral and competition authorities collaborate on a case-by-case basis. The Ministry of Communications and Transport (SCT), through its General Directorate of Tariffs, Railways, and Multi-modal Transportation (DGTTFM), is responsible for regulatory policy and administration in the sector.

The FCC, charged with enforcing the Federal Law of Economic Competition (FLEC), its Regulations (RFLEC), and various sectoral law provisions, acts independently of the SCT in three ways. First, since the FLEC fully applies to this sector, it reviews mergers, investigates claims of anticompetitive behaviour, and opens its own investigations into monopolistic practices that can be potentially damaging to the competition process. Second, sectoral regulation empowers the Commission to give opinions regarding competitive conditions in the sector, which may trigger subsequent regulation by the SCT. Finally, the FCC can issue non-binding opinions on current and proposed changes to sectoral regulations.

Although the regulatory framework covers various aspects of railway operation, this section will concentrate on entry and cross-ownership controls because of their impact on market performance. It will subsequently review access conditions and pricing.

Entry and cross-ownership controls

The RSL regulates entry to the market and subjects it to a license regime managed by the DGTTFM. Concessions are required to operate rail infrastructure and provide railroad service, while permits are required to supply auxiliary services and facilities, including maintenance and the building of access points, crossroads, and bridges. Concessions require holders to provide both bundled and unbundled services. Holders must be majority-owned Mexican firms as foreign investment is limited to 49% of the concessionaire's capital.³

Concessions to operate existing facilities were allocated through public tenders, except for a few that remain under government ownership either because they are financially unviable or because there are social objectives that need to be pursued. The concession to build and/or operate new facilities is granted at the request of an applicant, but once two or more parties submit this request it must be allocated through a public tender. Total or partial cession of concessions and permits is subject to approval by the SCT. Prospective bidders and buyers of a concession must fill out an application before the SCT, which, among other things, requires the FCC's favourable opinion.

Merging parties must obtain, independently, the authorisations of the SCT and the FCC. Under the FLEC, all mergers and asset acquisitions must be notified if they exceed pre-established sales and/or asset thresholds. In the case of the SCT, it authorises the transfer of ownership after ensuring that the acquiring party is able to shoulder the investment and other obligations.

The concessions of the three trunk lines prevents holders from acquiring more than 5% of other regional companies and requires them to provide competitive access at specific points included in each title. Railroad carriers are not barred from building and operating new facilities once they obtain the respective concession, nor do they face restrictions to participate in other transport sectors.

Access conditions

In order to create a non-stitched system, the regulatory framework established four types of mandatory and voluntary access conditions for rail facilities: terminal services, interconnection services, haulage rights, and trackage rights (for a detailed definition see Box 1). Terminal and interconnection

services established in the concession's titles are mandatory, and together with trackage and haulage rights, they may be bilaterally negotiated between private operators, with the SCT reserving the right to intervene if no agreement is reached within 90 days.⁴ At present, the SCT has imposed 62 mandatory trackage rights in specific routes included in the concessions, and has left open the possibility of establishing additional trackage and haulage rights at the end of the concessions if it considers it necessary. So far private parties have not agreed on new rights and there are no mandatory or voluntary haulage rights.

Box 10. Access rights

Terminal services include the railroads' terminal functions, loading and unloading, and shipment monitoring.

Interconnection services include the interchange of railroad equipment, interlinear traffic among concessionaires, movements, transfers and any other activities that must be undertaken to ensure the continuity of railroad traffic and the delivery or return of the respective railroad equipment to its origin or destination, including terminal services.

Trackage rights allow concessionaires to pass their trains and crew through the rail tracks of another concessionaire, after paying the corresponding fee.

Haulage rights allow concessionaires' freight cars to be hauled onto another concessionaire's rail tracks, using the locomotives of the latter concessionaire, and covering the corresponding fee. The concessionaire holding the haulage rights is the one who establishes the commercial relationship with the shipper.

Source : 1995 RSL and 1996 RRS�

Maximum tariffs for railroad services are freely set by concessionaires, they must be applied on a non discriminatory basis, and do not require parties to rely on costs for their determination. Regulations allow confidential contracts at rates below the registered maximum tariff,⁵ and tariff regulation only applies when there are no reasonable competition conditions. Under sectoral regulation, effective competition is considered to exist when there are at least two providers of railroad services or two modes of transport along the same route or along alternative routes, provided they can be considered feasible alternatives. When the SCT or any of the affected parties consider that there is no effective competition, the FCC's opinion is requested, and if confirmed, the SCT regulates tariffs.⁶ Under the FLEC, the FCC considers that those conditions do not exist when there is substantial market power.⁷ Thus, the FLEC uses a wider criteria for analysis of effective competition than does the RRS�.

The regulatory framework does not precisely define the terms and conditions to set trackage rights and interconnection services, nor does it favour particular tariffs to promote interlinear traffic when alternative transport routes exist. Instead, access regulations were designed to resolve occasional carrier disputes based on the hypothesis that the regional division of the railroads, the inclusion of trackage and haulage rights, and interlinear traffic would introduce enough intra-modal competition so that the intervention of the sectoral regulator would only be necessary by exception. Additionally, railroad concessionaires were subject to the FLEC, so that anticompetitive activities would be monitored and, wherever necessary, sanctioned by the FCC.

In case of disagreement on access conditions the regulatory framework contemplates the possibility of setting fees for access services. In this case, the SCT must consider the following elements, among others: maintenance and operating costs, the incremental costs associated with traffic interference, amortization of investment of the related infrastructure, and a reasonable profit for the access provider.⁸ In the case of the haulage rights, the fees will also include haulage costs. In elaborating the basis for tariff regulation, the SCT must request the FCC's opinion.

A result of the current regulatory framework has been that disputes over access terms and conditions between carriers have exceeded the scope of the legislation. To address this problem, the SCT, through its DGTTFM, has issued a number of resolutions aimed at resolving carrier disputes over conditions and fees for interconnection and terminal services, as well as for the use of trackage rights in general and for specific routes. However, none of these resolutions have been implemented since the parties to these disputes have initiated *amparo* and fiscal nullity suits.⁹

Market Structure

Market designers, including the FCC who participated in this process¹⁰, regionally divided FNM's assets and operations into three route-based vertically integrated companies that could each serve major urban and industrial areas and ports,¹¹ a Mexico Valley Terminal where all trunk-lines would converge, and several short lines. The regional division of FNM sought a balance between: i) competition among several concession holders; ii) operational economies; iii) responsiveness from regional markets; iv) optimal number of connection points with other railroads to avoid inefficiencies and rising costs; and v) economic feasibility for investors.

The second stage of the privatisation process involved the sale of government-owned shares through a public bidding process with the concession title going to the highest bid. Concession titles for each railroad were awarded for 50-year periods, extendible for a similar period under certain conditions, and each title allowed its holder to manage and operate existing assets, and, if needed, build new lines after receiving authorisation from the SCT. The different trunk lines, including the three regional companies that operate the main trunk-lines, are listed below:

- *Northeastern Railroad (FNE)*: The railroad's core business is international transport: 60% share of international traffic. It transports 38% of the total domestic freight by rail. The concession holder is *Transportación Ferroviaria Mexicana (TFM)* whose ownership structure is as follows: Kansas City Southern Industries (KSC) 29.5%, Grupo TMM 50.5%, and the federal government 20%.¹² This railroad connects Mexico City and Monterrey with border cities, as well as the ports of Tampico and Veracruz in the Gulf of Mexico and Lázaro Cárdenas in the Pacific coast.
- *North Pacific Railroad (FPN)*: The railroad's core business is national: 62% of its traffic is domestic, accounting for 35% of total domestic freight by rail. Ferrocarril Mexicano (Ferromex) has the concession to provide freight services. It is owned by Grupo México 74% and Union Pacific 26%, and connects the border cities of Ciudad Juárez, Piedras Negras, Nogales and Mexicali with Mexico City, Guadalajara, Monterrey and Pacific Coast ports such as Mazatlán, Guaymas and Manzanillo and the ports of Tampico and Altamira in the Gulf of Mexico.
- *Southeastern Railroad (FSE)*: Ferrosur has the concession to provide freight services for the Southeastern Railroad. It is a subsidiary of Grupo Carso, and mainly connects Mexico City with the ports of Veracruz and Coatzacoalcos.
- *Mexico Valley Railroad Terminal*. This independent firm is in charge of yard and freight transfer operations, and is jointly owned in equal parts by each of the regional firms (25%) and the federal government (the remaining 25%).
- *Short local railroads*. Complementary lines in the system that connect to the three trunk-lines, have low traffic density or local or specialised traffic, which could attract smaller firms or that, in some cases, would require subsidies in order to operate.

Since privatisation the sector has registered some consolidation activity (in the terms allowed by the concessions).¹³ The stated purposes for the transactions have been varied, ranging from corporate restructurings aimed at reducing administration costs, to changes in ownership, and efficiency-enhancing associations among concession holders. Below is a brief summary of some of the most relevant merger notifications that the Commission has reviewed in the sector.

FNE: corporate restructuring and capitalisation

In June 1997 the Commission received notice of a corporate restructuring in the group of firms headed by Kansas City Southern Industries (KCS). The aim of the transaction was to facilitate management of firms headed by KCS. Since KCS would maintain its 49% stake in Grupo TFM through its subsidiaries, the FCC determined that the relevant market would not be affected and authorised the transaction.¹⁴

In August 2000, the CFC received notice of an increase in the capital of TMM Multimodal, SA de CV (TMM Multimodal), issued by EMD Holding Corporation (EMD). TMM Multimodal participates in the market for railroad transportation through its subsidiaries TFM Terminal Ferroviaria del Valle de México, Mex Rail, and Texas Mexican Railway. The transaction was authorised.¹⁵

In July 2002 TFM acquired the shares of Ferrocarriles Nacionales de México and Nacional Financiera, enabling the Federal Government to sell its participation in Grupo TFM. The Commission authorised this transaction.¹⁶

In April 2003, KCS acquired shares of Grupo TFM, property of TMM Multimodal. The transaction also involved the acquisition by Grupo TMM of KCS shares, and the change in its name to Nafta Rail Corporation. Although the transaction would give KCS control of TFM and Grupo TMM would maintain a minority stake of KCS, the structure of the Mexican Railroad System would remain unchanged. Based on the analysis, the Commission authorised the transaction.¹⁷

FPN: corporate restructuring

In August 2000, Grupo México, SA de CV (Grupo México) notified the CFC that it would divide its mining and railroads operations. The transaction included the creation of Infraestructura y Transportes México (ITM), who would take control of Grupo Ferroviario Mexicano and Líneas Ferroviarias de México, both subsidiaries of Grupo México. The Commission authorised the transaction.¹⁸

Ferrosur: change of ownership

In August 1998 the Commission received notice of a merger whereby Triturados Basálticos y Derivados (Tribasa), the holder of the concession title for FSE, transferred shares to its subsidiary, Ferrosur, SA de CV (Ferrosur), and Sinca Inbursa (Sinca), a subsidiary of Grupo Carso, SA de CV (Grupo Carso), acquired a minority stake in Ferrosur. The aim of the transaction was for Sinca to capitalise and modernise the railroad's infrastructure. The Commission authorised the transaction.¹⁹

In July 1999, the Commission received notice of a merger between Frisco, SA de CV (Frisco), a subsidiary of Grupo Carso, and Tribasa. Through this operation Frisco acquired a majority share of Ferrosur, and Grupo Carso acquired control of Ferrosur through its subsidiaries, Frisco and Sinca. The Commission authorised the transaction as none of the other subsidiaries of Grupo Carso participated in the Mexican railroad system.²⁰

Ferromex and Ferrosur: association²¹

In February 2002, the Commission received notice of an association between Ferromex and Ferrosur. The aim of the transaction was to allow Ferromex to provide more seamless and continuous services to its clients between the Port of Veracruz to the US border. The operation also sought to take advantage of operative synergies.

The analysis determined that the relevant service was national freight railway transportation and noted that the merged agent resulting from the operation would be able to acquire substantial power in the relevant market and would be able to unilaterally fix the price and supply of the service. In fact, the new agent would be able to increase the access price to the majority of the Mexican railway system.

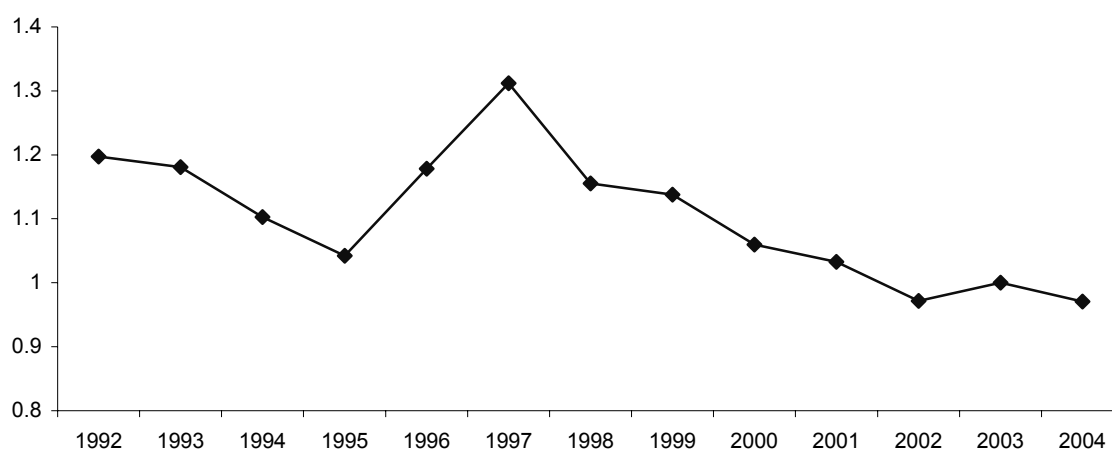
Entry barriers for the provision of this service were also reviewed, and include: i) a concession granted by SCT; ii) trackage and haulage rights; and iii) limits to foreign investment. Possible substitutes for the relevant service were also considered. In the case of intra-modal substitutes, the CFC determined that there is some substitution between two railway companies for freight services in routes with the same origin and destination points. It also reviewed possibilities of source competition between railways, but took into account that this intra-modal competition is currently limited by disagreements among concessionaires regarding the price for trackage and haulage rights. In the case of inter-modal substitutes, these depend on the volume, distance, and value of freight. The advantages of railway services vis-à-vis road transport are greater as the distance and volume increase and the value of goods decreases; in addition, maritime transport may only be a partial substitute for railways.

Based on these considerations and in light of the current disagreements between Ferromex and TFM, the Commission considered that the intended efficiency gains would most likely be offset by a deterioration in competition conditions that would not benefit consumers. It decided not to authorise the transaction and, although this decision was subsequently appealed, the Commission confirmed it.

Market Performance

As can be seen in Figure 1 and Table 1, following privatisation, real freight railroad tariffs have fallen and other indicators show significant improvement since privatisation.

Figure 1: Railroad Transportation Price Index relative to the Producer Price Index, 1992-2004



A comparison of the main operational indicators for Mexican railroads prior to privatisation in 1995, and those observed in 2003 shows that railroad production has substantially increased: transported tons increased by 62%, and ton-km by 44%. These increases have brought along important savings in the majority of resources, resulting in unprecedented productivity increases. Staff productivity, for example, rose by 393%, locomotives by 59%, cargo cars by 50%, fuel by 21% and traffic density by 44%. Available service quality and safety indicators registered by the SCT also feature important improvements: damage suits per thousands of ton-km fell by 50% and accidents came down by more than 70%.

Table 14. Table 1: Operational performance²²

Concept	1995	2003	Variation
Resources			
Rail (km)	26,613	26,662	0%
Locomotives	1,400	1,269	-9.4%
Locomotives power (thousands HP)	3,774	3,770	0%
Freight cars	35,042	33,635	-4%
Staff	46,683	13,614	-71%
Fuel (million litres)	533	629	15%
Freight traffic			
Tons (thousands)	52,480	85,167.9	62%
Tons-km (millions)	37,613	54,132	44%
Operational Efficiency			
Ton-km/personnel (thousands)	806	3,976	393%
Ton-km/locomotive (thousands)	26,866	42,657	59%
Ton-km/freight cars (thousands)	1,073	1,609	50%
Ton-km/fuel litres	71	86	21%
Gross Million Ton-km/locomotive	66	86	30%
Power per locomotive (HP)	2,696	2,971	10%
Traffic density			
Ton-km/track Km (thousands)	1,413	2,030	44%
Service quality			
Loss and claims/thousand of ton-km	4.4	2.2	-50%
Safety			
Accidents without human losses	2081	566	-73%
Accidents involving human deaths	37	2	-95%

Notes: Fuel figures exclude passenger trains.

In spite of these improvements, investments in infrastructure and railroad equipment have remained unchanged; for example, average annual investment for the periods 1990-1996 and 1997-2003 are practically the same.²³ This suggests that productivity enhancements following privatisation cannot be attributed to the elimination of a budget restriction. Rather, investment has been more focused towards increasing productivity by modernising locomotives, acquiring specialised equipment, upgrading operation systems and logistics, strengthening freight capacity of trunk lines, and improving border crossings.

Railroads' enhanced competitiveness relative to road transport has enabled the sector to recover part of the market share lost before privatisation. Between 1996 and 2004, the volume of land freight transport rose from 442 to 513 million tons, a 2% average annual increase. During the same period, railroad freight transport increased from 58.8 to 87.4 million tons, a 6.1% annual increase. In fact, by 2004 railroad freight represented 17% of total land freight, up from 13% in 1996. The pattern is similar, although more modest, when measured in ton-km: 21.8% share in 2004, up from a 19.6% share in 1996.

Efficiency gains derived from improved operations and increased freight traffic have translated into significant increases in net operational incomes. During the period 1992-1996 Mexican railroads had an annual operational income deficit of nearly 9,000 million pesos (US\$929.8 million) which became a surplus of 4,646 million pesos (US\$480 million) in the period 2001-2003. This reflects the long-term feasibility of a business that no longer requires a net transfer of resources by the federal government.

Overall, railroad privatisation has had a favourable effect on public finances and railroad competitiveness, but these benefits have not spread more widely due to a lack of intra-railroad competition in several important markets, especially those associated with interlinear traffic. Between 1995 and 2002, participation of received interlinear traffic²⁴ in total freight fell from 24% to 12%; between 1995 and 2004, the distance travelled by railway freight traffic fell from 717 to 639 kms, a 10.9% drop. In contrast, the average distance travelled by all surface freight traffic during this same period increased 4.2% and freight travelling by road grew by 5.6%.²⁵ The evidence presented here suggests that the rebirth of railway freight transport following privatisation has largely been based on the local or regional growth of each concessionaire's exclusive markets and not on the integral growth of the railway network.

Access conditions and interlinear traffic problems

Despite having improved their operational performance and participation in freight traffic, and taking into account the positive effect they've had on public finances, the private operation of railways has been marked by important inefficiencies in interlinear traffic that have limited both intra- and inter-modal competition of railroads in freight markets. In the former case, interconnection problems have restricted intra-modal competition and prevented railway transportation from offering a seamless service to users. In the latter case, the railway sector has lost competitive ground relative to other modes of transport by charging high tariffs for interconnection services, particularly in instances where it should have a comparative advantage.

For interlinear services, for example, the carrier that offers the service typically sets one integrated rate for an origin-destination service and negotiates the shares that each carrier will receive in payment. According to the rules on rail service tariffs,²⁶ carriers can charge up to the maximum tariff registered for their services and provide discounts. These rules do not distinguish between interlinear and exclusive routes, and were designed to allow carriers to arrange access conditions voluntarily, with no regulatory intervention. In practice, they allow carriers to charge higher tariffs for interlinear segments relative to charges for exclusive routes, while still honouring the maximum tariff registered. This happens even if the segment they operate in the interlinear route is less costly to serve than the exclusive route.

As a result, concessionaires have brought claims before the SCT alleging that competitors are setting excessive and discriminatory tariffs, unfavourable access conditions and refusing to offer interconnection and trackage services. These disagreements are more prevalent in markets where interlinear traffic competes with a party's exclusively operated routes. The SCT, through its DGTTFM, has responded to these disagreements by issuing resolutions that establish terms and conditions where trackage rights and interconnection services ought to be granted. However, none of these resolutions have been implemented as concession holders have obtained suspensions through numerous *amparos* and fiscal nullity judgments. To date there are 2 *amparos* against one of the official technical standards, 9 fiscal nullity suits against resolutions concerning trackage rights and 2 fiscal nullity suits against resolutions concerning interconnection and terminal services – all are pending resolution.²⁷

One of the problems that have worsened conflicts in interlinear traffic stems from differences in the initial payments for the concessions, which have led to asymmetry in average fixed costs. The payment for the railway concession of FNE, for example, was 13,012 million pesos (24,358 million, in constant 2002 pesos, about US\$2.5 billion), whereas the winning bid for FPN was 3,941 million pesos (6,434 million, in constant 2002 pesos, about US\$665 million). The figures are clearly disproportionate as the ratio of concession payments, 3.3, is starkly different from the ratio of traffic as measured by loaded cars, 1.1,²⁸ or km-tons, 0.9. Moreover, FNE's winning bid was out of line with the other bids submitted for this concession. According to a December 1996 press release from FNM, the bids considered for this concession included TFM's winning bid of 11,072 million pesos,²⁹ Grupo Ferroviario Mexicano's bid of

4,272 million, and ICA/UP/SBC's bid of 4,160 million. The disproportionate monetary outlays paid for the original concessions are reflected in the significant differences in tariffs among concession holders.³⁰

In sum, the lack of effectiveness of sectoral regulations in resolving disputes over access conditions has given incentives for concessionaires to use terms and conditions for interconnection and car-hire services as strategic tools aimed at limiting competitor access to essential facilities while improving their own position in the market. As a result, disagreements have now become a competition problem. Rail carriers have asked for the FCC's opinion on haulage and trackage rights as well as competition conditions on specific interlinear routes. They have also requested that the Commission investigate relative monopolistic practices aimed at obstructing interlinear competition. This section discusses some of the most relevant opinions related to access rights that the Commission has issued, and includes a summary of an investigation which reveals how disagreements unravel in practice and impact competition conditions.

Opinion on haulage and trackage rights

In 2001, Ferromex asked the FCC's opinion on alleged differences in criteria between the original concession terms and new interpretations issued by the SCT on haulage and trackage rights. This same year, the SCT had issued two emergency, and therefore temporary, technical standards for trackage and haulage rights, and interconnection and terminal services. These standards added specifications on the interpretation of the scope of access rights and services and on payments.

In responding to this consultation, the FCC offered an outline of the competition criteria behind the design of the railroad system. Namely that access conditions had been explicitly accounted for when designing the market structure prior to the privatisation and in assessing bidders in the auctions that allocated ownership and operation rights of existing railroads. The FCC voiced its support for the legality of a concessionaire's exclusivity for supplying access rights by the terms specified in concession titles since these exclusivities were necessary to guarantee the recovery of the amount invested in the railway project. Nevertheless, it added, the development of competition in the sector would depend, among other things, on the certainty of the terms and conditions in the supply of access rights.

Regarding the scope of trackage rights, the FCC determined that these must include access to the manoeuvres yard as it is an essential component for in-track services.³¹ The Commission further elaborated, stating that the concession holder can include the taxes and duties paid for the concession in the costs it uses to set the access charges, and these costs must be the same for all access carriers, including those provided for self-service. Indeed, the Commission reasoned that insofar as it is possible to render this service through agreements with the concession that holds the exclusivity, access charges are not monopolistic rents on the final consumer segment of the market, but opportunity costs.

Opinion regarding the absence of competition conditions in railroad services³²

In February 2002, pursuant to article 47 of the RSL, the DGTTFM requested the Commission's opinion regarding the absence of effective competition conditions in the transportation of grains on specific railway routes. The FCC's analysis covered the rail routes, together with the rail stations located within a 50 kilometre radius, in the following areas: Cuauhtémoc and Chihuahua, in the state of Chihuahua; Los Mochis, Gauamúchil, Culiacán, and Mazatlán, in the state of Sinaloa; Ciudad Obregón and Hermosillo, Acajoneta and Tepic, in the state of Sonora; and Mexicali, in the state of Baja California.

Final users of these routes are agricultural and livestock farmers and resellers, who transport mostly bulk grains for human and animal consumption. Since these commodities are characterised by their high price elasticities, transportation costs are a major determinant of their final price. This led the FCC to determine that there was no inter-modal competition because road transportation, although a technically

feasible substitute, was economically unviable due to a significant difference in cost relative to railways. On the other hand, intra-modal competition was possible but inexistent because: (a) only one carrier operates an essential segment of tracks to access the relevant markets; and (b) there are no interlinear routes due to widespread disagreements on access conditions among rail carriers. In consequence, there was an economic agent with substantial power in the relevant markets defined above.

In November 2003, the Commission decided that there were no effective competition conditions for the railway freight transportation of grains, in both directions, in the rail routes that connect the cities of Cuauhtémoc and Chihuahua with Ciudad Obregón, Guaymas, Los Mochis, Guasave, Guamúchil, and Culiacán. The rail carrier involved challenged the resolution arguing a procedural violation through a reconsideration appeal. In January 2004, the FCC declared this resolution void, which impedes the SCT from issuing additional regulation on rail services conditions.

Investigation of interlinear rail transport³³

In 2003, the FCC investigated a complaint of relative monopolistic practices in railroad freight transportation over several routes. TFM claimed that Ferromex had acted in an anticompetitive manner by (a) pricing its interlinear services at levels that made the joint interlinear service uncompetitive relative to Ferromex's exclusive routes; and (b) charging final users twice for car-hire services. The effect of this conduct increased the integrated interlinear tariff and deviated interlinear traffic to Ferromex's exclusively operated routes.³⁴

The routes involved in the alleged practice of foreclosure were: Altamira-El Castillo; Altamira-Salamanca; Altamira-León; Altamira-Manzanillo; and Monterrey-Manzanillo. Altamira and Manzanillo are international ports, and Monterrey is one of the three most important industrial cities in the country. The routes investigated for double charges on car-hire were: Celaya-Apaseo El Grande; and Celaya-Salamanca, which correspond to the segments where Ferromex was the only provider of interlinear services to TFM, making it an agent with substantial market power.

The FCC's investigation proved that Ferromex effectively charged twice for the car-hire concept to final users. Regarding interlinear charges, the FCC's market assessment compared the proportion of service rendered with the tariffs charged to make a determination of whether Ferromex's conduct constituted a practice of foreclosure by raising rivals' costs or if it was justified by differences in costs and demand. The investigation concluded that price differentials for railroad charges had no cost justification, but were the result of strategic behaviour by Ferromex aimed at halting intra-modal competition.

On October 2003, the FCC resolved that Ferromex was responsible for carrying out relative monopolistic practices in violation of article 10, section VII of the FLEC,³⁵ and article 7, section V of the RFLEC,³⁶ and ordered that the practice cease. Ferromex presented a reconsideration appeal that concluded with the confirmation of the challenged decision.

As a result of this investigation, the FCC had enough evidence to open an investigation of its own (*ex officio*) into this sector. However, this investigation was severely thwarted by litigation and ended without effects.

Concluding Remarks

The privatisation scheme adopted in Mexico promoted investment and the development of railroad infrastructure. New investments have enhanced efficiency and competitiveness amid a more modern and safe system which has overcome significant deficiencies. Nevertheless, private administration and oversight pose concerns regarding the implementation of intra-modal competition.

The lack of clarity and precision in the regulatory framework relating to interconnection fees and access conditions, as well as the lack of effectiveness in the regulatory measures adopted, have resulted in a growing number of appeals against the regulator's decisions. This situation has made the problem of interlinear traffic a competition problem. The cases presented here illustrate how concession holders adopt strategies that limit competitor access to their essential facilities in violation of the FLEC. Needless to say, it is difficult for this generalised problem to be resolved through resolutions and sanctions by the FCC.

Interlinear traffic could be enhanced to facilitate the functioning of the railway network as a true regionally integrated scheme, as was originally envisioned with privatisation. In the FCC's opinion it is necessary to reform the RSL to include clearer rules regarding terms and conditions of access. These reforms should also create a strong, independent regulatory agency whose main role is to effectively enforce the sectoral law and establish mechanisms that favour competition. The law should be able to provide precise guidelines on how to resolve disagreements among concession holders, based on objective criteria that confer legal certainty to all parties involved. Mexico's experience shows that it is not enough to require concessionaires to provide compulsory access; it is essential to strengthen the regulator so that it can intervene effectively when needed and have sufficient powers to define clear market rules.

Terminology	Acronym
Railroad Services Law	RSL
Regulations of the Railroad Services Law	RRSL
Federal Official Gazette	DOF
Federal Law of Economic Competition	FLEC
Rulings of the Federal Law of Economic Competition	RFLEC
General Directorate of Tariffs, Railway and Multi-modal Transportation of the SCT	DGTTFM
Ministry of Communications and Transport	SCT
Federal Competition Commission	FCC or Commission
Ferrocarriles Nacionales de México	FNM
Transportación Ferroviaria Mexicana	TFM
Ferrocarril Mexicano	Ferromex
Ferrosur, SA de CV	Ferrosur
North Pacific Railroad	FPN
Northeastern Railroad	FNE
Southeastern Railroad	FSE
National Commission for Foreign Investment	NCFI
Tarifa Única de Carga Express (Unique Tariff for Express Freight)	TUCE
Kansas City Southern Industries	KCS
Holding company for TFM	Grupo TFM
Holding company for Ferromex	Grupo México
Holding company for Ferrosur	Grupo Carso

NOTES

- 1 Further description of some of FNM's operational indicators in 1994 relative to United States railways, for
example, can be found in Sánchez and Paredes (1997).
- 2 Estrada (2004).
- 3 More than a 49% interest may be held, subject to approval of the Foreign Investment Commission.
- 4 Articles 35 and 36 of the RSL and the concession titles.
- 5 Article 170 of the RRSL. Registered tariffs are called TUCE (Unique Tariff of Express and Cargo) and
include a fixed factor by ton, and a variable factor by ton-km. Refer to File DE-57-2001.
- 6 Article 47 of the RSL.
- 7 In order to determine the existence of substantial power in the relevant market, the Commission must prove
the hypotheses foreseen in Articles 12 and 13 of the FLEC, and carry out the analysis in accordance with
the criteria contained in Articles 9, 10, 11 and 12 of the Regulations of the FLEC.
- 8 Article 114 of the RRSL.
- 9 An *amparo* is a proceeding established in the Constitution to provide all persons with protection against
unconstitutional acts of government. It can attack the merits of an agency's decision because it requires the
articulation of the "legal basis and justification for the action taken". A fiscal nullity judgment is a
proceeding to provide protection against illegal administrative actions.
- 10 Sánchez and Paredes (1997) present some of the competition analysis undertaken at this time.
- 11 See Map 1.
- 12 KCS has 49% voting stock in Grupo TFM, while TMM has the remaining 51%. On May 16, 2003 the
Federal Competition Commission authorised KCS to acquire 38.44% of TFM, property of TMM. File
CNT-37-2003.
- 13 Concessions of the three regional companies do not impede holders from building and operating new
facilities but prevents them from acquiring more than 5% of the other regional companies.
- 14 File CNT-82-97.
- 15 File CNT-128-2000.
- 16 File CNT-81-2002.
- 17 File CNT-37-2003.
- 18 File CNT-130-2000.
- 19 File CNT-101-98.
- 20 File CNT-97-99.
- 21 Files CNT-28-2002 and RA-93-2002.

22 Sources are FNM, Statistical Series 1995; SCT, Annual Railroad Statistics 2003; SCT, Structural Change
in the Mexican Railroad System, September 2003; and own calculations.

23 Estrada (2004).

24 Received interlinear freight is the received freight by destination railroad in interlinear traffic.

25 Own estimations using data from the Annex to the 2004 Cuarto Informe de Gobierno.

26 The Rules to apply the TUCE were subscribed by carriers and the SCT in 1997. The first rule establishes
that if the user does not select a route, the shipper at the origin may select this route but the charge must
correspond to the shorter route, not the cheapest.

27 Source: Legal Department of the DGTTFM.

28 Obtained using 2003 information on transported loaded cars for FNE (597 thousand) and FPN (526
thousand cars).

29 2,768 million pesos (US\$ 286 million) were added to the FNE's winning bid, for 20 per cent of the
Northeast Railroad's stock that remained under the federal government's control, and 827 million pesos
(US\$ 85 million) were subtracted as a result of the reversion of the Griega – Mariscal segment.

30 To illustrate this, assume that FNE and FPN seek to recover their concession costs in a linear manner
during a 25-year period, then, only in terms of the concession, FNE would have had to charge in 2003 a
fixed amount of 1,632 pesos per loaded car (about US\$169) or 4.5 Mexican cents per kilometre-ton. The
corresponding amount for FPN would be only 489 pesos (about US\$51) or 1.1 Mexican cents per
kilometre-ton. In general, these figures illustrate the difficulties involved in reaching private agreement for
interlinear services.

31 File CON-08-2001. The FCC's opinions on consultations are not binding according to the FLEC.

32 Files DC-01-2002 and RA-11-2004.

33 Files DE-57-2001 and RA-50-2003.

34 Absent a claim of anticompetitive practices, the FCC does not intervene in a dispute about prices for
portions of transportation movements or about the terms of railroads' dealings with each other.

35 *“ARTICLE 10. - Subject to verification of articles 11, 12 and 13 of this Law, relative monopolistic
practices are deemed to be those acts, contracts, agreements or combinations, whose aim or effect is to
improperly displace other agents from the market, substantially hinder their access thereto, or establish
exclusive advantages in favour of one or several entities or individuals, in the following cases:*

*VII. In general, all the actions that unduly damage or impair the process of competition and free access to
production, processing, distribution and marketing of goods and services.”*

36 *“ARTICLE 7. Practices included in Article 10, Section VII, of the Law are deemed to include the following,
without excluding others:*

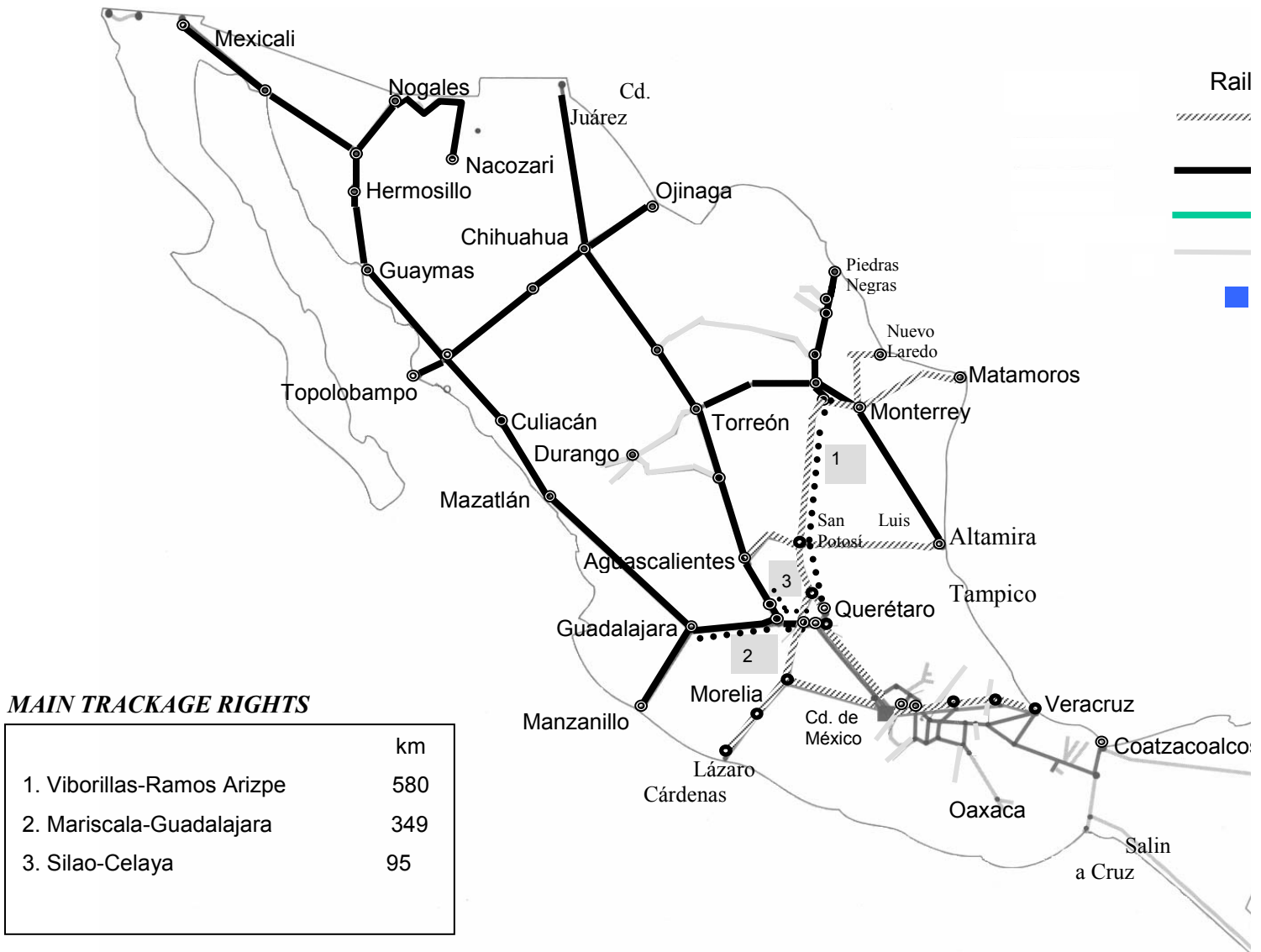
*V. The action of one or several economic agents, whose object or effect is or may be, directly or indirectly,
to increase costs for their competitors, or to impede their productive process or reduce demand.”*

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- FCC cases number DE-57-2001 and RA-50-2003.
- FCC cases number CNT-28-2002 and RA-93-2002.
- FCC cases number DC-01-2002 and RA-11-2004.
- FCC case number CNT-37-2003.
- FCC case number CNT-81-2003.
- FNM, Statistical Series 1995.
- SCT, Annual Railroad Statistics 2003.
- SCT, Structural Change in the Mexican Railroad System, September 2003.
- SCT, Communications and Transport Sectoral Programme, 2001-2006.

Map 1: Railroad Mexican System

DAF/COMP(2005)46



NETHERLANDS

Introduction

This paper gives an overview of the structure and regulation of the railway sector in the Netherlands. The paper serves as input for the Round Table on Structural reform in the Railway Industry' in *Working Party 2* at the Competition Committee meeting on Monday, 14 February 2005.

This paper has been drafted by the Knowledge Center for Economic Regulation in cooperation with the Ministry of Transport, Public Works and Water Management.

1. Overview of the Rail Sector

In the Netherlands the major objectives for the railway sector are:

- Focus on 'core competence' of rail transport:
 - Facilitating mass transport (spatial efficiency): mainly commuters between main urban areas and economic core area,
 - Providing social function (young/old/disabled) and
 - Facilitating (international) economical valuable freight transport.
- Integrated optimisation of infrastructure & transport operations:
 - Aim for stability & reducing complexity
 - Focus on yield management instead of new infrastructure
 - "Priority chain":
 - Safety
 - Reliability & availability
 - Yield management
 - New Infrastructure

This section provides an overview of the key stakeholders and the role they play in the Dutch Rail Industry.

Government

Ministry of Transport and Water Management

The Ministry of Transport and Water Management is responsible for the Netherlands transport policy covering traffic by road, rail, air and sea. In the rail sector, it is responsible for passenger transport and freight transport. Concessions, legislation and regulation are instruments of the Ministry.

The Ministry is the sole shareholder of ProRail and NS-Reizigers. NS-Reizigers is the single shareholder of Thalys and is a minority shareholder in both other railway undertakings that operate public passenger services. Either the Ministry or the regional authorities can contract a train operator to provide public passenger train services on those lines that NS Reizigers does not wish to operate.

Kaderwetgebieden (Regional authorities)

Local authorities are responsible for passenger transport concessions on branch lines under the Wet Personenvervoer 2000 (Passenger Transport Law 2000) that are deemed not to be part of the core NS Reizigers network. Regional tenders took place for concessions on some North and East regional Lines. (Operators: NoordNed (North) and Syntus (East))

Regulatory bodies

Inspectie Verkeer en Waterstaat (IVW), Divisie Rail (The Railways Inspectorate)

The Railways Inspectorate is an independent government authority within the Ministry of Transport and Water Management responsible for maintaining and improving the level of safety within the Dutch rail industry. It is responsible for awarding safety certificates and controls railway laws and regulations relating to safety and technical matters. Other areas that it is responsible for include:

- Infrastructure safety regulation;
- Passenger safety; and
- The safety of rail tunnels.

Raad voor de transportveiligheid (The Dutch Transport Safety Board)

The Dutch Transport Safety Board investigates transport accidents and incidents in aviation, shipping, rail, road traffic and pipeline transport. The investigation process usually consists of five stages: investigation, inspection procedure, findings, recommendations and publication.

The Board decides whether an investigation will be initiated or not, how it will be executed and if the results are published. The lump-sum budget of the RvTV comes from the Ministry of Transport and Water Management. The RvTV is autonomous in deciding how to spend their budget allocation.

Nma Vervoerskamer (The Competition Authority)

The Dutch Competition Authority is a government agency, accountable to the Ministry of Industry, Employment and Communications. According EU guideline 2001/14 de 'Vervoerkamer' is the regulatory body, a.o. ensures that the access to the Dutch network is non-discriminatoire to freight transport and international passenger-transport and that the charges set by the infrastructure-manager comply with legislation.

Infrastructure Manager

ProRail

Prorail, the State Infrastructure Manager is a limited company whose shares are owned by the Dutch national government. Prorail was created out of three rail infrastructure organisations in 2003 (RIB, Railned and Railverkeersleiding).

ProRail takes responsibility for the management and maintenance of rail infrastructure and stations, capacity management and traffic-control, based on a concession for the limited period of time (until 2015).

Capacity allocation

ProRail allocates capacity to the operators on an independent basis, in accordance with the appropriate domestic and EU legislation.

Railway undertakings apply to Prorail for long-term capacity allocation. The process of allocation can take up to one year, which covers the standard planning cycle for the year to year timetable. Not all requests are granted, particularly in congested areas of the network.

Some short-term (i.e. daily or weekly) additional capacity is available upon expiration of previously allocated paths. For example, certain capacities are reserved in advance for international Railfreight. If no candidate has come forward by five days prior to the transport day, the reservation expires and the paths are available to other railway undertakings.

Railway Undertakings

The Dutch Rail Network consists of two parts: the Main Line Network and regional lines.

For the Main Line Network NS- Reizigers has a concession for a limited time until 2015.

The regional train services are provided by NS, Synthus and NoordNed.

International passenger-transport is provided by Thalys and NS. In addition German and Belgian operators (DBAG & B Regionalbahn Westfalen GmbH, NMBS/SNCB) provide collaborative services with the Dutch services on international services only.

In 2003, five passenger and six freight railway undertakings were active on the Dutch rail network. A number of national operators are present, but Nederlandse Spoorwegen (NS) remains the largest and holds a shareholding (ranging between 33% and 100%) in the other passenger railway undertakings operating in the Netherlands. Other major shareholders are Connexxions, Cariane/SNCF and Arriva.

Incumbent Netherlands Railways (The Dutch State Railways)

NS-Reizigers is 100% state owned, operates across the whole of the Netherlands and carries approximately 320 million passengers per annum. In principle it receives no subsidy. The Main Line Network is operated without subsidies as a commercial business. Other lines are operated within a contract stipulating an agreed service level with financial compensation with the contracting authority.

Other Operators

Other operators within the Dutch rail sector include:

- Passenger:
 - Syntus (a subsidiary company of NSGroep, Connexxion Holding en Cariane Multimodal international (CMI).)
 - NoordNed Personenvervoer (a 100% subsidiary company of Arriva)
 - Thalys Nederland BV
 - DB Regionalbahn Westfalen GmbH
- Freight
 - Railion Nederland
 - ACTS Nederland
 - ShortLines
 - ERS Railways
 - Rail4Chem
 - Dillen & Lejeune Cargo
- Passenger and Freight
 - NMBS/SNCB operate a collaborative joint service with Dutch Railways.

The section below gives an overview of the history of reforms in the Dutch Railway sector.

The 1995 Railway Reform

The railway reform initiated in 1995 in the Netherlands aimed to increase the market share of railways in overall transportation. It was based on the advice of Wijffels select committee appointed in 1991 by the minister of Transport that advocated reorganization of the national railway company Nederlandse Spoorwegen (NS) into a number of divisions (passenger, freight, infrastructure management and allocation of infrastructure capacity). It involved substantial deregulation, giving the NS the freedom to determine its investment, finance, service supply, fares and personal policies.

The reform was implemented by a transitional contract for 1996-2000. European Directive 91/440 on the separation of railway infrastructure and operations was one factor triggering this reform. It's implementation at NS created a 'market sector' (operating under market principles) and three so-called 'task organizations' whose costs are covered by Ministry of Transport.

Figure 5. Figure 1. Below sketches the international setting until 1995

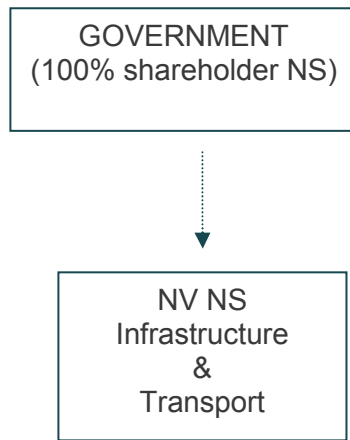
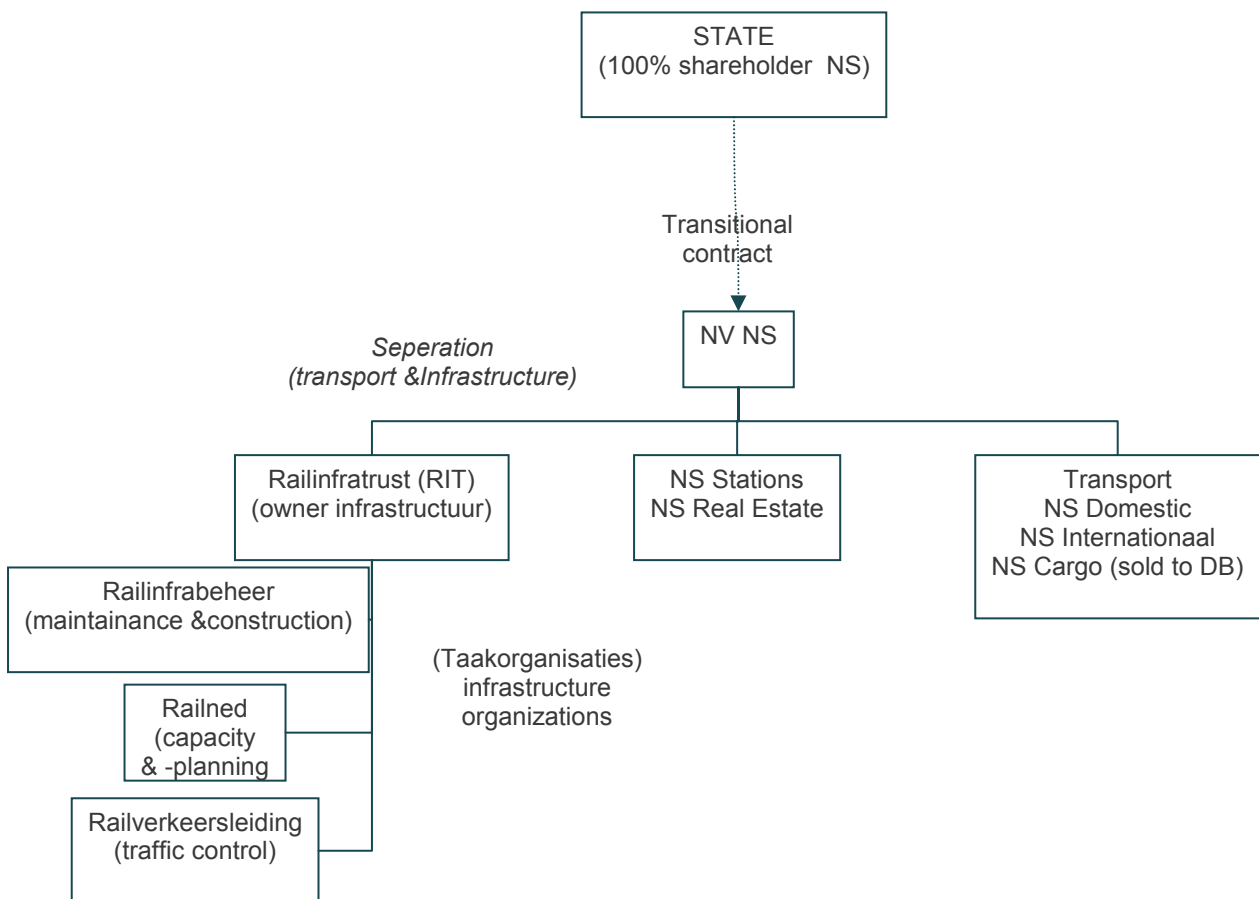


Figure 6. Figure 2. Sketches the Institutional setting from 1995- (July) 2002



Appearance of Competition

While the Wijffels select committee did not explicitly propose the introduction of competition in passenger service, the 1995 reforms made competition possible and several new operators appeared form

1996-2000. During this period, NS-Reizigers continued to provide all intercity, express and local train services on the main-line network, while the NS International provide the Thalys high speed services to Brussels and Paris as well as some other international connections. However the main changes occurred in the regional train services.

'On the tracks' competition

In 1996, based on the provisions of Passenger Transport Law (based on advise of the Brokx select committee) a new company (the entrant) called Lovers Rail asked the Ministry of Transport for permission to operate services on several lines in the most densely populated areas of the Netherlands. It was granted permission and from 1996 to 1999 there was competition 'on the tracks'. (the lines: Amsterdam –IJmuiden en Amsterdam – Haarlem). The experience with this 'on the track' competition did not turn out positive caused a.o. by lack of an official position by the Ministry. In 1999 a new coalition government had come into power and growing discontent in parliament with the Lovers experiment resulted in a change of policy whereby further competition was banned.

Freight services in the Netherlands have also seen the appearance of competition. Contrary to the passenger transport sector, competition on the tracks is widely accepted for the freight transport sector.

2000 Railway reforms

After the discontent with the Lovers experiment the Minister decided it would be better to let the existing main-line Network find its equilibrium without competition, while transferring the responsibility for the local lines to regional transport authorities (Provinces) and asking them to start with introducing competitive tendering for the operations of those lines. The aim is to achieve balance between the need for regulation and the need to stimulate competition between passenger operators, while maintaining coordinated services across the network.

2001 A temporary dip & a fresh start

2001 showed deterioration of all main business indicators. Trains were not reliable enough. In this period passenger trains ran late because of problems with the infrastructure, equipment or logistics. The time journey (schedule) was not predictable enough, which causes economic damage for the customer.

Also initial experiences with vertical separation in the rail sector cannot be described as positive. In practice, the hybrid nature of the positioning of the infrastructure organisations became evident soon after the legal separation in 1995. These (task) organisations faced contradictory instructions from the Government and the NS holding company and suffered loyalty problems. This was one of the reasons why competition did not develop on the railways.

From 1995 to July 2002, the three organisations were part of the NS group, within which they were segregated from the (commercial) operating unit. A separate private limited liability company, Rail Infra Trust, was formed for the three organisations within the NS group. The three organisations were kept part of NS because the idea at that time was that NS had the necessary know-how and experience, and there were fears that full separation of responsibilities for infrastructure and operations might mean that no-one would still bear full responsibility for good interaction between the two, or for an overall assessment of costs and benefits.¹

The new government coalition agreement of 1998 laid down that the infrastructure organisations would be split off from NS in order to straighten out the responsibilities and corporation between the NS and infrastructure organisations. They were separated from the NS holding company in 2002 and on 1

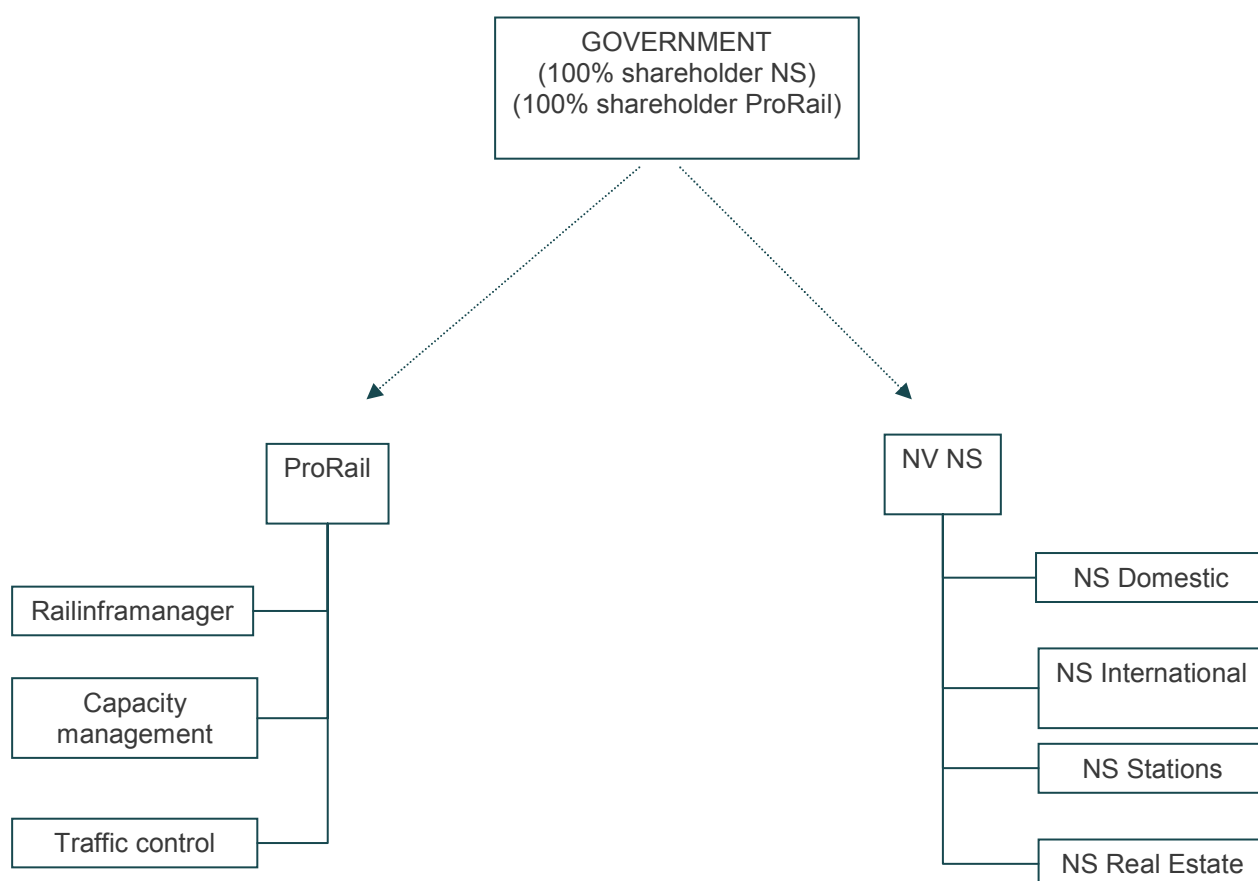
January 2003, were transferred to a new organisation named ProRail. The separation of the implementing organisations led to economic separation. The recently-adopted new Railways Act upholds this separation.

The new railroad legislation will strengthen co-operation between the infrastructure administrator and the transport companies (NS), thus optimising the system.

Other key points in the new railway legislation are:

- Setting aims to reduce incentives for direct government involvement on operational level
- Independent Regulatory body to secure non-discriminatory treating of TOC's (Transport companies) by the Railinframanager
- Ministry of Transport responsible for supervision on safety
- Strengthening position of consumers

Figure 3 below sketches the Institutional situation from 2003



The temporary dip further led to a new temporary supervisory board (NS NV) with four representatives of the State and a new interim chairman of the board of directors.

The aim for the railway sector for now is to create stability for a couple of years.

The Ministry is now developing concessions for Inframanager and NS with the right incentives.

Important quality requirements for passenger transport are included in the transport concession for the national network: a reasonable chance of finding a seat, punctuality of train services, good information, clean trains and stations that are accessible to all.

In the case of freight transport, good trains paths that match optimally with the international network play a particularly important role.

Reliability is the key word today. To increase the reliability the 'Rail Renewal Plan' must be executed. The plan consists of three phases:

- Retaining current rail maintenance levels in the coming period
- Improving quality and preparing for further local growth
- Study methods to structurally improve maintenance, by improving life-cycle management, working out investments and utilisation measures.

An overview of the new institutional setting after the new legislation is given in figure 4 (below)

Mayor obstacles to overcome in the reform process are:

1. No sharp definition of public interest.

Within the rail sector there has never been given a sharp definition of the public interest. Lack of a definition of the public interest over the years has made it difficult tot set out the right regulatory regime.

2. Insufficient attention for maintenance of infrastructure.

The deterioration of all main business indicators in 2001 were related tot the insufficient attention for maintenance of infrastructure.

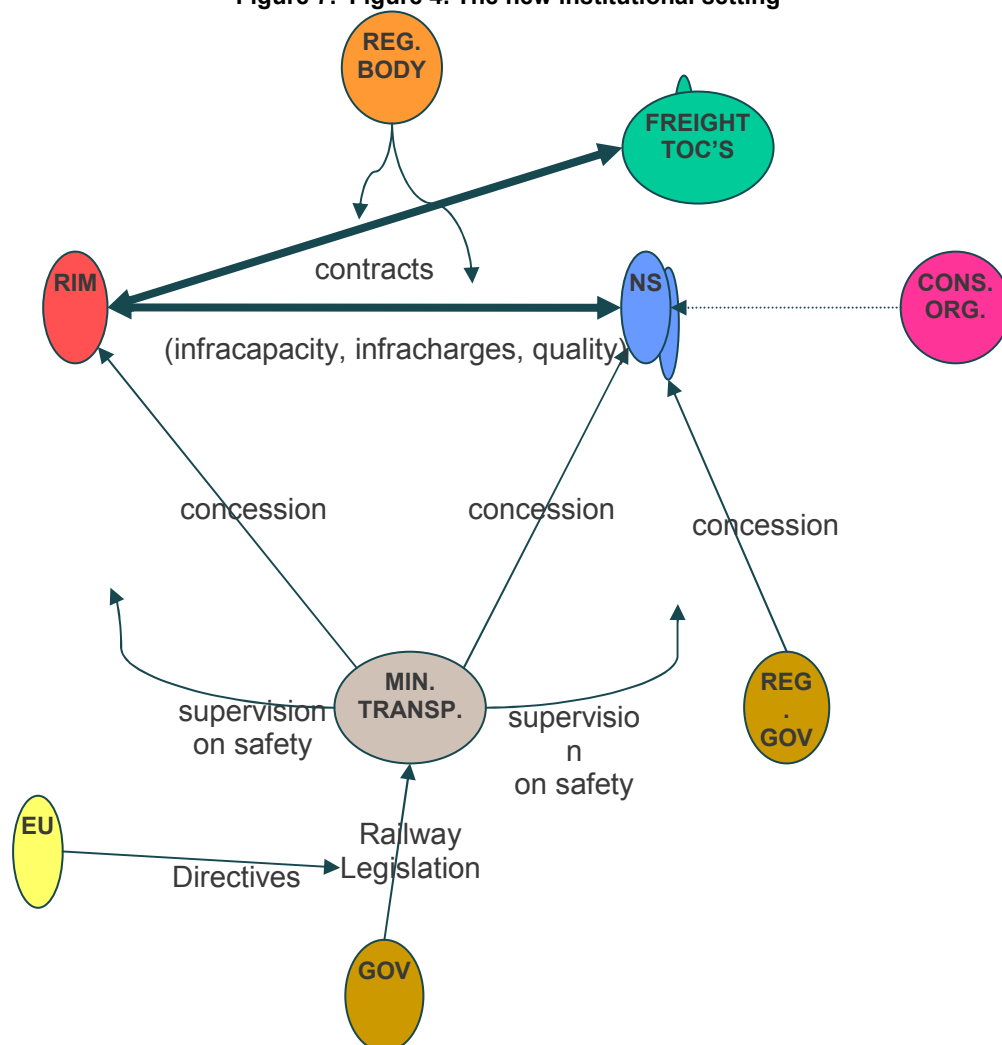
3. Lack of cooperation between inframanager and NS

As the result of the separation between infrastructure-management and providing transport there was a lack of cooperation between inframanager and NS. The new concessions and the New Railway Act concentrate on a better cooperation between the inframanager and the NS.

4. Failure of 'competition on the track'

The direct competition on the tracks didn't work out the way it was intended. The experience showed the difficulty of successfully organizing competition in a densely used network based on regular and frequent connecting train services. A number of regulatory measures, such as compulsory integrated ticketing and some form of integrated information, would have facilitated competition. But this would have required changes to the Passenger Transport law and to the relationship with the NS, which were politically and practically impossible in the available time.

Figure 7. Figure 4. The new institutional setting



Role for competition and role for regulation

2. Role for competition

This section describes the respective roles for competition as opposed to regulation to deliver the objectives identified in section 1.

The following Rail services rely on competition:

- Freight-transport
- International passenger transport
- Regional transport

Ad. 1 There is an open market for freight services. Competition on the tracks is widely accepted for the freight transport sector. The main operator is still NS Cargo, now called Railion Benelux since its

merger with DB cargo, but a few new private competitors (such as ACTS and Short lines) have started appearing with the operation of national and international shuttle trains. In this sector there is competition between rail companies which are simultaneously active in the market (competition in the market). There is also competition from other transport modes like water and road (freight) transport.

Ad. 2 The European Directive 91/440 is aimed at open competition in the international passenger transport. In the international passenger transport there is also competition from other transport modes like aviation.

Ad. 3 Competition in the public transport passenger market is limited to a number of unremunerative lines scattered over the network, that are not part of the core NS network. For the regional passenger transport The Netherlands rely on 'competitive tendering'. The policy aims at gradual controlled, and flexible handover of train services on local railway lines to regional transport authorities. It involves a gradual transition from negotiated contracts to competitive tendering by provincial governments, with subsidies for these lines.

For the regional transport there is competition between companies which are providing train services over an infrastructure owned by another company (ProRail). There is also competition from other modes like car and busses.

Due to lack of long time experience there is no insight on the impact of this form of competition on the productivity.

3. Role for regulation

All rail services rely on regulation in order to obtain an acceptable standard of quality.

As specified in the railroad and the Concession Act, the central government is responsible for the railroad infrastructure and for passenger transport- in so far it had not been decentralised (in that case is it a responsibility of the regional authorities). The railroad organisations, which are regulated by law and government guidelines are responsible for providing safe and reliable transport. They are steered by the state based on concessions.

The NS has a transport concession for passenger transport on the national network until 2015. The railroads have a consultation obligation: they must reach transparent agreements with the regional governments regarding train service on the national rail network. Based on annual transport plan of the NS, the central government determines whether obligations in the areas of facilities, tariffs, accessibility and the public security of stations have been met.

It's to soon the give an insight in the effectiveness of this regulation.

To give an indication of the size of the Government subsidy we refer to the financial overview on the next page. (Figure 5. Financial overview of the financial characteristics of the railway sector.)

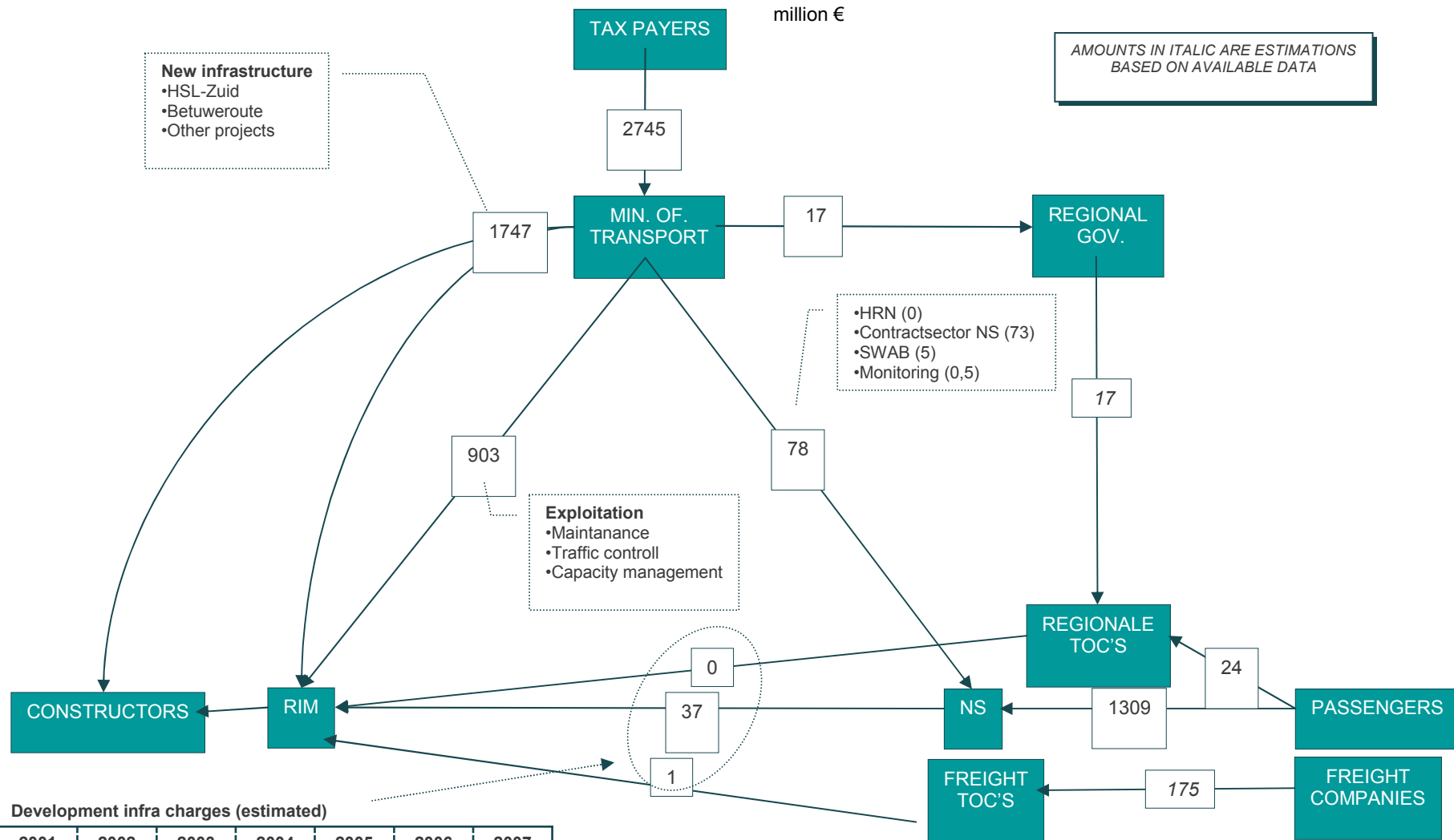
Approximately 60% of the total costs of passenger transport by rail are currently paid by the central government. This percentage will remain fairly level for the next four years. The cost calculation system does not give the rail sector and the transport companies any stimulus to work efficiently. The Rail infrastructure, for instance, is made available at almost no cost at all.

Transport companies pay 7 % of maintenance costs

In 2002, the transport companies paid 7% of the total management and maintenance costs for rail infrastructure cost in the form of usage fees. Their share of the costs will rise gradually until 2010. However, given the investments required through 2010, the lion's share of the costs will continue to be paid from income tax revenues.

An overly strict application of the principle 'The user pays' would increase the price of passenger and freight transport so much that passengers would opt for cars and shippers for freight trucks. The above reason and other implications of this principle justifies the state in its search for the right balance between the allocation of variable infrastructure costs and financing fixed infrastructure costs. EU guidelines, The new Railway Act and the Cabinet's vision of usage optimisation (Benutten beter benut) provide the starting point for this search.

Figure 8. Figure 5. Financial Characteristics (2001)



N.B. Actual infra charges will be developed and implemented by inframanager based on directive 2001/14/EC.

Vertical Structural issues

This section focuses on the different parts of the infrastructure and identifies the owner of that infrastructure and the rail services that make use of that infrastructure.

4. Divisions of the infrastructure

In the Netherlands the entire rail network is owned by ProRail, a company completely owned by the Netherlands Government. Technically, the network is rather homogenous. The track gauge is the same everywhere, and the maximum speed is 140 km per hour on most tracks (a new high-speed rail connection between Amsterdam and Brussels is being built). Most rail lines have an inter-city function (e.g. Amsterdam-Maastricht, The Hague-Arnheim); some have a regional character (e.g. Zoetermeer-The Hague). In terms of regulation, the network is homogenous as well: the same rules apply to all the links.

Figure 6. (below) gives an overview of the major categories of the infrastructure.

- We divide in here:
- The mainline network (Called NS Hoofdrailnet)

Regional passenger transport in which the Regio pays and decides (Noordned and Syntus) and other lines that are considered loss-making by the NS but that are deemed to be socially desirable by the government are contracted separately by the Ministry of Transport .(the so-called contracting sector)



There are no major divisions within Netherlands rail infrastructure. However there are several operators.

For passenger transport, the market is divided into regional segments. NS-Reizigers is by far the largest operator, serving the densely populated western part of the Netherlands (“Randstad”) many other regions, and long-distance connections. Specific regions are served by Noordned, Syntus, Connexion, and DB Westfalen. High speed trains to Brussels and Paris are operated by Thalys.

For freight transport, there are six operators: ACTS, Dillen & Lejeune Cargo, ERS, Railion, Rail4Chem en ShortLines (source: www.prorail.nl).

6. Access provision to the infrastructure

General objectives for access provision by the infrastructure owner

In the decision to force the infrastructure owner to provide access to the infrastructure, both objectives like a desire to promote competition and to expand the range of “seamless” services were relevant. Also, equity (equal access) was an important objective.

Conditions governing access

The rules under which access to the track is granted are stated in the Dutch Network Statement. This Statement contains all the information railway companies need to access the Dutch railway net. Not only practical information on the lay-out of the Dutch railway net, but also the access conditions for a standard access agreement. It also offers procedural information such as capacity application and utilization. Furthermore, it sums up the different service packages offered by ProRail and describes the fee system. The Network statement is in line with the prevailing law, first and foremost the Dutch Railway Act of 1875.

The key principle of The Network Statement is “to deal with the capacity applications and possible conflicts that may arise from it in an honest, transparent and non-discriminatory manner. The capacity allocation procedures are intended to ensure that the requested capacity is made available to the applicants in consensus and in accordance with their wishes as far as possible.” For this, an extensive procedure is followed. If there are conflicting claims, ProRail decides and operators can appeal.

In order to gain access to the railway infrastructure managed by ProRail, and to utilise it for the transport of railway vehicles, a railway company has to conclude an Access Agreement with ProRail. There are various admission requirements like requirements with regard to business operations and personnel and for instance requirements with regard to the provision of information.

Term of conditions of access are determined in advance and can be found in the Network Statement.

Prices are set in the access agreement.

User charges

The operators pay a user charge per train kilometre, which is only differentiated by type of transport. There is a homogenous “basic tariff” for passenger transport (the same on all tracks, at all times etc.) and a “reduced tariff” for freight transport (also the same on all tracks, at all times). Also, there is a charge for each stop at a station (two rates, for different types of stations). The rates are set by the government, through laws and regulations. The rates are smaller than marginal costs.

Capacity allocation

ProRail closely monitors the capacity in the network to prevent disruptions in traffic. First by determining who is allowed to the track by using clear and objective criteria. These are published in the Network Statement and access permits. ProRail examines, for example, if the rolling stock is suitable for the Dutch tracks. Second, they make a fair division of the capacity for every party. The operators give notice of their desired timetable. ProRail then combines all the suggested timetables into one efficient division that meets all demands best.

Quality and investments

The quality of the track infrastructure is maintained by ProRail. Investments in upgrades are decided by the Netherlands government. Following an increase in train delays and incidents around the year 2000, the government has decided to increase spending on maintenance and upgrades, and to reduce investment in new infrastructure.

The share of the owner of the infrastructure in the total train traffic operating over the given piece of infrastructure is 0%. In the Netherlands there is no situation in which the owner/operator of the infrastructure also provide train services over the infrastructure.

Experience with the approach

Before 1995, all the infrastructure and all the train services were provided by one state-owned company. In 1995, this company was forced to split up into a still state-owned infrastructure provider (ProRail; at first three separate companies, now one company), a still state-owned passenger transport operator (NS Reizigers) and a freight transport operator (NS Cargo, later sold to Deutsche Bahn). Since 1995, other passenger operators have won tenders for providing rail transport in specific regions. One competitor was allowed to compete with NS Reizigers on the same tracks (Lovers Rail), but this company complained about obstruction by NS Reizigers and went bankrupt. Also, new freight operators have been admitted to the infrastructure. Figures on market shares, prices and quality are not readily available.

The experience in the Netherlands suggests that the requirement to provide access to the infrastructure does lead to increased competition. Preventing the owner of infrastructure from providing train services seems to be an important element, and possibly a necessary requirement. If the infrastructure company is state-owned, the government should provide money and incentives to maintain and improve the infrastructure. An important question for the future might be whether competition on the same tracks might become more feasible, as national electronic ticketing systems are introduced and electronic monitoring of the position of trains within or outside of allocated (bought and sold) paths becomes possible. This question can only be answered and considered after the evaluation of the New Railway Act in 2008.

Competition Law enforcement

7. Experiences with enforcing competition law in the context of the rail sector

There has been no such merger since World War II. There was only a state-supported merger in the 1930's.

Complaints of abuse of dominance in the sector

There have been complaints by entrant Lovers Rail. As vertical separation was already implemented at the time, there does not seem to be a relation with this issue. There have been no investigations of allegations of collusive behaviour in this sector.

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POLAND

1. Overview of Railway Sector

Please give a brief description of overall regulatory system applicable to the railway industry in your country. What are the key targets of the government regarding the railway sector? (e.g. environmental, employment targets, minimising the subsidies, better productivity, maintenance of non-commercial railway services). Please give a brief description of key players in the railway industry, their ownership structure, the range of services provided and any infrastructure owned or operated by them. What are the key regulatory bodies and their relationships with national carrier (if any) or the central government? Please describe briefly the history of reforms and any recent or pending reforms. What were the most serious impediments that had to be overcome in the process of reform?

1.1 *Objectives of the governmental policy in the railways sector*

In Poland, the objectives of the regulatory policy in the area of railway transport are identified in the periodical governmental strategies for development of the transport sectors. The governmental strategy for the years 2007 – 2013 is currently in its final phase of public consultations. In reference to the railway sector the aforementioned document foresees realization by 2013 of the following objectives:

- Stepping up the privatization and restructurisation of the companies comprising the PKP Group;
- Downsizing the track infrastructure in use, from current 19,4 thousands km to 16,5 thousands km;
- Lowering the fees for accessing the infrastructure;
- Upgrading three track routes of combined length of no less than 700 km to the standard allowing for operation of trains at speed of 200 km/h;
- Lowering the operational costs of the Polish Railway Lines – infrastructure manager;
- Upgrading the technical standard of the track routes in Poland, leading by the 2013 to 80% of tracks in Poland being in good condition, with remaining 20% in satisfactory condition;
- Liquidation of bottlenecks limiting the maximum speed at highly congested routes;
- Technical upgrade of the trains in operation;
- Upgrading of intermodality of the Polish railways.

From the OCCP perspective of vital importance is the implementation of the goal of *lowering the fees for accessing the infrastructure*. In light of the above the President of the OCCP welcomed the recent proposals regarding the changes in redistribution process of income from the excise tax on the engine fuels used by the rail operators.

The abovementioned proposals allow the Minister of Infrastructure to allocate part of the income from the aforementioned tax the tasks associated with the maintenance (and investments) into the railways infrastructure. The additional subsidies from the State will allow for the lowering the access fees by the PLK and other infrastructure managers. The lower access fees in turn shall translate into improving the competition in the sector.

1.2 *Legislation behind regulatory system of railway transport*

The President of the Office for Railway Transport (ORT) is the chief regulatory body of central government administration in the matters of railway transport (the underground is excluded from the competence of ORT's President in the area of railway regulatory system).

The President of the ORT is appointed and recalled by Prime Minister on motion by competent minister in charge of transport matters. At the same time, Minister in charge of transport is exercising supervision over the President of the ORT.

Minister in charge of transport appoints and recalls, upon motion by ORT's President, two Deputy Chairmen of Office for Railway Transport. ORT's President is performing his responsibilities with support from the Office for Railway Transport.

The matters associated with regulatory framework of railway transport are regulated by Art. 13 of the Railway Transport Law dated March 28, 2003 and by Infrastructure Minister's Ordinance of April 7, 2004 on the terms and conditions of access to and use of railway infrastructure.

Art. 13 of the Railway Transport Law dated March 28, 2003 states that railway transport regulatory responsibilities of the President of Office for Railway Transport include:

- To approve and coordinate fees for the use of allocated railway routes and infrastructure in terms of pricing conformity with applicable rules;
- To ensure that railway carriers have equal access to the railway infrastructure;
- To ensure that railway managers give all railway carriers equal treatment, in particular with respect to handling the railway route access applications and pricing methodology;
- To ensure that basic fees for the use of railway infrastructure and additional fees for the provision of supplementary services are properly calculated by railway managers;
- To investigate railway carriers' complaints on:
 - Regulations referred to in Art. 32,
 - Allocation of train routes and fees for the use of railway infrastructure;
- To collect and process information on the market of rail carriage;
- To cooperate with competent authorities in the area of:
 - Counteracting the use of monopolistic practices by railway managers and carriers,
 - Coordination of rail carriage market operations;

- To impose fines in accordance with the rules set forth by the Law.

In accordance with the general principle of the Railway Transport Law dated March 2003, the operations of railway infrastructure manager are separated from those of railway carrier. Pursuant to aforementioned regulations, infrastructure manager may not engage in rail carriage operations other than maintenance runs for its own internal needs. However, Legislator has provided for a possibility of granting manager a permit for the provision of rail carriage services by a decision from the President of the ORT. The granting of such permit is subject to a prior opinion by the President of Office for Competition and Consumers' Protection. Under existing regulations, it is possible to provide rail carriage services using in-house infrastructure in two cases:

- Transport of persons – provided that separate accounting books are kept for the management of railway infrastructure and for transport services,
- Transport of persons and goods using an organisationally separate railway track without separate accounting book - **provided that the track is not available to railway carriers.**

As of January 25, 2005, 12 railway carriers were providing railway passenger and freight haulage services using a railway track under their management. The foregoing applies in particular to the following businesses: PKP SKM sp. z o.o., PKP WKD sp. z o.o., PKP LHS sp. z o.o., and narrow-gauge carriers. An updated list of aforementioned businesses is attached as Appendix 2 hereto.

1.3 The objectives of railway market regulatory system and the reforms

Poland's regulatory activities in the area of railway transport are targeted at both domestic and Community objectives. The most important of them are:

- To facilitate Community railway adjustment to the needs of a single market;
- To promote transport sector integration in EU;
- To liberalise the market of railway transport;
- To improve efficiency in the sector of railway transport;
- To ensure that all railway carriers have fair and non-discriminatory conditions of access to the infrastructure;
- To promote competition in the sector of railway services in terms of a better comfort and quality of service.

The efforts aimed at aforementioned objectives fall into several stages and are based on solutions that are implemented under legislative acts and central government's programmes covering the aspects of railway transport in Poland.

Railway Transport Law of June 27, 1997 (as amended) was the basic document that defined the legal status of Poland's railway transport and the tenets of policy-making in the area of railway transport policy-making. The Law enacted several provisions consistent with the legislation of European Union. It contained among other things:

- The definitions of railway management, railway carrier, railway line, railway area, capital investment, etc.
- Key regulations regarding the rules and conditions applicable to railway line operation, management and transport services, as well as to the operation of rail vehicles.
- Sub-division into national and local (regional) railways,
- Railway transport financing rules, including the finance of railway projects and principles governing the payment of fees to the railway board for granting railway line access to carriers,
- Legal grounds for granting railway line management and railway transport licenses,
- The rules of supervision over operations of railways and traffic safety by dedicated Chief Inspectorate of Railways.

Polish State Railways restructuring program adopted by the Council of Ministers on September 7, 1999 The objectives of the Program fall into the following broad categories:

- **Financial restructuring** (debt restructuring for Polish State Railways (PKP) – waiving all or part of debt, debt rescheduling, debt repayment in instalments);
- **Organisational restructuring** (ongoing transformation of existing structure into holding company and preparing for privatisation of the enterprise by the way of commercialisation);
- **Employment restructuring** (bringing the size and structure of employment to reasonable proportions, while ensuring social cushions – social benefits or one-off severance pays);
- **Restructuring of assets** (providing for reasonable size of assets – including restructuring of tied housing stock - with clarification of ownership rights and appreciation of assets).

The Law of September 8, 2000 on the commercialisation, restructuring and privatisation of PKP State Enterprise. The provisions of the Law involved the following actions:

- The commercialisation of PKP State Enterprise. Its incorporation as PKP Joint Stock Company on January 1, 2001.
- Establishing 25 spun-off companies from PKP Joint Stock Company on October 1, 2001.
- Initiating preparations for privatisation since 2003.

The Program for continued restructuring and privatization of PKP Group Companies until 2006, dated December 16, 2003. In line with the proposed solutions, the reform of PKB Group will be based on the following three key components:

- Thorough financial restructuring targeted at rescheduling of PKP S.A.'s debts and releasing funds for capital projects by 2010, full debt relief. restructuring of loans and cutting down on Group's costs);
- A thorough reform of the loss-generating regional passenger haulage;

- The privatisation of the PKP Group's companies.

The Railway Transport Law dated March 28, 2003 and the Law on Railway Transport of Hazardous Goods. The abovementioned Laws set forth the most up-to-date regulations on the railway transport. In combination with related secondary acts, they incorporate the entire EU legislation to Poland's legislative system.

In spite of years of restructuring in the area of railway transport and related extensive legislative framework, there are still some problematic areas:

- A comprehensive national transport policy is still to be developed;
- Some secondary legislative acts are still to be enacted;
- Inadequate financial support to passenger rail carriage;
- Inadequate financial support to the infrastructure.

1.4 Ownership structure in railway sector

Until 2000, all rail carriage operations were only provided by Polish State Railways, a State-owned enterprise. Stage 1 of the reform involved the incorporation of "Polish State Railways", a State-owned enterprise, as a company of the commercial code, while stage 2 resulted in establishing separate business entities from PKP S.A.'s assets and a separation of infrastructure management from the transport operations. The reform was based on the provisions of the Law of September 8, 2000 on commercialisation, restructuring and privatisation of "Polish State Railways" State-owned Enterprise. The most important business entities incorporated under the Law are:

- **PKP Polskie Linie Kolejowe S.A.** (PKP Polish Railways Joint Stock Company) – the manager of railway infrastructure,
- **PKP Cargo S.A.** (Joint Stock Company) – carrier of goods,
- **PKP Przewozy Regionalne sp. z o.o.** (PKP Regional Transport Limited Liability Company) – a carrier of passengers, and
- **PKP Intercity sp. z o.o.** (Limited Liability Company) – a carrier of passengers.

PKP Joint Stock Company, which has established the abovementioned companies and is now controlling the PKP Group, is not a manager of infrastructure and is not involved in transport operations. PKP PLK S.A.'s stockholders are: State Treasury (66%) and PKP S.A. (34%). In the event of privatization or liquidation of PKP S.A., State Treasury will take over the stock of PLK S.A. now owned by PKP S.A. Moreover, the stock of PLK S.A. held by PKP S.A. and State Treasury are not transferable. The other companies listed above are entirely owned by PKP S.A.

PKP PLK S.A. is a company of strategic importance to the central government in terms of its responsibilities of general public interest. Access to railway infrastructure under management of PKP PLK S.A. is open to any potential user on a non-discriminatory basis.

During the period of PKP reform, licenses for transport operations were granted to businesses other than PKP Group companies and today a number of businesses operate in the railway sector: a few infrastructure managers and several dozens of carriers.

1.5 Infrastructure Minister's supervision over PKP Group member companies

The Law of September 8, 2000 on commercialisation, restructuring and privatisation of PKP State Enterprise defined the scope of supervision over PKP Group member companies by the minister in charge of transport.

PKP S.A., or the company controlling the PKP Group, is entirely owned by the State Treasury. Minister in charge of transport is representing State Treasury in the company. Minister in charge of transport appoints, as General Meeting of PKP S.A.'s stockholders, members of the Board of Management and Supervisory Board of the Company. Other responsibilities of the General Meeting of Stockholders are defined by the Articles of Association.

Minister in charge of transport exercises the following rights regarding PKP PLK S.A.:

- To represent State Treasury in the Company (to exercise stock rights),
- To approve Articles of Association of the Company or any amendments thereof,
- To nominate candidates for appointment as Supervisory Board members by the General Meeting of PLK S.A.'s stockholders.

In addition, any transfer of PKP S.A.'s and PKP PLK S.A.'s assets with a market value assessed at over EUR 50,000 is subject to approval by the minister in charge of transport.

As part of the supervision, the Minister of Infrastructure has prepared the "Program for continued restructuring and privatization of PKP Group member companies through 2006". The Council of Ministers approved the Program in December 2003. Currently, the Program is being prepared for modification and updating.

PKP S.A. is responsible for owner's supervision over carrier companies – members of PKP Group.

1.6 The structure of railway market:

This overview of Poland's railway market will focus on the following two aspects: railway carriers and managers of railway infrastructure. The overview is limited to general information, while more details on this subject can be found in section 4 of this document and appendices thereto.

2. Licensed railway companies:

As of January 25, 2005, the President of the Office for Railway Transport has granted a total of 90 licenses for rail carriage of passengers and goods and for provision of rail haulage vehicles, as well as 51 licenses to railway carriers. In accordance with Railway Transport Law of March 28, 2003, the license is a certificate of entrepreneur's capability to perform as a railway carrier and authorizes to engage in business activities in the area of rail carriage of passengers or goods or to provide rail haulage vehicles. The licenses granted fall into the following categories:

- 18 licenses for rail carriage of passengers,

- 47 licenses for rail carriage of goods,
- 25 licenses for provision of rail haulage vehicles.

An updated list of license railway carriers as of January 25, 2005 is attached as Appendix 1 hereto.

The managers of railway infrastructure:

- 18 infrastructure managers operate today in Poland under the following provisions of Railway Transport Law dated March 28, 2003:
 - **Art. 5.3** – 6 managers, who are allowed to perform maintenance haulage only, as infrastructure manager operations are separated from those of railway carriers,
 - **Art. 5.4.1** – 1 infrastructure manager, who is authorized to provide passenger transport services,
 - **Art. 5.4.2** – 11 managers authorized to provide transport services, who are not obliged (**or are prohibited from**) lending their infrastructure for use by other railway carriers, of which 1 manager is authorized to transport goods only, 4 are authorized to transport passengers only, and 6 are authorized to transport passengers and goods.
- 11 infrastructure managers, who are exempted from the obligation to provide access to their facilities, operate railway lines of the following lengths:
 - Standard gauge: 38.63 km,
 - Wide gauge: 394.65 km,
 - Narrow gauge: 629.00 km.

3. The role of competition and the role of regulation

For which railway services are you relying primarily on competition in order to achieve the objectives mentioned in the first question? Precisely, what is the form of the competition? Is it the competition from other modes of transport (intermodal competition) or mainly from other carriers operating in a specific rail sector (intramodal competition)? Does it involve primarily competition for the right to provide a specific range of services (competitive offers or a market-oriented competition) or competition between railway enterprises that are active market players (i.e. a conventional “on the market” competition). Does competition occur between vertically integrated companies or rather between companies, which provide transport services using the infrastructure owned by another company?

From the viewpoint of responsibilities of the Office for Protection of Competition and Consumers, the railway sector is composed of two key markets: the market of access to railway infrastructure and the market of rail carriage. The market of access to railway infrastructure is vertically separated from that of rail carriage. The model of separation applied is legal separation (i.e. arm’s length companies), rather than ownership rights separation (the companies are members of a single capital group - or PKP S.A.).

Railway infrastructure access services, which are traded on the first of the aforementioned markets, are offered under natural monopoly held by a single supplier - Polish Railway Networks ("PLK").¹

The second market is that of rail carriage. The market of railway transport is structurally competitive and subject to regulation. Railway carriers operate on that market. The market of railway transport is composed of two segments: the market of passenger transport and the market of freight transport. The market of passenger transport is a structurally competitive market. However, the competition is still very weak on that market. According to the Office for Protection of Competition and Consumers (UOKiK), a poor return on passenger haulage is one of the reasons behind inadequate competition on that market. The largest carriers are: *PKP Przewozy Regionalne*, *PKP SKM*, *Intercity*, *WKD*. The market of freight transport is competitive, in spite of a high degree of concentration². In the opinion of UOKiK, the competition is increasing as evidenced by a steadily growing number of operators other than those from PKP SA. Group.

According to UOKiK, the competition prevailing on the market of freight transport is not of intermodal nature. This is substantiated by UOKiK's surveys of both railway carriers and customers using the services of those carriers. The surveyed businesses were asked to compare the level of substitution between rail and road transport modes.

A vast majority of surveyed railway carriers stated that the services are not a substitute for each other. The key argument stated by the supporters of this view was that they are unable to switch from rail to road transport over a short period of time.

Also a vast majority of customers was of the opinion that rail and road transport is not a substitute for each other. In theory, most of them were able to switch from rail to road transport. In practice, however, several factors make the swap problematic.

These include in particular the bulk nature of the rail transport, it is also relatively safer comparing to road transport. Another important consideration is that rail transport is more cost-effective than road one in case of long-distance haulage of freight.

According to UOKiK, intramodal competition is developed to the limited extend in the market of railway transport. A very strong concentration in the market of freight transport is the reason behind limited intramodal competition.

4.

For which railway services are you relying primarily on regulation (i.e. on governmental supervision over pricing, quality, capital outlays, etc.) in order to achieve the objectives mentioned in the first question? Which aspects of the sector regulators attempt to control?

How the regulation attempted to ensure that acceptable standards of service and safety of transport and effective levels of recurrent capital investments are maintained? How effective had been the regulation?

What is the size of government subsidies to the railway sector (from federal, central and local governments)? Are the subsidies targeted at ensuring a concrete input to the railway sector (e.g. is the subsidy limited to the finance of new infrastructure capital projects)? What measures are adopted by the government to limit the amount of subsidies (e.g. strict regulatory audits, competitive bids, etc.)?

4.1 *Railway transport areas subject to regulation*

The Railway Transport Law of March 28, 2003 set forth the regulatory framework for railway transport in Poland. Art. 13 of the Law states that the President of the Office for Railway Transport is the competent authority for regulation of railway transport and enumerates the following areas subject to regulation:

- **Fees for the use of railway infrastructure.** ORT's President is responsible for ensuring that the fees are set properly by a manager and for approval of such fees; In addition, ORT's President is responsible for ensuring that all railway carriers are given equal treatment by infrastructure managers in this respect and handling carriers' complaints;
- **Equal access of railway carriers to railway infrastructure.** In addition, ORT's President is responsible for ensuring that all railway carriers are given equal treatment by infrastructure managers in this respect and for handling carriers' complaints;

ORT's President shall deliver his responsibilities of railway market regulator in collaboration with competent authorities for counteracting monopolist practices by infrastructure managers and railway carriers.

4.2 Overview of government subsidies to Poland's railway sector

4.2.1 Subsidies to regional passenger transport

The setting up of a subsidizing of regional passenger rail carriage in framework of public utility obligations is the responsibility of voivodship (regional) government and as such is financed from its own revenues. This obligation is resulting from the provisions of Railway Transport Law dated March 28, 2003 in reference to the Law on Local Government Revenues of November 13, 2003. In 2004, voivodship governments have allocated the amount of PLN 431.1 million (in total to Regional Transport, WKD and SKM Companies) to passenger rail carriage. The planned budgets of voivodship governments for 2005 foresee a total amount of PLN 504.8 million to be allocated to passenger rail carriage. In 2002 and 2003 regional rail carriage services received an amount of PLN 300 million in subsidies from the central government. In addition to abovementioned subsidies, PKP Regional Transport Limited Liability Company received from its owner - PKP S.A. (Joint Stock Company) – an equity contribution in the amount of PLN 300 million per annum.

4.2.2 Subsidies to infrastructure projects

Capital projects of railway lines of national importance and those implemented under international treaties are financed from the central government budget. The amount of such subsidies is defined each year by the Budgetary Act. The Railway Transport Law is the legal basis of those subsidies. The Budgetary Acts for the years 2002 – 2005 allocated the following subsidy amounts:

- PLN 163 million in 2002,
PLN 191 million in 2003,
PLN 270 million in 2004,
PLN 92 million in 2005.

Additionally, the funds from the central budget's earmarked reserve, item 10 headed "Expenditures on European Integration, including the finance of Common Agricultural Policy, funds from the EU budget, including railway infrastructure projects implemented by PKP PLK S.A. , the implementation of programmes under the Schengen Financial Instrument, the building of electronic information exchange platform for the legislative process between national parliaments of the European Union (IPEX) and coverage of exchange rate differences under the EU financed programmes" are to be allocated to the aforementioned areas in the amount of PLN 4,268,540 million in 2005 (to all projects, of which approximately PLN 540 million to the projects submitted by PKP PLK S.A.). Moreover, additional subsidies have been allocated from assistance funds of the European Union under structural funds (approx. EUR 285 million) and the Cohesion Fund (approx. EUR 625 million) for the years 2004-2006.

4.2.3 Rolling stock upgrading and acquisition subsidies

Rolling stock projects are funded from the central budget and own revenues of voivodship governments. The Railway Transport Law is the legal basis of such expenditures.

A budgetary subsidy in the amount of PLN 550 million was allocated to regional passenger rolling stock upgrading/purchase in 2004. The subsidy was allocated as follows:

- PLN 250 million – to rolling stock projects under Voivodship Contracts for voivodship authorities, pursuant to Council of Ministers' Ordinance dated March 16 on the adoption of the Support Programme for 2004; voivodship authorities have disbursed a total amount of PLN 41 million in 2004.
- PLN 150 million – to PKP Regional Transport Company for co-financing of projects implemented from the EU structural funds under Sectoral Operating Programme - Transport, to purchase, repair and upgrade passenger rolling stock,
- PLN 150 million – to PKP Regional Transport Company for the financing of passenger rolling stock purchase/upgrading projects; in 2004, the Company disbursed PLN 50 million from this fund.

In addition, PLN 50 million was disbursed on rolling stock upgrading/purchase from the European Regional Development Fund.

5. Vertical integration issues

Please list the most important infrastructure categories or sectors. You may sub-divide or categorize your infrastructure according to different aspects: by ownership (if there are two or more network owners in your country), by track gauge or velocity, by functional use (regional versus intercity networks) or according to regulatory status (if granting access is mandatory), and so on.

Two legislative acts should be quoted in order to describe existing Poland's railway infrastructure. As of today, it is possible to present detailed information about infrastructure managers operating under Railway Transport Law of June 27, 1997. A description based on existing legislative framework under Railway Transport Law dated March 28, 2003 will be available as soon as relevant reports on infrastructure managers are collected and processed.

Railway infrastructure management was subject to licensing under Railway Transport Law of June 27, 1997. As of **2003**, 13 companies held infrastructure management licenses. Total length of railway lines **under management** (active, suspended, disused) was **24754.54 km** at that time, while the length of active railway lines was as follows:

Table 15. TOTAL: 20760 km.

Table 16. INCLUDING THE SIDINGS AND STATIONS: 39 125 km.

TYPE OF THE LINE	TOTAL LENGTH	OF WHICH PKP PLK S.A.
Standard gauge	19 653 km	19 256.6 km
Wide gauge	573 km	178.4 km
Narrow gauge	534 km	0 km

95.82% of all active railway lines (in terms of length) was under management of PKP Group. In terms of rated top speed (expressed as km/h), the length of railway lines was as follows:

- $120 < V_{\max} < 160$ - 2 327 km
- $80 < V_{\max} < 120$ - 10 911 km
- $60 < V_{\max} < 80$ - 6 822 km
- $V_{\max} = 60$ - 9 388 km

As of **2004**, 18 infrastructure managers operated in Poland under the following provisions of Railway Transport Law dated March 28, 2003:

- **Art. 5.3 – 6** managers, who are allowed to perform maintenance haulage only, as infrastructure manager operations are separated from those of railway carriers,
- **Art. 5.4.1 – 1** infrastructure manager, who is authorized to provide passenger transport services,
- **Art. 5.4.2 – 11** managers authorized to provide transport services, who are not obliged (**or are prohibited from**) lending their infrastructure for use by other railway carriers, of which 1 manager is authorized to transport goods only, 4 are authorized to transport passengers only, and 6 are authorized to transport passengers and goods.

11 infrastructure managers, who are exempted from the obligation to provide access to their facilities, operate railway line of the following lengths:

- Standard gauge: 38.63 km,
- Wide gauge: 394.65 km,
- Narrow gauge: 629,00 km.

6.

For a given kind of infrastructure and a railway service provided, does infrastructure owner/operator must ensure access to the infrastructure to independent railway carriers so that they are able to deliver specific services? If not, then does infrastructure owner/operator voluntarily (i.e. on a non-mandatory basis) provides other train operators with access to his traction? If yes, then to which enterprises and for what kind of service?

The issues of railway infrastructure management and access to infrastructure facilities are regulated by Chapter 2 (“Railway Infrastructure”) and Chapter 6 (“Access to Railway Infrastructure and Fees for the Use of Railway Infrastructure”) of Railway Transport Law dated March 28, 2003.

In accordance with the general principle of abovementioned regulations, infrastructure manager is obliged to provide access to its railway infrastructure upon application from licensed railway carriers and in line with the rules of train route allocation and the use of allocated train routes.

Railway carrier must confirm that it meets specific prerequisite requirements in order to be eligible for access to railway infrastructure. Infrastructure manager allocates train routes as part of its train traffic timetable, considering available capacity and any limitations that may occur due to the requirements for its own maintenance haulage. Infrastructure manager must define in its regulations the approach to the determination of traffic capacity requirements for its own maintenance haulage (Art. 30.9).

As explained in sections 1 and 4 of this study, 11 infrastructure managers are exempted under the Law from the obligation to provide access to their railway facilities under operate railway line of the following lengths:

7.

If infrastructure owner must provide independent railway businesses with access to the infrastructure in to deliver specific services, then please answer the following questions:

What are the general premises behind the decision to impose on infrastructure owner the obligation to provide access to its facilities? For example, is intended to promote competition? Or to extend the range of “uniform” services?

What is the general nature of regulations governing the provision of access? Which body is responsible for setting the price, terms and conditions of access (including infrastructure capacity allocation)? Are prices, terms and conditions of access set in advance or only upon dispute occurrence? How the access to congested sections of the infrastructure is handled? Who is responsible for ensuring the quality of track infrastructure? Who is responsible for ensuring that track infrastructure modernisation projects are implemented in a timely and efficient manner?

How the fees for access to track infrastructure are structured? Is there a fixed component of the fee (i.e. a component that is calculated independently of the level or nature of train operator's activity)? Are there any fees for the nominated train route, for actually operated train, per kilometre, per passenger or per ton of freight carried? Are different fees charged for various sections of infrastructure? Do they vary depending on the type of passengers or freight carried? Are they equal in peak and out-of-peak hours? How do they reflect the quality of infrastructure? Are there separate fees for other facilities, such as the use of stations or humps? Are access fees raised above marginal costs to recover fixed costs of railway infrastructure? If yes, then what percentage of the total infrastructure costs should be recovered from access fees?

What is infrastructure owner's share in total train traffic at a given section of the infrastructure? (i.e. whether the owner of the traction is providing freight but not passenger haulage, the share of traction owner in the entire train traffic – freight and passenger haulage combined – at a given section of the infrastructure).

Does infrastructure owner/operator provide train haulage services using its infrastructure? If yes, then what kind of services? Is infrastructure owner/operator prevented from providing specific services? If yes, then what kind of services?

For each case describe your experience from specific approach. Which new market entrants took advantage of the access to offer new railway services and how this affected prices, productivity, quality, etc.? What market share is held by such new companies (in their respective markets)? Have independent railway carriers filed any complaints? What did they complain for – infrastructure use fees? Capacity allocation? Delays? Infrastructure quality? Were there any concerns about the impact of new entrants on the infrastructure – are they responsible for any infrastructure damage?

Generally, does the experience gathered in your country suggest that the obligation to provide access to infrastructure is likely to bolster up competition (with or without vertical separation)? Does the experience gathered in your country suggest that it is possible to resolve regulatory problems associated with access regulation (including the need for ensuring incentives to maintain infrastructure quality and invest in upgrading projects)? Does your experience indicate that infrastructure owner should be prevented from providing rail carriage services? Do you have any other comments on the advantage of structural separation in railway industry?

7.1 *Providing access to railway infrastructure*

In accordance with railway infrastructure access regulations, as described above, infrastructure manager is obliged in Poland to provide railway carriers with access to infrastructure facilities, with the exception of cases discussed in sections 1 and 4 of this study.

The issues of access to railway infrastructure are regulated in detail by the provisions of Railway Transport Law and Infrastructure Minister's Ordinance of April 7, 2004 on the terms and conditions of access to and use of railway infrastructure.

The abovementioned legislative acts state that: Granting access to railway infrastructure consists of allocating train route to a railway carrier and enabling the carrier to use necessary railway infrastructure facilities. The manager is obliged to provide access to railway infrastructure against applications submitted in accordance with rules and regulations for allocation of train routes and the use of allocated train routes by licensed railway carriers. A railway carrier is acquiring the right to use train route, as allocated and included in train traffic timetable, upon signing an agreement with the manager.

Infrastructure manager is planning for train routes to be entered to the traffic timetable on the basis of requests submitted by railways carriers. The request for allocation of train routes should be submitted at least 6 months before the planned effective date of train traffic timetable.

In accordance with existing legislative framework, infrastructure manager allocates train routes to railway carriers considering:

- Priority given to passenger carriage and public service obligations;
- The obligation to deliver carriage imposed by the provisions of Carriage Law;
- The obligation to make available train routes, which have been used by the same railway carrier under previous train traffic timetable;
- Framework agreements;

Granting access to railway infrastructure is understood as enabling:

- A train to stay and move along railway lines, as per train route specified in the agreement;
- The use of necessary manager's railway infrastructure facilities along the allocated train route.

Infrastructure manager is responsible for providing access to railway infrastructure, including among other things the responsibility to set up procedures for submission and handling of train route allocation requests, railway infrastructure parameters, terms and conditions for the use of railway infrastructure or the scope of services associated with access to railway infrastructure. At the same time it is manager's

responsibility to set up rules and regulations so that railway carriers are given equal treatment at all stages of cooperation and carriage operations are made in a safe and efficient manner.

7.2 Fees for access to railway infrastructure

The issues of fees charged for access to railway infrastructure are regulated in detail by Infrastructure Minister's Ordinance of April 7, 2004 on the terms and conditions of access to and use of railway infrastructure. The procedures applicable to the setting and charging of fees for access to railway infrastructure are as follows:

- The manager is setting the fees for the use of in infrastructure by railway carriers,
- The fee for the use of railway infrastructure is calculated considering the costs to be incurred by the manager on allocation of train routes and railway infrastructure and on making them available to the carrier.
- The total fee for the use of railway infrastructure is the sum of basic fee and additional fees,
- Unit rate of basic fee is calculated depending on line section category (line category)³ and train type, separately for carriage of passengers and goods,
- Unit rate of basic fee is calculated for one train passing a distance of one kilometre,
- Basic and additional fees are not charged for a passage of maintenance trains,
- Manager may apply a different profit margin to specific types of trains,
- Unit rates of basic and additional fees are published upon approval by the President of Office for Railway Transport.

In consideration for basic rate, the manager is obliged to provide services consisting in particular of:

- Enabling train passage on tracks, line junctions and stations along the allocated or substitute path;
- Providing manager's installations and facilities for full technical and commercial service of the train at railway stations or other points of call of carrier's train along the allocated train route.
- Providing access to traction line along the route of carrier's train, including switching, shunting and other operations as required for preparing the train for departure and upon its arrival, according to the approved timetable;
- Traffic control and management; providing, upon carrier's request, train passage information on: time of departure from the starting station, actual time of arrival to the destination or station of call where coupling, decoupling of cars or locomotive swap is planned according to the timetable; time of failures, accidents or disruption occurrence that may affect the passage of carrier's train.

Basic fee may be charged for services other than those listed in regulation, if the manager is capable of providing such services.

Furthermore, manager may charge additional fee for such services foreseen by regulations as: supervision over passage of trains carrying hazardous cargo, delivery of water, compressed air, filling or distributing fuel from manager's installations, providing supplementary train passage information, preparation or allocation of a train route other than initially requested. Infrastructure manager may extend the range of services provided against additional fee by including services agreed upon by the manager and the rail carrier.

Infrastructure manager may apply discounts in the form of decreasing indexes and surcharges in the form of rate increasing indexes. The indexes must reflect the rates of increase or decrease of costs that may occur at that time. The Ordinance provides for a detailed specification of such events. It is imperative that any indexes decreasing or increasing the basic rate are applied to all carriers.

Unit basic fees are specified in dedicated tables applicable to specific train types:

- Rated passenger trains;
- Non-rated passenger trains;
- Freight trains and single locomotives;
- Intermodal carriage trains;
- Service trains.

Each of the aforementioned tables contains S_{ij} rates that are calculated from the following formula:

$$S_{ij} = (k_{ij} + l_{ij} + w) \times (1 + m)$$

The terms of the formula denote:

- k_{ij} variable unit cost of one train-kilometre,
- l_{ij} fixed unit cost attributable to one train-kilometre,
- w shared costs
- m profit margin.

Rate calculation is based on the assumption that total fixed costs include depreciation, ongoing maintenance costs including related labour expenses, costs of traffic management including related labour expenses, plus shared costs, while variable costs cover the balance of costs other than shared costs.

Unit fixed and variable costs are calculated for specific table items according to the Ordinance, while shared costs are attributed to each train-kilometre planned.

With the abovementioned rail infrastructure access fee setting and charging system, Poland's largest infrastructure manager (PKP PLK S.A.) recovered approx. 92.2% of its costs from revenues in 2003.

8. Enforcement of competition regulations

Have you ever dealt with a merger that might potentially bring about significant changes in structural arrangements of the rail sector? (such as a merger of infrastructure supplier and a carrier or a merger of two

vertically integrated rail undertakings competing with each other)? Was that merger approved? Please describe the terms and condition of that merger.

Have you ever handled any complaints concerning the abuse of dominating position in that sector? Was the abuse connected with access to key infrastructure facilities, such as track infrastructure? Do you believe that vertical separation would discourage access denial by infrastructure owner? How was that case handled?

Have you ever dealt with a concert party case in that sector? How the investigation ended?

8.1 *Case against the PKP Cargo: Abuse of dominant position via the system of anticompetitive rebates*

On 30th June 2003 the President of the OCCP launched an investigation against the PKP Cargo S.A. ('PKP Cargo') – the dominant undertaking on the Polish market of rail freight transport. The case has been initiated upon the complaint from Sped Pro S.A. ('Sped Pro') – forwarding company operating on the market of rail freight transport. In its complaint Sped Pro claimed that the PKP Cargo abused the dominant position it has on the aforementioned market, by applying a system of discriminatory rebates, in its relations with forwarders.

The relevant market in the aforementioned investigation has been identified as the market for the services of freight transport by rail in Poland. Other means of transport has been excluded from the scope of the relevant market definition as no substitution has been observed between them and the rail transport. The PKP Cargo possessed a 70% of the relevant market, therefore it was considered as an entrepreneur with a dominant position.

In due course of the investigation the charges brought up by the Sped Pro have been confirmed.

In the long term contracts it signed with the forwarders, PKP Cargo applied different rates of rebates to *similar* undertakings (turnover and the amount of freight transported were analyzed in order to determine the degree of *similarity* between the undertakings). In addition, PKP Cargo differentiated the conditions under which it was possible for the forwarders to change the declared⁴ amount of freight to be transported via PKP Cargo in a given quarter or year. Finally, in its contracts with the forwarders the PKP Cargo, excluded certain railway stations and certain receivers from the list of destinations available to the forwarders.

On 31st December 2004 the President of the OCCP issued a decision in which he has found all above mentioned practices to be in breach with act of 15th December 2000 on competition and consumer protection ('2000 Act', 'Polish competition law'). The President issued a cease and desist order and imposed a fine of EUR 5.000.000 on the PKP Cargo.

8.2 *Case against the PKP Cargo: Abuse of dominant position via anticompetitive provisions in the long term contracts signed between the PKP Cargo and the freight forwarders*

The investigation in this case has been initiated by the President of the OCCP on the ex-officio bases. The scope of the investigation covered the anticompetitive practices of the PKP Cargo in its relations with the forwarders.

In due process of the investigation, it has been revealed that in the long term contracts signed with the forwarders the PKP cargo included provisions granting it exclusivity for transport of the goods listed in the special annex attached to each contract. Furthermore, the forwarders did not had any possibility of opting-out from including the aforementioned exclusivity clause in the contracts they signed with PKP Cargo.

The relevant market in this case has been defined similarly as in the previous case i.e. market for the services of freight transport by rail within the territory of Poland. On this market PKP Cargo has 70% of market share, therefore it was pronounced as a dominant undertaking.

The President of the OCCP found the practices of PKP Cargo to be in breach with the provisions of the Polish competition law. In his final decision the President stated that the contractual clauses imposed on the forwarders prevented them from using the services of other transport companies for many years after signing the contract, even in situations when their offer was much more competitive than the offer of PKP Cargo.

APPENDIX 1

Table 17. LIST OF LICENSED RAIL CARRIERS

Item	Applicant	Subject and scope of license	Granted on	License number
1	PPUH Kolex Sp. z o.o., 32-642 Włosienica ul. Długa 1	1.rail carriage of goods 2.provision of rail traction vehicles	29.08.2003	WPR/003/2003 UPT/004/2003
2	Chem Trans Logistic HP S.A. 02-676 Warsaw ul. Postępu 15 A current Company name: CTL Logistics S.A. 00-609 Warsaw Al. Armii Ludowej 26	1.rail carriage of goods 2.provision of rail traction vehicles 1.rail carriage of goods 2.provision of rail traction vehicles	30.08.2003 05.01.2005	WPR/006/2003 UPT/005/2003 current license number: WPR/089/2005 UPT/090/2005
3	Nadwiślański Zakład Górniczego Transportu Kolejowego Sp. z o.o. (Mining Rail Transport Limited Liability Company) 43-155 Bieruń ul. Granitowa 132 .	1.rail carriage of goods 2.provision of rail traction vehicles	08.10.2003	WPR/009/2003 UPT/010/2003
4	Pol – Miedź - Trans Sp. z o.o. 59-301 Lubin	1.rail carriage of goods	29.08.2003	WPR/002/2003
5	Kolhut Sp. z o.o. 30-969 Kraków ul. Ujastek 1	1.rail carriage of goods	27.02.2004	WPR/039/2004
6	Zec Trans Sp. z o.o. 50-220 Wrocław ul. Łowiecka 24	1.rail carriage of goods 2.provision of rail traction vehicles	29.08.2003 08.10.2003	WPR/001/2003 UPT/011/2003
7	Lotos Kolej Sp. z o.o. 80-718 Gdańsk ul. Elbląska 135	1.rail carriage of goods 2.provision of rail traction vehicles	08.10.2003 12.01.2004	WPR/007/2003 UPT/023/2004
8	Lubelski Węgiel, Bogdanka S.A.21013Puchaczów	1.rail carriage of goods 2.provision of rail traction vehicles	05.03.2004	WPR/048/2004 UPT/049/2004

9	Przedsiębiorstwo Robót Kolejowych i Inżynieryjnych S.A. (Rail Works and Engineering Enterprise Joint Stock Company) 50-950 Wrocław ul. Kniaziewiczza 19	1.rail carriage of goods	27.02.2004	WPR/041/2004
10	Transoda Sp. z o.o. 88-100 Inowrocław ul. Fabryczna 4	1.rail carriage of goods	08.10.2003	WPR/008/2003
11	Przedsiębiorstwo Transportu Kolejowego i Gospodarki Kamieniem S.A. (Rail Transport and Stone Management Enterprise Joint Stock Company) 44-251 Rybnik ul. Kłokocińska 51	1.rail carriage of goods 2. provision of rail traction vehicles 3. rail carriage of persons	28.11.2003 27.01.2004 10.11.2004	WPR/017/2003 UPT/031/2004 WPO/080/2004
12	SPED – KOL BLACHOWNIA Sp. z o.o. 47-225 Kędzierzyn-Koźle ul. Szkolna 15,	1.rail carriage of goods 2.provision of rail traction vehicles	28.11.2003 10.02.2004	WPR/020/2003 UPT/032/2004
13	COALTRAN Sp. z o.o. 03-216 Warszawa ul. Modlińska 15	1.rail carriage of goods 2.provision of rail traction vehicles	28.11.2003	WPR/014/2003 UPT/013/2003
14	Stowarzyszenie Kolejowych Przewozów Lokalnych (<i>Association of Local Rail Carriers</i>) 62-800 Kalisz ul. Godebskiego 2E	1.rail carriage of goods 2. rail carriage of persons	20.10.2004	WPR/076/2004 WPO/077/2004
15	Kolej Bałtycka S.A. (Baltic Railways Joint Stock Company) 70-676 Szczecin ul. Merkatora 11	1. rail carriage of goods	27.02.2004	WPR/040/2004
16	Kopalnia Piasku „Kotłarnia” S.A. (Sand Pit Joint Stock Company) 47-246 Kotłarnia ul. Dębowa 3	1.rail carriage of goods 2.provision of rail traction vehicles	28.11.2003	WPR/015/2003 UPT/016/2003

17	Zakłady Inżynierii Kolejowej S.J. (Rail Engineering General Partnership) 27-600 Sandomierz ul. Retmańska 11 a	1.rail carriage of goods	12.01.2004	WPR/026/2004
18	Przedsiębiorstwo Transportu Kolejowego i Gospodarki Kamieniem Sp. z o.o. w Zabrze Sp. z o.o. w Zabrze (Rail Transport and Stone Management Limited Liability Company) 41-800 Zabrze ul. Wolności 337	1.rail carriage of goods 2.provision of rail traction vehicles	28.11.2003	WPR/021/2003 UPT/022/2003
19	Kopalnia Piasku „Szczakowa” S.A. (Sand Pit Joint Stock Company) 43-602 Jaworzno ul. Bukowska 12 Current Company name: „PCC RAIL SZCZAKOWA” S.A. 43-602 Jaworzno ul. Bukowska 12	1.rail carriage of goods 2.provision of rail traction vehicles	28.11.2003	WPR/018/2003 UPT/019/2003
20	TANKPOL Sp. z o.o. 33-230 Szczucin ul. Piłsudskiego 54	1.rail carriage of goods	12.01.2004	WPR/030/2004
21	PKN ORLEN S.A. 09-411 Płock ul. Chemików 7	1.rail carriage of goods	12.01.2004	WPR/027/2004
22	Kopalnia Piasku „Kuźnica Wareżyńska” S.A. (Sand Pit Joint Stock Company) 41-300 Dąbrowa Górnicza ul. Letnia 1(Park Zielona)	1.rail carriage of goods 2.provision of rail traction vehicles	10.02.2004	WPR/034/2004 UPT/033/2004
23	Zakład Górniczo – Energetyczny Sobieski Jaworzno III Sp. z o.o. (Mining & Electricity Limited Liability Company) 43-600 Jaworzno ul. Grunwaldzka 37	1.rail carriage of goods	12.01.2004	WPR/029/2004

24	PKP CARGO S.A. 02-021 Warszawa ul. Grójecka 17	1.rail carriage of goods 2. provision of rail traction vehicles 3. rail carriage of persons	24.11.2003	WPR/012/2003
			27.02.2004	UPT/055/2004
			27.02.2004	WPO/056/2004
25	Przedsiębiorstwo Usług Kolejowych KOLPREM Sp. z o.o. (Rail Service Limited Liability Company) 41-308 Dąbrowa Górnicza Al. J. Piłsudskiego 92	1.rail carriage of goods	27.02.2004	WPR/038/2004
26	Euronaft Trzebinia Sp. z o.o. 32- 540 Trzebinia ul. Fabryczna 22	1.rail carriage of goods 2. provision of rail traction vehicles	12.01.2004	WPR/025/2004 UPT/024/2004
27	PKP Linia Hutnicza Szerokotorowa Sp. z o.o. (Steel Works' Wide Gauge Line Limited Liability Company) 22-400 Zamość ul. Szczepieszka 11	1.rail carriage of goods	27.02.2004	WPR/037/2004
28	Maczki Bór S.A. 41-208 Sosnowiec ul. Długa 90	1.rail carriage of goods	12.01.2004	WPR/028/2004
29	PKP Szybka Kolej Miejska w Trójmieście Sp. z o.o. Fast Urban Train in Tricity Limited Liability Company 81-002 Gdynia ul. Morska 350A	1.rail carriage of goods 2. provision of rail traction vehicles	27.02.2004	UPT/046/2004 WPO/047/2004
30	PKP Przewozy Regionalne Sp. z o.o. (PKP Regional Transport Limited Liability Company) 02-021 Warszawa ul. Grójecka 17	1.rail carriage of goods 2. provision of rail traction vehicles 3. rail carriage of persons	27.02.2004	WPR/052/2004 UPT/053/2004 WPO/054/2004
31	Biuro Utrzymania i Eksploatacji Gnieźnieńskiej Kolei Wąskotorowej (Gniezno Narrow Gauge Maintenance and Operation Office) 62-200 Gniezno ul. Wrzesińska 2	1.rail carriage of persons 2.rail carriage of goods	29.04.2004	WPO/067/2004 WPR/071/2004

32	ORLEN KolTrans Sp. z o.o. 09-411 Płock ul.Chemików 7	1.rail carriage of goods 2. provision of rail traction vehicles	27.02.2004	WPR/044/2004 UPT/045/2004
33	PKP Warszawska Kolej Dojazdowa Sp. z o.o. (PKP Warsaw Commuting Railway Limited Liability Company) 05-825 Grodzisk Mazowiecki ul. Batorego 23	1.rail carriage of persons 2.rail carriage of goods	27.02.2004	WPO/043/2004 WPR/042/2004
34	Żnińska Kolej Powiatowa Sp. z o.o. (Żnin Powiat Railway Limited Liability Company) 88-400 Żnin ul. Potockiego 4	1.rail carriage of persons	29.04.2004	WPO/065/2004
35	DEC Sp. z o.o. 00-831 Warszawa ul. Twarda 30	1.rail carriage of goods 2. provision of rail traction vehicles	30.03.2004	WPR/059/2004 UPT/060/2004
36	Pomorskie Towarzystwo Miłośników Kolei Żelaznych (Pomeranian Association of Railway Lovers) 81-187 Gdynia ul. Jantarowa 76/11	1.rail carriage of persons 2.rail carriage of goods	12.07.2004	WPO/073/2004 WPR/072/2004
37	Przedsiębiorstwo Usługowo- Handlowe Myślicńska Kolej Parkowa Sp. z o.o. (Myślicin Park Railway Limited Liability Company) 85-674 Bydgoszcz-Myślicinek ul. Gdańska 173-175	1.rail carriage of persons	29.04.2004	WPO/066/2004
38	Urząd Gminy Rewal (Rewal Local Authority) 72-344 Rewal ul. Mickiewicza 19	1.rail carriage of persons	28.04.2004	WPO/064/2004
39	PKP INTERCITY Sp. z o.o. 02-021 Warszawa ul. Grójecka 17	1.rail carriage of persons 2.rail carriage of goods	27.02.2004	WPO/036/2004 WPR/035/2004

40	<p>KOLEJE ŚLĄSKIE (SILESIA RAILWAYS Limited Liability Company) Sp. z o.o. 40-952 Katowice ul. Przemysłowa 10</p> <p>Current Company name: CTL Rail Sp. z o.o. 40-952 Katowice ul. Przemysłowa 10</p>	<p>1.rail carriage of goods 2. provision of rail traction vehicles</p> <p>1.rail carriage of goods 2. provision of rail traction vehicles</p>	<p>02.03.2004</p> <p>31.12.2004</p>	<p>WPR/050/2004</p> <p>UPT/051/2004</p> <p>Current License number: WPR/087/2004 UPT/088/2004</p>
41	<p>Przedsiębiorstwo Robót Komunikacyjnych S.A. (Transport Works Joint Stock Company) 30-048 Kraków ul. Czapińskiego 3</p>	<p>1.rail carriage of goods 2. provision of rail traction vehicles</p>	<p>30.03.2004</p>	<p>WPR/057/2004</p> <p>UPT/058/2004</p>
42	<p>Piaseczyńskie Towarzystwo Kolei Wąskotorowej (Piaseczno Association for Narrow Gauge Railway) 05-500 Piaseczno ul. Sienkiewicza 14</p>	<p>1.rail carriage of persons 2.rail carriage of goods</p>	<p>29.04/2004</p>	<p>WPO/68/2004</p> <p>WPR/069/2004</p>
43	<p>Miejskie Przedsiębiorstwo Komunikacyjne w Poznaniu Sp. z o.o. (Municipal Transport Limited Liability Company) 60-244 Poznań ul. Głogowska 131/133</p>	<p>1.rail carriage of persons</p>	<p>28.04.2004</p>	<p>WPO/063/2004</p>
44	<p>Rail Polska Sp. z o.o. 00-790 Warszawa ul. Willowa 8/10 lok. 11</p>	<p>1. provision of rail traction vehicles 2.rail carriage of goods</p>	<p>22.04.2004</p> <p>20.10.2004</p>	<p>UPT/061/2004</p> <p>WPR/075/2004</p>
45	<p>Przedsiębiorstwo Kompleksowej Obsługi Bocznic Kolejowych „PETKOL” S.A. (Rail Siding Comprehensive Service Joint Stock Company) 41-800 Zabrze ul. Wolności 337</p>	<p>1.rail carriage of goods</p>	<p>22.04.2004</p>	<p>WPR/062/2004</p>
46	<p>Przedsiębiorstwo Transportowo - Spedycyjne „KOLCHEM–ROKITA” Sp. z o.o. (Transport & Forwarding Limited Liability Company) 56-120 Brzeg Dolny ul. Sienkiewicza 4</p>	<p>1.rail carriage of goods</p>	<p>29.04.2004</p>	<p>WPR/070/2004</p>

47	Przedsiębiorstwo Komunikacji Samochodowej Zielona Góra Sp. z o.o. (Road Transport Limited Liability Company) 65-014 Zielona Góra ul. Jana z Kolna 2a	1.rail carriage of persons 2.rail carriage of goods	20.10.2004	WPO/078/2004 WPR/079/2004
48	Fundacja Bieszczadzkiej Kolejki Leśnej (Foundation for Bieszczady Timber Railway) 38-607 Cisna, Majdan 17	1.rail carriage of persons	04.10.2004	WPO/074/2004
49	RCO S.A 70-603 Szczecin ul. Bytomska 7	1.rail carriage of goods	23.12.2004	WPR/081/2004
50	Miejski Ośrodek Sportu i Rekreacji w Ełku (Municipal Sports & Leisure Centre) 19-300 Ełk ul. Piłsudskiego 27	1.rail carriage of persons 2.rail carriage of goods	23.12.2004	WPO/083/2004 WPR/082/2004
51	„Koleje Mazowieckie – KM” Sp. z o.o. (Mazovian Railways Limited Liability Company) 03-802 Warszawa ul. Lubelska 1	1.rail carriage of persons 2.rail carriage of goods 3. provision of rail traction vehicles	28.12.2004	WPO/084/2004 WPR/085/2005 UPT/086/2004

APPENDIX 2

Table 18. List of domestic railway carriers providing carriage services with their own rail infrastructure

Item	Applicant	Subject and scope of license	Granted on	Decision number
1	PKP Szybka Kolej Miejska w Trójmieście Sp. z o.o. PKP Fast Urban Train in Tricity Limited Liability Company). 81-002 Gdynia ul. Morska 350A	License for rail carriage of persons using rail infrastructure under applicant's management, provided that separate accounting books are kept for rail infrastructure management and rail carriage operations	27.02.2004	TRL/01/04
2	PKP Warszawska Kolej Dojazdowa Sp. z o.o. (PKP Warsaw Commuting Railway Limited Liability Company) 05-825 Grodzisk Mazowiecki ul. Batorego 23	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided than the line is not open to other railway carriers.	01.03.2004	TRL/02/04
3	PKP Linia Hutnicza Szerokotorowa Sp. z o.o (PKP Steel Works' Wide Gauge Line Limited Liability Company) 22-400 Zamość ul. Szczepieszka 11	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided than the line is not open to other railway carriers.	01.03.2004	TRL/03/04
4	Biuro Utrzymania i Eksploatacji Gnieźnieńskiej Kolei Wąskotorowej 62-200 Gniezno ul. Wrzesińska 2	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided than the line is not open to other railway carriers.	30.04.2004	TRL/04/04
5	Miejskie Przedsiębiorstwo Komunikacyjne w Poznaniu Sp. z o.o 60-244 Poznań ul. Głogowska 131/133	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided than the line is not open to other railway carriers.	30.04.2004	TRL/05/04
6	Piaseczyńskie Towarzystwo Kolei Wąskotorowej (Piaseczno Association for Narrow Gauge Railway) 05-500 Piaseczno ul. Sienkiewicza 14	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided than the line is not open to other railway	30.04.2004	TRL/06/04

7	Fundacja Bieszczadzkiej Kolejki Leśnej (Foundation for Bieszczady Timber Railway) 38-607 Cisna, Majdan 17	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	03.08.2004	TRL/11/04
8	Pomorskie Towarzystwo Miłośników Kolei Żelaznych (Pomeranian Association of Railway Lovers) 81-187 Gdynia ul. Jantarowa 76/11	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	09.08.2004	TRL/12/04
9	Żnińska Kolej Powiatowa Sp. z o.o. (Żnin Poviāt Railway Limited Liability Company) 88-400 Żnin ul. Potockiego 4	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	13.09.2004	TRL/13/04
10	Urząd Gminy Rewal (Rewal Local Authority) 72-344 Rewal ul. Mickiewicza 19	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	11.10.2004	TRL/14/04
11	Stowarzyszenie Kolejowych Przewozów Lokalnych (Association of Local Rail Carriers) 62-800 Kalisz ul. Godebskiego 2E	License for rail carriage of persons and goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	20.10.2004	TRL/15/04
12	Miejski Ośrodek Sportu i Rekreacji w Elku (Municipal Sports & Leisure Centre) 19-300 Elk ul. Piłsudskiego 27	License rail carriage of persons/goods using an organisationally separated railway line without the requirement to keep separate accounting for rail infrastructure management and rail carriage operations, provided that the line is not open to other railway carriers.	12.01.2005	TRL/02/05

NOTES

- ¹ It should be noted that Polish Railway Networks are not holding a legal monopoly for the provisions of aforementioned services (ownership of railway network) and several other undertakings own railway networks. Nevertheless, considering these undertakings hold a negligible market share comparing to PLK and that a vast majority of them use the networks for their own purposes (e.g. in-house railway), it is justified to name PLK as a holder of natural monopoly.
- ² In 2003, PKP Cargo – a dominating player on that market – held a market share of 91.38%, while market shares held by carriers other than PKP S.A. Group were not in excess of 4.3. The figures represent market shares expressed as ton-kilometres (source: Office for Railway Transport).
- ³ The Railway Transport Law and Infrastructure Minister's Ordinance of April 7, 2004 use different wordings.
- ⁴ In their contracts with PKP Cargo the forwarders obliged themselves to provide the PKP Cargo with a defined volume of freight to be transported during a given period (usually a quarter or the year) The change in the declared quota was possible only after fulfillment by the forwarder of some conditions. Those conditions were set differently by PKP Cargo in case of similar undertakings

SWEDEN

Summary

Liberalisation of the railway sector in Sweden began in the 1980s, which was early by European standards. The national railway was split into a public service enterprise responsible for railway transport, SJ, and a Government agency responsible for the infrastructure, the Swedish National Rail Administration. The State took on full responsibility for maintenance and upgrading of the rail infrastructure.

On a local level the County Public Transport Authorities (CPTA) were given the responsibility and operating rights for the passenger services on the county lines. The CPTAs were free to purchase the train operations from any suitable contractor – competitive tendering was introduced. Freight rail traffic was opened to competition 1996. In the late 1990s a responsibility to procure unprofitable inter-regional passenger rail services was given to a separate state authority, the National Public Transport Agency.

In 2001, the incumbent SJ was split into several limited liability corporations – one company, SJ AB, operating passenger traffic, and another, Green Cargo AB, operating freight traffic. SJ AB still enjoys exclusive rights to inter-regional passenger services on routes that it considers profitable. A new Railway Act is in force since 1 July 2004. The main feature of the law is the establishment of a rail regulator, The Swedish Rail Agency.

The advent of competition in the Swedish rail sector – introduced by stages – has had positive effects both in the form of innovations, such as new solutions offered by train operators, and in the form of reduced costs due to procurement and the streamlining of various activities. The liberalisation of the railway sector in Sweden has resulted in a number of new actors entering the market, on both passenger and freight markets, but both SJ AB and Green Cargo still have very large market shares.

Further reform of the Swedish railway market is needed. It could be questioned whether there are sufficient arguments to justify the incumbent SJ AB being given sole responsibility for rail services on specific routes. In addition, access to essential common functions in the market should be guaranteed to all actors, on transparent and non-discriminatory terms.

There is a strong need for an internationally functioning railway market in Europe. Current efforts in the EU to develop a common internal railway market with harmonised rules and standards, therefore, will profoundly affect the efficiency of the Swedish railway market, too.

In the Swedish rail sector, the prerequisites for infrastructure-based competition are limited or in practice non-existent. Entry regulation is therefore important for competition between the incumbent and newcomers. Entry regulation can be facilitated by vertical separation and could become considerably less complex if the bottleneck is owned by the State while production is handled by a publicly-owned company or a public utility. The Swedish experience of vertical separation is that it could best be carried out in the process of liberalisation when the incumbent is still state-owned. This was the case in Sweden where the track management was separated from the other activities of SJ via the establishment of the National Rail Administration.

Overview of the Swedish Rail Sector

The Swedish transport policy

The present long-term goal and the overall objective of transport policy is to ensure socio-economical efficient and long-term sustainable transport resources for the public and industry throughout Sweden. Subsidiary objectives are accessible transport system, high transport quality, safe traffic, good environment, positive regional development and gender equal transport system. Moreover, the transport policy is built on some fundamental principles. *Freedom of choice*: households and companies should themselves decide how they are to arrange their transport. *Collaboration*: an increased collaboration between various means and modes of transport should be combined with an effective competition between various suppliers of transport services and transport options. *Decentralised decision-making*: decisions on transport matters must take place in the most decentralised forms possible with a clear division of roles between various planning actors and levels.

In addition, a variety of specific goals and objectives for the Swedish railway sector have over the past 25 years been presented in Government bills proposing steps for development of the rail market and towards liberalisation. Examples of such goals and objectives have been increased profitability for the incumbent SJ, a level playing field between road and rail, a secured future for rail transport industry, the development of rail freight traffic, higher safety, reduced costs and increased efficiency, regional development, higher competitiveness, a more effective competition, better quality and greater freedom of choice.

History of reforms

Liberalisation of the railway sector in Sweden began in the 1980s, which was early by European standards. Before 1988 the infrastructure and the railway traffic were operated by one public service enterprise, the Swedish State Railways (SJ). In 1988 the Swedish Parliament decided on a new transport policy. Responsibility for the railway infrastructure was separated from that for rail traffic. The split was primarily introduced as a means for the Government to get control over SJ's yearly financial deficits and to guarantee the preservation of a transport mode considered safe and environmentally friendly, but facing increasing competition from road transports.

However, this structural change at the same time facilitated possibilities to the first steps towards opening up the railway network to a larger number of operators. The national railway was split into a public service enterprise responsible for railway transport, SJ, and a Government agency responsible for the infrastructure, the Swedish National Rail Administration (Banverket). The model used was inspired by the road sector, where the National Road Administration had responsibility for the infrastructure. Thereby a more level playing field was created for road and rail transport. SJ was required to operate the railway traffic on commercial terms and the only additional requirement made by the State was that SJ had to show a profit. The State took on full responsibility for maintenance and upgrading of the rail infrastructure while the train operator was required to pay fees to the Rail Administration for using the infrastructure.

Furthermore, the state railway lines were divided into a trunk system made up of the existing main lines and county lines which usually carried only local or regional traffic. The County Public Transport Authorities (CPTA) were given the responsibility and operating rights for the passenger services on the county lines. The CPTAs were free to purchase the train operations from any suitable contractor – competitive tendering was introduced. The State would also purchase some services on the trunk network directly from SJ for regional policy reasons. SJ was given the exclusive operating rights for passenger traffic on the trunk network as well as for rail freight traffic on the railway network as a whole.

Subsequently, small steps were also taken to open up the freight traffic market in the formation of some freight short-lines. In 1993 the mining company LKAB got the operating rights for the Iron Ore line between northern Sweden and Norway.

A major step was taken when freight rail traffic was opened to competition in 1996. All traffic operators meeting the requirements specified by the State, and according to directive 91/440/EEC, got the right to operate freight services on the state railway network. However, already established freight traffic on a defined railway network, was given priority in track allocation. New rules also allowed the CPTAs to run passenger traffic on the main trunk network within their counties. They were also allowed to provide local or regional rail traffic across county boundaries. SJ retained its exclusive rights concerning commercially viable inter-regional passenger traffic.

Furthermore, in accordance with directive 96/18/EC, the Swedish Railway Inspectorate was appointed the responsible authority for issuing permits for operating traffic on the railway network. A special, independent entity within the Rail Administration, the Train Traffic Control, was given the responsibility for track allocation and traffic control.

The market for railway transport was in the mid 1990s completely dominated by the incumbent SJ. In addition, there were a few smaller companies which to varying degrees took part in tenders concerning regional transport as well as in the State's procurement of public services, e.g. non-commercial transport. Inter-regional services that SJ could not operate on a commercially viable basis were reported to a Government Purchasing Committee, which in turn invited to tenders for the services. The State's procurements attracted some new bidders, but for long all contracts were won by SJ. Through competitive tendering (introduced in 1992) the State's costs were, however, in most tenders reduced by 20-30 per cent with roughly the same volume of traffic.

A new transport policy was decided on by the Parliament in 1998. The policy said that "the general objective of the transport policy shall be to ensure a socio-economically efficient and in the long-term sustainable transport provision for citizens and industry in all of Sweden". The 1998 transport policy contained inter alia the following measures – a revoked track charging system with variable and substantially lowered charges (to obtain a level playing field with road transport) and improved access to essential facilities for all operators.

Furthermore, the system for subsidising unprofitable inter-regional passenger rail services was changed from a system with grants to cover deficits, to an active public procurement process. The responsibility for this process was given to a separate State authority, the National Public Transport Agency (Rikstrafiken), which was established in 1999.

Another important change with effect from 1999 concerned inter-modal competition from long distance bus traffic. The development of this market had until then been restricted by a right for SJ to block entry for bus services that could interfere with its commercial railway services. The Competition Authority had during the 1990s persistently advocated such a change.

In 1994 the private Arlanda Link Consortium (ALC) was chosen to build and finance a new line from Stockholm city to Arlanda airport. The line should provide travellers with an airport shuttle and possibilities for regional and long-distance passenger trains connecting to the airport terminals. ALC, three Swedish and two UK-based companies, built the Arlanda link as a so-called BOT-project (Build-Operate-Transfer). When the link was completed in 1999, the railway facilities were transferred to the Swedish Government. In return, ALC's train operating company A-Train AB, leases the facilities back based on an exclusive concession, which gives A-Train the right to operate the Arlanda Express shuttle until 2040. The Swedish Government has the right to terminate the agreement 2010 if the traffic is not run satisfactorily.

Other train operators have access to the tracks and for a fee (per train/passenger) they can stop at Arlanda airport. A-Train is since January 2004 owned by the Australian Macquarie Group.

In 2001, the incumbent SJ was split into several limited liability companies. Two independent operating companies were formed – SJ AB, operating passenger traffic, and Green Cargo AB, freight traffic. Real estate, maintenance, coach cleaning and IT-services were put in separate companies.

The objective was that the core business in SJ AB and Green Cargo should for the time being be directly owned by the State. The other companies should be owned by the State through the holding company AB Swedcarrier, but the intention was to eventually sell them. In a year the cleaning and IT companies was sold off.

The state-owned railway network had since 1988 been divided in trunk railways and county railways. This division was abolished 2002. As a consequence SJ AB got operating rights for passenger transport on all lines belonging to the state railway infrastructure, but the company has no obligation to run traffic. SJ AB has the right to run traffic that is commercially viable. However, there may be situations when passenger transports carried out by SJ AB affects traffic that is procured by the Public Transport Agency or a regional CPTA. The Government may in such cases restrict the operating rights for SJ. Furthermore, the CPTAs can be given operating rights on state rail infrastructure in neighbouring counties.

Recently implemented and proposed changes in the Swedish rail legislation

A Railway Committee was appointed by the Government in 2001 and was requested to propose measures to improve the efficiency of the railways and make rail passenger traffic and goods traffic more attractive in Sweden. Three reports¹ have been delivered. In June 2002, proposals for ways of incorporating the provisions of the first EU “railways package” (directives 2001:12, 2001:13, 2001:14 and 2001:16) into a revised Swedish railway legislation was presented. In a second report in November 2003, proposals on organisational and other measures to promote a positive development of rail traffic was presented. After a continued review of the railway legislation, proposals for ways of incorporating the new Convention concerning International Carriage by Rail (COTIF) into Swedish legislation, was presented in September 2004.

Main features of the new Railway Act (2004:519)

A new Railway Act entered into force 1 July 2004², implementing the proposals from the Committee’s first report and thereby inter alia fulfilling the requirements of the first railway package. It covers rail traffic and rail infrastructure as well as the conditions for using the infrastructure and associated services. Furthermore, it regulates who is entitled to organise and operate rail traffic and to manage infrastructure. The Act also contains conditions for development of the various sub-systems and components of the railway system. Two main feature of the law is the establishment of a rail regulator, The Swedish Rail Agency, and the introduction of the concept of “authorised applicant”³. The main tasks of the Rail Agency are decisions related to various forms of permits, monitoring markets, promoting effective competition and supervising safety issues.

The Railway Committee’s second, main report

In the report a model for market entry in which increased competition for passengers can be combined with a publicly guaranteed and controlled supply was proposed. The rail monopolies should be abolished, both at the operator and at the organiser level, and railway companies should be allowed to operate commercial passenger traffic in competition across the entire Swedish rail network. The partial control of this entitlement by a licensing procedure is, however, proposed in the case of scheduled passenger traffic. Commercial traffic may be part of the traffic supply but the Public Transport Agency and the CPTAs may

also choose to create the conditions for the supply through subsidies or procurement of transport or through other incentive measures. Procurement of transport services should take place when the commercial players are not considered to be able to achieve a dependable supply.

Cabotage should be allowed for international passenger traffic on the same terms as for goods, i.e. on condition that Swedish railway companies or authorised applicants are allowed to operate on the same terms in the countries where the internationally operating companies are registered. SJ AB should be allowed to carry on operations outside Sweden.

A Government bill on a new transport policy is due in late spring 2005. The recommendations of the Railway Committee will be a key part of the material on which the transport policy bill will be based.

Major market players today⁴

Passenger traffic

The state-owned companies SJ AB and Green Cargo AB are still in a very strong position in the markets for passenger and goods traffic respectively. SJ AB is by far the dominant actor in the passenger service market, with a market share of approx. 90 per cent for rail travel over distances above 100 km and approx. 50 per cent on shorter distances. In the overall rail passenger market, its share is 77 per cent. Besides SJ AB, there are about ten more market actors. A-Train, running the Arlanda Express, has a market share of around 2 per cent.

In the Stockholm area, Citypendeln, owned by the French company Keolis runs the regional commuter services (market share 9 per cent). Connex AB, another French company owned by Vivendi, runs local services on the Stockholm Metro and on a couple of local lines in Stockholm (market share 4 per cent). Tågkompaniet, a Swedish operator, runs regional passenger services in mid-Sweden (market share 3 per cent). BK Tåg, another private Swedish operator, runs regional passenger services in some provinces in the south of Sweden (market share 2 per cent). A newly established operator is Roslagståg AB, owned by Tågkompaniet (20%) and the Danish state-owned railway company DSB (80%). It runs traffic on the Roslag line in the Stockholm area. This service was earlier run by Connex.

On the inter-regional lines, the Swedish private passenger operator Tågkompaniet, until 2003 ran the night train services to the north of Sweden from Stockholm and Göteborg after winning this traffic in a tendering procedure from SJ. Connex in its turn won the second procurement round and is running the north-bound traffic from June 2003 until 2008 with an option for an additional three years. BK Tåg runs inter-regional services in the south of Sweden. The rest of the local and regional passenger service operators have market shares around or less than 1 per cent.

Freight market

The principal actor in the freight market is Green Cargo. TGOJ Trafik AB is a subsidiary of Green Cargo and together they have a market share of around 76 per cent (73+3). The Danish company Railion Denmark A/S, owned by German Stinnes/DB AG, is running freight traffic in Sweden in co-operation with Green Cargo. This traffic accounts for a market share of 9 per cent, which means Green Cargo controls approx. 85 per cent of the freight transport activities on rail.

Besides Green Cargo/TGOJ and Railion, there are around ten companies currently operating freight services. The largest of these companies is MTAB, operating the Iron Ore line with a market share of 12 per cent. The rest of the freight operators all have market shares around or less than 1 per cent.

Today, Green Cargo is owned wholly by the State, but in April 2004 the Swedish Government introduced a bill under which the State would be allowed to sell off all or part of its holdings in the company. The bill was subsequently approved by the Parliament. In addition, the Government is to acquire shares or holdings in the company that buys Green Cargo, and will also be putting up capital.

Authorities and state-owned enterprises under one Ministry

The ministry in charge of regulation and infrastructure, the Ministry of Industry, Employment and Communications, is also handling ownership interests in the state-owned enterprises and companies in the rail sector. This means that interests of e.g. The Swedish Rail Agency (Järnvägsstyrelsen), The Swedish Competition Authority (Konkurrensverket), Swedish National Rail Administration (Banverket), The National Public Transport Agency (Rikstrafiken), SJ AB, Green Cargo AB and AB Swedcarrier are residing in the same ministry.

Role for competition and role for regulation

Rail transport in Sweden comprises freight services and passenger services. The passenger traffic market may be divided into two submarkets operating under different competitive conditions: the contract market and the market for inter-regional traffic considered profitable by SJ AB. Contract services, comprising local and regional public transport and unprofitable inter-regional traffic, have been open to competitive tendering since the early 1990s. Contracts are offered by the Public Transport Agency or the CPTAs and the company that wins the bidding is normally given sole rights to the route concerned. Competitive tenders by the Transport Agency and the CPTAs have in general resulted in 20-30 per cent cuts in costs. Normally most of the cost savings has been gained in the first tender. Besides the competitive tendering, these services meet competition from other transport modes, mainly road transports (car/bus).

In the other submarket, i.e. for routes that SJ AB deems profitable, SJ AB holds a monopoly position. In this case, the only competition is that from other transport modes, mainly air traffic and road transports (car/bus).

The Swedish railways have experienced a rather favourable development. Over the past years, passenger traffic volume has reached new record levels, each year. In six years, passenger traffic has increased by more than 30 per cent. The railways continue to increase their share of passenger transport. However, the drawback of these positive developments is insufficient capacity in the rail system. Congestion is, according to the Rail Administration, an increasing problem on Sweden's, predominantly single-track based, rail system.

The freight market was opened to competition in 1996 and could now be described as fully competitive. Freight transport on rail has also developed positively with a high market share by international comparison. New market access rules in force from 1 July 2004 may further vitalise the market.

Market access comprises on the one hand the right to organise rail traffic, on the other the right to operate the trains as a rail company providing rail traffic services. Changes in this area are so far limited to goods traffic. The right to organise and operate domestic passenger traffic remains unchanged in accordance with the currently applicable provisions.

As regards freight traffic the new provisions mean that so-called authorised applicants are given the right to apply for and conclude agreements on train slots in order to organise freight traffic. A foreign company, shipper or organisation is given the equivalent right if a Swedish company or organisation is permitted to submit an application in the country in which the foreign organisation has its headquarters (reciprocity). All Swedish rail companies have access to the entire railway network to run freight traffic

services. All foreign rail companies (from EEA or Switzerland) also have access to the entire Swedish network to run international freight traffic services. Cabotage is also permitted, provided reciprocity.

The mining company LKAB has had the operating rights for traffic on the Iron Ore line between Sweden and Norway for over ten years. The first years LKAB put the traffic out to tender and later LKAB founded an independent rail freight company, MTAB. Inter alia after subsequent investments in new rolling stock it has been possible for the company to cut its transport costs by half.

The price of domestic rail travel has increased sharply over the past 25 years. Between 1980 and 2003, it increased by more than 65 per cent over and above the CPI, and between 1990 and 2003 by almost 30 per cent more than the CPI.⁵ Both high-speed train services run by SJ AB under its monopoly and local traffic procured by CPTAs show similar increases, while price changes for inter-regional InterCity and night trains are more in line with CPI. Higher prices for high-speed trains can be explained by extended and successful services in this field. Despite lower costs as a result of effective procurements, poor economy of many CPTA's under this period has put an upward pressure on prices. The price increases for CPTA procured services can also be explained by the fact that CPTA's average subsidies of this traffic have decreased from 64 per cent to 42 per cent between 1990 and 2003.⁶ The CPTA's transport activities are financed by subsidies and by fares.

However, during the same period in time the Swedish rail industry shows several positive signs when different market indicators are analysed. Produced volumes (passenger and goods), most productivity measures and general accessibility have increased, while the industry concentration ratio as well as employment has decreased. Profitability though, is strikingly low for most operators in the sector.⁷

The Rail Administration has full responsibility for the Swedish rail infrastructure. The train operators are required to pay fees for using the infrastructure. The activities of the Rail Administration, e.g. the setting of fees and allocation of capacity, are regulated mainly through the Railway Act (2004:519) and the Railway Ordinance (2004:526). The Rail Agency is responsible of monitoring and supervising the performance of the Rail Administration.

Public subsidies

Total annual subsidies transferred from the public sector to the rail sector amounts to over SEK 10 billion. Most of this, in 2003 around SEK 9 billion, is the state funding of the Rail Administration for track maintenance and investments in new tracks. This amount can be compared to the total sum of track fees the Administration charges train operators, approx. SEK 450 million, and the cost for the Rail Administration's operation and maintenance of the tracks, approx. SEK 3 billion. The purchasing of unprofitable rail traffic by the Public Transport Agency is approx. SEK 400 million per annum and the total annual costs of the CPTAs purchasing of regional rail traffic is roughly SEK 1 billion (excl. Stockholm)⁸.

The public sector's total financial support to railway traffic has increased substantially compared to the 1980s, from about SEK 3 billion to over SEK 10 billion in 2003. In addition to this, the state-owned train operator SJ AB received in 2003 a direct financial support from its owner amounting to nearly SEK 2 billion to avoid bankruptcy.

Competition Law Enforcement

From a legal point of view interest in competition issues concerning the Swedish rail transport market has essentially focused on one case, the BK Tåg case. In January 1996, the Competition Authority initiated legal proceedings at the Stockholm City Court and petitioned that the SJ should pay a fine of SEK 30 million. The Competition Authority considered that through predatory pricing SJ had deliberately infringed

the prohibition in the Competition Act against abuse of a dominant position. The Authority's view was that when railway passenger transports were being procured for some regional lines in 1993, SJ had used predatory pricing in an attempt to eliminate a competitor, privately owned BK Tåg, from the market, or to prevent new companies from entering the market. The grounds for this were that the Authority considered that SJ had applied pricing that did not cover its average variable costs for the transport in question. SJ was ordered in December 1998 by the Stockholm City Court to pay a fine of SEK 8 million. SJ appealed to the Market Court which in February 2000 upheld the decision of the City Court.

In 2001 and 2002 the Competition Authority received two complaints concerning the Public Transport Agency's procurement of night train traffic to the north of Sweden. In a first complaint in 2001 the present operator, Tågkompaniet, questioned if SJ AB and Connex, the two largest companies operating rail services in Sweden, could be allowed to co-operate in the tendering process. The two companies were pre-qualified individually by the Public Transport Agency, but they presented a joint bid and explained that the traffic would be run by a new company, jointly owned by SJ AB and Connex. Later the Public Transport Agency interrupted the tendering process and after that the Competition Authority closed its file. When the Agency initiated a new tendering process in 2002 Connex presented a bid of its own, while SJ AB chose not to participate at all. Connex won the tender in competition with Tågkompaniet. Tågkompaniet again complained to the Competition Authority, this time accusing Connex and SJ AB of having exchanged specific and secret information, bid-rigging and predatory pricing. In its investigation the Competition Authority found no grounds for Tågkompaniet's accusations and closed the file.

Vertical structural issues

Infrastructure, allocation of capacity and track charges

Through the establishment of the Rail Administration the State took on full responsibility for maintenance and upgrading of most parts of the Swedish rail infrastructure. All train operators are required to pay fees to the Rail Administration for using the infrastructure. As a general rule freight and passenger traffic use the same rail network, though there is a number of lines, especially local and regional, that always or predominantly is used for one type of traffic. Except for underground and tram services all rail services are now regulated in the Railway Act. Underground and tram services will soon be incorporated.

The present system for infrastructure charges is based on the principle of social marginal costs for track use. All charges are variable with no fixed components. Some differentiations in charges exist between freight and passenger traffic. The Swedish charges are considered low by European standards. Charges are specified as follows; a charge for freight traffic on Öresund Bridge, a track charge, a passenger information charge, a marshalling yard charge, an accident charge and a diesel charge.

New rules for allocation of infrastructure capacity will be effective during 2005. Train operations must take place in planned forms if traffic ability and safety are to be guaranteed. Where there is a scarcity of capacity, priority must be given to the operations that are most important from the point of view of socio-economic efficiency. The previous prioritising of public service traffic is removed and so-called grandfathers' rights are no longer permitted.

Track charges for the use of infrastructure shall be based on the short-term marginal cost. Charges for covering the infrastructure manager's fixed costs may only be made with the consent of the Government. Charges that reflect a scarcity of capacity may only be made in accordance with the terms the Government decides. Charges may be used as an economic instrument in the process of capacity allocation if the aim is to measure the applicant's willingness to pay for access to time slots, infrastructure, capacity at terminal areas, etc.

The Swedish Rail Agency shall in advance approve the infrastructure managers' principles for allocation of infrastructure capacity, track charges and other conditions. Disputes between infrastructure managers and operators are handled by the Rail Agency. The Agency also issues regulations, investigates accidents and is in charge of vehicle and infrastructure registers. The Agency is instructed to consult the Competition Authority concerning competition issues.

Experiences of market opening and vertical separation

The splitting of the Swedish State Railways in 1988 into the National Rail Administration and the railway operator (SJ) helped to clarify roles and responsibilities in the rail sector. This process has not yet been completed, as SJ still has a monopoly on long-distance services on routes where it feels able to operate on purely commercial terms, i.e. on routes that it considers profitable. Other routes are subject to procurement by the Public Transport Agency or the local PTAs.

The advent of competition in the Swedish rail sector – introduced by stages – has had positive effects both in the form of innovations, such as new solutions offered by train operators, and in the form of reduced costs due to procurement and the streamlining of various activities. Despite stiffer competition, the Swedish State via SJ AB still accounts for the overwhelming bulk of passenger services by rail. This is due in no small part to the fact that SJ AB has a legal monopoly on those routes that the company deems profitable. SJ AB decides for itself which routes are profitable or unprofitable, and this gives it a significant competitive edge over other operators. SJ AB also takes part in the tenders for unprofitable traffic.

While SJ enjoys exclusive rights to passenger services on routes that it considers profitable, it is not under any obligations regarding either service levels or traffic content and prices. The only requirement made by the State is that SJ must show a profit. In other words, there are no guarantees that the needs and interests of travellers are accommodated at a reasonable price.

Further reform of the Swedish railway market is needed. It could be questioned whether there are sufficient arguments to justify the incumbent SJ AB being given sole responsibility for rail services on specific routes. SJ AB's exclusive right to profitable inter-regional passenger services should consequently be phased out. In addition, access to essential common functions in the market should be guaranteed to all actors, on transparent and non-discriminatory terms.

The rail freight market has been subject to competition to a greater extent than passenger services. However, this market, too, is still completely dominated by the State, through Green Cargo/TGOJ.

TGOJ Trafik is a subsidiary of Green Cargo. The Competition Authority has stated its view that the Government can enhance competition in the rail freight by making TGOJ Trafik a company in its own right, completely detached from Green Cargo. TGOJ is a freight operator with extensive knowledge of the Swedish railway market, and were it to become independent it could represent a genuine alternative to Green Cargo.

There is a strong need for an internationally functioning railway market, and further development of the Swedish railway market is contingent not only on national measures but also on decisive progress being made on streamlining the common European market. Sweden is already one of the most open markets in the EU. Despite this, only a limited number of new companies have established a presence in Sweden. One important reason for this is probably the lack of technological and safety interoperability standards found in the various national markets in Europe. Europe's rail companies cannot make use of the same equipment etc, simply and efficiently in different markets. Current efforts in the EU to develop a

common internal railway market with harmonised rules and standards, therefore, will profoundly affect the efficiency of the Swedish railway market too.

The Competition Authority is of the opinion that there have not been very clearly stated goals and objectives from the Government for the development of actual intra-modal competition in the rail sector. When better or effective competition has been discussed in Government bills concerning transport policies it has rather been in the sense of overall increased and effective competition between different modes of transport. However, the splitting up of the incumbent into infrastructure and operation services and the responsibility given to the CPTAs to organise regional passenger traffic, indirectly facilitated the start of competitive tendering for rail services in Sweden.

Moreover, the opening of the rail freight market in 1996 introduced possibilities for intra-modal competition on the network for rail freight services. The development of the freight market towards a competitive market with different competing operators has been slow, though. Among other things, this may be a result of underestimating the importance of non-discriminatory access to rolling stock as well as essential facilities like stations and terminals, service and maintenance facilities, marshalling yards etc. The situation has gradually, but very slowly, been improved. The Railway Committee has presented a comprehensive set of measures, both structural and regulatory, aiming to address these problems. The Government bill on transport policy due in late spring 2005 is expected to address these issues.

In the Swedish rail sector, the prerequisites for infrastructure-based competition are limited or in practice non-existent. Entry regulation inclusive of non-discriminatory third party access is therefore important for competition between the incumbent and newcomers active downstream in the value chain.

Entry regulation has been facilitated by vertical separation and has become considerably less complex due to the fact that the bottleneck is owned by the State while production is handled by a publicly-owned company or a public utility. A specialised infrastructure company has less incentive to limit competition than a company that both controls infrastructure upstream and operates in the service market downstream in competition with newcomers. Vertical separation has reduced the need for market regulation and control, i.e. supervisory costs are lower.

The Competition Authority is of the opinion that a strict separation, functional and organisational, between the infrastructure owner of a natural monopoly and competitive operations is necessary for well-functioning markets. The Swedish experience of vertical separation is that it could best be carried out in the process of liberalisation when the incumbent is still state-owned.

NOTES

- ¹ *Right on track* (SOU 2002:48), *Railways for passengers and goods* (SOU 2003:104) and *A comprehensive railway legislation* (SOU 2004:94).
- ² A transitional regulation concerning new rules on allocation of capacity and track charges, implies that these rules are not expected to be effective until 1 of July 2005.
- ³ An authorised applicant – a shipping agent, consignor, freight costumer etc. – have the right to organise transports and apply for slots, without being a train operator.
- ⁴ Market shares presented in this section are calculated from the variable track charges paid to Banverket. Sources: Banverket/*Liberalisation, rules and markets* (SOU 2005:4)
- ⁵ Source: Swedish Competition Authority (*Monopoly Markets in Transition*, p. 144) and Statistics Sweden, SCB. *) The relative price is calculated as the ratio of the subindex for rail travel (passenger services) to CPI overall, yearly average.
- ⁶ Source: *Liberalisation, rules and markets* (SOU 2005:4)
- ⁷ Source: *Liberalisation, rules and markets* (SOU 2005:4)
- ⁸ Sources: National Rail Administration, Public Transport Agency and CPTA/SLTF.

BOOKS AND RESEARCH PAPERS

Further information about the Swedish rail reform process is available in these reports.

Restructuring Sweden's railways: The unintentional deregulation, Jan-Eric Nilsson, Swedish Economic Policy Review, vol. 9, (2002), nr 2, s. 229-254.

http://www.ekradet.konj.se/sepr/Nilsson_9_2.pdf

Spåren efter avregleringen, Gunnar Alexandersson, Staffan Hultén, Lena Nordenlöw, Guy Ehrling, KFB-Rapport 2000:25 (in Swedish) <http://www.kfb.se/pdf/R-00-25.pdf>

The Problem of Predatory Bidding in Competitive Tenders – a Swedish Case Study, 2003, Gunnar Alexandersson and Staffan Hultén.

http://www.idei.fr/doc/conf/rai/papers_2003/alexandersson.pdf

SWITZERLAND

(1) Overview of the rail sector

Introduction

Switzerland's passenger traffic is highly concentrated along a few routes between the major urban centers (Zurich, Geneva, Basel, Bern, Lausanne, St. Gallen, Lucerne, Lugano). The distance between these centers is relatively small (usually around 100 kilometers). A high population density and the location of the urban centers lead to a congested railway network on several lines, especially during the day. For the same reason and due to the geological profile, construction of new tracks is complex and time-consuming.

The role of intermodal competition in passenger transportation in Switzerland is limited to individual road traffic. Inter-city bus services do not exist. Furthermore, air transport is not a competitive threat except for international services.

Strategy and objectives

The general underlying Swiss policy aims at transferring transport "from the roads to the tracks" and thus at rendering railway transport a more attractive alternative to the roads. Article 84 of the Swiss constitution explicitly states that as much as possible, alps-crossing freight from border to border has to be transported by railways.

The first pillar of the federal strategy is an investment programme in the railway networks, which will strengthen the competitive position of the rail sector by expanding capacities. The second pillar is a tax on heavy trucks, which - since it affects a large number of European trucks crossing the country - was negotiated with the European Community in the bilateral agreement on land transport. The third pillar aims at the liberalization of railway freight services in order to raise competition and thus make the transfer from road to rail transport as cost efficient as possible.

To summarize, the objectives are environmental (as laid down in the constitution), but also economical (efficiency; competitiveness in a globalised environment) and political (as Switzerland has a bilateral agreement on land transport with the European Union).

History of reforms

Since 1996 the Swiss rail sector has been the object of a step-by-step liberalization and a continuous market opening. In 1996, subsidization of regional public transportation was unified as a first step of equitable treatment of the incumbent SBB, other railway undertakings and regional bus services.

Railway Reform I (1999)

As an important step from an economic perspective, "Railway Reform I" aimed at assuring non-discriminatory network access. Additionally, SBB enjoyed a debt-relief and was transformed into a "special corporation" with entrepreneurial objectives.

The incumbents were obliged to organizationally and financially separate their infrastructure from freight and passenger services at least by adopting a divisional structure. In the following, the vertically integrated incumbents SBB, BLS and RM built a joint track allocation body. The law that has come into force with Railway Reform 1 prescribes the basic principles of network access by the infrastructure managers. An arbitration commission settles disputes between railway infrastructure and train operating companies.

The market for freight transportation was completely liberalized (“open access”) for Swiss railway undertakings. It is noteworthy that open access in freight services market is limited by congestion of infrastructure. Traffic is not prioritized considering willingness to pay, but by accounting for the priorities prescribed by law. The first and foremost priority is thereby allocated to regular passenger transport, be it long-distance or regional.

National long distance passenger transport running at regular intervals is still exclusively reserved to SBB (the concession for national passenger transport is running out in 2007 for most lines). Only for irregular passenger transport, an open access regime is in force. Also since 1999, regional passenger transport running at regular intervals, which is also monopolized, *can* be put to tender by the ordering canton.

Upcoming reforms

“Railway Reform 2” seeks to further improve the steps already undertaken. In the liberalized market of freight transportation, the main issue is still centered on non-discriminatory network access. In order to ensure non-discriminatory access even better, the current reform project suggests that the arbitration commission may initiate proceedings also on its own without a formal complaint by the parties. Furthermore, Railway Reform 2 will create a train path allocation body that will be completely independent from existing railway infrastructure operators.

In passenger transportation, the role of competition for the market will be strengthened by simplifying tendering procedures. However, all further liberalization measures must ensure that the quality of today’s coordinated services and the unified price structure remain untouched.

Major players and ownership structure

SBB

- largest of the former monopolists in the Swiss rail sector
- “special corporation”, 100% of the stocks are owned by the Swiss Confederation
- SBB consists of two divisions with separate accounting (Passenger Traffic, Infrastructure) and has several subsidiaries, including
 - SBB Cargo AG (freight services)
 - SBB Alptransit AG
 - Others, namely cargo services in Germany and Italy
- Revenues amounted to 6’490 million Swiss Francs in 2003.

BLS Lötschbergbahn AG

- Corporation with the following ownership structure: Canton of Berne 65%, Swiss Confederation 18%, Others (municipalities and private individuals) 17%
- BLS consists of two divisions (Passenger Traffic and Infrastructure) with separate accounting and has several subsidiaries, including
 - BLS Cargo AG (Ownership structure: 78% BLS, 20% Railion Deutschland AG, 2% Ambrogio Trasporti SpA)
 - BLS AlpTransit AG (100% owned by BLS): A company that is constructing the new Lötschberg-route through the alps by order of the Swiss Confederation
- Revenues amounted to 481 million Swiss Francs in 2003.

Other railway undertakings

Rail tracks of approximately 1'800 kilometers length are operated and maintained by 48 other vertically integrated, small to very small railway companies, which are mostly owned by cantons and/or municipalities. Most of these providers are niche players, e.g. operating narrow-gauge railways.

In freight services, the German TX Logistik GmbH (privately owned, Trenitalia has a minority share of 15%) and Rail4Chem (privately owned by Hoyer Logistics, VTG Logistics, BASF and Bertschi Logistics) have recently entered the market.

Literature

Additional information on railway reform in Switzerland is available on the website of the Federal Office of Transport at www.bav.admin.ch.

A comprehensive study on the liberalization of network industries (including the rail sector) in Switzerland and other European countries has been conducted by PLAUT economics on behalf of seco in 2003 and is available online in German at:

www.plaut.com/switzerland/public/publikationen/studien/Plaut_Liberalisierung_Netzsektoren_2003.pdf

Also in German, an independent study on competition intensity in the Swiss rail sector by Mirconsulting and the Swiss Federal Institute of Technology Lausanne is available online at:

www2.epfl.ch/webdav/site/mir/shared/import/migration/bahnreform.pdf

(2) Role for competition

In recent years, several forms of competition have been introduced for different types of services.

Freight service

Freight service has always been characterized by a high level of inter-modal competition, particularly from road traffic. The market share of railways declined from 67 percent to 31 percent since 1960¹. Competition between different types of transport modes, however, was distorted to some extent by

government subsidies and external effects. An important objective of the ongoing reform thus is to improve cost transparency and the costs-by-cost principle.

In addition to inter-modal competition, freight service was opened to intra-modal competition in 1999. Today, several rail companies compete for the transport of goods on the rail network. This was made possible by the introduction of the principle of “open access” to the existing infrastructure at regulated prices. As a result of increased competition, competitors are slowly gaining market share (see question 6 for details).

Increasing inter- and intra-modal competition has had implications for the prices charged for freight service. According to the already mentioned study by PLAUT economics, the average revenues from freight service per ton and kilometer decreased by more than 45 percent between 1990 and 2000.

Passenger Transport

International passenger traffic is subject to inter-modal competition from low-cost airlines. As a rule of thumb, the railway is competitive in the business travel segment up to journey times of 3 to 4 hours.

In national passenger traffic, SBB has been granted a monopoly position until 2007. SBB has to operate profitably and no subsidies are paid for this type of service.

Regarding regional passenger service, a tender system has been introduced in 1996. The cantons can tender certain lines to rail or bus companies. This system thus introduces competition for the market to some extent. See box “Competitive tenderings for regional passenger services in Switzerland” for details.

Box 11. Competitive tenderings for regional passenger services in Switzerland

The first alternative provider of passenger services on SBB infrastructure was Mittelthurgaubahn (MThB). As early as 1997, SBB subleased a few lines (infrastructure and the right to provide passenger as well as cargo services) in eastern Switzerland to MThB, whose majority was owned by the Swiss Confederation, the Canton of Thurgau and municipalities. The lines were subleased after a request by the Canton of Thurgau and a following directive by the Swiss Federal Council. There was no formal tendering procedure. The sublease was declared to be a pilot project for 10 years whose objective was to verify whether regional railway undertakings could provide regional railway services more efficiently than SBB. MThB started with an concept of “revitalization”, renovating old stations, buying new state-of-the-art regional trains and densifying timetables without charging more to passengers or demanding additional subsidies from the state. The revitalization concept led to an immediate growth in passenger volume (1.3 million passengers in 1997, 2.6 million passengers in 1999). Increased quality and the apparent commercial success led to an optimistic public view on the project. In cargo services as well, MThB managed to triple the transport volume. At the same time, SBB spokesmen wondered how MThB had been able to lower prices that much. But in August 2002, the region was shocked by a sudden statement of MThB that it had accumulated losses of at least 30 million Swiss Francs and that the undertaking was near to bankruptcy. In the course of the following debt settlement, SBB took over the line from MThB again and MThB shrank to an almost pure maintenance service provider. Two years later, former members of the board of MThB were accused of forgery of documents and indiligent management. In spite of financial failure of MThB due to management mistakes, it is not doubted that MThB was successful in improving quality and revitalization of formerly poorly managed lines. Quality and service on the lines managed by SBB again continue to be on a higher level than before the MThB episode.

In another case, the Canton of Thurgau in 2000 issued an invitation to tender for a new link service from Konstanz to Zurich. A couple of small alternative providers showed strong interest in the line and

submitted their proposals. However, SBB reacted by densifying its timetable on the same line while the tendering procedure was still running. It was stated that capacity problems in Zurich Mainstation made it impossible to introduce additional trains only between Zurich and Konstanz, while SBB was able to provide additional services by extending existing lines that ended in Zurich before. In the following, the tendering procedure was suspended. One can state that it was (potential) competitive pressure that forced SBB to expand its supply between Zurich and Konstanz. From that point of view, the method of competitive tenderings was a success – because a better service is now performed at the same cost level.

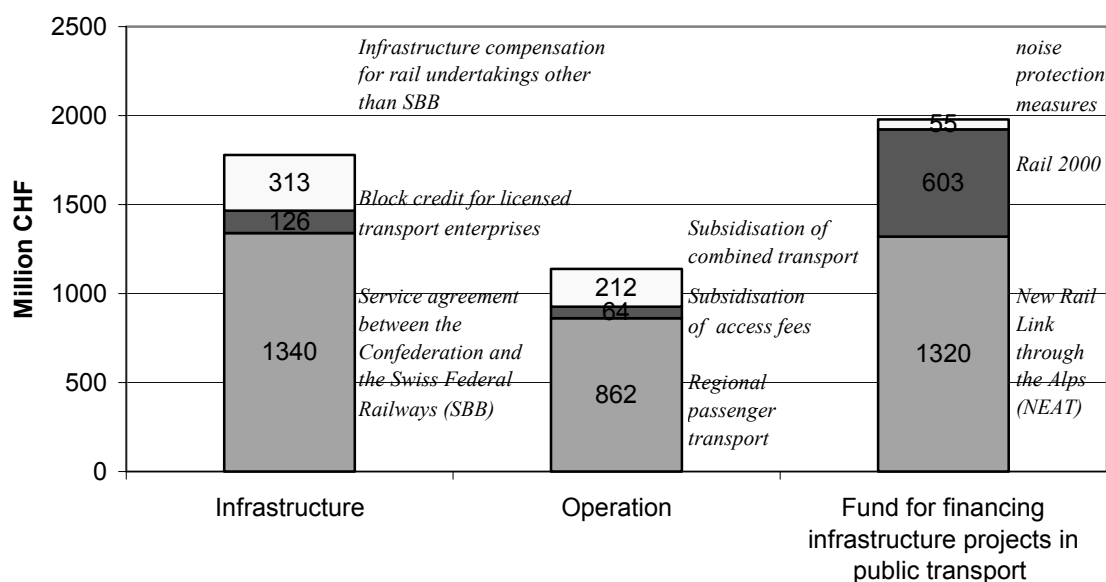
In rail transport, no other tendering procedures have been put out so far to our knowledge. However, there have been around twenty tenderings for various regional bus services. Alliances between regional bus undertakings, SBB and smaller railway undertakings were observed. At least six tendering procedures led to a change in the operating company and a tendency towards reduced costs for the ordering cantons or municipality could be observed.

Infrastructure

In order to guarantee open and non-discriminatory access to the infrastructure, organizational and accounting separation between infrastructure and operation has been introduced in 1999. However, there is no legal separation between infrastructure and operation, which thus is vertically integrated.

Subsidies

As mentioned above, national long-distance passenger traffic is not subsidized and must cover its cost. In infrastructure and regional passenger transport, subsidies persist (see figure).



(3) Role for regulation

The operation of railways requires an authorization of the Federal Office of Transport. The objective of this provision is to assure that only enterprises that are able to provide a reliable service are given access to the infrastructure.

The law defines minimum prices for access to the incumbent's infrastructure, which are equal to the marginal cost of a given connection (see below). Consumer prices are not regulated by the authority, although there is some political influence on them (e.g. by the price surveillance authority).

An independent arbitration commission may intervene in case of disputes between competing rail operators and take decisions regarding access to the infrastructure and access prices.

(4) Major categories of infrastructure

The Swiss railway network infrastructure (5'063 km in total) is jointly used for inter-city, regional and urban commuter services as well as freight services.

Structure by owner

- **SBB's** infrastructure division owns and maintains rail tracks of 3'007 kilometers length as well as 809 railway stations (including most major stations)
- SBB's passenger traffic division currently has an exclusive concession for national long-distance passenger transport
- SBB's passenger traffic division operates almost all regional and commuter passenger traffic (exceptions: regional service of Berne, which is operated by BLS, and some regional lines that are operated by local monopolists)
- **BLS'** infrastructure division owns and maintains rail tracks with a length of 245 kilometers
- BLS' passenger traffic division operates the regional rail service of the Berne region
- BLS Cargo AG is in an alliance with the German Railion (formerly Deutsche Bahn Cargo) and has been gaining market share in freight transportation since the beginning of the liberalization (12% in 2003 measured in ton kilometers)
- An infrastructure of approximately 1'800 kilometers length is operated and maintained by 48 **other** small to very small railway companies, which are mostly owned by Cantons and/or communities. Most of them are niche players, e.g. operating narrow-gauge railways.

Vertical structure

The Swiss rail sector consists of one large (SBB), smaller (BLS, SOB, RM, RhB, MGB) and several very small, usually vertically integrated railway undertakings. The Federal Railway Act requires railway operators to organizationally and financially separate the infrastructure from the other parts of the undertaking (very small operators can be exempted from this rule). Accordingly, SBB, BLS and RM have adopted a divisional company structure with a separated infrastructure division.

(5 and 6) Mandated access and access pricing

A main objective of "Railway Reform 1" in 1999 was to improve productivity and efficiency by introducing competitive elements through mandated access. In the Federal Railway Act, which was amended in the course of "Railway Reform 1", it is laid down that if any licensed railway undertaking wishes to use the network infrastructure of another railway undertaking, it is up to the parties to convene

the conditions of access and compensation along the rules set out below. In case of dispute between parties, an independent arbitration commission can be engaged for settlement.

Access conditions

Concessioned undertakings have to grant non-discriminatory access to railway undertakings that have been authorized by the Federal Office of Transport. Authorization requires a license and a safety certificate, which are granted by the competent federal office if certain objective requirements are met (minimum financial capacity, sufficient qualification of the staff, security of the locomotives and rolling-stock, employment conditions comparable to the existing railway undertakings). Additionally, the Federal Office of Transport considers the priorities laid down in the Federal Railway Act. The first and foremost priority is thereby assigned to the regularly scheduled passenger transport². The arbitration commission may decide in cases of disputes regarding non-discriminatory access.

Access pricing

The Federal Network Access Regulation defines the access prices in detail. The total fee is composed of base fee and a supplementary fee. The fees are predefined and published on the internet. Discounts are not allowed.

The base fee is composed of a *minimum fee* and a *contribution margin*.

The *minimum fee* thereby equals the “normal marginal cost that incur on a modern infrastructure” and is fixed by the Federal Office of Transport for a specific train path depending on energy consumption, performance-related maintenance, a contribution to the personnel cost and additional personnel and maintenance cost of main stations, but only if the train stops, begins or ends there by request of the accessing undertaking.

The *contribution margin in regularly scheduled passenger services* is fixed by the Federal Office of Transport as a percentage of revenue after consultation of infrastructure owners, transport service providers and (if applicable) orderers. It is foreseen that contribution margins are revised periodically.

The *contribution margin in other services (which are freight services and irregular passenger services)* is defined for each train path by the infrastructure operator. Conditions are laid down in detail in the Federal Network Access Regulation and are in practice determined depending on net ton kilometer or gross ton kilometer.

The supplementary fee depends on the additional services such as shunting, exceptional stops etc.

Fees are variable and do not include a fixed cost component. With few exceptions, they are the same for every train path. The inclusion of contribution margins means that infrastructure cost that are above marginal cost are partly covered.

Market shares of track owners and alternative providers

As described before, the former monopolists are vertically integrated and are allowed to deliver passenger and freight services themselves. From the available data, only market shares on the whole network can be calculated, but not for each track owner separately.

The market share of SBB in freight services has been continuously declining since the beginning of the liberalization. Measured in ton kilometers, it dropped from 94% in 2001 to 92% in 2002 and 88% in

2003. BLS Cargo's share has conversely grown from 6% in 2001 to 8% in 2002 and 12% in 2003. The market share of other providers is currently below 1%.

In passenger services, there have been no changes in the past years. The market share of SBB measured in the total of person kilometers is around 97%.

Achievement of objectives

In a study on the liberalization of network industries (including the rail sector), quality and price of rail services in five European countries was assessed by PLAUT economics³. According to the study, the price level in freight services in Switzerland between 1990 and 2000 was significantly above the average of Germany, France, Sweden and the United Kingdom, while the price level for passenger services in Switzerland were below average⁴. However, the prices in freight services in Switzerland were declining somewhat faster in Switzerland than in other countries from the mid-nineties. Although no clear statement is possible yet from this trend, it could be an indication that the liberalization (and before 1999 even the announcement of liberalization) in freight services has increased efficiency. The quality measures in the study show that at the same time, quality was stable at a high level (referring to accidents per million train kilometers) or even further improving (when referring to punctuality). The study concludes that the performance of the Swiss rail sector considering price and quality was good relative to the other countries in the study.

Another positive indicator for the efficiency of the incumbent in passenger services is that SBB was successful at competitive tenderings for regional passenger services in southern Germany against Deutsche Bahn. Also, SBB has increased labour productivity by about 40 percent between 1996 and 2001, while governmental compensation decreased by about 10 percent in the same period⁵.

The objective of increasing market share of the rail sector in freight services has not been met so far. Prices fell even faster for freight services on the road than in the rail sector. Accordingly, the trend to a growing market share of freight transportation on roads is still continuing in spite of the introduction of a tax on heavy trucks and liberalization progress. Thus, the rail sector failed to increase productivity in freight services as much as needed to compete with road traffic.

(7) Competition Law Enforcement

In January 1999, the Swiss competition Commission received a complaint of Lokoop, a competing train operator. It accused SBB, the vertically integrated incumbent operator, of abusing its dominant position. Lokoop had requested access to certain of SBB's lines. In addition, it demanded additional services from SBB, such as the shunting in several of SBB's stations. SBB insisted on offering the requested services only as a complete package.

The Swiss Competition Commission found indices of a possible abuse of a dominant position and therefore opened an investigation in February 2000. In particular, SBB's behavior was apt of impeding market entry by a potential competitor.

During the investigation, SBB adapted its behavior, offering the requested services to Lokoop. Therefore, the investigation was closed.

Conclusions and Outlook

The history of railway liberalization in Switzerland is still short. While the market for long-distance passenger services is de facto closed and competition in regional passenger services is limited to competition for the market, the market for freight services has been opened up continuously. While there

are positive indicators regarding efficiency in the rail sector, neither a negative nor a clearly positive trend regarding quality and security was observed.

In freight services, the short period after liberalization brought a declining market share of SBB and slightly lower prices. So far, other than Deutsche Bahn with BLS, only a few small competitors have entered the market (Rail4Chem, TX Logistik). As a consequence of the falling prices in road transportation, the rail sector lost market share.

In passenger services, performance of the incumbents seems to be good as far as it can be judged from the available indicators. Performance could have been influenced positively by the steps towards more entrepreneurial responsibility in the rail sector and the organizational separation of infrastructure from other parts of the incumbents. Competitive pressure from the possibility of tenderings and the temporal limitation of SBB's exclusive license to provide the profitable inter-city passenger services might have had a positive influence on efficiency as well. Insofar, *potential* competition could have been enough to drive the performance of the Swiss rail sector above the European average.

While access is legally guaranteed and has also been judged as open and transparent by several studies, there are still drawbacks that could have prevented additional competitors from entering the market. One of them is that the train path sales agency is legally part of the incumbents. However, this will be remedied with Railway Reform 2. Like in other European countries, opponents also criticized the multiple roles of the Federal state who is acting at the same time as owner of the SBB, railway regulator, supervising authority and as orderer of services.

With the current proposal of "**Railway Reform 2**" liberalization of the Swiss rail sector will slowly continue. SBB, BLS and the other incumbent railway undertakings will remain vertically integrated while being able to benefit from mandated access on competitors' infrastructure. It is expected that the consolidation of the smaller railway undertakings will continue and that this will lead to increased competitiveness of the whole rail sector. Furthermore, it is planned to simplify the tendering procedures and to strengthen their role. Additionally, the arbitration commission will be legally authorized to investigate independently in certain cases, whereas a formal request is needed today.

NOTES

- ¹ However, the market share of railways remained very high in alps crossing freight transportation (63% in 2003).
- ² The notion „regularly scheduled“ is somewhat incomplete. It means not only that the trains run regularly, but also that the schedules are interlinked, leading to an almost closed and very dense timetable system. In German, we use the term “Taktfahrplan”, in French “l’horaire cadencé symétrique”.
- ³ Vaterlaus, Stephan, Heike Worm, Jörg Wild, Harald Telser (2003): Liberalisierung und Performance in Netzsektoren. Bern: Strukturberichterstattung Nr.22 des Staatssekretariats für Wirtschaft.
- ⁴ The price level in freight services was defined as average earnings per ton kilometer in CHF at running exchange rates. The price level in passenger services was defined as average earnings per person kilometer in CHF at running exchange rates. A drawback in this calculation method is that subsidies are not considered. Due to lack of comparability, the authors abstained from including them in the calculation.
- ⁵ Labour productivity is measured here as the sum of person kilometers and ton kilometers divided by the number of employees. Source: Swiss Federal Statistical Office.

UNITED STATES

The United States government's statutory objectives for the railroad industry stress the efficiency and viability of the industry balanced against the need for "reasonable rates," "fair wages," "public health and safety," and "energy conservation."¹ Congress adopted these objectives when it passed the Staggers Act in 1980. At the time, large segments of the railroad industry had been consigned to bankruptcy, so Congress aimed to revitalize the industry by reducing regulatory oversight.

There are four major freight railroads and one intercity passenger railroad in the United States. The major US freight carriers also face competition from the Canadian railroads (Canadian National and Canadian Pacific) for transcontinental and other traffic; the Canadian railroads have US subsidiaries that also compete for traffic. The freight railroads are vertically integrated while Amtrak is, aside from its ownership of the Northeast Corridor, vertically separated. Other than the Northeast Corridor, Amtrak operates over the freight railroads' infrastructure. The following table lists these companies, their ownership structure, the services they provide, and their owned track miles.

Table 19. Major US Railroad Companies²

Company	Ownership	Services	Owned Track Miles
Burlington Northern	Publicly held equity	General Freight	24,674
Santa Fe CSX	Publicly held equity	General Freight	19,181
Norfolk Southern	Publicly held equity	General Freight	16,964
Union Pacific	Publicly held equity	General Freight	27,388
Amtrak	US Government owned	Intercity Passenger	745

There are also numerous independent freight railroads that operate branch rail lines that feed into the major freight railroads. Often these firms operate on low density routes that the major freight railroads formally abandoned during the reorganizations and regulatory reforms in the 1970s. The small firms frequently operate at lower costs than the major freight railroads were able to achieve on these low density routes. More flexible work rules contribute to the financial success of these small firms. In some instances, local governments or associations of customers assisted in upgrading the tracks that the major freight railroads abandoned.

Several major metropolitan areas have commuter rail services or have subway systems that operate on rails. Nearly all of these systems are owned and operated by state, local, or metropolitan government bodies. Federal subsidies are often received for capital improvements on these systems. Operations often require subsidies from state and local governments. In some areas, these systems have their own tracks while in others they share tracks with freight traffic.

The United States has two railroad regulatory agencies: the Federal Railroad Administration (FRA) and the Surface Transportation Board (STB). Both are housed within the Department of Transportation, a cabinet-level department within the executive branch of the US Government. FRA's regulatory objective is railroad safety. The STB focuses on the limited, residual economic regulation of the railroad industry.

On the freight railroad side of the industry, regulatory reform is largely complete. It has been nearly 25 years since Congress passed the Staggers Act that put in place the current regime. Amtrak's status is more uncertain. It receives a \$1.2 billion subsidy each year, which the Bush Administration has targeted for elimination in past years. Amtrak has received its \$1.2 billion subsidy for Fiscal Year 2005, which ends September 30, 2005.

LIST OF RELEVANT BOOKS AND PAPERS:

- Braeutigam, Ronald R. "Consequences of Regulatory Reform in the American Railroad Industry." *Southern Economic Journal*, Vol. 59, No. 3 (Jan. 1993) pp. 468-480.
- Ellig, Jerry. "Railroad Deregulation and Consumer Welfare," *Journal of Regulatory Economics*, Vol. 21, No. 2 (2002) pp. 143-167.
- Friedlaender, Ann F., Ernst R. Berndt, Gerard McCullough, John R. Meyer & Ronald R. Braeutigam. "Governance Structure, Managerial Characteristics, and Firm Performance in the Deregulated Rail Industry." *Brookings Papers on Economic Activity, Microeconomics*, Vol. 1992 (1992), pp. 95-186.
- General Accounting Office. *Railroad Regulation: Current Issues Associated with the Rate Relief Process*. GAO/RCED-99C46 (1999).
- General Accounting Office. *Railroad Regulation: Economic and Financial Impacts of the Staggers Rail Act of 1980*. GAO/RCED-90-80 (1990).
- General Accounting Office. *Railroad Regulation: Changes in Railroad Rates and Service Since 1980*. GAO/RCED-99-93 (1999).
- General Accounting Office. *Railroad Regulation: Changes in Freight Railroad Rates from 1997 through 2000*. GAO/RCED02-524 (2002).
- Grimm, Curtis & Clifford Winston. "Competition in the Deregulated Railroad Industry: Sources, Effects, and Policy Issues." *Deregulation of Network Industries: What's Next?* Sam Peltzman & Clifford Winston, editors. AEI-Brookings Joint Center for Regulatory Studies (2000), pp. 41-71.
- MacDonald, James M. & Linda C. Cavalluzzo. "Railroad Deregulation: Pricing Reforms, Shipper Responses, and the Effects on Labor." *Industrial and Labor Relations Review*, Vol. 50, (Oct., 1996) pp. 80-91.
- National Commission on Productivity and the Council of Economic Advisors, "Improving Railroad Productivity: Task Force on Railroad Productivity," Executive Office of the President (November 1973).
- Surface Transportation Board. Office of Economics, Environmental Analysis, and Administration. "Rail Rates Continue Multi-Year Decline." December 2000.
- Wilson, Wesley W. "Market-Specific Effects of Rail Deregulation." *The Journal of Industrial Economics*, Vol. 42, No. 1 (Mar., 1994) pp. 1-22.
- Winston, Clifford. "Economic Deregulation: Days of Reckoning for Microeconomists." *Journal of Economic Literature*, Vol. 31, No. 3 (Sept., 1993) pp. 1263-1289.

Aside from safety, which is directly regulated by the FRA, US railroad policy predominantly relies on competition to achieve its objectives. Amtrak's rates are completely deregulated and thus constrained only by inter-modal competition (private automobile, bus, and passenger airline) and the level of subsidization that Congress is willing to provide. Like most other passenger railways, Amtrak's costs exceed its revenues, and relies on government subsidies to stay in business.

For the freight railroads, US policy largely relies on highway carriage, internal waterway carriage, and intra-modal competition to achieve its objectives. Less than twenty percent of freight traffic is subject to regulation.³ US regulation exempts any contract shipment and certain commodities and services that have powerful highway competition. Notable among these exempted commodities and services are containers and trailers on flatcars, boxcars, non-ferrous recyclables, and certain agricultural products.

Intra-modal railroad competition is largely between vertically integrated companies, although in some instances a freight railroad operates over lines it does not own. This situation arises usually from merger conditions to ensure competition or agreements with small branch lines. These branch lines are sometimes segments of the major carrier that a smaller entity can operate without union work restrictions.

During the last twenty years railroad rates have been uniformly falling while productivity has been rising. A Surface Transportation Board study found that rail rates had fallen 45.3% between 1984 and 1999.⁴ The following table illustrates the growth in railroad productivity:

Table 20. Railroad Productivity Since the Staggers Act (1980)⁵

	1980	1985	2003
Net Ton Miles per Train-Hour	40,392	56,343	60,356
Revenue Ton Miles per Gallon of Fuel	235	282	405
Revenue Ton Miles per Employee Hour	863	1,196	3,805

The STB exists as the regulatory backstop where inter-modal and intra-modal competition is not effective and a railroad has market power. Such circumstances occur for bulk shippers (coal, some chemicals, and some agricultural products) who cannot use highway carriage and do not have economical access to an inland waterway or another railroad. In these instances, if the shipper believes a rate is unreasonable, it can bring a rate complaint to the STB for review.⁶

Since deregulation, the US freight railroad industry generally has not received government subsidies, but there are exceptions. In the 1970s, when several major eastern railroads went bankrupt, the US government took ownership control and restructured them into a single entity, Conrail. In 1987, the US government privatized Conrail and received \$1.9 billion from the new stockholders. In 1997, Conrail was absorbed by CSX and Norfolk Southern. Recently, federal, state, and local governments have been partnering with the freight railroads in an effort to reduce congestion on the passenger and freight transportation infrastructure. Examples include the Alameda Corridor in Los Angeles and the Chicago Region Environment and Transportation Efficiency project. These projects are aimed at reducing local congestion rather than enhancing inter-modal competition.

The US railroad industry is largely deregulated. Amtrak has no regulatory oversight for its prices and services. The freight railroads are subject to very limited regulation. Shippers can file rate complaints with the STB only if they do not have access to another railroad, highway carriage is not a viable option, and they lack economical access to a waterway. Shippers can also lodge service complaints with STB, and the STB has issued service orders to break severe rail congestion such as in Houston in 1997. But STB

service orders are extremely rare. The STB does not review railroad investment. The STB merely reports annually the freight railroad industry's cost of capital and if the companies are achieving their cost of capital. US regulatory policy aims at creating a climate in which the freight railroads can flourish and attract the necessary capital from private sources. However, since 1980, with a handful of exceptions, the freight railroads, while profitable, have failed to meet or exceed their cost of capital.

The FRA is responsible for rail safety. The FRA sets safety standards for rail equipment. It investigates accidents on the rail lines and at railroad crossings.

The major government subsidies to the US railroad industry are the \$1.2 billion annual federal payment to Amtrak to maintain inter-city passenger service, and the federal, state, and local subsidies for commuter rail service. Amtrak had a more than \$1 billion operating loss in 2003, so it could not maintain operations without this subsidy. Congress reviews this subsidy during the annual budget cycle. The next largest subsidy is CREATE (Chicago Region Environmental and Transportation Project). The US freight railroads are contributing \$210 million to a \$1.5 billion project, which will create five rail corridors (including one passenger), 25 new grade separations, six rail-to-rail "flyovers" to separate passenger and freight services and conversion of an elevated line to public use. This is a multi-year project. Because the project provides many public benefits, only a fraction of the government contribution could be deemed a pure subsidy to the freight railroads.

Track, stations, power, and marshalling yards are all included in the infrastructure that vertically integrated rail companies provide to non-integrated or unrelated train companies using the infrastructure. Agreements to provide access are typically voluntary – often reciprocal between two vertically integrated companies – and access is provided at an unregulated, privately contracted price, often a simple variable usage charge, sometimes with a rental component as well. In cases in which the STB mandates access, this is almost always a condition for the approval of a merger between two vertically integrated rail companies, where the STB is seeking to maintain the number of companies offering service to shippers at particular locations who would otherwise lose one carrier as a result of the merger.

Almost the entire infrastructure is owned by vertically integrated freight railway companies. Passenger service is provided by publicly subsidized Amtrak, usually by passenger trains operating on the infrastructure of the freight railway companies under voluntary access agreements. Amtrak owns some infrastructure in the Northeast, where it operates as a vertically integrated passenger rail company, occasionally providing infrastructure access to the vertically integrated freight rail companies under voluntary, private contracts.

In general, the infrastructure owner/operator – usually a vertically integrated freight railway – is required to provide access to the infrastructure by independent train operating companies only as a regulatory condition imposed by the STB to preserve competition for particular shippers following a merger of two railway companies.

It is quite common for the infrastructure owner/operator to reach a voluntary agreement with another vertically integrated freight railway to provide access for the trains of that company to the infrastructure of the first company. Such an arrangement may take place temporarily, during infrastructure repairs or improvements, for example, or over a multi-year period, in order to reduce costs or increase efficiency. Such arrangements between two vertically integrated freight railways are often reciprocal. All major US railways take part in such arrangements for voluntary access.

With very little mandated access to rail infrastructure, competition in the US railway sector may take one of three forms:

- Intermodal competition, where motor or water carriers compete directly with rail carriers for the shipments;
- End-to-end competition, where two or more vertically integrated freight railways (perhaps along with other connecting railways) may compete to carry the same cargo from origin point A to destination point B; and
- “Source” (or “geographic”) competition, where two or more vertically integrated freight railways compete to carry the same cargo from origin point A to different destination points C, D, and E, and/or two or more vertically integrated freight railways compete to supply competing cargos to destination point B from different origin points F, G, and H.

Over the past several decades, there have been a large number of mergers among the vertically integrated freight railways in the US. Most recently, as the number of independent railways servicing particular markets has been continually reduced, the Antitrust Division of the Department of Justice has opposed some merger proposals and sought the imposition of significant protective conditions on others. In general, the STB approved mergers while imposing some trackage rights conditions until the most recent Class I railway merger proposal, when it announced a new, stricter policy to preserve the remaining competition.

The following two articles are based on economists’ expert testimony in two of the largest proposed merger cases – the Santa Fe and Southern Pacific Railways, which the Interstate Commerce Commission (ICC, the predecessor to the STB) rejected, and the Union Pacific and Southern Pacific Railways, which the STB permitted with conditions.

Kwoka, John E., Jr., and Lawrence J. White, “Manifest Destiny? The Union Pacific and Southern Pacific Railroad Merger,” in Kwoka and White, eds., *The Antitrust Revolution: Economics, Competition, and Policy*, 4th ed., New York: Oxford University Press, 2004.

Pittman, Russell, “Railroads and Competition: The Santa Fe/Southern Pacific Merger Proposal,” *Journal of Industrial Economics* 34 (1990), 25-46.

Other articles discussing these mergers include the following:

Breen, Denis A. "The Union Pacific/Southern Pacific Rail Merger: A Retrospective on Merger Benefits," *Review of Network Economics*, Vol. 3, No. 3 (September 2004) pp. 283-322.

Karikari, John A., Stephen M. Brown, and Mehrzad Nadji. "The Union Pacific/Southern Pacific Railroads Merger: Effect of Trackage Rights on Rates," *Journal of Regulatory Economics*, Vol 22, No. 3 (2002) pp. 271-285. (This is the published version of a GAO study.)

There have been no publicly announced investigations by the antitrust authorities in recent years of allegations of either collusive behavior or monopolization in the freight railways sector. Concerns have occasionally been expressed about collusive outcomes from the rate negotiations that accompany agreements to interline shipments between two railways.

The STB sometimes receives complaints from shippers that they are economically “captive” to a single rail carrier and are being charged excessively high tariffs for their traffic. These complaints are usually made under the rail regulation statutes, not the antitrust statutes, though the alleged violations have clear parallels under the two sets of statutes. The STB has ordered relief to complaining shippers on a case-by-case basis when the standards that it has imposed for regulatory intervention are met.

NOTES

¹ USCA 49 § 10101.

² Association of American Railroads, *Railroad Facts*, October 2004, pp. 70, 71, 74, 76, 77.

³ US General Accounting Office, *Railroad Regulation, Current Issues Associated with the Rate Relief Process*, February 1999, p. 16.

⁴ Surface Transportation Board. Office of Economics, Environmental Analysis, and Administration. "Rail Rates Continue Multi-Year Decline." December 2000.

⁵ Association of American Railroads, *Railroad Facts*, October 2004, pp. 38, 40, 41.

⁶ The STB standard is stand-alone cost. The STB determines what a hypothetical new, optimally efficient carrier would need to charge the complaining shipper if such a carrier were to design, build and operate a system to serve only that shipper and other selected traffic. The defendant railroad is then allowed to charge no more than such a hypothetical carrier would charge to cover all its costs including capital and construction.

SUMMARY OF THE DISCUSSION

The **Chairman, Alberto Heimler**, initiated the roundtable by reflecting on the 1997 Competition Committee roundtable on the rail industry. He observed that many of the questions that were addressed in that roundtable (such as the scope for competition, setting efficient access prices, minimising the distortions of subsidies, the organisation of franchise bidding) are still key questions today. There was more confidence at that time that competition in rail might develop in a significant way, not only in freight but also in passenger services. Recent years have shown some of the difficulty in introducing competition in passenger services in rail and, to a lesser extent, in freight.

Dr Darryl Biggar highlighted some of the key ideas set out in the background paper for the roundtable. He started by noting the important differences in the environment for the rail sector in different OECD countries – such as differences in geography, urbanisation, the mix of passenger and freight services, the relative importance of different types of freight, the importance of government subsidies for the rail industry, and even differences in the public policy objectives for the rail sector. As a result of these differences across countries, although OECD countries have chosen a range of different approaches to rail industry structure, the scope for drawing important lessons and conclusions from the experience of other countries is somewhat limited.

This roundtable is focussing on the question of the appropriate structural arrangements for the rail industry – in particular, should the owner of the track infrastructure also be allowed to provide train services over that track? Different structural arrangements can apply to different services and different parts of the infrastructure. For example, we could have vertical integration for passenger services and vertical separation for freight or vice versa. The choice of the appropriate structure is closely linked with the desired form and role for competition in the industry – is it competition “in-the-market”, or competition “for-the-market” (i.e., “competitive tendering”). Is the competition between vertically integrated providers or between train operating companies providing services over a track which potentially belongs to a third party?

Some countries, particularly in North America, have a degree of effective competition between vertically-integrated rail companies. This form of competition might be encouraged in other countries with careful structural reform. Elsewhere, achieving rail competition requires some form of regulated access to the track infrastructure. As in other industries, the regulation of access to track infrastructure requires that attention be given to establishing the correct incentives to invest in and maintain the track quality, and the correct interaction between the track and the trains (the “wheel/rail interface”). These incentive mechanisms become particularly important when the track infrastructure owner provides little or no trains of its own.

If the owner of the track is also allowed to provide services over the track, he or she will usually have an incentive to use its position as owner of the infrastructure to deny access to train operators providing competing services. Regulators usually have difficulty overcoming these incentives. There may therefore be a trade-off between achieving efficient incentives for maintaining and investing in the track, on one hand, and the ability to restrict competition on the other. This suggests careful consideration of the scope for competition and the difficulty of effectively regulating access to rail infrastructure in the long term.

Louis Thompson (a rail expert who has been associated with the World Bank) observed that you must start by determining the objectives for competition (whether inter-modal, intra-modal or competition in-the-market or for-the-market) and how you will achieve them. That decision must be clearly made at the

outset and kept in mind through the deliberations. The rail industry structure should be consistent with those competition objectives.

Mr. Thompson's presentation distinguished three broad structures: the integrated structure, the dominant firm/tenant firm (or "trackage rights") structure and the separated structure. Within the separated structure we can identify three different forms – (a) accounting separation (as in the original directive of the European Union); (b) the holding company structure (in which the infrastructure appears to be separated from the operators, but both are under control of a holding authority) which differs little from accounting separation in its incentives and its operation; and (c) institutional separation (that is, the infrastructure authority cannot operate trains).

Different approaches to industry structure can be combined with different choices of public, private or mixed ownership to create a matrix of policy combinations. It is possible to find countries which have chosen virtually each one of these combinations.

There are a range of possible forms of competition, such as inter-modal competition, and intra-modal competition (whether in-the-market or for-the-market). Some countries rely almost entirely on inter-modal competition to discipline an integrated railway. Some good examples are the rail industries of China, India, U.S. freight and the Latin American concessions. Other countries look for competition *in* the market, or *for* the market. In his slide presentation, Louis Thompson identified what form of access regulation and what form of tariff regulation is appropriate for each of these kinds of structures.

Regulation must be consistent with the competition objectives and the rail industry structure. It is very hard to regulate against the incentives created by competition and industry structure. In the case of "for-the-market" competition the details of the concession contracts are a substitute for traditional forms of regulation.

It is possible to identify a number of different models of railway structure and regulation. One is what might be called the "North American model", which is heavily based on competition between integrated companies, although there is also competition between tenants on the same facility. There is the Latin American model, which relies primarily on integrated private concessions, and inter-modal rather than intra-modal competition. There is also the Japanese model, which has three large companies which are private and integrated. The national freight company is a tenant of these integrated passenger-dominated rail systems – a mirror image of the Amtrak situation in the United States and Canada. Japan also has three small integrated island companies in the public sector, and around 30 companies that have always been private *and* integrated. In regard to Russia and China, Mr. Thompson referred to the OECD Reports on these countries which elaborate how those structures are being set up and how they operate.

In the case of the United States, the rail industry features a few, large "Class 1" railroads which compete with each other on an integrated system. While there is origin-destination competition between, say, Chicago and Los Angeles, Chicago and San Francisco, and Chicago and Seattle, there are wide regions of the U.S. in which there is no railway versus railway competition. In Utah and Nevada, for example, there is virtually a single railway in the state.

The number of "Class 1" railways in the United States has decreased from around 60 in the 1970s to 25 in the 1980s, to 7 today. Countering this tendency are the "trackage rights" – or multiple use track – that is, lines which have more than one freight railway operator providing services over those lines. About 25 per cent of the system is subject to trackage rights agreements, but we do not know what percentage of the traffic itself is actually carried over these lines. The improvement in performance in the U.S. rail industry after the Staggers Act in the United States was more a result of better regulation than due to increased rail vs. rail competition.

Turning to the EU, Mr. Thompson noted that the European rail systems are passenger dominated; they are not optimized for freight. Second, the European rail system as a whole has very harmful “seams” (political, economical and technical), especially for freight, which are very hard to change. The suburban rail passenger model in Europe is basically decided – that is, if there is going to be competition it is going to be *for* the market, it is rarely *in* the market. The primary issues are the access regimes, the role of the private sector and how to control and limit subsidies. Similarly, in the inter-city rail passenger model, there are very few cases in which there will be competition *in* the market, more likely it will be *for* the market. Mr. Thompson pointed out that this implies that one might reconsider separation of infrastructure where the suburban rail system, or the intercity rail passenger system (or the high-speed rail system) is truly and totally dominant. He highlighted the case of the UK where infrastructure separation did not in fact achieve more competition in the market – it did facilitate competition *for-the-market*, but not *in-the-market*, except possibly for freight. It is rail freight that is the challenge in Europe.

From the observation that European railways are passenger-dominant, Mr. Thompson predicted that the infrastructure will remain (or even return, as in the case of the UK) to government control. In addition, he observed that this implies there can be no integrated freight competition (simply because dominant passenger system cannot be simultaneously integrated with competing freight carriers). Rail freight in Europe has little or no market power, so tariffs will not need regulation – in fact, they are not regulated today. In order to have effective freight competition, freight services will have to be totally separated from infrastructure. As long as there is an incentive for the infrastructure owner to favour one freight service over another, it is very difficult to have competition.

This competitive structure (with freight services separated from passenger services) will not arise by itself. Mr. Thompson noted with concern the tendency for the major state-owned railways to acquire other freight operations in Europe. This might limit the scope for future separation. The public sector will need to retreat from freight operations for competition to emerge. Competition will not emerge if large public subsidies are paid to current freight operators.

What would have to happen in order for this new structure to arise? Mr. Thomson pointed to the need for publication of rail freight flow data under suitable confidentiality conditions. Right now, data on origin and destination flows in Europe does not exist, or is not available. He also mentioned the need for IAS line-of-business reporting for all rail sectors in order to make sure that they are functioning independently and separately and those subsidies are not oozing from one business to another. In addition, he argued for the need for a limited number of EU-wide freight operators. Licensing and safety regulation delays also need attention. Finally, the infrastructure mark-ups and the freight and passenger balance on access charges, needs to be resolved.

Mr. Thompson concluded by noting that achieving effective performance from the rail industry in Europe is one of the great remaining challenges – in many of the other regions of the world these issues are largely resolved.

Marc Ivaldi (an economics professor associated with the IDEI at the University Toulouse) summarized some of the results of his research that has appeared in different papers. First, regarding the efficiency of the railroad industry in Europe, he observed that reforms put in place by the European Union have had a positive effect on railroad productivity. This effect was estimated to be 0.5 per cent increase in efficiency per year. Interestingly, it appears that implementing reform in a staged sequence has been more efficient than a single package. He noted that, at the present time, they have not been able to identify which of the separation systems is best – that is, we cannot say that accounting separation is better than full disintegration of the system.

Marc Ivaldi then turned to discuss work he has done with Gerard McCullough using data on the Class 1 U.S. freight railroads over the period 1980-2001. There are three main results: First, there are significant returns to density, which of course is probably one reason why we observe mergers. Second, there are economies (cost complementarities) between different services - that is, between the market for bulk and the market for general freight or inter-modal freight services. As a result we can expect to observe large market shares and large firms. Finally, a key observation is that there are vertical cost relationships between freight operation and infrastructure – possibly coming from the benefits of co-ordination.

In his work, Marc Ivaldi explored how the cost of the U.S. rail freight industry would increase if it were separated (between infrastructure and operations). The research shows this would result in a large percentage increase in cost. He also looked at the cost of separation of each of the different types of services. The large separation costs he measured do not imply that separation is inherently wrong – rather it suggests that if you are to achieve an overall increase in welfare it must be that the benefits of separation will outweigh these costs. Put another way, when you disintegrate the system you create new incentives. We have to be sure that these incentives create enough benefits to compensate for these costs.

Prof Ivaldi concluded by reporting the results of more recent research on the welfare implications of mergers. There has been a significant wave of mergers in the U.S. Were these mergers to the benefit of consumers in a broad sense? There are two primary consequences of a merger: an increase of market power, and a potential efficiency gain. Which of these two effects dominates? The three key results of the research are as follows:

- First, competition in the bulk freight market is best characterised as price (or Bertrand) competition, while competition in general freight is best characterised as capacity (or Cournot) competition. This is understandable given that most bulk freight is carried under longer-term contracts. On the other hand in other freight markets you need to offer a certain capacity to compete with trucks.
- Second, profit margins in this industry are quite high – not so high in inter-modal freight, but quite high in the bulk and general freight market.
- Third, in regard to the evolution of total surplus - up to 1992 there was a very big increase in consumer surplus; then from 1992 to 2000 the growth has been much lower; after that we observe a decrease. We do not know if this decrease is continuing. What we can say is that it corresponds to a very big merger. We have a situation in the U.S. where you have roughly four firms on the east side of the country and three on the west side of the country. In fact, there are basically two big firms on each side, which is not too far from a duopoly. And of course there are links between them because the shippers are mostly located along the border and the centre of the country.

Professor Ivaldi also noted that due to network effects it is possible to have intense competition with asymmetric market shares. For example, if a new entrant provides a point-to-point service, there will be some competition, but you can expect that the market share of the network incumbent will stay large. There is a clear advantage for incumbents in a hub-and-spoke system. The role of differentiation and the capacity to differentiate services according to the different types of consumer plays a crucial role in this type of competition.

In many cases the rail industry should be examined in the context of the complete transport market and how intra-modal and inter-modal competition work together. Professor Ivaldi noted the example of the link between Cologne and Berlin. He noted that he had shown that on this link a low-cost, high-speed train could take a large part of the market share against low-cost airlines.

In concluding, Professor Ivaldi noted that it is unlikely there will be lot of intra-modal competition in the rail sector within European countries. There is a clear need for co-operation – that is, alliances between railroad companies. An important outstanding question is the problem of determining the correct amount and type of investment. Without adequate infrastructure it will be difficult to have effective competition in some parts of Europe.

Competition in the market for train services

The **Chairman** noted that from reading the submissions, it is clear that full competition in rail seems to develop in countries that are not very densely populated, where rail is particularly important in freight transport. Some submissions referred to freight as being disciplined by inter-modal competition (particularly road transport); other submissions, on the contrary, say that this is not the case, because the goods that are transported by rail cannot be feasibly or economically transported by road.

In the case of Mexico, the national railroad was split into three railroads. All three railroads serve Mexico City, so that a shipper located in Mexico City has a choice of railroads for importing or exporting, either from the east, from the west or the north. The Mexican submission noted a very large drop in the number of railway employees. The Chairman asked how such a large reduction in employment was accepted and what policies were adopted to make it possible. The Chairman also asked about the effect of competition on tariffs and service quality and whether contract competition has arisen.

A delegate from **Mexico** replied that the restructuring of the Mexican railroad system has been relatively successful. The privatisation scheme promoted investment and the development of railroad infrastructure. New investments have enhanced efficiency and competitiveness and have led to a more modern and safe rail system. The sector's overall performance is positive, as indicated by an improvement in the quality of the service delivered to users, lower tariffs and the elimination of a large fiscal burden. In addition, some of the traffic that had been lost to road freight transport has recovered. Following privatisation rail freight tariffs have fallen by approximately 12.5 per cent. A comparison of the main operational indicators for Mexican railroads prior to privatisation in 1995, and those observed in 2003, shows that "transported tonnes" has increased by 62 per cent, and "tonne-kilometres" by 44 per cent. These increases have been accompanied with unprecedented productivity increases. Staff productivity, for example, rose by 393 per cent, locomotives by 59 per cent, cargo cars by 50 per cent, fuel by 21 per cent and traffic density by 44 per cent. Service quality and safety indicators have also shown important improvements. Damage claims per thousands of tonne per kilometre fell by 50 per cent, and accidents came down by more than 70 per cent. The large reduction in employment was achieved by government payments to the workers that were laid off.

Louis Thompson added that the reduction in labour force was so severe that, had the government not financed it, it would not have been politically achievable. These labour-reduction programmes differed among Latin American countries in a number of different ways, but were all relatively successful.

In response to a question about disputes over access to terminal services, a delegate from **Mexico** noted that the Mexican Government is not considering vertical separation for terminal facilities. Instead, it is working on a package of reforms to ensure certainty to concessionaries and to more effectively mediate or resolve conflicts between concession holders.

The **Chairman** observed that the U.S. submission highlights improvements in productivity of 50 per cent and reductions in freight rates of 45 per cent since the reform of the rail sector in 1980. How is this achieved? Is it due to longer trains?

Louis Thompson responded that the train lengths have not increased much at all. In 1980, the average train in the United States was 68.3 cars, whereas in 2003, it was 68.9 cars. There are three sources for the productivity gains in the U.S. The first source (as we heard from Mexico) is the dramatic decrease in employment. Employment in the rail industry has fallen from 532,000 in 1980 to 223,000 in 2003 – roughly 70 per cent. This reduction was facilitated by deregulation. A second source of the productivity increase is through a reduction in underutilised lines, leading to a reduction in the length of the network from 270,000 miles in 1980 to about 170,000 miles today – roughly 35 per cent. The third source of productivity improvement is the change in operations from a largely single car set of movements to a situation where three quarters of the movements on the U.S. rail network are either unit trains (meaning train-load shipments) or multiple-car shipments.

Turning to Sweden, the **Chairman** noted that although in Sweden, rail freight services had been liberalised as long ago as 1996, the state-owned incumbent operator still controls around 85 per cent of the market. There is a new entrant with a market share of 12 per cent, which is quite high relative to most other countries. In many countries, competitors in freight have less than 5 per cent market share. Notwithstanding the high share of the incumbent operator, the Swedish contribution characterises the freight market as fully competitive. Is it the case that the incumbent operator is not allowed to differentiate its tariffs across the country – between routes where it faces competition and routes where it does not?

A delegate from **Sweden** replied that, in saying that the freight market is fully competitive they meant that there are no legal obstacles to competition. At present the incumbent has 85 per cent of the market and the second largest competitor has 12 per cent. Then there are six or eight companies sharing the remaining 3 or 4 per cent. The second largest company is a mining company running their own iron ore line. That company is not competing nationally in general freight.

As to why the competition is not more intense, the Swedish delegate noted several reasons: the Swedish market is a small market on the outskirts of Europe. There is not yet full technical interoperability over Europe, so there is not yet a lot of interest from foreign companies. In addition, small newcomers in the Swedish market have had extensive difficulties fighting the incumbent. In response, the Swedish competition authority has proposed splitting up the incumbent company to try to promote more competition. In addition, the incumbent still has certain competitive advantages, such as network effects, ownership over terminals, easier access to maintenance facilities, and so on. As a result new entrants have had substantial problems, although there are no legal obstacles to competition at all.

The Hungarian submission noted that in the past year a number of new entrant freight operators have faced resistance from the rail infrastructure owner - specifically, they were not granted the train paths they wanted and the contractual terms they were offered were discriminatory with respect to the incumbent. The **Chairman** asked whether the solution to this problem was improved regulation or stricter antitrust enforcement.

A delegate from **Hungary** described the arrangements for access to track infrastructure in Hungary. The process has two stages. First, the capacity allocation body grants permission for the new entrant train operator to use part of the network. This is a regulated process, with regulated prices. Having obtained this permission, the new entrant train operator must conclude an agreement with the infrastructure manager. Some of the terms at which access must be provided are mandatory; others are subject to negotiations between the two parties.

In Hungary, new entrants have experienced difficulties in this second stage, due to two kinds of problems – delays in reaching an agreement (which is primarily a regulatory problem) and problems with the terms of the agreement (which is a matter on which the competition authority could intervene). The competition authority is currently considering such a case, involving a kind of discriminatory practice by

the incumbent operator. The competition authority believes that, working with the regulator, it can solve some of these problems.

In the Netherlands, from 1996 to 1999 there was on-track competition for passenger services on two routes (Amsterdam-Nijmegen and Amsterdam-Haarlem). However, the new entrant (Lovers Rail) was not successful and withdrew after a few years. The **Chairman** asked the Netherlands whether access to the rail infrastructure was a problem for the entrant – particularly, access to train paths and the pricing of congestion.

A delegate from **The Netherlands** replied that there were several reasons for the failure of this service. First, it was a small market with relatively few passengers. Second, the infrastructure manager and the Dutch railways (the Dutch railways is the company which provides passenger services on the mainline network in the Netherlands) were part of one holding company. Lovers complained that it was difficult to achieve a neutral capacity allocation process. That is one of the reasons there was a move to total ownership separation in the Netherlands – between the organisation responsible for infrastructure management and the organisation responsible for the operation of the mainline network (Dutch railways). Both companies are 100 per cent state owned. The problem was not charges for access to the infrastructure as, in the period when Lovers Rail was operating; there was no charge for access to the rail infrastructure. Lovers Rail provided its own trains and employees (although it had some difficulty obtaining trains since these were purchased from the incumbent).

Achieving complete co-operation between Lovers and the Dutch railways was difficult. For example, there were issues about the ticket sales at stations (the stations were owned by the Dutch railways) and about safety mechanisms. At the time there was no regulator with responsibility for setting terms of access. (As of 1 January 2005 there is now such a regulator.) This experiment with Lovers Rail ended in 1999. The Dutch Parliament then decided that there should not be competition in-the-market, but for-the-market for passengers in the Netherlands. The Parliament also decided to give a concession to the Dutch railways for the mainline network until 2015. There is also some competition for-the-market for regional networks.

In the time for general discussion a delegate from the **United States** acknowledged that the Mexican railway restructuring has been one of the great success stories in railway restructuring and liberalisation around the world. There has been a dramatic increase in productivity, direct investment and so forth. In regard to problems obtaining trackage rights – there are a couple of important points to note. First of all, the regulatory agency has ordered trackage rights in a number of cases – the problem has been that it has been very easy for the train companies to go to the courts and obtain an order (an *Amparo*) which effectively places the regulatory decision on hold. There is still some hope that there will be trackage rights in Mexico, but not at present. The delegate noted that he understood there have been virtually no voluntary trackage rights granted in the Mexican freight railway sector. The reason for this may be that the three major railways are quite afraid that if they reach an agreement on access charges, the courts and the regulatory agency will use that agreement as a template for regulated access decisions. The delegate expressed hope that the already successful Mexican experiment will become even more successful with limited regulatory access to the track infrastructure.

Vertical Separation

Turning to experiences with vertical separation, the **Chairman** turned to the European Union, where directives have imposed a weak form of vertical separation between infrastructure management and transport service. The Chairman asked three questions of the EU: First, is the objective of introducing vertical separation greater competition or better corporate governance? This is an important question, because after several years of separation we observe almost no competition in passenger services across Europe, and very limited competition in freight. In Europe, the incumbent operator has a market share

above 80 per cent in all countries and in some countries as high as 98 per cent. Second, does the Commission see a need for greater separation in rail? Third, is the Commission satisfied with developments across Europe in this respect?

The delegate from the **European Commission** noted that the approach to reform in the European Union is gradual. It has concentrated first on the freight market. There have been three so-called railway packages. The first two packages in 2001 and 2004 are primarily concerned with the freight market, while the third package (which is under discussion at the moment) also concerns international passenger services.

The delegate did not agree that the required form of separation is weak. The first railway package requires essential functions to be separated – in particular, track access charging and path allocation must be carried out by a body which is completely independent of any railway operator. This is quite a strong form of separation, and would constitute significant progress on the path to complete separation. Member States had until March 2003 to implement the first package (from 2001). The Commission's Directorate General of Transport is now in the process of verifying the extent to which Member States have implemented this first package.

The **Chairman** clarified that the form of separation is weak in the sense that it only requires corporate separation between the firm providing train operations and the firm owning the track infrastructure. That is, these two firms can be under common ownership. The submission of the Netherlands indicated the problems that can arise as a result. Even if track access was not completely blocked, life was made more difficult for Lovers Rail because of difficulty accessing maintenance services, timetable incompatibilities and so on.

A delegate from the **European Commission** agreed that there is an inherent conflict of interest arising when the same firm owns the infrastructure and provides train services over it. This is why the Commission rules require a degree of independence. The Commission is currently assessing in each Member State whether the organisational provisions that have been put in place are sufficient to guarantee this independence and to prevent that sort of conflict of interest.

The **Chairman** raised the issue of subsidies for rail infrastructure. The Chairman suggested that structural separation of track and train operations has given governments greater confidence that subsidies for track infrastructure are not being used to fund operations. As a result, governments have been more willing to subsidise track infrastructure, which has benefited incumbents. This may explain why separation has been well accepted by incumbent rail companies.

The Chairman also observed that there is a great deal of variation in the manner and extent of state subsidies in rail. In some countries, government finances all the investments, in others the government finances only part of the investments and in others, the government covers part of the running costs. There does not seem to be a common policy for state subsidies. Do the state aid provisions in the Treaty need to be implemented in a way that would ensure a level playing field, at least as regards state subsidies for rail, across the EU Member states?

A delegate from the **European Commission** agreed that the general rules on state aid in the EU should also be applied to the railway sector. There is a judgement from the Court of Justice which specifically said that in the railway sector there can be considerations of public interest. But it is important to be sure that the subsidies or public support are clearly confined to the fulfilment of the public function. The subsidies must not distort competition within the rail. Each individual case of state aid is examined as it comes up.

The **Chairman** noted the strong link between access charges and the location to which subsidies are paid. It would be possible, in principle, to have very low charges for access to the track infrastructure (as in Italy or Sweden), in which case the subsidies would need to be paid to the infrastructure owner to finance expansion (and possibly maintenance). On the other hand, it is theoretically possible to have access charges which recover the full costs of the infrastructure. The subsidies would then have to be paid to the train operators.

The Chairman's final question to the EC was related to the question of interoperability. At present the technical standards of different rail systems (such as voltages and to an extent the rail gauge) are not the same across different countries, so that locomotives have to be changed at borders. It is possible to buy multi-voltage locomotives, but they are more expensive, increasing the cost of providing services across borders. There are also issues concerning compatibility of systems for signalling, language of communication and train operating culture. Is the EC taking steps to promote a more integrated rail market?

A delegate from the **European Commission** noted that as far back 1996 there was a Directive on Interoperability of High-Speed Train Systems. This has worked well – there are several high-speed train systems which cross borders without technical problems. In 2001, as part of the first railway package, there was a Directive on Interoperability of Conventional Rail Systems. This Directive foresees the creation of technical specifications for voltage, command and control systems, gauge and so on. These technical specifications are currently being worked out – focussing first on the easy issues, where we already have quite a lot of harmonisation, and later on the more difficult issues such as harmonisation of voltage. There will be a long transition to allow Member States to replace, for example, locomotives in an orderly fashion. The European Rail Agency, which is currently being set up, will also be able to make proposals to increase interoperability and rail security.

Turning to Australia, the **Chairman** noted that Australia has also faced problems of interoperability across the networks in different states. How was this solved? Australia has also introduced vertical separation for the inter-state network. There is some in-the-market competition based on access to the track. The Australian submission noted that freight charges are very much disciplined by inter-modal competition, which contrasts with, say, the Polish submission which notes that rail and road carry different goods and do not compete. The Chairman asked whether access charges cover the full costs of the track infrastructure including depreciation. Who is responsible for investing in the rail infrastructure – the private infrastructure owner or the state?

A delegate from **Australia** agreed that it has recently solved the standard gauge problem, after living with different gauges for a century or more. It took some time to work up the appetite to undertake the investment that was required. Eventually this was funded jointly by the national and state level governments.

In regard to the question of inter-modal competition, the primary issue in Australia is the structure of road-user charges – especially user charges for heavy vehicles. A recent review of national competition policy in Australia identified road user charging for the heaviest of heavy vehicles as an outstanding issue for reform. It is these vehicles which compete most directly with the rail sector. Australia permits the use of so-called “road trains” – that is, vehicles with three and four articulated attachments to move sheep and cattle in remote areas. These vehicles inflict a disproportionate amount of damage to the road network and are a remaining area for reform.

In regard to the level of access charges and the role of the state, the situation varies on different parts of the network. There is a national access regime for the inter-state network. The access charges for the inter-state network are intended to be moving in the direction of full cost recovery (they do not currently

recover the full cost of the network). There is currently a problem with a lack of rail density. Unless rail freight can take a larger share of the market, we will not be in a position to achieve full cost recovery, and certainly not in a position to cover the cost of new investment in infrastructure.

As to who is responsible for investment in rail infrastructure, again the answer varies greatly. There are a number of privately owned railways, particularly in the North West of Australia, dedicated to carrying bulk commodities like minerals. There has also been quite a substantial investment in recent years by governments, both federal and state. For example there is a brand new rail line between Adelaide, in the south of the country, and Darwin in the north. This is a 3000 km rail line intended for freight and passenger carriage. The federal government has a programme of almost \$2 billion of investment over a five-year period to upgrade links between states. In recent times, evidence has arisen of a lack of capacity, particularly around port facilities. There are still some state-owned assets, but by and large Australia has moved to a model where the states provide an access regime and a regulatory environment. This potential for competition has been important in terms of productivity improvements, although what has been found looking back is that it was the move to commercialisation and privatisation which appear to have contributed most to efficiency and productivity gains.

The **Chairman** also asked Sweden about subsidies. According to the Swedish submission, over the period from 1980 till 2003 state subsidies increased more than three times, from 3 billion Swedish Kroner in 1980 to ten billion Kroner. Has competition played a role in moderating these subsidies?

A delegate from Sweden acknowledged that the subsidies have indeed increased, in part because the former integrated incumbent had, to some extent, neglected new investments and maintenance of the tracks, and in part because there has been a very clear wish from the government to strengthen rail against road transport. The main way of doing this has been to finance investment in infrastructure. In Italy, corporate separation was introduced in 2001 following the EC Directives. However Trenitalia, which is the transport company, was asked by the rail infrastructure company to provide some services on its behalf, for example terminal and maintenance services. The **Chairman** asked the Italian Delegation whether full structural separation would help to ensure full neutrality.

A delegate from **Italy** explained that, in 2001, the former state-owned integrated rail company (Ferrovie dello stato) split into separate legal entities - RFI (Rete Ferroviaria Italiana), the infrastructure manager, and Trenitalia, the service provider. Both are held by a state holding company. To some extent, this is a sort of intermediate solution between a mere accounting separation and a full ownership separation.

Some problems have arisen in Italy, especially in the context of freight transport (the sector with the most scope for competition) between the incumbent and a new entrant operator. Three possible examples of barriers to entry have arisen: The first relates to what is called "yard management". This involves services such as manoeuvring cranes, fuelling and so on, which are still carried out by Trenitalia, or by other multi-modal terminal operators which are part-owned by Trenitalia. This creates problems for other railway companies seeking access to the network. The second possible barrier involves access to ports. Access to marine terminals is important for developing an integrated freight network. Similar issues can be found in access to maintenance services.

In regard to the process of homologation for second-hand rolling stock and locomotives, RFI is in charge of the homologation procedure, but some tests, such as tests of engines, are still carried out by a subsidiary of Trenitalia. Officially this is due to the lack of skills and facilities at RFI. The homologation is needed to obtain a safety certificate, and the safety certificate is needed to access the network. Again, this creates a potential conflict of interest.

Greater separation between the incumbent service provider and the network manager should be introduced in order to eliminate these potential sources of conflict of interest. The Italian Competition Authority has argued this point in several opinions submitted to the Parliament and the Government. There are many possible separation options, with different degrees of difficulty in implementation, from privatisation of the freight service arm of Trenitalia, to the full separation, under an independent authority, of the network manager tasks. Unfortunately these are not actively debated in Italy at present, perhaps due to a perceived problem of handling surplus employees in the event of a privatisation or greater separation.

Over the past years Turkey has been in the process of conforming to the EU Directives. The **Chairman** asked Turkey why it has retained a legal monopoly in the manufacturing of train equipment in Turkey and why this had not been lifted before now.

A delegate from **Turkey** responded that the rail industry in Turkey is a very traditional, obsolete, and desperately needs reform to be more efficient. In the past, all segments of the rail industry in Turkey have been under the control of state-controlled enterprises. Until recently there has been no consideration given to lifting the monopoly in any aspect of the rail industry, including the monopoly in equipment manufacturing. However, the recent action plan regarding restructuring and liberalisation of the rail industry introduces competition in all aspects of rail industry.

The **Chairman** noted that Denmark has privatised its rail freight service and asked Denmark whether there have been any improvements in the way competing freight operators have been treated by the infrastructure manager? **Denmark** responded that there have not been problems concerning access to the infrastructure by other freight operators.

Louis Thompson noted that the freight service of the Danish Rail company was purchased by Deutsche Bahn (the German state-owned, corporatised rail company) – so this can be viewed, not so much as a privatisation, but as a transfer of ownership from one government to another.

Louis Thompson also noted a conflict between marginal cost pricing, which is economically efficient but not financially sufficient, on the one hand, and financially-sufficient pricing (which involves mark-ups over marginal cost) which opens the door to discrimination, on the other. This problem has been solved differently in different countries creating a patchwork of systems for any single rail operator to try to navigate.

A second problem that is emerging is the lack of horizontal separation, not just vertical separation. It is not enough to separate infrastructure from operations because that still leaves ambiguity on the operational side over cross-subsidies between inter-city passengers, suburban passengers and freight. It is not possible to be clear where subsidies are going unless you have a clear and transparent horizontal separation between the various services of the railway. This lack of transparency has, in practice, limited the effectiveness of the infrastructure separation. If I wish to compete with the freight company, how do I know that it is not being subsidised in any one of a number of ways, that its rate structure is reasonable, or that it is making or losing money?

A delegate from the **United States** observed that the issue of access to the “last mile” is extremely important. In Russia, for example, RZhD (Rossiskiye Zheleznye Dorogi, the incumbent rail company) is forced to provide access to the infrastructure, but as recently as December entrants were saying “yes they are already providing infrastructure access, but they are not providing access to the last mile”. This can be enough to defeat any regulatory regime requiring access.

In regard to charges for access, the delegate emphasised that although financially-sufficient access charges may discourage some train companies that could otherwise pay the marginal cost, marginal cost

pricing requires some form of subsidies from elsewhere, which has a cost – both the distortionary consequences of taxation and the problems of the soft budget constraint with the associated poor incentives on an infrastructure operator.

The **Chairman** responded that the choice is not between subsidies or no subsidies. If the government wants to promote rail transport (perhaps because of under-pricing of the road mode) then it must subsidise the rail sector – the only question is where those subsidies are to be paid. If you set low access charges they must be paid to the infrastructure provider. If you set high access charges (so that the infrastructure provider covers its costs) the subsidies must be paid to the train operators.

Competition For The Market

The **Chairman** observed that competition for the market is often seen as the solution to many problems. For example, the Danish submission states that by 2014 one third of all rail passenger routes will be subject to a bidding mechanism (a very high proportion). The Chairman observed that he has difficulty seeing the value in some of these tendering processes, given that there are often many constraints placed on the bidders – preventing them from changing, say, the rolling stock, the employees, the frequency of services, and so on. The competition just ends up being bidding for the chief executive officer of the company, because everything else is fixed. Furthermore, there is a problem that the company that is awarded the contract lacks an incentive to maintain the track or the rolling stock, especially at the end of the contract. Finally, the contract is never complete, so that competition for the market does not eliminate regulation. We often think that competition *for* the market is just the other side of competition *in* the market, without any need for regulation. That is never the case, as there is always regulation associated with competition *for* the market, so it is not really the same in this respect. In addition there is the hold-up problem – that if there are significant costs of the tendering process or costs of the transition to a new service provider, the incumbent provider can ask for (and can expect to receive) better terms or more subsidies.

The Chairman asked Denmark to explain the scope of flexibility of the successful tenderer – are they allowed to bring their own rolling stock, employees, managers; can they decide train frequencies? How does Denmark ensure maintenance of the track towards the end of the bidding period? Have there been a number of bidders? And how strict is the *ex post* regulation system?

A delegate from **Denmark** responded that the successful tenderer has a lot of flexibility in how it carries out its operations. The government sets the train timetables – the frequency and the integration with the rest of the transport system; the tenderers bid on the ticket prices to end-users and the subsidy from the state. The bidders can choose their own trains and employees. There was a problem that arose when Arriva (a UK company) won the first tender process, because all the experienced Danish locomotive drivers were working, of course, for DSB, the state-owned rail company. DSB had historically made arrangements with the labour unions, so that these drivers were contractually bound to DSB. When Arriva won the tender process, they had problems finding locomotive drivers that were educated in the Danish rail system. Eventually they were able to hire or train enough drivers.

There are on-going concerns over the number of bidders in each tendering process. The incumbent DSB (Danske Statsbaner) the state-owned rail company, will always bid (since they are providing the services at present). There are ways of controlling the effects of a limited number of bidders- for example you can place a ceiling on the bids that will be accepted (for example, the price consumers pay today could be a starting point).

The **Chairman** noted that in Italy there is a potential problem in that the voltage used by Italian locomotives is only used in two other countries – Slovenia and Poland. It could be difficult to obtain the

trains that the successful bidder needs from these countries. In addition if you win the bid you need the trains immediately – you cannot wait for five years to acquire the trains. Was this a problem in Denmark?

A delegate from **Denmark** responded that this was not a problem because Arriva had their own trains (perhaps, the Delegate suggested, because the UK has the same standard as Denmark). The problem for Arriva was not access to trains, it was access to drivers.

Turning to Japan, the **Chairman** noted that the Japanese rail sector was divided into six vertically-integrated passenger-based regional companies. There was also a freight operator which made use of the infrastructure of these passenger companies. Since the infrastructure owner does not provide freight services it has no incentive to restrict access to rival freight operators – which is theoretically the most promising condition for competition. But it seems that in Japan, the freight operator does not face competition – does it have a de facto monopoly?

A delegate from **Japan** responded that while there are no competing national rail freight operators, there are several companies which are providing regional rail freight services by rail, so there is some competition. Further entry to the provision of nation-wide freight services has not occurred.

The Swiss submission related the story of a tender for services between Constance and Zurich. After the Canton declared its desire to tender for the route, the incumbent operator (SBB) increased services while the tender was in process, making entry unnecessary and unprofitable. The Canton subsequently dropped the tender procedure. The Swiss submission says that even though the tender was not held, some of the benefits were achieved. The **Chairman** asked Switzerland to explain why SBB acted in this way.

A delegate from **Switzerland** replied that there was a problem with the limited availability of space in the main station in Zurich. When SBB argued that, due to congestion it was not possible to introduce new routes between Zurich and Constance, this was verified by the Federal Office of Transport. It was found that the only solution for increasing the traffic between Zurich and Constance was to extend existing services and not to introduce new services only between Zurich and Constance. The action by SBB in extending existing services was the most efficient outcome. As to why SBB did not provide a denser service between Zurich and Constance before, it seems that they were responding to the fact that competitors had become interested in providing these services.

Overall, this was a good outcome. Even though competitors do not provide these services, the threat of competition led to a more efficient outcome by the incumbent. The goal of the Canton (to increase traffic on specific lines) was also met. In the future Switzerland may need to find better ways to deal with the congestion, but this was a good outcome for now.

The **Chairman** asked France about the process of “regionalisation” of responsibility for rail in France and whether this will improve the financial discipline or performance of the French rail operator.

A delegate from **France** explained that for around 100 years, the French rail system was provided by a number of private companies. This period was accompanied by very significant growth in the network. But the growth in the rail network occurred at the same time as urbanization. From the end of the 19th century, lines were being closed. In 1936, these private companies were nationalized into a single integrated national rail operator. In the last 20 years the government has been seeking to have certain services provided by regional and local government in a process known as “régionalisation”. For example, the French parliament is currently considering passing a law which would place the majority of the airports in France under the control of regional government. In the future, regional governments will be involved in decisions concerning investment in rolling stock and the organization of services in the rail sector.

Over the last 60 years the French railway has dropped in size from 500,000 employees to 170,000 – that is, around 5,000 employees per year. This has, of course, improved the financial performance of this industry but is not yet sufficient to achieve financial self-sufficiency.

Moving to the general discussion, the **Chairman** reiterated his pessimism about the prospects for effective competition for the market, given the restrictions and requirements placed on the successful bidders and difficulties obtaining trains and drivers.

Louis Thompson responded that there are grounds for optimism. In 1990, every railway in Latin America was operated as an integrated railway by the public sector. In the year 2000 every significant railway in the Americas was operated by the private sector (with the exception of the railways in Cuba, Amtrak and VIA). All of these were carried out through competition for the market.

Two factors determine the success of these experiences: One is the power to be transferred, and the other is the allocation of risk to be taken by the two parties. The more commercial power and freedom you transfer over, for example, the size of the workforce, the greater the opportunity for the new concessionaire to provide better results. Many concessions attempt to transfer all of the risk to the new operator; that does not work if the power is not transferred as well.

It is true that regulation must continue when you have a concession, but it is a different form of regulation - much of the regulation takes the form of contract enforcement. When some concessions failed it was because the concessioner did not understand that, and they wanted to continue to regulate the operation of a concession, the power over which they had conceded in the contract itself.

The **Chairman** suggested that, at least in Mexico, what occurred could be better described as a privatisation given the very long term of the concession.

Louis Thompson replied that it depends partly on what you mean by privatisation. The terms of the concession in Mexico were 50 years for the freight concessions. In Argentina and in Brazil, the concession terms were more like 25-30 years for the freight concessions, and 10-15 years for the suburban passenger concessions and the metros in Buenos Aires and Rio de Janeiro.

Dr Biggar noted that he has observed a high degree of pessimism amongst railroad economists in the potential for competition for the market. One particular problem is: what you do in the event that a successful franchisee fails to perform? This has been a problem in Australia and in the UK. If you are tendering for passenger transport services in a major city, the disruption caused by lack of availability of services for even one day is enormous. The government cannot tolerate such an interruption. This leads to a hold-up problem, where the successful franchisee can say “well I am sorry, I made a mistake”. It might be a legitimate mistake, but they made a mistake. And the government is faced with the possibility of having to redo through the tendering process – which could be extremely expensive – or allowing the service to lapse in some way. This is a difficult issue. Is there a solution to this problem?

Prof Marc Ivaldi replied that what is important is the design of the contract. The problem is choosing the type of contract – whether a fixed price or cost-plus contract – to produce the right incentives and risk allocation. In the bus industry in France it has been quite interesting to see the difference of efficiency you can get, depending on the type of contract. It will be interesting to look more carefully at these points. Of course, in the case of the rail system, the length of the contract plays a crucial role. The franchisee needs time to make the needed investment and to earn a return on the investment.

Picking up the investment issue, the **Chairman** asked about the problem of the timing of the investment – the franchisee will invest at the start of the franchise period but not as the end of the contract approaches – whether the contract is five years or thirty years.

Louis Thompson replied that these problems of contract duration can be solved. In the UK they solved the problem by separating the infrastructure and privatising it. The same process was carried out for the rolling stock – by creating the rolling stock leasing companies they broke the linkage between the life of the asset and the life of the concession.

Mr. Thompson went on to observe that economists sometimes see the problems better than we see the results. Latin American countries concessioned their railways knowing that there were problems with concessioning, because the government-owned integrated monopolistic system had failed. Either the railways were going to die, or they were going to try something else to help the railway relate better to the market than it had in the past. Mr. Thompson expressed concern in the European context about the risks of doing nothing, and allowing other transport modes to continue to advance as quickly as they have.

A delegate from the **United States** agreed that the Latin American experience with competition for the market has in general been successful, but noted that we often think of competition for the market as a substitute for competition in the market. In the case of several of the major Latin American countries, part of the reason for success is because of competition *in* the market as well - particularly in the area of geographic or source competition. For example the Argentines made sure, when they were restructuring their railway, that all the major ports were served by two different railways that could compete to carry the traffic. The Mexicans made sure that Mexico City and a couple of other large, important cities were served by more than one railway, so that those competing railways could compete for the traffic even though they were going in different directions. To some degree, that is also true of Brazil. It is worth emphasizing that in these major Latin American countries, competition in the market has also helped to make the transformation successful.

A delegate from **Brazil** noted that in the case of Brazil, several of the large, main railway franchises were purchased by large users, which creates a potential problem of exclusion of rivals. Brazil is litigating a case right now in which the issue is exactly that: a huge mining company owns a large, significant railroad and has a participation in a second line that could be the potential competitor.

Antitrust Enforcement in Rail

The **Chairman** introduced the final session by observing that there has not been much antitrust enforcement in rail, with the exception of a few mergers in very few countries. Given the high market shares of incumbent operators, the fact that there are no antitrust cases is a bad sign, because it means that competitors either do not exist, or are not really a threat to incumbent operators.

The Chairman started with Korea, where rail is practically still a legal monopoly. However, at the end of their submission, the Korean Delegation observes that because access to the tracks is controlled by the government, there is no concern over a refusal to provide access. The Chairman asked Korea to explain further.

A delegate from **Korea** noted that a major reform of the rail sector has just taken place in Korea, with the establishment of a Korea Rail Corporation last month. So far, there has not been a case of a private operator applying for access to the track infrastructure, so there have been no cases where an access refusal took place. The Government, which owns the rail track, grants access to the track after a review of an application, according to the criteria set out by the law. The review looks at the criteria of safety, sufficient demand and the service proposed by the applicant. Therefore, the probability of access refusal is low. The KFTC, as the enforcer of the competition law, will also monitor developments in the rail sector, to ensure that access refusal does not take place.

The Chairman then raised the issue of ensuring access to certain pieces of infrastructure (mentioned earlier as the problem of access to the “last mile” – such as tracks within harbours, or tracks to be used for loading and unloading). Very often access is given on an exclusive basis to DeutscheBahn, or to Trenitalia in Italy. However, unlike the case in Italy, according to the German submission, this problem has been solved in Germany. The **Chairman** asked German to explain.

A delegate from **Germany** noted that there are two agencies in Germany responsible for competition in the rail sector - the Federal Railway Office and the Federal Cartel Office. The Federal Railway Office focuses on technical issues, such as the legal procedure for rail track construction, or the setting of technical safety standards, but there is also an obligation on the Federal Railway Office to grant non-discriminatory access to the network. This operates in parallel to the responsibility of the Federal Cartel Office to grant access on the basis of the federal competition law. There is no regulation segregating these competencies, and so far this overlapping responsibility has been dealt with on a very informal basis. Right now the federal railway law is undergoing a quite fundamental amendment, and it is likely that the relative competencies will be more clearly delineated.

There was a case involving access to loading and unloading facilities in harbours but this was dealt with through an amicable solution with the parties involved. In the amendment to the federal railway law which is underway right now, the right of access to the last mile will be established in the law, because these cases will increase in the future. So far competition has increased but not to the extent that was hoped. In the case of rail freight, for example, there are, besides DB, 120 companies active with a combined market share of about 6.8 per cent. But it is hoped this will increase in the future with greater scope for disputes over access to loading and unloading facilities in the future.

The Chairman pointed to two cases of abuse of dominance in the Polish rail freight market. The first case involved a loyalty rebate where the incumbent, a Polish freight operator, was fined 5 million euros. The second case involved an exclusionary practice by the Polish freight operator that was signing long-term contracts with shippers with an exclusivity clause. The **Chairman** asked Poland to explain these two cases and why the remedy differed between the cases.

A delegate from **Poland** explained that the Polish market for freight services is dominated by one capital group. The rail network infrastructure is separated from the main operator on the market, though the separation is legal, not separation of ownership. The incumbent has something like 94 per cent of the market. Both cases dealt with the abuse of dominant position by the incumbent in question. In the first of the cases, concerning loyalty rebates, the incumbent imposed discretionary and unequal contract terms to different train companies. This kind of behaviour was considered to be an abuse of a dominant position and a fine was imposed. In the second case, concerning exclusive contracts, the gravity of the practice was much larger and a larger fine was imposed.

In its submission Mexico refers to an investigation in the market for inter-linear rail transport, where Ferrromex priced its inter-linear services at prices that would make the joint inter-linear service more costly than the price for Ferrromex’s own services. The **Chairman** invited Mexico to explain this case.

A delegate from **Mexico** observed that a negative outcome of the railroad restructuring in Mexico, has been a lack of effective intra-modal competition and inter-linear traffic. Private disagreements among concessionaries have now turned into complaints brought before the sectoral regulator and the Federal Competition Commission, and into private litigation pursued in courts. Despite having improved their operational performance and participation in freight traffic, and taking into account the positive effect they have had on public finances, the private operation of railways has been marked by important deficiencies in interlinear traffic that have limited both intra- and inter-modal competition of railroads and freight markets. In the former case, interconnection problems have restricted intra-modal competition and have

prevented railway transportation from offering seamless services to users. In the latter case, the railway sector has lost competitive ground relative to other modes of transport by charging high tariffs for interconnection services, particularly in instances where it should have a comparative advantage.

For inter-linear services, the carrier that offers the service to end-users typically sets one integrated rate for an origin-destination service and negotiates the shares that each carrier will receive in payment. According to the rules on rail service tariffs, carriers can charge up to the maximum tariff registered for their services and provide discounts. These rules do not distinguish between inter-linear and exclusive services and were designed to allow carriers to arrange access conditions independently without regulatory intervention. In practice, they allow carriers to charge higher tariffs for inter-linear segments relative to charges for exclusive routes, while still honouring the maximum tariff limits. This happens even if the segments they operate in the interlinear route are less costly to serve than the exclusive route.

As a result, concessionaries have brought claims before the regulator, alleging that competitors are setting excessive and discriminatory tariffs. Unfavourable access conditions are limiting interconnection and trackage services. Disagreements are more prevalent in markets where interlinear traffic competes with an exclusively-operated routes. The regulator has responded to these disagreements by issuing resolutions that have established terms and conditions where trackage rights and interconnection services have to be granted. However, none of these resolutions have been implemented in practice as concession holders have obtained in suspensions through numerous *amparos* and fiscal nullity judgements. To date, there are two *amparos* against one of the official technical standards, nine fiscal nullity suits against resolutions concerning trackage rights, and two fiscal nullity suits against resolutions concerning interconnection and terminal services. All are pending resolution. The lack of effectiveness of sectoral regulations in resolving disputes over access conditions has given incentives for concessionaries to use terms and conditions for interconnection and car hire services as strategic tools aimed at limiting competitor access to essential facilities while improving their own position in the market. As a result, carriers have requested that the competition authority investigate monopolistic practices aimed at obstructing interlinear competition. There is now an urgent need to develop a detailed scheme for defining access payments and conditions, and to ultimately encourage intra modal competition. There is also an urgent need to design an adequate regulatory framework that ensures certainty to concessionaries and that more effectively mediates or resolves conflicts among concession holders. The resolution should contemplate the creation of a strong independent regulator to oversee this act. Mexico needs to create a modern regulatory framework to avoid the need to solve access disputes on a case-by-case basis through the competition authority. It will be much more efficient to have a better regulatory framework.

The **Chairman** noted that if there are two railways, vertically integrated, one operating on one line, the other one operating on the other, you would imagine that interlinear connection between them would be of mutual benefit. So why do disputes arise?

A delegate from the **United States** replied that of the three concessionaires who have the three separate vertically integrated railways, one of them paid a great deal more than the other two for its concession. That concessionaire when it is making an offer for a per mile fee, is putting in two or three times the amount of a capital charge. The others do not agree, and no-one can agree on the right arrangement for reciprocity. There is a big gap in the bargaining and they have not bridged it yet.

A delegate from **Mexico** added that there are many routes where inter-linear traffic is mutually complementary – that is, where one railroad needs the other and vice versa. There is usually not a problem in these cases. The litigation arises in cases where one of the railroads has an alternative exclusive route, - that is, where there is a shorter route that needs interlinear traffic but one of the railroads has a larger, longer route that is exclusive for that railroad.

The **Chairman** agreed that this could be said to be more of a “one-way” connection problem than a “two-way” interconnection problem (where a mutually-acceptable outcome is more likely).

A delegate from **Hungary** raised a concern about cross-border mergers between state-owned incumbents, as in the case between Germany and Denmark (in freight services). Such mergers might appear in Central Europe sooner or later. The **Chairman** acknowledged that a competition authority should take into account the reduction in potential competition from such a merger and the effect on creating or strengthening a dominant position in the relevant markets. **Louis Thompson** raised the example of DB and SNCF negotiating to purchase PKP Cargo (the Polish Cargo operator) a few years ago. A delegate from the **United States** commented that DB Cargo would be the most likely entrant as a direct competitor with PKP Cargo. Potential competition cases are not always easy to bring. But from a competition standpoint, the Polish anti-monopoly office might have been concerned.

The **Chairman** highlighted the problem of regulation as a driver of cross-country mergers or alliances. There are quite a few cases in Italy where new entrants have entered into joint ventures with the incumbent operator in Switzerland, Austria or Germany in order to provide services across countries. These agreements are necessary due to technical issues governing inter-operability.

The **Chairman** concluded the roundtable recalling how difficult it is to introduce competition in this sector. There are lots of regulatory problems to be solved before introducing competition, especially in Europe, including the interoperability issue which is still with us after all these years. There are only a few countries where a degree of effective competition operates, such as the United States and, partly, Mexico, and maybe some countries in Latin America, but certainly not (at least up until now) here in Europe.

The efforts that have been made with vertical separation and with competitive tendering have not achieved much in terms of competition. They may have achieved some improvements in corporate governance and probably greater efficiency, but not so much on competition. There were some proposals that vertical separation could have positive effects in freight – that is, not separating the infrastructure from transport services, but separating the freight part of the transport service sector from a vertically integrated passenger infrastructure network. This may be an effective solution, although in the few countries where this was tried (such as Denmark and Japan) there has not been much competition in freight.

Vertical separation is probably going to continue to be discussed and to be implemented in the rail sector. This is the second Competition Committee Round Table in rail, eight years after the first – in another eight years we will have more experiences to share. Many countries are moving in the direction of regulatory reform and trying to enhance competition. We will see whether they achieve the results that they are trying to achieve.

COMPTE RENDU DE LA DISCUSSION

Le **Président, M. Alberto Heimler**, ouvre la Table ronde en formulant un certain nombre de réflexions sur la Table ronde tenue en 1997 par le Comité de la concurrence sur l'industrie du rail. Il observe que nombre des questions qui ont été examinées lors de cette Table ronde (telles que le champ d'application de la concurrence, la fixation de prix d'accès efficaces, la minimisation des distorsions des aides, l'organisation d'appel d'offres pour les franchises) restent des questions clés aujourd'hui. Il était davantage confiant à l'époque dans le fait que la concurrence dans le rail pourrait se développer de façon significative, non seulement dans le transport de marchandises mais aussi dans les services de passagers. Les années récentes ont mis en évidence certaines des difficultés soulevées par l'introduction de la concurrence dans le secteur ferroviaire concernant les services de passagers et, dans une moindre mesure, les services de fret.

Le **Dr Darryl Biggar** met en lumière certaines des idées clés exposées dans le document de référence préparé pour la Table ronde. Il débute son intervention en notant les différences importantes d'environnement du secteur du rail dans les divers pays de l'OCDE — telles que différences dans la géographie, l'urbanisation, la répartition des services de passagers et de fret, l'importance relative des différentes catégories de fret, l'importance des aides publiques à l'industrie du rail et même les différences dans les objectifs de la politique publique à l'égard du secteur ferroviaire. Du fait de ces différences entre pays, bien que les pays Membres de l'OCDE aient opté pour un éventail d'approches différentes concernant la structure du secteur ferroviaire, les possibilités qui s'offrent pour dégager des conclusions et enseignements significatifs de l'expérience des autres pays sont quelque peu limitées.

La présente Table ronde met l'accent sur la question de l'organisation structurelle appropriée de l'industrie du rail — notamment celle de savoir si le propriétaire de l'infrastructure de voies doit être également autorisé à fournir des services de train sur ces voies ? Différents arrangements structurels peuvent s'appliquer à différents services et différentes parties de l'infrastructure. Ainsi, on peut imaginer une intégration verticale pour les services de passagers et une séparation verticale pour le fret, ou inversement. Le choix de la structure adéquate dépend dans une large mesure de la forme et du rôle souhaités de la concurrence dans l'industrie — s'agit-il d'une concurrence « sur le marché » ou d'une concurrence « pour le marché » (c'est-à-dire un appel d'offres ouvert à la concurrence). La concurrence s'exerce-t-elle entre prestataires verticalement intégrés ou entre sociétés d'exploitation de trains fournissant des services sur une voie qui pourrait appartenir à un tiers ?

Dans certains pays, notamment en Amérique du nord, il existe un certain degré de concurrence effective entre sociétés ferroviaires verticalement intégrées. Cette forme de concurrence pourrait être encouragée dans d'autres pays, avec une réforme structurelle prudente. Ailleurs, l'introduction de la concurrence dans le rail nécessite une certaine forme d'accès réglementé à l'infrastructure des voies. Comme dans d'autres industries, la régulation de l'accès à l'infrastructure de voies nécessite que l'on prête attention à la mise en place des incitations appropriées à l'investissement et au maintien de la qualité des voies, et à l'interaction adéquate entre la voie et les trains ("l'interface rail-roue"). Ces mécanismes d'incitation revêtent une importance particulière quand le propriétaire de l'infrastructure de voies n'assure lui-même aucun service ferroviaire ou très peu.

Si le propriétaire de la voie est également autorisé à fournir des services sur celle-ci, il sera généralement incité à utiliser sa position de propriétaire de l'infrastructure pour refuser l'accès aux exploitants de trains fournissant des services concurrents. Les autorités de régulation ont généralement des difficultés à surmonter ces incitations. Il y a donc peut-être un arbitrage à faire entre le fait d'instaurer des incitations efficaces à l'investissement dans les voies et à leur maintenance, d'une part, et la capacité à limiter la concurrence de l'autre. Il faudra donc semble-t-il étudier avec soin le champ d'application de la concurrence et il pourrait être difficile de réglementer efficacement et de façon durable l'accès à l'infrastructure ferroviaire.

Louis Thompson (expert ferroviaire qui a été associé à la Banque mondiale) observe qu'il faut commencer par déterminer les objectifs de la concurrence (que celle-ci soit intermodale, intramodale, ou une concurrence sur le marché ou pour le marché) et la façon dont ceux-ci seront réalisés. La décision doit être clairement prise dès le départ et gardée à l'esprit tout au long des délibérations. La structure de l'industrie ferroviaire doit être compatible avec ces objectifs de concurrence.

Dans sa présentation, M. Thompson distingue trois grandes structures : la structure intégrée, la structure basée sur l'entreprise dominante/l'entreprise locataire (ou "droits d'utilisation des voies") et la structure séparée. Dans la structure séparée, on peut identifier trois formes différentes — (a) la séparation comptable (comme dans la directive originale de l'Union européenne) ; (b) la structure avec société holding (dans laquelle l'infrastructure apparaît distincte des exploitants, mais les deux sont sous le contrôle d'une autorité holding), laquelle diffère peu de la séparation comptable dans ses incitations et son fonctionnement et (c) la séparation institutionnelle (c'est-à-dire que l'autorité chargée de l'infrastructure ne peut exploiter de trains).

Il est possible d'associer différentes approches de la structure sectorielle à différents choix de propriété publique, privée ou mixte, afin de créer un éventail de combinaisons possibles. On peut trouver des pays ayant choisi virtuellement chacune de ces combinaisons.

Il existe un grand choix de formes possibles de concurrence, telles que la concurrence intermodale et la concurrence intramodale (que ce soit sur le marché ou pour le marché). Certains pays s'en remettent presque exclusivement à la concurrence intermodale pour discipliner un secteur ferroviaire intégré. On peut citer comme exemples remarquables à cet égard les industries ferroviaires de la Chine, de l'Inde, le transport ferroviaire de fret aux États-Unis et les concessions d'Amérique latine. D'autres pays se tournent vers la concurrence *sur* le marché, ou *pour* le marché. Dans sa présentation à l'écran, Louis Thompson identifie les formes de régulation de l'accès et les formes de régulation des tarifs correspondant à chacune de ces catégories de structures.

La régulation doit être compatible avec les objectifs de concurrence et la structure de l'industrie ferroviaire. Il est très difficile de réglementer à l'encontre des incitations créées par la concurrence et la structure sectorielle. Dans la concurrence pour le marché, ce sont les dispositions du contrat de concession qui se substituent aux formes traditionnelles de régulation.

Il est possible d'identifier un certain nombre de modèles différents de structure et de réglementation du secteur ferroviaire. L'un est ce que l'on pourrait appeler le modèle nord-américain, fortement basé sur une concurrence entre compagnies intégrées, bien qu'il existe également une certaine concurrence entre locataires d'une même infrastructure. Il existe aussi le modèle d'Amérique latine, qui repose principalement sur des concessions privées intégrées et sur une concurrence intermodale, plutôt qu'intramodale. On peut citer également le modèle japonais, qui repose sur trois grandes compagnies privées et intégrées. La compagnie de fret national est locataire de ces réseaux ferroviaires intégrés dominés par le transport de passagers — c'est-à-dire que c'est une image inversée de la situation d'Amtrak aux États-Unis et au Canada. Le Japon compte également trois petites compagnies insulaires intégrées dans

le secteur public, et une trentaine de compagnies qui ont toujours été privées *et* intégrées. En ce qui concerne la Russie et la Chine, M. Thompson renvoie aux études de l'OCDE sur ces pays qui explicitent la façon dont ces structures sont mises en place et dont elles sont exploitées.

S'agissant des États-Unis, l'industrie ferroviaire se caractérise par un petit nombre de grosses compagnies de classe 1, qui sont en concurrence les unes avec les autres sur un réseau intégré. Bien qu'il existe une concurrence origine-destination entre, par exemple, Chicago et Los Angeles, Chicago et San Francisco et Chicago et Seattle, dans de vastes régions des États-Unis, il n'y a pas de concurrence rail-rail. Dans l'Utah et le Nevada, par exemple, il n'y a pratiquement qu'une seule compagnie ferroviaire dans l'État.

Le nombre de compagnies de « classe 1 » est tombé d'une soixantaine dans les années 70 à 25 dans les années 80 puis à sept aujourd'hui. Pour inverser cette tendance, on a introduit les « droits de circulation sur les voies » ou exploitation partagée des voies, c'est-à-dire des lignes sur lesquelles plusieurs opérateurs de fret opèrent simultanément. Environ 25 % du réseau fait l'objet d'accords de circulation, mais nous ignorons le pourcentage du trafic lui-même effectivement acheminé sur ces lignes. L'amélioration des performances de l'industrie ferroviaire aux États-Unis après la loi Staggers résulte davantage d'une meilleure régulation que d'une accentuation de la concurrence rail/rail.

En ce qui concerne l'Union européenne, M. Thompson note que les réseaux ferroviaires européens sont dominés par le transport de passagers ; ils ne sont pas optimisés pour le fret. Deuxièmement, le réseau ferroviaire européen dans son ensemble se caractérise par des « frontières » (politique, économique et technique) très préjudiciables, notamment pour le fret, qui sont difficiles à modifier. Le modèle pour le transport suburbain de passagers par rail en Europe est dans ses grandes lignes décidé — c'est-à-dire que si l'on va y introduire la concurrence, celle-ci sera *pour* le marché et rarement *sur* le marché. Les principales questions sont les régimes d'accès, le rôle du secteur privé et la façon de contrôler et de limiter les aides. De la même manière, dans le modèle de transport interurbain de passagers par rail, il y aura très peu de cas dans lesquels il existera une concurrence *sur* le marché, et plus vraisemblablement celle-ci sera *pour* le marché. M. Thompson fait observer que cela implique que l'on pourrait réexaminer la séparation de l'infrastructure dans les cas où le réseau ferroviaire suburbain, ou bien le réseau ferroviaire de transport interurbain de passagers (ou le réseau ferroviaire à grande vitesse) est véritablement et totalement dominant. Il évoque sur le cas du Royaume-Uni où la séparation de l'infrastructure n'a pas permis de fait d'introduire davantage de concurrence sur le marché — elle a effectivement facilité la concurrence pour le marché mais pas sur le marché, sauf peut-être éventuellement pour le fret. C'est le transport ferroviaire de fret qui constitue l'enjeu pour l'Europe.

Observant que le transport de passagers prédomine dans les chemins de fer européens, M. Thompson prédit que l'infrastructure restera (ou même reviendra, dans le cas du Royaume-Uni) sous le contrôle des pouvoirs publics. De plus, il observe que cela implique qu'il ne peut y avoir de concurrence intégrée pour le fret (simplement car le système dominant de transport de passagers ne peut être simultanément intégré avec des opérateurs de fret concurrents). Le transport de fret par rail en Europe n'a pas de pouvoir de marché ou très peu, de sorte que les tarifs n'ont pas besoin d'être régulés — et de fait, ils ne le sont pas aujourd'hui. Pour qu'une concurrence effective s'instaure dans le fret, les services de fret devront être totalement séparés de l'infrastructure. Tant qu'il existera une incitation pour le propriétaire de l'infrastructure à privilégier un service de fret sur un autre, il sera très difficile d'introduire la concurrence.

Cette structure concurrentielle (les services de fret étant séparés des services de passagers) ne naîtra pas d'elle-même. M. Thompson note avec inquiétude la tendance des grands opérateurs ferroviaires contrôlés par l'État à racheter d'autres opérateurs de fret en Europe. Cela pourrait limiter des possibilités de séparation future. Le secteur public devra se désengager des opérations de fret, pour que la concurrence

s'instaure. La concurrence n'apparaîtra pas si d'importantes aides publiques sont versées aux opérateurs de fret actuels.

Que faudrait-il pour que cette nouvelle structure se mette en place ? M. Thomson fait observer le besoin de publier des données sur les flux de fret ferroviaire, dans des conditions de confidentialité appropriées. Actuellement, il n'existe pas de données sur les flux d'origine et de destination en Europe, ou bien celles-ci ne sont pas disponibles. Il mentionne également le besoin de notification par branche d'activité selon les NCI pour tous les secteurs ferroviaires, de manière à s'assurer que ceux-ci fonctionnent de façon indépendante et séparée et que les aides ne migrent pas d'une activité vers une autre. Par ailleurs, il fait valoir la nécessité d'un nombre limité d'opérateurs de fret à l'échelle de l'UE. Les retards liés aux autorisations et réglementations de sécurité doivent également être examinés. Enfin, les marges au titre de l'infrastructure et l'équilibre entre transport de passagers et transport de fret dans les redevances d'accès sont des questions qui doivent être résolues.

M. Thompson conclut en notant que cela reste un enjeu majeur que d'obtenir des performances efficaces dans l'industrie du rail en Europe alors que dans de nombreuses autres régions du monde, ces questions sont pour l'essentiel résolues.

Marc Ivaldi (professeur d'économie associé à l'IDEI à l'Université de Toulouse) résume certains résultats de ses recherches, qui sont apparus dans différentes publications. Premièrement, en ce qui concerne l'efficacité de l'industrie du rail en Europe, il observe que les réformes mises en place par l'Union européenne ont eu un effet positif sur la productivité du rail. Cet effet a été estimé comme représentant un gain d'efficacité de 0.5 % par an. Il est intéressant de noter que l'introduction graduelle des réformes a semble-t-il été plus efficace que si elles avaient eu lieu en une seule fois. Il note qu'actuellement lui et ses collègues n'ont pas pu déterminer quel était le système de séparation le meilleur — c'est-à-dire qu'il ne peut pas dire si la séparation comptable est meilleure que l'éclatement total du système.

Marc Ivaldi poursuit alors en examinant les travaux qu'il a effectués avec Gerard McCullough au moyen de données sur les compagnies de fret de classe 1 aux États-Unis sur la période 1980-2001. Trois résultats principaux se dégagent : premièrement, les rendements de densité sont significatifs, ce qui est bien entendu l'une des raisons pour lesquelles on observe des fusions. Deuxièmement, il existe des économies (complémentarités de coûts) entre services différents — c'est-à-dire entre le marché des pondéreux et le marché du fret général ou entre services de transport de fret intermodaux. De ce fait, on peut s'attendre à observer de grandes parts de marché et des grandes entreprises. Enfin, une observation clé est qu'il existe des relations de coût verticales entre opérations de fret et infrastructure — qui viennent sans doute des retombées de la coordination.

Dans ses travaux, Marc Ivaldi a exploré la façon dont les coûts de l'industrie du fret ferroviaire aux États-Unis augmenteraient si elle était éclatée (entre infrastructure et exploitation). Les recherches montrent que cela se traduirait par une forte augmentation des coûts en pourcentage. Il a également examiné les coûts de la séparation de chacun des différents types de services. Les coûts élevés de séparation qu'il a mesurés n'impliquent pas que la séparation est intrinsèquement une erreur mais plutôt que pour obtenir un gain global de bien-être, il faut que les bénéfices de la séparation l'emportent sur ses coûts. En d'autres termes, quand on éclate le système, on crée de nouvelles incitations. Il faut s'assurer que ces incitations créent suffisamment de retombées pour compenser ces coûts.

Le Professeur Ivaldi conclut en rendant compte des résultats de recherches plus récentes sur les implications des fusions en termes de bien-être. Il y a eu une vague importante de fusions aux États-Unis. Ces fusions ont-elles eu des retombées positives pour les consommateurs au sens large ? Une fusion a deux

conséquences principales : un accroissement du pouvoir sur le marché et un gain potentiel d'efficacité. Lequel de ces deux effets prédomine ? Les trois résultats clés de ces recherches sont les suivants :

- Premièrement, la concurrence sur le marché des pondéreux se caractérise essentiellement par une concurrence sur les prix (à la Bertrand) tandis que dans le fret général la concurrence se caractérise surtout par une concurrence sur les capacités (à la Cournot). Cela est compréhensible, étant donné que l'essentiel du transport de pondéreux s'effectue dans le cadre de contrats à long terme. En revanche, sur les autres marchés de fret, il faut offrir une certaine capacité pour soutenir la concurrence avec le transport routier.
- Deuxièmement, les marges de profits dans cette industrie sont assez élevées — pas aussi élevées que dans le fret intermodal, mais relativement élevées sur le marché des pondéreux et le marché du fret général.
- Troisièmement, en ce qui concerne l'évolution du surplus total — jusqu'en 1992, il y a eu une très forte augmentation du surplus du consommateur ; puis, de 1992 à 2000, la progression a été beaucoup plus faible ; après ces dates, on observe une baisse. Nous ne savons pas si cette baisse se poursuit. Ce que nous pouvons dire, c'est qu'elle correspond à une très importante fusion. Nous avons une situation aux États-Unis dans laquelle il y a grosso modo quatre entreprises dans la partie est du pays et trois dans la partie ouest. De fait, il y a fondamentalement deux grosses entreprises de chaque côté, ce qui n'est guère éloigné d'un duopole. Et bien entendu, il y a des liens entre elles car les chargeurs sont pour la plupart situés le long de la frontière et dans le centre du pays.

Le Professeur Ivaldi note également qu'en raison des effets de réseau, il est possible d'avoir une concurrence intense avec des parts de marché dissymétriques. Ainsi, si un nouvel entrant assure un service point à point, il existera une certaine concurrence, mais on peut penser que la part de marché de l'exploitant historique du réseau demeurera forte. Les opérateurs historiques bénéficient d'un net avantage dans un réseau en étoile. Le rôle de la différenciation et la capacité à différencier les services entre les différentes catégories de consommateurs jouent un rôle crucial dans ce type de concurrence.

Dans de nombreux cas, l'industrie du rail devrait être étudiée dans le contexte du marché global du transport et de la façon dont s'articulent les concurrences intramodale et intermodale ; Le professeur Ivaldi note l'exemple du lien entre Cologne et Berlin. Il note qu'il a montré que sur cette liaison, un train à grande vitesse et à bas coût pourrait s'approprier une part importante du marché au détriment des compagnies aériennes à bas coût.

En conclusion, le Professeur Ivaldi note qu'il est peu probable qu'il y aura une vive concurrence intramodale dans le secteur du rail à l'intérieur des pays européens. Il existe un besoin clair de coopération — c'est-à-dire d'alliances entre compagnies ferroviaires. Une question importante en suspens est celle de la détermination du montant approprié et de la nature de l'investissement. Sans une infrastructure adéquate, il sera difficile d'avoir une concurrence efficace dans certaines régions d'Europe.

Concurrence sur le marché des services ferroviaires

Le **Président** note qu'à la lecture des communications, il est clair qu'une concurrence totale dans le secteur du rail semble se développer dans des pays qui ne sont pas très densément peuplés, où le rail est particulièrement important pour le transport de marchandises. Certaines communications indiquent que le fret est discipliné par la concurrence intermodale (notamment le transport routier) ; d'autres communications, au contraire, indiquent que ce n'est pas le cas, car les marchandises qui sont transportées par rail ne peuvent être de façon réaliste ou économique transportées par route.

Dans le cas du Mexique, la compagnie nationale a été éclatée en trois compagnies. Ces trois compagnies desservent toutes la ville de Mexico, de sorte qu'un chargeur situé à Mexico a le choix entre plusieurs compagnies pour l'importation et l'exportation, en provenance soit de l'est, soit de l'ouest, soit du nord. La communication mexicaine signale une très forte baisse des effectifs dans les chemins de fer. Le Président demande comment une réduction aussi importante de l'emploi a été acceptée et quelles sont les politiques qui ont été adoptées pour la rendre possible. Le Président demande également quels sont les effets de la concurrence sur les tarifs et la qualité du service et si une concurrence contractuelle s'est mise en place.

Un délégué du **Mexique** répond que la restructuration du système ferroviaire mexicain a été plutôt un succès. Le plan de privatisation a encouragé l'investissement et le développement de l'infrastructure ferroviaire. Les nouveaux investissements ont conduit à des gains d'efficacité et de compétitivité et permis la mise en place d'un système ferroviaire plus moderne et plus sûr. La performance globale du secteur est positive, comme l'indique l'amélioration de la qualité des services fournis aux utilisateurs, la baisse des tarifs et l'élimination d'une importante charge budgétaire. Par ailleurs, une partie du trafic qui avait été perdue au profit du transport routier de marchandises a été récupérée. Après la privatisation, les tarifs du fret ferroviaire ont baissé d'environ 12.5 %. Une comparaison des principaux indicateurs opérationnels des compagnies ferroviaires mexicaines avant la privatisation en 1995 et en 2003 montre que les « tonnes transportées » ont progressé de 62 % et les « tonnes-kilomètres » de 44 %. Ces gains se sont accompagnés de gains de productivité sans précédent. La productivité du personnel, par exemple, a crû de 393 %, le nombre de locomotives de 59 %, celui des wagons de marchandises de 50 %, la consommation de carburant de 21 % et la densité du trafic de 44 %. Les indicateurs de la qualité et de la sécurité du service ont également mis en évidence d'importantes améliorations. Les demandes d'indemnisation pour sinistre par millier de tonnes par kilomètre ont baissé de 50 % et les accidents ont diminué de plus de 70 %. La forte réduction de l'emploi a pu être réalisée grâce aux indemnités versées par les pouvoirs publics aux travailleurs qui étaient licenciés.

Louis Thompson ajoute que la réduction des effectifs a été tellement sévère que si les pouvoirs publics ne l'avaient pas financée, elle n'aurait pu être politiquement réalisable. Ces programmes de réduction des effectifs n'ont pas tous été réalisés dans les pays d'Amérique latine de la même façon, mais ils ont tous été relativement couronnés de succès.

En réponse à une question sur les différends concernant l'accès aux services terminaux, un délégué du **Mexique** note que le Gouvernement mexicain n'envisage pas de séparation verticale pour les installations terminales. Il travaille plutôt à un ensemble de réformes destinées à garantir la certitude aux concessionnaires, et à permettre une médiation et une solution plus efficaces des conflits entre titulaires de concessions.

Le **Président** observe que la communication des États-Unis fait état de gains de productivité de 50 % et de réduction des tarifs de fret de 45 % depuis la réforme du secteur ferroviaire en 1980. Comment cela a-t-il été réalisé ? L'explication réside-t-elle dans l'utilisation de convois plus longs ?

Louis Thompson répond que la longueur des trains n'a guère augmenté. En 1980, le convoi moyen aux États-Unis était de 68.3 wagons, alors qu'en 2003 il était de 68.9 wagons. Les gains de productivité aux États-Unis ont trois sources. La première (comme nous l'avons entendu du Mexique), est la baisse spectaculaire des effectifs. L'emploi dans le secteur ferroviaire est passé de 532 000 en 1980 à 223 000 en 2003, soit une baisse d'environ 70 %. Cette réduction a été facilitée par la déréglementation. La deuxième source de gains de productivité réside dans une réduction des lignes sous-utilisées, ce qui a conduit à une réduction de la longueur du réseau, qui est passée de 270 000 miles (435 000 km) en 1980 à environ 170 000 miles (275 000 km) aujourd'hui, soit une baisse d'environ 35 %. La troisième source de gains de productivité s'explique par l'abandon d'une gestion essentiellement au niveau du wagon au profit d'une

gestion dans laquelle les trois quarts des mouvements sur le réseau ferroviaire des États-Unis correspondent soit des trains unitaires (c'est-à-dire des expéditions par trains entiers), soit des expéditions regroupées sur plusieurs wagons.

S'agissant de la Suède, le **Président** note que bien que dans ce pays les services de fret ferroviaire aient été libéralisés dès 1996, l'opérateur historique public contrôle toujours environ 85 % du marché. Il existe un nouveau concurrent, qui a une part de 12 % du marché, laquelle est relativement élevée par rapport à la plupart des autres pays. Dans de nombreux pays, les concurrents dans le secteur du fret ont une part du marché inférieure à 5 %. Malgré la part élevée de l'opérateur historique, la contribution suédoise caractérise le marché du fret comme totalement compétitif. Est-il exact que l'opérateur historique n'est pas autorisé à moduler ses tarifs à l'intérieur du pays — entre les liaisons sur lesquelles il est confronté à une concurrence et les liaisons où ce n'est pas le cas ?

Un délégué de la **Suède** répond que si le marché du fret est caractérisé comme pleinement compétitif, cela signifie qu'il n'y a pas d'obstacle juridique à la concurrence. Actuellement, l'exploitant historique détient 85 % du marché et le deuxième plus gros concurrent 12 %. On dénombre six ou huit compagnies qui se partagent les 3 ou 4 % restants. La deuxième plus grosse compagnie est une compagnie minière exploitant sa propre ligne de minerai de fer. Cette compagnie ne rivalise pas au plan national sur le marché du fret général.

Quant à la question de savoir pourquoi la concurrence n'est pas plus intense, le délégué suédois note plusieurs raisons : le marché suédois est un petit marché, à la périphérie de l'Europe. Il n'y a pas encore d'interopérabilité technique complète en Europe, de sorte qu'il n'y a encore guère d'intérêt de la part des compagnies étrangères. De plus, les petits nouveaux entrants sur le marché suédois ont eu d'énormes difficultés pour rivaliser avec l'opérateur historique. Face à cette situation, l'autorité suédoise de la concurrence a proposé d'éclater l'opérateur historique pour essayer d'encourager davantage de concurrence. Par ailleurs, l'opérateur historique bénéficie toujours de certains avantages concurrentiels, comme les effets de réseau, la propriété des terminaux, un accès plus aisé aux installations de maintenance, etc. De ce fait, les nouveaux entrants ont eu de gros problèmes, même s'il n'existe aucun obstacle juridique à la concurrence.

La communication hongroise note qu'au cours de l'année passée, un certain nombre de nouveaux opérateurs de fret ont dû faire face à une résistance du propriétaire de l'infrastructure ferroviaire — et qu'en particulier ils n'ont pas obtenu les sillons ferroviaires qu'ils souhaitaient et les conditions contractuelles qui leur étaient offertes étaient discriminatoires vis-à-vis de l'exploitant historique. Le **Président** demande si la solution à ce problème a consisté à améliorer la réglementation ou à faire appliquer de façon plus stricte les lois anti-trust.

Un délégué de la **Hongrie** décrit les dispositions de l'accès à l'infrastructure de voies en Hongrie. Le processus comprend deux phases. Dans la première, l'organisme d'attribution des capacités délivre aux nouveaux opérateurs ferroviaires des autorisations d'utiliser certaines parties du réseau. C'est un processus réglementé, avec des tarifs réglementés. Une fois cette permission obtenue, le nouvel opérateur ferroviaire doit conclure un accord avec le gestionnaire de l'infrastructure. Certaines des conditions dans lesquelles l'accès doit être accordé sont imposées ; d'autres sont l'objet de négociations entre les deux parties.

En Hongrie, les nouveaux opérateurs ont eu des difficultés lors de cette deuxième phase, en raison de deux types de problèmes — des retards dans la conclusion d'un accord (ce qui constitue essentiellement un problème de réglementation) et des problèmes avec les modalités de l'accord (questions sur lesquelles l'autorité de concurrence pourrait intervenir). L'autorité de concurrence examine actuellement un cas de ce type, faisant intervenir une forme de pratique discriminatoire de la part de l'opérateur historique. L'autorité de concurrence considère qu'en travaillant avec le régulateur, elle peut résoudre certains de ces problèmes.

Aux Pays-Bas, de 1996 à 1999, il y a eu une concurrence au niveau de la voie pour les services de passagers sur deux liaisons (Amsterdam-Nimègue et Amsterdam-Haarlem). Toutefois, le nouvel entrant (Lovers Rail) n'a pas connu le succès et s'est retiré après quelques années. Le **Président** demande aux Pays-Bas si l'accès à l'infrastructure ferroviaire a représenté un problème pour le nouvel entrant — notamment l'accès aux sillons ferroviaires et la tarification en fonction des encombrements.

Un délégué des **Pays-Bas** répond que l'échec de ce service a eu plusieurs raisons. Tout d'abord, il s'agissait d'un marché étroit, avec relativement peu de passagers. Deuxièmement, le gestionnaire de l'infrastructure et les chemins de fer néerlandais (les chemins de fer néerlandais sont la compagnie qui assure les services de passagers sur le réseau grandes lignes aux Pays-Bas) faisaient partie de la même société holding. Lovers se plaignait qu'il était difficile d'assurer la neutralité dans la procédure d'attribution des capacités. C'est l'une des raisons pour lesquelles les Pays-Bas se sont orientés vers une séparation totale du capital — entre l'organisation responsable de la gestion de l'infrastructure et l'organisation responsable de l'exploitation des réseaux grandes lignes (Dutch railways). Les deux compagnies sont détenues à 100 % par l'État. Le problème n'est pas celui des redevances d'accès à l'infrastructure car, pendant la période durant laquelle Lovers Rail était en activité, il n'y avait pas de redevance d'accès à l'infrastructure ferroviaire. Lovers Rail fournissait ses propres trains et son propre personnel (bien qu'il ait eu certaines difficultés pour obtenir des trains car ceux-ci étaient achetés à l'opérateur historique).

Il s'est révélé difficile d'obtenir une coopération complète entre Lovers et Dutch railways. Par exemple, il y a eu des problèmes avec la vente de billets dans les gares (les gares appartenaient Dutch railways) et à propos des mécanismes de sécurité. À l'époque, il n'y avait pas d'autorité de régulation chargée de fixer les conditions d'accès. (À la date du 1er janvier 2005, une telle autorité de régulation existe désormais). L'expérience avec Lovers Rail a pris fin en 1999. Le Parlement néerlandais a alors décidé qu'il ne devrait pas y avoir de concurrence sur le marché, mais une concurrence pour le marché des passagers aux Pays-Bas. Le Parlement a également décidé d'accorder à Dutch railways une concession sur le réseau grandes lignes jusqu'en 2015. Il y a également une certaine concurrence pour le marché sur les réseaux régionaux.

Lors du débat général, un délégué des **États-Unis** reconnaît que la restructuration des chemins de fer mexicains a été l'un des plus grands succès de la restructuration et de la libéralisation des chemins de fer dans le monde. Il y a eu des progrès spectaculaires dans la productivité, les investissements directs, etc. En ce qui concerne les problèmes rencontrés pour l'obtention de droits de circulation — quelques points importants doivent être soulignés. Tout d'abord, l'agence de régulation a imposé des droits de circulation dans un certain nombre de cas — le problème étant qu'il a été très aisé pour les compagnies ferroviaires d'aller devant les tribunaux et d'obtenir une injonction (un *Amparo*) qui a pour effet pratique de geler la décision réglementaire. On peut encore espérer qu'il y aura un jour des droits de circulation au Mexique, mais ce n'est pas le cas actuellement. Le délégué note qu'il croit comprendre qu'il n'y a eu pratiquement aucun droit de circulation accordé volontairement dans le secteur du fret ferroviaire au Mexique. La raison en est peut-être que les trois grandes compagnies ferroviaires redoutent que si elles parviennent à un accord sur des redevances d'accès, les tribunaux et l'agence de régulation utiliseront cet accord comme modèle pour les décisions concernant l'accès réglementé. Le délégué exprime l'espoir que l'expérimentation déjà fructueuse du Mexique connaîtra encore plus le succès avec un accès réglementaire limité à l'infrastructure de voies.

Séparation verticale

En ce qui concerne les bilans de la séparation verticale, le **Président** se tourne vers l'Union européenne, où des directives ont imposé une forme faible de séparation verticale entre la gestion de l'infrastructure et les services de transport. Le Président pose trois questions à l'UE : premièrement, l'objectif de l'introduction de la séparation verticale est-il d'obtenir davantage de concurrence ou une

meilleure gouvernance des entreprises ? C'est une question importante, car après plusieurs années de séparation, nous n'observons pratiquement pas de concurrence dans les services de passagers dans les différentes régions d'Europe, et une concurrence très limitée dans le fret. En Europe, l'opérateur historique a une part de marché supérieure à 80 % dans tous les pays, et dans certains pays, elle s'élève jusqu'à 98 %. Deuxièmement, la Commission considère-t-elle qu'il faudrait plus de séparation dans le rail ? Troisièmement, la Commission est-elle satisfaite des évolutions en la matière dans les différentes régions d'Europe ?

Le délégué de la **Commission européenne** note que l'approche de la réforme dans l'Union européenne est graduelle. Elle s'est concentrée dans un premier temps sur le marché du fret. Il y a eu trois paquets concernant le rail. Les deux premiers paquets en 2001 et 2004 concernaient principalement le marché du fret, tandis que le troisième paquet (qui est actuellement en discussion) concerne également les services internationaux de passagers.

Le délégué n'est pas d'accord avec l'affirmation selon laquelle la forme de séparation imposée est faible. Le premier paquet rail impose que des fonctions essentielles soient séparées — notamment la tarification de l'accès aux voies et l'allocation des sillons doivent être réalisées par un organisme qui est totalement indépendant de tout opérateur ferroviaire. C'est une forme plutôt forte de séparation, qui constituerait un progrès significatif sur la voie d'une séparation totale. Les États membres avaient jusqu'à mars 2003 pour mettre en œuvre le premier paquet (à compter de 2001). La Direction générale des transports de la Commission est maintenant engagée dans la vérification du degré de mise en œuvre de ce premier paquet dans les États membres.

Le **Président** précise que la forme de séparation est faible en ce sens qu'elle n'impose qu'une séparation des activités entre l'entreprise assurant l'exploitation des trains et l'entreprise possédant l'infrastructure de voies. C'est-à-dire que les deux entreprises peuvent rester sous un régime de propriété commune. La communication des Pays-Bas montre que cela peut poser des problèmes. Même si l'accès aux voies n'est pas complètement bloqué, Lovers Rail s'est heurté à un surcroît de difficultés du fait de problèmes pour accéder aux services de maintenance, d'incompatibilités des horaires, etc.

Un délégué de la **Commission européenne** convient qu'il existe un conflit d'intérêts intrinsèque quand c'est la même entreprise qui possède l'infrastructure et assure les services de trains sur celle-ci. C'est pourquoi les règles de la Commission exigent un certain degré d'indépendance. La Commission évalue actuellement dans chaque État membre si les dispositions organisationnelles qui ont été mises en place sont suffisantes pour garantir cette indépendance et prévenir ce type de conflits d'intérêt.

Le **Président** soulève la question des aides à l'infrastructure ferroviaire. Il suggère que la séparation structurelle des voies et de l'exploitation des trains a permis aux pouvoirs publics de considérer avec plus de confiance que les aides à l'infrastructure ferroviaire ne sont pas utilisées pour financer l'exploitation. De ce fait, les pouvoirs publics ont été davantage disposés à subventionner l'infrastructure de voies, ce qui a bénéficié aux opérateurs en place. Cela pourrait expliquer pourquoi la séparation a été bien acceptée par les entreprises ferroviaires historiques.

Le **Président** observe également qu'il existe de grandes variations dans la nature et l'ampleur des aides publiques au rail. Dans certains pays, les pouvoirs publics financent l'ensemble des investissements, dans d'autres ils ne financent qu'une partie seulement et dans d'autres encore, les pouvoirs publics couvrent une partie des coûts d'exploitation. Il ne semble pas exister de politique commune à l'égard des aides publiques. Les dispositions relatives aux aides publiques dans le traité doivent-elles être mises en œuvre d'une façon assurant des conditions de concurrence égales pour tous, du moins en ce qui concerne les aides publiques au rail, dans l'ensemble des États membres de l'UE ?

Un délégué de la **Commission européenne** convient que les règles générales sur les aides publiques dans l'UE devraient également s'appliquer dans le secteur ferroviaire. Il existe un jugement de la Cour de Justice des communautés qui indique spécifiquement que dans le secteur ferroviaire, il peut exister des considérations d'intérêt public. Mais il est important de s'assurer que les aides ou soutiens publics sont clairement limités à l'exécution de la mission publique. Les aides ne doivent pas fausser la concurrence dans le secteur ferroviaire. Chaque affaire concernant des aides publiques est examinée au cas par cas.

le **Président** note le lien étroit entre les redevances d'accès et le niveau auquel les aides sont versées. Il serait possible, en principe, de pratiquer des redevances très basses pour l'accès à l'infrastructure de voies (comme en Italie ou en Suède), auquel cas les aides devraient être versées au propriétaire de l'infrastructure pour financer son expansion (et éventuellement sa maintenance). D'un autre côté, il est théoriquement possible de définir des redevances d'accès qui compensent l'intégralité des coûts de l'infrastructure. Les aides devraient alors être versées aux exploitants de trains.

La dernière question adressée par le Président à la CE porte sur la question de l'interopérabilité. Actuellement, les normes techniques des différents systèmes ferroviaires (par exemple voltage et dans une certaine mesure écartement des voies) ne sont pas identiques dans tous les pays, de sorte qu'il faut changer de locomotive aux frontières. Il est possible d'acquérir des motrices multi-courants, mais celles-ci sont plus coûteuses, ce qui augmente le coût de la prestation de services au-delà des frontières. Se posent également des problèmes de compatibilité des systèmes pour la signalisation, la langue de communication et la culture d'exploitation des trains. La CE prend-elle des mesures pour promouvoir un marché du rail plus intégré ?

Un délégué de la **Commission européenne** note que dès 1996, il y a eu une Directive relative à l'interopérabilité du système ferroviaire transeuropéen à grande vitesse. Celle-ci a donné de bons résultats — il existe plusieurs systèmes ferroviaires à grande vitesse qui franchissent les frontières sans problèmes techniques. En 2001, dans le cadre du premier paquet ferroviaire, il y eu une Directive sur l'interopérabilité du système ferroviaire transeuropéen conventionnel. Cette Directive prévoit l'élaboration de spécifications techniques concernant le voltage, les systèmes de commande et de contrôle, l'écartement des voies, etc. Ces spécifications techniques sont actuellement en train d'être finalisées en donnant d'abord la priorité aux problèmes aisés, pour lesquels l'harmonisation est déjà bien avancée, pour s'adresser ensuite aux questions plus difficiles telles que l'harmonisation du voltage. Il y aura une longue période de transition pour permettre aux États membres de remplacer, par exemple, leurs locomotives de façon ordonnée. L'Agence ferroviaire européenne, qui se met actuellement en place, pourrait également faire des propositions pour accroître l'interopérabilité et la sécurité du rail.

Se tournant vers l'Australie, le **Président** note que ce pays a également été confronté à des problèmes d'interopérabilité entre les réseaux des différents États. Comment cela a-t-il été résolu ? L'Australie a également introduit la séparation verticale pour le réseau inter États. Il existe une certaine concurrence sur le marché, basée sur l'accès aux voies. La communication australienne note que les redevances de fret sont très largement disciplinées par la concurrence intermodale, ce qui contraste avec, par exemple, la communication polonaise qui note que le rail et la route transportent des marchandises différentes et ne sont pas en concurrence. Le Président demande si les redevances d'accès couvrent l'intégralité des coûts de l'infrastructure de voies, y compris l'amortissement. A qui incombe la responsabilité de l'investissement dans l'infrastructure ferroviaire — le propriétaire privé de l'infrastructure ou l'État ?

Un délégué de l'**Australie** convient que son pays a récemment résolu le problème de l'écartement standard, après avoir vécu avec différents écartements pendant un siècle ou plus. Il a fallu un certain temps pour susciter la motivation voulue pour entreprendre les investissements qui étaient nécessaires. Finalement, ceux-ci ont été financés conjointement par les Gouvernements au niveau national et au niveau des États.

En ce qui concerne la question de la concurrence intermodale, la principale question en Australie est celle de la structure des redevances des utilisateurs routiers — notamment des redevances d'utilisation pour les poids lourds. Un examen récent de la politique de concurrence nationale en Australie a relevé que la tarification des usagers de la route pour les plus gros poids lourds méritait une réforme. Ce sont ces véhicules qui sont le plus directement en concurrence avec le rail. L'Australie autorise ce que l'on appelle les « trains routiers », c'est-à-dire des véhicules avec trois ou quatre remorques articulées pour le transport d'ovins et de bovins dans les régions éloignées. Ces véhicules provoquent des dommages excessifs au réseau routier et c'est un secteur qui appelle des mesures de réforme.

En ce qui concerne le niveau des redevances d'accès et le rôle de l'État, la situation varie selon les parties du réseau. Il existe un régime d'accès national pour le réseau inter-Etats. Les redevances d'accès au réseau inter-Etats sont appelées à évoluer vers la récupération totale des coûts (elles ne correspondent actuellement pas à la récupération de l'intégralité des coûts du réseau). Il existe actuellement un problème du fait de la densité insuffisante du rail. À moins que le fret ferroviaire ne parvienne à s'approprier une plus forte part du marché, celui-ci ne sera pas en mesure de parvenir à la récupération intégrale des coûts, et certainement pas en position de couvrir les coûts des nouveaux investissements dans l'infrastructure.

Quant à savoir à qui incombe la responsabilité de l'investissement dans l'infrastructure ferroviaire, là aussi la question est très variable. Il existe un certain nombre de compagnies ferroviaires à capitaux privés, notamment dans le nord-ouest de l'Australie, qui transportent exclusivement des pondéreux comme le minerai. Les investissements ont été substantiels ces dernières années de la part des pouvoirs publics, au niveau tant fédéral que des États. Ainsi, une ligne ferroviaire entièrement nouvelle a été réalisée entre Adélaïde, dans le sud du pays, et Darwin dans le nord. Cette ligne de 3 000 km est destinée au transport de marchandises et de passagers. Le gouvernement fédéral a un programme de près de 2 milliards d'USD d'investissements sur cinq ans, pour améliorer les liaisons entre États. Récemment, des signes ont montré un manque de capacité, notamment autour des installations portuaires. Il subsiste encore certaines infrastructures appartenant au secteur public, mais globalement, l'Australie s'est orientée vers un modèle dans lequel les États assurent un régime d'accès et un environnement réglementaire. Cette ouverture à la concurrence a été importante en termes de gains de productivité, même si, a posteriori, c'est la transformation en sociétés commerciales et la privatisation qui semblent avoir contribué le plus aux gains d'efficacité et de productivité.

Le **Président** interroge également la Suède au sujet des aides. Selon la communication suédoise, sur la période 1980-2003, les aides d'État ont plus que triplé, passant de 3 milliards de couronnes suédoises en 1980 à 10 milliards de couronnes. La concurrence a-t-elle joué un rôle dans la limitation de ces aides ?

Un délégué de la Suède reconnaît qu'effectivement les aides ont augmenté, du fait en partie que l'ancien opérateur historique intégré avait, dans une certaine mesure, négligé les investissements et la maintenance des voies et d'autre part car les pouvoirs publics souhaitent très clairement renforcer le rail par rapport à la route. Le principal moyen choisi à cet effet a été de financer les investissements dans l'infrastructure.

En Italie, l'éclatement de l'entreprise a eu lieu en 2001, conformément aux directives de la CE. Toutefois, Trenitalia, qui est l'entreprise de transports, a été invitée par la société responsable de l'infrastructure ferroviaire à assurer certains services pour son compte, par exemple des services terminaux et de maintenance. Le **Président** demande à la délégation italienne si une séparation structurelle complète contribuerait à assurer une neutralité totale.

Un délégué de l'Italie explique qu'en 2001, l'ancienne compagnie ferroviaire intégrée d'État (Ferrovie dello stato) a été éclatée en deux entités juridiques distinctes — RFI (Rete Ferroviaria Italiana), le gestionnaire de l'infrastructure et Trenitalia, le prestataire de services. Toutes deux sont détenues par une

société holding d'État. Dans une certaine mesure, c'est une sorte de solution intermédiaire entre une simple séparation comptable et une séparation complète du capital.

Certains problèmes sont apparus en Italie, notamment en ce qui concerne le transport ferroviaire de fret (secteur offrant le plus de possibilités de concurrence) entre l'opérateur historique et un nouvel entrant. Trois exemples possibles de barrières à l'entrée sont apparus : les premières concernent ce que l'on appelle la « gestion des triages ». Cela concerne des services comme les grues de manœuvre, l'avitaillement, etc., qui sont toujours assurés par Trenitalia, ou par d'autres opérateurs de terminaux multimodaux qui sont détenus en partie par Trenitalia. Cela crée des problèmes pour les autres compagnies ferroviaires souhaitant accéder au réseau. La deuxième catégorie de barrières possibles concerne l'accès aux ports. L'accès aux terminaux maritimes est important pour développer un réseau de fret intégré. Des problèmes similaires s'observent dans l'accès aux services de maintenance.

En ce qui concerne la procédure d'homologation du matériel roulant et des motrices de seconde main, RFI est en charge de la procédure d'homologation mais certains tests, comme les tests de moteur, sont toujours réalisés par une filiale de Trenitalia. Officiellement, cela est dû à un manque de compétences et d'installations chez RFI. L'homologation est nécessaire pour obtenir un certificat de sécurité, et le certificat de sécurité est nécessaire pour accéder au réseau. Là aussi, cela crée un possible conflit d'intérêts.

Une plus grande séparation entre le prestataire de services historique et le gestionnaire du réseau devrait être introduite pour éliminer ces sources possibles de conflits d'intérêts. L'autorité de concurrence italienne a fait valoir ce point dans plusieurs avis soumis au Parlement et au gouvernement. Il existe un grand nombre d'options possibles pour la séparation, qui présentent différents degrés de difficultés pour leur mise en œuvre, depuis la privatisation de la branche chargée des services de fret de Trenitalia, jusqu'à la séparation totale, sous une autorité indépendante, des tâches de gestion de réseau. Malheureusement, ces questions ne sont pas activement débattues en Italie actuellement, peut-être sans doute en raison du problème que poserait la gestion des sureffectifs dans l'éventualité d'une privatisation ou d'une plus grande séparation.

Depuis quelques années, la Turquie est engagée dans un processus de mise en conformité avec les directives de l'UE. Le **Président** demande à la Turquie pourquoi elle a conservé un monopole juridique dans la fabrication d'équipements ferroviaires en Turquie et pourquoi celui-ci n'est pas déjà levé.

Un délégué de la **Turquie** répond que l'industrie ferroviaire en Turquie est très traditionnelle, obsolète et qu'elle a désespérément besoin de réformes pour être plus efficace. Par le passé, tous les segments de l'industrie ferroviaire turque étaient sous le contrôle d'entreprises d'État. Jusqu'à récemment, il n'était pas envisagé de lever le monopole dans le moindre segment de l'industrie ferroviaire, y compris le monopole sur la fabrication d'équipement. Toutefois, le plan d'action récent pour la restructuration et la libéralisation de l'industrie du rail introduit la concurrence dans tous les aspects de ce secteur.

Le **Président** note que le Danemark a privatisé son service ferroviaire de fret et il demande au représentant de ce pays s'il y a eu des améliorations quelconques dans la façon dont les opérateurs de fret concurrents ont été traités par le gestionnaire de l'infrastructure ? Le **Danemark** répond qu'il n'y a pas eu de problèmes concernant l'accès à l'infrastructure par les autres opérateurs de fret.

Louis Thompson note que le service de fret de l'entreprise ferroviaire danoise a été racheté par Deutsche Bahn (entreprise ferroviaire appartenant à l'État allemand et transformée en société à caractère commercial), de sorte que cela peut être considéré moins comme une privatisation que comme un transfert de propriété d'un gouvernement à un autre.

Louis Thompson note également une opposition entre la tarification au coût marginal, qui est économiquement efficiente mais financièrement insuffisante d'une part, et la tarification financièrement suffisante (laquelle implique des marges par rapport au coût marginal), qui ouvre la porte à la discrimination, d'autre part. Ce problème a été résolu différemment selon les pays, ce qui crée une mosaïque de systèmes dans laquelle tout opérateur ferroviaire doit individuellement s'efforcer de naviguer.

Un second problème qui se fait jour est l'absence de séparation horizontale et non pas simplement verticale. Il ne suffit pas de séparer l'infrastructure de l'exploitation car cela laisse encore une ambiguïté du côté opérationnel sur les subventions croisées entre passagers interurbains, passagers suburbains et fret. Il n'est pas possible d'être clair sur la direction que prennent les aides à moins qu'il n'existe une séparation horizontale, claire et transparente entre les divers services de la compagnie ferroviaire. Ce manque de transparence a, en pratique, limité l'efficacité de la séparation avec l'infrastructure. Si je souhaite rivaliser avec la compagnie de fret, comment puis-je savoir qu'elle n'est pas subventionnée d'une façon ou d'une autre, que sa structure tarifaire est raisonnable ou qu'elle gagne ou perd de l'argent ?

Un délégué des **Etats-Unis** observe que la question de l'accès au « dernier kilomètre » est extrêmement importante. En Russie, par exemple, RZhD (Rossiskiye Zheleznye Dorogi, qui est l'opérateur ferroviaire historique) est contraint de donner accès à l'infrastructure mais, encore en décembre dernier, les nouveaux concurrents déclaraient « oui, ils nous donnent accès à l'infrastructure, mais pas au dernier kilomètre ». Cela peut suffire à mettre en échec tout régime réglementaire imposant l'accès.

En ce qui concerne les redevances d'accès, le délégué souligne que bien que des redevances d'accès financièrement suffisantes puissent décourager certains opérateurs ferroviaires qui seraient en mesure de payer le coût marginal, la tarification au coût marginal nécessite une forme ou une autre d'aide provenant d'ailleurs, ce qui a un coût — en termes tant de distorsion de la fiscalité que de problèmes de perte de contrainte budgétaire, les incitations qui s'exercent sur un opérateur d'infrastructure étant insuffisantes.

Le **Président** répond que le choix n'est pas entre aide ou absence d'aide. Si le gouvernement souhaite promouvoir le transport ferroviaire (éventuellement en raison d'une sous-tarification du transport routier), il doit alors subventionner le secteur ferroviaire — la seule question est de savoir à qui ces aides doivent être versées. Si les redevances d'accès sont fixées à un niveau bas, elles doivent alors être versées aux fournisseurs d'infrastructures. Si les redevances d'accès sont fixées à un niveau élevé (de telle manière que le prestataire de l'infrastructure couvre ses coûts), les aides doivent être versées aux exploitants de trains.

Concurrence pour le marché

Le **Président** observe que la concurrence pour le marché est souvent considérée comme la solution à de nombreux problèmes. Ainsi, la communication danoise indique que d'ici 2014 un tiers de toutes les liaisons ferroviaires pour passagers feront l'objet d'une procédure d'appel d'offres (c'est une proportion très élevée). Le Président observe qu'il a du mal à voir l'intérêt de certaines de ces procédures d'appel d'offres, étant donné que de nombreuses contraintes sont souvent imposées aux soumissionnaires — qui les empêchent de changer, par exemple, le matériel roulant, les employés, la fréquence des services, etc. La concurrence aboutit simplement à soumissionner pour savoir qui dirigera l'entreprise, car tout le reste est fixé. De plus, il y a un problème quand la compagnie à laquelle est attribué le contrat n'est pas suffisamment incité à entretenir les voies ou le matériel roulant, notamment à la fin du contrat. Enfin, le contrat n'est jamais exhaustif, de sorte que la concurrence pour le marché n'élimine pas la réglementation. Nous pensons souvent que la concurrence *pour* le marché est juste une autre face de la concurrence *sur* le marché, sans aucun besoin de réglementation. Ce n'est jamais le cas, car il y a toujours des réglementations associées à la concurrence *pour* le marché, de sorte que ce n'est pas véritablement la même chose à cet égard. Par ailleurs, se pose un problème de « prise en otage » — autrement dit, si la procédure d'appel d'offres entraîne des coûts importants ou si les coûts de la transition vers un nouveau prestataire de

services sont élevés, l'opérateur en place peut demander (et espérer recevoir) de meilleures conditions ou davantage d'aides.

Le Président demande au Danemark d'expliquer les marges de flexibilité dont dispose le mieux-disant — est-il autorisé à introduire de nouveaux matériels roulants, de nouveaux employés, de nouveaux cadres ; peut-il décider de la fréquence des trains ? Comment le Danemark garantit-il la maintenance des voies vers la fin de la période de concession ? Les soumissionnaires ont-ils été nombreux ? Quelle est la rigueur du système de régulation a posteriori ?

Un délégué du **Danemark** répond que l'adjudicataire dispose de beaucoup de souplesse dans la façon dont il gère ses opérations. Le gouvernement fixe les horaires des trains — la fréquence et l'intégration avec le reste du réseau de transport ; les soumissionnaires font des offres basées sur le prix du billet pour l'utilisateur et sur l'aide fournie par l'État. Les soumissionnaires peuvent choisir leurs propres trains et employés. Un problème s'est posé lorsque Arriva (une compagnie britannique) a emporté le premier appel d'offres, car tous les conducteurs de locomotives danois expérimentés travaillaient bien entendu pour DSB, l'entreprise ferroviaire d'État. DSB concluait depuis toujours des accords avec les syndicats, de sorte que ses conducteurs lui étaient liés contractuellement. Quand Arriva a emporté l'appel d'offres, ils ont eu des problèmes pour trouver des conducteurs de motrices connaissant le système ferroviaire danois. Mais finalement, ils ont pu embaucher ou former suffisamment de conducteurs.

Le nombre de soumissionnaires pour chaque appel d'offres est un problème permanent. L'opérateur historique DSB (Danske Statsbaner), la compagnie ferroviaire d'État, soumissionnera toujours (dans la mesure où ils assurent actuellement les services). Il existe des moyens pour contrôler les effets dus à un nombre limité de soumissionnaires — par exemple, il est possible de plafonner les offres qui seront acceptées (ainsi, le prix qu'acquittent actuellement les consommateurs pourrait servir de point de départ).

Le **Président** note qu'en Italie il pourrait y avoir un problème dans la mesure où le voltage utilisé par les locomotives n'est employé que dans deux autres pays, la Slovénie et la Pologne. L'adjudicataire d'un appel d'offres dans ces pays pourrait avoir des difficultés à obtenir des trains. Par ailleurs, si vous emportez l'appel d'offres, vous avez besoin de trains immédiatement — on ne peut attendre cinq ans pour les acheter. Cela a-t-il été un problème au Danemark ?

Un délégué du **Danemark** répond que cela n'a pas été un problème car Arriva disposait de ses propres trains (peut-être, comme le délégué le suggère, du fait que le Royaume-Uni utilise la même norme que le Danemark). Le problème d'Arriva n'était pas l'accès aux trains mais l'accès aux conducteurs.

En ce qui concerne la situation au Japon, le **Président** note que le secteur ferroviaire japonais est réparti entre six compagnies régionales verticalement intégrées pour le transport de passagers. Il existe également un opérateur de fret qui utilise l'infrastructure de ces compagnies de passagers. Comme le propriétaire de l'infrastructure n'assure pas de services de fret, il n'est pas incité à limiter l'accès à des opérateurs de fret rivaux — ce qui constitue théoriquement la condition la meilleure pour l'instauration de la concurrence. Il semblerait toutefois qu'au Japon, l'opérateur de fret n'a pas de concurrent — bénéficie-t-il d'un monopole de fait ?

Un délégué du **Japon** répond que bien qu'il n'y ait pas d'opérateurs concurrents pour le fret ferroviaire au plan national, plusieurs compagnies assurent des services régionaux de fret par rail, de sorte qu'il existe une certaine concurrence. Aucun concurrent n'est toutefois apparu pour la prestation de services de fret à l'échelle du pays.

La communication suisse rend compte d'un appel d'offres pour la prestation de services entre Constance et Zurich. Après que le canton ait déclaré son intention de lancer un appel d'offres pour cette

liaison, l'opérateur en place (SSBB) a accru ses services alors que l'appel d'offre était en cours, ce qui a rendu inutile et non rentable l'arrivée de nouveaux concurrents. Le canton a par la suite renoncé à la procédure d'appel d'offres. La communication suisse indique que bien que l'appel d'offres n'ait pas eu lieu, certains résultats ont été obtenus. Le Président demande à la Suisse d'expliquer pourquoi SSBB a agi de la sorte.

Un délégué de la **Suisse** répond que l'espace limité disponible dans la principale gare de Zurich pose un problème. Quand SSBB a fait valoir que faute de place, il n'était pas possible d'introduire de nouvelles liaisons entre Zurich et Constance, cela a été vérifié par l'Office fédéral des transports. Il a été constaté que la seule solution pour accroître le trafic entre Zurich et Constance était de développer les services existants et non d'introduire des services nouveaux uniquement entre Zurich et Constance. L'initiative prise par SSBB pour étendre les services existants a été la solution la plus efficiente. Quant à savoir pourquoi SSBB n'a pas fourni auparavant un service plus dense entre Zurich et Constance, il semble que la compagnie ait simplement répondu au fait que des concurrents commençaient à s'intéresser à la prestation d'un tel service.

Globalement, le résultat est satisfaisant. Bien qu'il n'y ait pas de concurrent pour la fourniture de ces services, la menace de la concurrence a conduit l'opérateur en place à être plus efficient. L'objectif du canton (accroître le trafic sur certaines lignes) a également été atteint. À l'avenir, la Suisse devra peut-être trouver de meilleurs moyens pour faire face aux problèmes d'encombrement, mais le résultat est pour l'instant satisfaisant.

Le **Président** interroge la France sur le processus de régionalisation des responsabilités dans le secteur ferroviaire en France et demande si cela va améliorer la discipline financière ou les performances de l'opérateur ferroviaire français.

Un délégué **français** explique que pendant une centaine d'années, le réseau ferroviaire français a été exploité par un certain nombre de compagnies privées. Cette période s'est accompagnée d'une croissance très significative du réseau. Toutefois, la croissance du réseau ferroviaire s'est faite en même temps que l'urbanisation. Depuis la fin du 19^{ème} siècle, on ferme des lignes. En 1936, ces compagnies privées ont été nationalisées pour créer un seul opérateur ferroviaire national intégré. Depuis 20 ans, les pouvoirs publics cherchent à faire assurer certains services par les autorités régionales locales dans le cadre d'une procédure appelée la régionalisation. Ainsi, le Parlement français examine actuellement l'adoption d'une loi qui transférerait la majorité des aéroports français sous le contrôle des autorités régionales. À l'avenir, les autorités régionales seront associées aux décisions concernant l'investissement dans le matériel roulant et l'organisation des services dans le secteur ferroviaire.

En 60 ans, les chemins de fer français sont passés de 500 000 à 170 000 employés — c'est-à-dire une réduction d'environ 5 000 employés par an. Cela a bien entendu amélioré les performances financières dans ce secteur, mais cela n'est pas encore suffisant pour atteindre l'autosuffisance financière.

Revenant au débat général, le **Président** exprime de nouveau son pessimisme quant aux perspectives d'une concurrence efficace pour le marché, étant donné les restrictions et exigences imposées aux adjudicataires et aux difficultés rencontrées pour obtenir des trains et des conducteurs.

Louis Thompson répond qu'il y a des raisons d'être optimiste. En 1990, tous les chemins de fer d'Amérique latine étaient exploités comme un réseau intégré par le secteur public. En 2000, tout chemin de fer d'importance sur le continent américain était exploité par le secteur privé (à l'exception des chemins de fer à Cuba, d'Amtrak et de VIA). Toutes ces évolutions se sont faites par l'introduction de la concurrence pour le marché.

Deux facteurs conditionnent le succès de ces expériences : l'un concerne le pouvoir à transférer et l'autre est la répartition des risques entre les deux parties. Plus grands sont le pouvoir commercial et la liberté qui sont transférés concernant, par exemple, l'importance des effectifs, plus grandes sont les possibilités dont dispose le nouveau concessionnaire pour obtenir de meilleurs résultats. De nombreuses concessions visent à transférer l'intégralité des risques au nouvel opérateur ; cela ne fonctionne pas s'il n'y a pas également transfert de pouvoirs.

Il est vrai que la réglementation doit être maintenue quand il y a concession, mais il s'agit d'une forme différente de réglementation — elle prend le plus souvent la forme d'un contrôle du respect des modalités contractuelles. Quand certaines concessions échouent, c'est parce que le concessionnaire ne comprenait pas cela et qu'il voulait continuer à réguler le fonctionnement de la concession, pouvoir qu'il avait cédé dans le contrat lui-même.

Le **Président** suggère que, du moins au Mexique, la nouvelle situation pourrait plutôt être décrite comme une privatisation, étant donné la durée très longue de la concession.

Louis Thompson répond que cela dépend en partie de ce que l'on entend par privatisation. Les durées de concession au Mexique sont de 50 ans pour les concessions de fret. En Argentine et au Brésil, les durées de concession sont plutôt de 25-30 ans pour les concessions de fret et de 10-15 ans pour les concessions de passagers suburbains et de métros à Buenos Aires et Rio de Janeiro.

Le **Dr Biggar** note qu'il a observé un fort pessimisme parmi les économistes du rail quant aux possibilités de concurrence pour le marché. Un problème particulier est de savoir ce que l'on fait quand un opérateur ayant obtenu une franchise ne produit pas les résultats attendus ? Cela a été un problème en Australie et au Royaume-Uni. Si vous lancez un appel d'offres pour des services de transport de passagers dans une grande ville, les perturbations provoquées par l'indisponibilité des services ne serait-ce que pendant une seule journée sont considérables. Les pouvoirs publics ne peuvent tolérer une telle interruption. Cela crée un problème de « prise en otage » dans lequel celui qui a obtenu la concession peut déclarer « je suis désolé, mais j'ai fait une erreur ». Ce peut être une erreur légitime, mais il a fait une erreur. Et les pouvoirs publics sont confrontés à la possibilité d'avoir à répéter la procédure d'appel d'offre — ce qui peut être extrêmement coûteux — ou de laisser les services se dégrader d'une façon ou d'une autre. C'est un problème très difficile. Existe-t-il une solution à ce problème ?

Le **Professeur Marc Ivaldi** répond que l'aspect important réside dans la conception du contrat. Le problème est de choisir le type de contrat — soit à prix fixe, soit à coûts majorés — pour produire les incitations et la répartition des risques appropriés. Dans le secteur des autobus en France, il s'est révélé très intéressant de voir la différence d'efficacité que l'on peut obtenir, selon le type de contrat. Il sera intéressant d'examiner plus attentivement ces points. Bien entendu, dans le secteur ferroviaire, la durée du contrat joue un rôle essentiel. L'adjudicataire a besoin de temps pour effectuer les investissements requis et dégager un retour sur son investissement.

S'agissant du problème de l'investissement, le **Président** pose une question sur le problème du moment de l'investissement — le franchisé investira au début de la période de franchise, mais non lorsque la fin du contrat approche — que celui-ci soit de cinq ans ou de trente ans.

Louis Thompson répond que ces problèmes de durée de contrat peuvent être résolus. Au Royaume-Uni, le problème a été résolu en séparant l'infrastructure et en la privatisant. La même procédure a été suivie pour le matériel roulant — en créant des sociétés de location de matériel roulant, le lien a été rompu entre la durée de vie de l'actif et la durée de vie de la concession.

M. Thompson poursuit en observant que les économistes voient parfois mieux les problèmes qu'ils ne voient les résultats. Les pays d'Amérique latine ont concédé leurs chemins de fer en sachant qu'il y avait des problèmes avec la concession car les systèmes monopolistes intégrés détenus par les pouvoirs publics avaient échoué. Soit les chemins de fer étaient voués à la disparition, soit ils allaient essayer de faire quelque chose pour aider le rail à mieux s'adapter au marché qu'il ne l'avait fait par le passé. M. Thompson exprime ses craintes, dans le contexte européen, quant au risque de voir s'instaurer l'immobilisme et de permettre aux autres modes de transport de continuer de progresser aussi rapidement qu'ils l'ont fait.

Un délégué des **États-Unis** convient que l'expérience de l'Amérique latine en matière de concurrence pour le marché est dans l'ensemble un succès, mais il note que l'on considère souvent la concurrence pour le marché comme un substitut de la concurrence sur le marché. Dans plusieurs grands pays d'Amérique latine, le succès s'explique aussi en partie par la concurrence *sur* le marché— notamment concurrence géographique ou concurrence à la source. Ainsi, les Argentins ont veillé, lorsqu'ils ont restructuré leurs chemins de fer, à ce que tous les grands ports soient desservis par deux compagnies de chemins de fer différentes qui seraient en concurrence pour l'acheminement du trafic. Les Mexicains ont veillé à ce que la ville de Mexico et deux ou trois autres grandes villes importantes soient desservies par plus d'une compagnie ferroviaire, afin que ces chemins de fer en concurrence puissent rivaliser pour l'acheminement du trafic, même si celles-ci allaient dans des directions différentes. Dans une certaine mesure, cela est également vrai du Brésil. Il importe de souligner que dans ces grands pays d'Amérique latine, la concurrence sur le marché a également contribué au succès de la transformation.

Un délégué du **Brésil** note que dans son pays, plusieurs grandes franchises ferroviaires ont été acquises par de gros utilisateurs, ce qui crée un problème potentiel d'exclusion des rivaux. Le Brésil examine actuellement un cas dans lequel le problème est exactement celui-ci : une grande compagnie minière possède un important chemin de fer et a une participation dans une deuxième ligne qui pourrait être un concurrent potentiel.

Application des dispositions antitrust dans le rail

Le **Président** introduit la dernière session en observant qu'il n'y a guère eu d'application des dispositions antitrust dans le rail, sauf pour quelques fusions dans un très petit nombre de pays. Étant donné les parts de marché élevées des opérateurs en place, l'absence de poursuite antitrust est un mauvais signe car cela signifie que les concurrents soit, sont inexistantes, soit ne sont pas véritablement une menace pour les opérateurs en place.

Le Président débute avec la Corée, où le rail reste pratiquement un monopole juridique. Or, à la fin de sa présentation, la délégation coréenne observe que comme l'accès aux voies est contrôlé par le gouvernement, il n'y a pas de risque de refus de l'accès. Le Président demande à la Corée d'explicitier ce point.

Un délégué de la **Corée** note qu'une grande réforme du secteur ferroviaire vient juste d'avoir lieu en Corée, avec la création de la Korea Rail Corporation le mois dernier. Jusqu'à présent, il n'y a pas eu d'opérateur privé demandant l'accès à l'infrastructure de voies, de sorte qu'il n'y a pas eu de cas de refus de l'accès. Le gouvernement, qui possède les voies, octroie l'accès aux voies après examen de la demande, sur la base des critères fixés par la loi. L'examen consiste à prendre en compte les critères de sécurité, l'existence d'une demande suffisante et la nature du service proposé par le demandeur. Par conséquent, la probabilité d'un refus d'accès est faible. La KFTC, en tant qu'organisme chargé de faire appliquer le droit de la concurrence, suivra également de près les évolutions dans le secteur ferroviaire, pour veiller à ce qu'il n'y ait pas de refus d'accès.

Le Président aborde ensuite la question de savoir comment assurer l'accès à certains éléments de l'infrastructure (mentionné précédemment comme le problème de l'accès au "dernier kilomètre", tel que les voies à l'intérieur des ports, ou les voies réservées au chargement et déchargement). Très souvent, l'accès est accordé à titre exclusif à DeutscheBahn, ou à Trenitalia en Italie. Cependant, à la différence de la situation en Italie, selon la communication allemande ce problème a été résolu en Allemagne. Le **Président** invite l'Allemagne à commenter ce point.

Un délégué de l'**Allemagne** note qu'il y a deux organismes en Allemagne responsables de la concurrence dans le secteur ferroviaire — le Bureau fédéral des chemins de fer et le Bureau fédéral des cartels. Le Bureau fédéral des chemins de fer s'occupe des questions techniques, telles que la procédure juridique pour la construction des rails, ou la définition de normes techniques de sécurité, mais il est également tenu d'accorder un accès non discriminatoire au réseau. Parallèlement, l'Office fédéral des cartels a pour mission d'autoriser l'accès sur la base du droit fédéral de la concurrence. Il n'y a pas de réglementation délimitant la frontière entre ces compétences et jusqu'à présent ces responsabilités qui se recoupent ont été assumées de façon très informelles. La législation fédérale applicable au rail est actuellement en train d'être profondément remaniée et il est probable que les compétences relatives seront plus clairement délimitées.

Un cas s'est posé concernant l'accès à des installations de chargement et de déchargement dans les ports, mais une solution amiable a pu être trouvée avec les parties en cause. Dans l'amendement à la législation fédérale sur le rail qui est actuellement en préparation, le droit d'accès au dernier kilomètre sera fixé par la loi, car ces cas vont se multiplier à l'avenir. Jusqu'à présent, la concurrence a augmenté mais pas autant qu'on l'espérait. S'agissant du fret ferroviaire, par exemple, on dénombre, outre DeutscheBahn, 120 compagnies actives, qui possèdent ensemble une part de marché d'environ 6.8 %. On espère toutefois que cette part augmentera à l'avenir, ce qui pourrait aussi augmenter les risques de litige sur l'accès aux installations de chargement et de déchargement.

Le Président attire l'attention sur deux cas d'abus de position dominante sur le marché du fret ferroviaire en Pologne. Le premier cas porte sur un rabais pour fidélité, dans lequel l'opérateur historique, un opérateur de fret polonais, a dû acquitter une amende de 5 millions d'EUR. L'autre affaire concerne une pratique d'exclusion par l'opérateur de fret polonais qui signait avec des chargeurs des contrats à long terme comportant une clause d'exclusivité. Le **Président** demande à la Pologne d'expliquer ces deux affaires et les raisons pour lesquelles la solution n'a pas été la même pour les deux cas.

Un délégué de la **Pologne** explique que le marché polonais des services de fret est dominé par un seul groupe. L'infrastructure ferroviaire est séparée de l'opérateur principal sur le marché, bien qu'il s'agisse d'une séparation juridique et non d'une séparation de capital. L'opérateur historique possède quelque 94 % du marché. Dans les deux affaires, il s'agissait d'un abus de position dominante par l'opérateur historique en question. Dans la première, concernant des réductions accordées pour fidélité, l'opérateur imposait dans le contrat des conditions discrétionnaires et inégales aux différentes compagnies ferroviaires. Ce type de comportement a été jugé comme un abus de position dominante et une amende a été imposée. Dans la deuxième affaire, relative à des contrats exclusifs, il s'agissait d'une pratique beaucoup plus grave et une forte amende a été imposée.

Dans sa communication, le Mexique fait référence à une enquête sur le marché du transport ferroviaire interlignes dans lequel Ferromex tarifie ses services interlignes à des niveaux qui font que le coût du service conjoint interlignes est plus élevé que les tarifs pratiqués par Ferromex pour ses propres services. Le **Président** invite le Mexique à expliquer ce cas.

Un délégué du **Mexique** observe que l'un des inconvénients de la restructuration du rail au Mexique est l'absence d'une véritable concurrence intramodale et de trafic interlignes. Les désaccords privés entre

concessionnaires ont maintenant conduit à des dépôts de plaintes devant l'autorité de régulation du secteur et la Commission fédérale de la concurrence, ainsi qu'à des poursuites privées devant les tribunaux. Bien que les performances opérationnelles et la participation du rail sur le marché du fret se soient améliorées, et compte tenu des effets positifs qu'elle a eus sur les finances publiques, la privatisation des chemins de fer se caractérise par d'importants déficits sur le trafic interlignes qui ont limité la concurrence tant intra qu'intermodales dans les chemins de fer et sur les marchés du fret. Dans le premier cas, les problèmes d'interconnexion ont limité la concurrence intramodale et empêcher le transport par rail d'offrir des services de bout en bout aux utilisateurs. Dans le deuxième cas, le secteur ferroviaire a perdu du terrain dans la concurrence avec les autres modes de transport en pratiquant des tarifs élevés pour les services d'interconnexion, notamment dans les cas où il aurait dû bénéficier d'un avantage comparatif.

Dans les services interlignes, le transporteur qui offre le service aux usagers fixe en général un seul tarif intégré pour un service origine-destination et il négocie les parts que chaque transporteur recevra en paiement. Selon les règles applicables aux tarifs des services ferroviaires, les transporteurs peuvent facturer jusqu'au montant du tarif maximum déclaré pour leurs propres services, et proposer des réductions. Ces règles n'établissent pas de distinction entre les services interlignes et les services exclusifs et elles ont été conçues pour permettre aux transporteurs de définir de façon indépendante les conditions d'accès sans intervention réglementaire. Concrètement, elles permettent aux transporteurs de pratiquer pour les segments interlignes des tarifs plus élevés que ceux perçus pour les liaisons exclusives, tout en respectant la limite tarifaire maximale. C'est le cas même si les segments qu'ils exploitent sur la liaison interligne sont moins coûteux à desservir que la liaison exclusive.

De ce fait, des concessionnaires ont déposé des plaintes auprès de l'autorité de régulation au motif que des concurrents fixent des tarifs excessifs et discriminatoires. Les conditions d'accès défavorables limitent les services d'interconnexion et de circulation. Les désaccords sont plus nombreux sur les marchés où le trafic interligne est en concurrence avec des liaisons exploitées en exclusivité. Le régulateur a répondu à ces litiges en publiant des décisions qui ont fixé les modalités et conditions dans lesquelles les droits d'utilisation des voies et les services d'interconnexion doivent être accordés. Toutefois, aucune de ces décisions n'a été mise en œuvre en pratique car les titulaires de concessions ont obtenu des sursis en déposant de nombreuses demandes d'*amparo* et de jugement en nullité. A ce jour, deux *amparos* ont été déposés contre l'une des normes techniques officielles, de même que neuf demandes en nullité contre des décisions relatives à des droits de circulation et deux demandes en nullité contre des décisions relatives à des services d'interconnexion et services terminaux. Toutes ces affaires sont en suspens. Le manque d'efficacité des réglementations sectorielles dans la solution des litiges sur les conditions d'accès a incité les concessionnaires à exploiter les conditions d'interconnexion et les services de location de wagons comme des outils stratégiques pour limiter l'accès de leurs concurrents à des installations essentielles tout en améliorant leur propre position sur le marché. De ce fait, les transporteurs ont demandé que l'autorité de concurrence enquête sur les pratiques monopolistiques visant à entraver la concurrence interlignes. Il est maintenant urgent d'élaborer un plan détaillé pour définir les redevances et conditions d'accès et, à terme, encourager la concurrence intramodale. Il est également urgent de concevoir un cadre réglementaire adéquat offrant une certitude suffisante aux concessionnaires et permettant d'assurer une médiation ou une solution plus efficaces des conflits entre titulaires de concessions. Il faudrait envisager la création d'une autorité de régulation forte et indépendante pour superviser cette action. Le Mexique a besoin de créer un cadre réglementaire moderne pour éviter d'avoir à résoudre les litiges relatifs à l'accès, au cas par cas via l'autorité de concurrence. Il serait beaucoup plus efficient d'avoir un meilleur cadre réglementaire.

Le **Président** note que s'il y a deux compagnies de chemins de fer, verticalement intégrées, l'une opérant sur une ligne et l'autre sur une autre, on peut imaginer que l'interconnexion des lignes serait mutuellement bénéfique. Pourquoi y a-t-il donc litige ?

Un délégué des **États-Unis** répond que sur les trois concessionnaires qui ont les trois compagnies distinctes verticalement intégrées, l'un a payé beaucoup plus que les deux autres pour sa concession. Ce concessionnaire, quand il formule une offre pour un tarif au kilomètre, facture deux à trois fois plus le coût du capital. Les autres ne sont pas d'accord et aucun ne peut s'accorder sur un mécanisme adéquat de réciprocité. Il y a un fort décalage dans la négociation qui n'a pas encore été comblé.

Un délégué du **Mexique** ajoute qu'il existe de nombreuses liaisons sur lesquelles le trafic interlignes est mutuellement complémentaire, c'est-à-dire qu'une compagnie de chemins de fer a besoin de l'autre et inversement. Il n'y a généralement pas de problème dans ce cas. Les litiges surviennent lorsque l'une des compagnies de chemins de fer peut emprunter une autre liaison— c'est-à-dire qu'il existe une liaison plus courte qui a besoin du trafic interlignes alors que l'une des compagnies possède en exclusivité une liaison plus importante et plus longue.

Le **Président** convient que l'on pourrait dire que c'est plus un problème de connexion « dans un sens » que d'interconnexion dans les deux sens (auquel cas une solution mutuellement acceptable serait plus vraisemblable).

Un délégué de la **Hongrie** évoque le problème des fusions transfrontières entre opérateurs détenus par l'État, comme entre l'Allemagne et le Danemark (dans les services de fret). De telles fusions pourraient apparaître en Amérique centrale tôt ou tard. Le **Président** reconnaît qu'une autorité de concurrence devrait prendre en compte le risque de réduction de la concurrence suite à une telle fusion et ses effets sur la création ou le renforcement d'une position dominante sur les marchés concernés. **Louis Thompson** évoque l'exemple de DB et de la SNCF négociant pour l'achat de PKP Cargo (l'opérateur polonais de transports) il y a quelques années. Un délégué des **États-Unis** commente que DB Cargo serait sans doute l'entrant le plus vraisemblable comme concurrent direct de PKP Cargo. Les cas d'atteinte potentielle à la concurrence ne sont pas toujours aisés à démontrer. Mais du point de vue de la concurrence, l'Office antimonopole polonais aurait pu s'inquiéter.

Le **Président** insiste sur le problème de la réglementation en tant que facteur propice aux fusions et alliances transfrontières. Il y a un nombre non négligeable de cas en Italie dans lesquels de nouveaux entrants ont formé des coentreprises avec l'opérateur en place en Suisse, en Autriche ou en Allemagne pour offrir des services entre les pays. Ces accords sont nécessaires du fait des problèmes techniques régissant l'interopérabilité.

Le **Président** conclut la Table ronde en rappelant combien il est difficile d'introduire la concurrence dans le secteur. Il y a un grand nombre de problèmes réglementaires à résoudre avant d'introduire la concurrence, notamment en Europe, en particulier la question de l'interopérabilité qui subsiste après toutes ces années. Il n'y a que quelques pays dans lesquels il existe un certain degré de concurrence effective comme aux États-Unis, en partie au Mexique et peut-être dans certains pays d'Amérique latine, mais certainement pas ici en Europe (du moins jusqu'à présent).

Les efforts qui ont été faits avec la séparation verticale et les appels d'offres n'ont guère permis d'avancer dans le domaine de la concurrence. Ils ont toutefois permis d'obtenir certaines améliorations dans la gouvernance des entreprises et sans doute davantage d'efficacité, mais guère en matière de concurrence. Certains ont fait valoir que la séparation verticale pourrait avoir des effets positifs dans le secteur du fret — à savoir le fait de ne pas séparer l'infrastructure des services de transport mais d'établir une séparation entre la partie fret du secteur des services de transport et un réseau d'infrastructure pour passagers verticalement intégré. Ce pourrait être une solution efficace, bien que dans les quelques pays où cela a été expérimenté (tels que le Danemark et le Japon), il n'y a guère de concurrence dans le fret.

La séparation verticale va sans doute continuer d'être débattue et mise en oeuvre dans le secteur du rail. Il s'agit de la deuxième Table ronde consacrée au rail par le Comité de la concurrence, huit ans après la première — dans huit autres années nous aurons davantage d'expériences à échanger. De nombreux pays s'engagent sur la voie d'une réforme de la réglementation et s'efforcent de développer la concurrence. Nous verrons s'ils obtiennent les résultats qu'ils escomptent.