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Council of Ministers

RAILWAY REFORM

**Summary of Principal Questions for Regulatory Reform and
the Development of Rail Freight Markets**

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KEY ISSUES FOR DEBATE:

The fundamental objective of regulatory reform for freight rail services is twofold: improvement of efficiency; and improvement of competitiveness in freight markets. Regulatory reform is intimately linked to structural reform to which there are two distinct elements in Europe: restructuring of railways nationally to create business units and financial relationships between them that provide incentives for improved control of costs and quality of service; and restructuring internationally to create business structures better adapted to serving markets in an increasingly integrated European and world economy. Progressive liberalisation of rail freight markets is being pursued, notably in the European Union, as an essential component of regulatory reform at the international level, with the introduction of competition between freight train operators.

In this context, key current issues in the regulation of freight railways in ECMT countries can be summarised as follows.

- a) How should co-operation between railways be promoted in order to improve efficiency and quality of service in international operations? What forms of alliance are most effective? What should be the policy towards mergers and acquisitions? Under what circumstances should they be blocked and what actions should be required as conditions of their approval?
- b) How can adequate investment in infrastructure be ensured, whether from the public or private sector, when pricing infrastructure use at levels that do not drive freight traffic off the railways?
- c) How feasible is light touch regulation on multi-user networks where incumbent operators dominate the competition for access to infrastructure and to markets?
- d) How best can management independence from Government be guaranteed for rail freight companies. What role should privatisation have?
- e) How can appropriate priority be ensured for freight services competing for train paths with passenger services, reflecting the economic value of freight services? How can international timetabling be improved in this respect?

SUMMARY OF PRINCIPAL QUESTIONS ON REGULATORY REFORM AND THE DEVELOPMENT OF RAIL FREIGHT MARKETS

Introduction

1. This report presents a summary of issues for regulatory reform in rail freight transport, laying the basis for debate in the Prague Council. These are complex questions to which, as the analysis in document CEMT/CM(2000)20 and summarised below shows, there are no simple answers. The analysis does, however, provide a framework for working towards the most effective balance between economic efficiency and financial constraints. Although the optimum solution will vary with circumstances, these questions need to be addressed at international level if international rail freight is to meet its potential in Europe.

*EU Directives
and ECMT
Resolutions*

2. Ministers adopted Resolution 99/2 on the Removal of Obstacles at Border Crossings for International Goods Transport at the last meeting of the Council in Warsaw. This called on railways to take prompt action to reduce delays in international freight services as far as is cost effective, and called on Governments to streamline customs and other inspections and to increase the management independence of railway companies so that decisions related to improving border crossing operations can be made on a commercial basis in an international market environment. The present report is complementary, addressing the regulatory and organisational aspects of international (and national) rail freight transport. The conclusions of debate in Prague will lay the foundation for further work and possibly drawing up a Resolution to build on current EU draft Directives (amendments to Directives 91/440/EEC and 95/18/EC and a draft Directive on the allocation of railway infrastructure capacity, the levying of charges for the use of railway infrastructure and safety certification to replace 95/19/EC) once these enter into force, and if appropriate extend relevant provisions to all ECMT Member countries with the aim of fostering efficient development of international rail freight transport across the continent of Europe.

*Principles of
subsidiarity &
proportionality*

3. The circumstances (geography, population, industry, levels of income, efficiency of existing rail services, etc.) influencing performance of the transport system vary considerably from one country to another in Europe. Best practice in one country is not therefore necessarily the best solution in another country. For example, solutions to congestion may be very different from strategies adapted to managing railways with low traffic flows. A Europe-wide standardisation in the approach to regulatory reform may cause avoidable problems. The EU principle of subsidiarity is important as is the question of proportionality — are the costs of measures proposed in proportion to the results expected? Only where the advantages of international harmonisation are large are uniform rules appropriate.

Improving Quality of Service

*Opportunities
for expansion*

4. Advances in logistics and information technology and the creation and expansion of a single market in the European Union present major opportunities for rail freight services to develop in Europe. To exploit these opportunities, rail must compete with other modes on both price and quality of service.

Seamless services and reliability are essential to competitiveness

5. Quality of service depends crucially on reliability, where good labour relations based on competitive contractual conditions are as important as effective logistical management. Equally, structural consolidation in the European rail industry will be important to create the conditions for continent-wide seamless services to develop (i.e. service that avoids customers having to deal with more than one rail service provider, and avoids protracted negotiations between different territorial rail entities).

Competition & consolidation are both important

6. In the regulatory field, two broad routes to fostering adaptability and thus improving the overall performance of rail freight services are most relevant in Europe:

- increasing competition within the industry;
- and ensuring freedom to rationalise and concentrate investment where returns justify.

A continent-wide restructuring, to replace national frontiers with more commercial logic, is important in both respects.

7. Fostering intra-modal competition may provide an effective route to innovation in the European rail sector in two ways. First by the entry of new companies focussed on specific markets and better adapted in terms of structures and costs to serve these markets as they evolve. Second, and possibly more significantly, through making rail markets contestable and providing the necessary stimulus and rationale for incumbent operators to innovate, even where competition is in practice limited.

8. In terms of price, the overall impact of introducing competition between rail companies may be somewhat limited, given the intense competition from road in most European rail markets. However, competition coupled with the international consolidation of the industry that is beginning and is facilitated as an incidental effect of recent regulatory reforms, should lead to lower costs and better quality, more seamless international services.

Objectives of Regulatory Reform

The need for regulation differs by market.

9. 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 services differs from country to country. However, the following objectives need to be considered in designing regulatory frameworks for most rail markets:

- preventing pricing abuses in captive markets (bulk coal transport where coastal or inland waterways are not available, for example);
- ensuring transparency in the provision and use of public subsidies;
- providing for an adequate level of investment in rail infrastructure and rolling stock;
- ensuring fair conditions for inter-modal competition;
- encouraging intra-modal competition, where feasible;
- minimising potential losses from reduced competition arising from mergers.

Economies of scale need to be preserved

10. The likelihood of different structures and regulatory systems achieving these objectives needs to be balanced against the likelihood of their preserving the welfare gains arising from the major economies of scale, scope and density inherent in parts of the rail system (especially infrastructure for scale economies and passenger operations for economies of density).

11. The underlying task of regulatory reform in Europe is thus to achieve balance: in introducing competition through regulatory intervention whilst otherwise preserving management freedom to run the business commercially (free from government intervention); and in preserving and enhancing as much of the substantial economies of scale inherent in rail services as is compatible with introducing an effective degree of competition.

Intrusiveness of Regulation

Explicit regulatory codes should replace government intervention in management decisions

12. De-regulation of railways in countries as diverse as the United States of America, Japan and New Zealand suggests that relatively light touch regulatory regimes are more successful than detailed prescriptive regulation in achieving the correct balance between these objectives. For freight railways in particular, the North American record suggests that an effective route to improving performance is to restrict detailed intervention to cases where: there is an appeal to the regulatory authorities from an aggrieved party (and constraints on the behaviour of a company are sought); or railway companies wish to merge and there is a need to preserve competition. In the latter case, intervention to constrain the structure of the market (for example requirements to divest parts of the merged business) will generally be more effective than constraints on the behaviour of the merged company.

13. In regions where there is little or no existing competition between rail companies and Government policy is to introduce competition in the rail market (as opposed to for the market through tenders for exclusive concessions) more extensive intervention will be required to prevent the exercise of access rights being obstructed by incumbent operators, and possibly to impose structural changes such as separation of rail infrastructure from train operations.

Competition and Consolidation

Europe needs international alliances as well as competition to improve international freight services

14. Mergers have been a dominant feature of the US rail industry since deregulation in 1980. They have given the industry a more efficient structure, enabling costs to be reduced through cutting out duplicate capacity and reducing overheads. More importantly, services have improved as a result of the ability of the merged operator to provide a seamless service. Mergers *have* enhanced the market power of some rail firms by reducing the number of competitors. This might be expected to have resulted in excessive prices in some markets but this does not seem to be significant given the low rates of return experienced by the industry in the US (despite the rapid increase in productivity) and the fact that average rates have fallen by about 50% since deregulation. For the future, mergers to create trans-national railways are less likely to meet objections from shippers and the regulatory authority than a merger creating a monopoly in one region of the country. This is because, for mergers between companies in different regions of the country, the benefits to shippers of one company providing through services are likely to

outweigh the potential loss of efficiency through reduced competition. The balance between allowing the development of seamless services whilst preserving adequate competition has been achieved by the regulator exercising his powers to require divestments of parts of the network or impose trackage (access) rights in specific parts of the merged operation where the impact of reducing competition could be significant.

15. Thus if the creation of access rights improves efficiency through competition, mergers can improve efficiency through economies of scale and seamless service. The draft Directive and amendments to Directives adopted in principle by the EU Council in December 1999 cover international access rights but both national and EU competition authorities (and rail regulators where they exist) will have a decisive role to play in the conditions they attach to approving mergers. Explicit policy at the European level towards mergers needs to be developed, particularly with respect to introducing requirements to divest parts of merged businesses to promote competition. Such conditionality could be employed to protect competition without preventing mergers that bring structural improvements to the industry with associated benefits for international services.

Commercial alliances are needed in rail infrastructure even more than in train operations

16. Seamless service on the infrastructure side of the business is possibly even more important than in freight operations. Infrastructure integration is being addressed partially in the European Union through the draft 1999 Directive on Interoperability, which seeks mainly to ensure a greater degree of technical harmonisation together with standardisation of operating procedures through regulatory oversight. The Trans European Rail Freightways initiative addresses fostering closer commercial ties between infrastructure managers and has made gradual progress in developing faster international train paths for freight and “one-stop-shops” for customer contacts on a number of routes. This may not prove sufficient, however, to prevent barriers to more efficient use of infrastructure persisting, which even merged freight operators may not have powers to resolve. Routes to fostering greater commercial integration of infrastructure management in Europe need to be developed further.

17. Opening rail operations to competition can also increase costs. Evidence of economies of scale, scope and density suggests that fragmenting rail freight businesses can make them uneconomic. This is borne out by the results of international comparisons of productivity coupled with the difficulties of implementing the original model for competition in Britain’s freight railways. However, it does not rule out the development of efficient new businesses as a result of regulatory reform, especially where incumbents are inefficient — typically as a result of factors partly beyond their control such as rigidities in existing employment structures. New entrants moving significant quantities of freight have emerged in Germany and Scandinavia, efficient niche market operators providing innovative services have entered the interstate market in Australia, and competitive short line operations are widespread in North America and exist in several European countries. And as already noted, the impact of intra-modal competition in mobilising the resources of incumbent railways should not be underestimated.

Infrastructure Access

Obtaining adequate train paths for international freight will remain a vital issue

18. The future growth of rail freight in Europe will depend on how effectively access issues are addressed, particularly:

- obtaining adequate train paths for freight in competition with passenger services (on the basis of relative value in terms of socio-economic welfare);
- establishing an efficient non-discriminatory pricing system for infrastructure.

The first of these concerns requires that the systems for pricing and allocation of the use of rail infrastructure both account for the value of different rail services competing for space on the network. Negotiation will be the most effective way of revealing relative values.

Regulatory authorities or courts are needed to arbitrate access rights

19. Non discrimination has to be the basis for implementing access rights. Independent arbitration is necessary to resolve conflicts of interest. Recourse to regulatory authorities and the courts in cases of dispute is essential to ensuring fairness. In a light-handed regulatory system arbitration is provided by regulatory authorities or the courts only on appeal. In contrast, the system adopted by the EU Council in December 1999 is that an agent fully independent from any rail freight operator has the legal responsibility for allocating capacity and awarding train paths — even if the detailed work of planning timetables and day to day operational management of rail traffic (which inevitably departs substantially from planned schedules) might be contracted to the infrastructure management of a vertically integrated company or group of companies under a holding structure.

Is reciprocity needed to prevent abuse of access rights until these are enforced in all Member countries?

20. Internationally, progress in the rate of development of access rights differs. In the European Union, until such time as major barriers to entry under the terms of the amendments and draft Directives adopted in principle by the Council in December 1999 are satisfactorily removed in all countries, reciprocity might prove a necessary instrument for ensuring non-discrimination. Thus there could be reason to establish grounds for rail regulators or competition authorities to block the entry of operators owned by a foreign incumbent that enjoys protection in its home market through the existence of significant barriers to the exercise of access rights.

Cross Subsidies

Eastern European freight to passenger cross-subsidies must end

21. On the operations side of the business, cross-subsidies from freight to passenger services — common in the newer ECMT Member countries — must end when access rights are created for new entrants. Otherwise the financial solvency of incumbent operators will be unfairly compromised, since new entrants providing freight services do not bear a burden of subsidising passenger services. Thus in the countries of central and eastern Europe and the new independent states, separation of freight and passenger accounts (both balance sheets and profit and loss statements) is essential when access rights are introduced. Organisational separation would further increase the transparency needed to end such cross-subsidies.

Infrastructure Charges

Equivalent conditions for road-rail competition are essential

22. It is important for rail and road freight operations both to be charged efficient prices for the use of infrastructure (failing efficient prices they should at least be priced according to the same principles, to avoid distorting competition). The efficient price of any good is its marginal cost of production. For purely private goods, the production of which follows the normal characteristics of constant or decreasing returns to scale, competition from rival producers will tend to keep prices to the efficient level. For industries with increasing returns to scale, such as railway infrastructure, the efficient price level is no different but competition can not be relied on to reach this price level, as a single firm will be able to supply all production at the lowest cost. Increasing returns to scale (i.e. declining costs) also mean that the marginal cost of production is lower than the average cost, and pricing at marginal costs will not enable the producer to cover his total costs. This does not mean that the efficient level of price is actually above marginal costs — the efficient level of prices is always at the level of marginal cost. For a theoretically efficient outcome a transfer is required from Government to make up the difference between total costs and the revenues from efficient pricing¹.

23. Such transfer's should not be confused with state-aids or with a subsidy that distorts trade. They are not designed as compensation for inefficient performance or as a bridging arrangement while a firm improves its performance. These transfers are a permanent feature of a rail system that maximises economic welfare. The size of the transfer is determined by the size of the rail system, which in turn is determined by the cumulative result of investment and closure decisions. The quality of cost benefit assessments on which these decisions are made is therefore crucial. And the key determinant in the assessment is the calculation of expected demand that results from prices set at the efficient level — i.e. at the level of marginal costs. Demand is limited by the price of substitute services, road, shipping and air transport, as well as related to the utility of transport relative to other products and services.

Efficient infrastructure charges across Europe will be vital for expansion of international rail freight

24. Governments may be unwilling to provide the necessary transfers, for example because public finances are under pressure, or because it finds it difficult to assess the real level of marginal costs or because it believes that the existing structure of the industry results in poor decision making. Some Governments also pursue infrastructure cost recovery as a matter of principle. If the transfers required for efficiency are not available, alternative pricing strategies have to be adopted by the railway. The least inefficient approach is Ramsey pricing where prices are marked up in proportion to each customers price sensitivity. The volume of traffic is reduced and lines closed to the point where revenues are sufficient to cover costs. In principle this is not efficient pricing as customers that would be prepared to pay the marginal costs of transport are denied services by the higher than marginal prices charged. The modal share of rail in freight markets will be undermined if infrastructure charges are set substantially above marginal social costs.

1. This is a *prima facie* case for Government subsidy that was first given a formal exposition by Hotelling in 1938 drawing on the work of Dupuit 1849.

Ownership and Financing of Investment

But attracting private finance complicates marginal cost pricing

25. The application of marginal cost pricing creates particular problems with obtaining private sector finance for railway infrastructure. In order to attract private sector finance, it will be necessary:

- either to make exceptions to allow higher charges for new infrastructure, as under the draft EU Directive on the allocation of railway infrastructure capacity and the levying of charges for its use;
- or to provide public sector support to supplement private financing of investment.

26. There is evidence that transferring ownership of the railways to the private sector can have a considerable impact on the efficiency and competitiveness of rail services, especially when private ownership is combined with deregulation. However, where there is private ownership of infrastructure that is owned separately from operations, it is essential to provide adequate contractual and regulatory incentives to ensure that investment is at an optimum level. This has already proved to be a difficult regulatory issue in Britain following restructuring and privatisation of the railways and may prove to be the toughest to resolve.

Replicability of Models

US model can't be transplanted to Europe but some experience can be transferred

27. Deregulation in the USA has been highly successful in improving the efficiency of the rail system and has been accompanied by a significant reduction in rail freight rates. Its strengths lie in enabling an industry structure to develop that reaps the benefits of the fundamental economies of scale of rail services and in avoiding intrusive regulatory intervention where possible. Competition between vertically integrated freight railways is the essential feature. The US model will, however, be difficult to replicate unless both the following conditions are met:

- the economic value of passenger services is insignificant compared to freight – if passenger services are important, then they should not be dependent for infrastructure on vertically integrated freight operators as they have different and often conflicting requirements;
- most major freight markets are served by more than one line, thereby permitting the railways to be operated as competing vertically integrated transport companies – if there are no potentially competing lines, competing operators would need to use the same track, which is not the norm in the US.

These conditions are rarely met simultaneously in countries outside North America. Even in western Russia, where there may be potential for vertically integrated freight railways to compete, the importance of passenger services may rule out the US model.

28. A permutation on the US model, but adapted to a passenger dominated railway, was developed internally within British Rail before it was restructured in a different form for privatisation. This consisted of vertically integrated passenger operators. However, each section of track would have been controlled by the “prime user” (the operator that used the section of track most). This might have disadvantaged other operators, usually including freight operators, which are rarely the prime users.

29. One way in which the US model could be replicated would be through the development of “freight only” lines with vertically integrated freight companies. However, whilst freight only lines have merits in corridors with a high density of freight traffic on most lines, they would usually lead to losses of economies of scale in infrastructure, especially if vertically integrated freight companies were to compete. For most corridors in most countries, therefore, it is more economic for freight and passenger trains to share the same line, which eliminates this option.

30. It is therefore concluded that the US model is only replicable in limited circumstances that are unusual outside North America. However, as already noted, there are important lessons from the US regulatory experience for other models.

Most of European track network to be opened to competition for international freight

31. In the EU, regulatory reform initially focussed *inter alia* on vertical separation² and the introduction of access rights for certain categories of rail freight operations. The revised directives (drafts adopted in principle by EU Council in December 1999) focus more directly on the key problem for international freight — the fragmentation of the industry by national boundaries. It was agreed that any licensed operator in the EU should be able to gain access to the principal network³ in any EU country. This should increase the competitive pressures on incumbent railway undertakings and may encourage the further development of strategic alliances, possibly through mergers. Merger activity has already begun with the formation of Railion (German DB Cargo and Dutch NS Cargo), the proposed CargoSI joint operation of the freight businesses of Swiss SBB and Italian FS and other initiatives. The formation of such integrated international operators will allow the provision of a seamless service to customers but raises issues of monopoly concentration.

32. The EU model appears to be the most appropriate solution in regions comprising mainly small countries with significant trade between them. In these countries, the disadvantages of vertical separation should be more than offset by the benefits of horizontal integration of freight operations across borders (provided integration happens). The case for the EU model therefore seems strong for most of Central and Eastern Europe, where international traffic usually dominates. There may, however, be exceptions where demand is dominated by domestic traffic, as for example in Poland, where the advantages of horizontal integration across borders are less relevant. The weight of the economic argument in such cases may be in favour of vertical integration because the high transaction costs and loss of economies of scope arising from separation may outweigh the advantages from greater competition.

Australian flexibility could be a model for parts of Europe

33. The current Australian model successfully combines elements of both EU and US approaches to regulation. It consists of an interstate railway that has rights to negotiate access across a number of State networks exhibiting a wide variety of structures and regulatory regimes. This represents a compromise between the open access provisions of the EU directives and the flexibility of the US model. The Commonwealth lays down

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2. Vertical separation = separation of infrastructure management from train operations.
Horizontal separation = separating freight operations from passenger operations, regional services from inter-city services, etc.
 3. More precisely, the Trans-European Rail Freight Network (TERFN) defined by maps annexed to the amendment to Directive 91/440/EEC, mainly covering connections between ports and main freight terminals, together with feeder lines at both ends to a distance of 50 km or 20% the length of the port-terminal connection whichever is the larger (there are exceptions for Luxembourg and Belgium due to the small surface area of these countries).

minimum requirements for state access regimes in a way that can be applied more flexibly than is the case with the EU directives. Also the rail companies have a right of appeal to the Courts against State and Commonwealth decisions. This greater flexibility may have particular merits for some central and eastern European countries and countries of the former Soviet Union, where the higher modal share of rail and the importance of freight relative to passenger traffic (compared to the EU) and the more dense networks (compared to North America), mean that a variety of approaches should be considered.

Conclusions

Europe needs rail businesses adapted to the emerging single market

34. 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 services differs from country to country.

35. Under any model, the primary challenge in defining the regulatory framework is to manage the risks of monopoly abuse effectively whilst avoiding intervention that stifles the functioning of the rail freight market. The risks of over and under regulation have to be balanced in order to maximise the benefits for the economy as a whole.

International consolidation needed as well as competition

36. The key implication of this report is that a railway industry structure needs to be created or encouraged that, whilst preventing the development or abuse of captive markets, will provide the necessary balance between:

- improvement of services to customers and the achievement of economies of scale in the movement of freight through international consolidation;
- the provision for intra-modal competition to develop and provide stimulus for innovation, improved cost control and service quality.

Explicit merger policy required

37. Explicit policy at the European level towards mergers and acquisitions that significantly undermine competition needs to be developed to guide the actions of national and EU competition authorities. This applies in particular with respect to requirements to divest parts of the merged businesses rather than simply blocking problematic mergers and also policy towards companies that enjoy protection in their home market but seek to enter markets or acquire companies in other countries where there are no barriers to their entry.

Lessons from Associate Countries

38. De-regulation of railways in countries as diverse as the USA, Japan and New Zealand suggests that relatively light touch regulatory regimes are more successful than detailed prescriptive regulation in achieving the correct balance between these objectives. For freight railways in particular, the North American record suggests that an effective route to improving performance is to restrict detailed intervention to cases where: there is an appeal to the regulatory authorities from an aggrieved party; or railway companies wish to merge and there is a need to preserve competition. In regions where there is little or no existing competition between rail companies intervention will, however, be required where the exercise of access rights can be obstructed by incumbent operators.

Infrastructure regulation is challenging 39. In the EU and some other places intervention has included separating infrastructure management from train operations. The task of regulating vertically separate infrastructure companies has proved difficult, for example in the United Kingdom, and satisfactory incentive regimes have yet to be developed. This is not to say that effective regimes cannot be developed, but in some respects achieving an effective regulatory regime for separate infrastructure managers may be more difficult than for vertically integrated railways.

Charges for infrastructure use will remain high on the political agenda 40. Where infrastructure has been separated from operations, charges for the use of infrastructure are regulated and marginal social costs have generally been adopted as the basis for determining charge levels for freight. However, studies⁴ suggest infrastructure charges at marginal social cost levels will fall short of covering total infrastructure costs by as much as 40% or more. To cover the shortfall, there is a range of options from full public subsidy to various charging systems that do cover total costs with a lesser degree of efficiency in terms of infrastructure charges.

4. See CEMT/CS(2000)15