

## USER CHARGES FOR RAILWAY INFRASTRUCTURE

### Conclusions of Round Table 107, Paris, 26-27 March 1998

ECMT Round Table 107, which focused on “User Charges for Railway Infrastructure”, was held on 26 and 27 March 1998. It was chaired by Mr. Claude Martinand (*Réseau Ferré de France*) and began with reports from Messrs. Gerd Aberle (Justus-Liebig University, Giessen), Luc Baumstark (*Commissariat Général du Plan*, Paris) and Alain Bonnafous (*Laboratoire d'Économie des Transports*, Lyons), John Dodgson (National Economic Research Associates, London), and Jan Owen Jansson (Linköping University).

The following is a brief recapitulation of the Round Table discussions.

#### 1. Strategic objectives of user charges

The issue of user charges for railway infrastructure has been brought to the fore by the vertical disintegration of train operations and infrastructure. The level and structure of such charges vary widely from country to country, inasmuch as pricing policies involve trade-offs between geographical, historical and societal considerations. For example, countries with remote or disadvantaged areas tend to impose low charges for serving them. Moreover, it is difficult to speak of any move towards uniformity, given the extent to which pricing practices are shaped by divergent railway reforms. In the United Kingdom, for example, Railtrack — the entity responsible for infrastructure — was privatised, and user charges must be such as to generate returns on the company's assets. It is readily seen, then, that pricing rules are tied in with how railway reform has been organised and with the strategic objectives that have been assigned thereto. These objectives are many and sometimes conflicting, and one might well question whether user charges for railway infrastructure are necessarily the best means of pursuing policy goals. Another result of this multiplicity of objectives is that any efforts at European harmonization will necessarily be very difficult. Given the variety of national pricing arrangements, the Round Table sought to highlight the essential principles involved.

Economic theory holds that price systems exist to guide decisions in such a way as to encourage more efficient use of available resources. In pure economic logic, prices must enhance system efficiency. They are a management tool which gives the system new possibilities for development. This is precisely how the introduction of user charges for railway infrastructure must be seen—as a powerful instrument for modernising the railways, i.e. for making them better able to meet competition from other modes of

transport. In order to bolster the railways' share of aggregate transport, it is necessary to tackle the costs, network quality and productivity of all railway companies, whether they provide infrastructure or operate services.

Accordingly, a system of user charges should serve to optimise network management, i.e. to improve capacity utilisation, orient investment decisions and encourage productivity gains throughout, thereby making it possible to reduce recourse to government funding.

The objective of user charges must be a feasible one, the sole aim being to make rational use of infrastructure. This must involve a dynamic approach to encouraging the use of infrastructure and tailoring it to traffic requirements.

However, what features must a pricing system have in order to do this?

## **2. Basic principles**

The fundamental principle is that a system of user charges should relate the running of additional trains to the additional costs that running those trains entails. This principle is that of marginal-cost pricing. Such additional costs are incurred through extra wear and tear on tracks, signalling operations, the administrative costs generated by additional trains and, where applicable, the electric power consumed. These particular marginal costs are designated as "short-run".

If a network is congested, as happens when capacity is inadequate, a congestion charge must be added to discourage use when infrastructure is congested, or to finance additional capacity. Here, the marginal costs are referred to as "long-run".

One might conclude from this that, in order to optimise user charges for railway infrastructure, i.e. to promote rational use thereof, pricing should be based on long-run marginal costs.

To take account of the externalities that are generated when an additional train is run (such as noise), pricing would be based on long-run marginal social costs, plus social costs which are not directly internalised.

Experience has shown that a pricing system based on marginal costs, even if the costs in question are long-run social costs, cannot enable the infrastructure provider to break even: some costs will not be covered, external costs being internalised only to finance additional outlays on environmental protection.

The Round Table ascertained that it was better to try to enable the infrastructure provider to break even. This implies setting two-part tariffs, the first component of which would serve to ensure that the infrastructure provider does not incur a loss. Basically, the Round Table found it preferable for the pricing system to be fair — i.e. that, via user charges, carriers should know the actual cost of running a train in order to make rational decisions.

Given a choice between financing the deficit of a train operator or that of an infrastructure provider, the Round Table felt it was better to assist the operator of train services. In fact, the Round

Table went one step further: if appropriate decisions are to be made throughout the entire chain of railway services, it would be better to subsidise the end user and institute a pricing system that reflects true costs. Contrary to what one might think, it is because railways have not been subjected to the rules of a market economy that Europe's railway undertakings find themselves in their current situation. The opportunity costs of services must be transparent and visible to all players if the competitiveness of rail transport is to be restored. It is only by doing this that costs can be reduced, and that a stop can be put to the pursuit of too many conflicting goals.

Because pricing principles should be harmonized across the various modes of transport and include externalities, there is a constant need to compensate for the transport system's distortion of the fundamental rules of economics. This can justify partial government subsidies for the creation of new railway infrastructure, but only after the advantages have been weighed thoroughly through cost-benefit analysis. Clearly, having to confront a non-optimal situation in intermodal competition makes it difficult to make the right choices for rail transport. Even so, it is possible to adopt the principle that if decision-making is to be properly oriented, break-even operating subsidies should be disbursed as close to end users as possible, if not given to them directly.

### **3. Practical details**

To preclude any risk of misinterpretation, user charges for railway infrastructure should be set in a manner that is simple, transparent, non-discriminatory and stable. Charges may consist of two or three components: a variable fee, based on marginal costs, plus one or more fixed charges to cover joint costs. In addition, there should be low-cost access fees for occasional users seeking limited traffic rights, so as not to discourage them from entering the market: there should be no discrimination against small enterprises. Negotiating procedures should also be instituted alongside posted tariffs in order to respond with some flexibility to market imperatives: congestion costs—i.e. the costs of expanding capacity—can vary widely, depending on circumstances, and theoretical pricing models should be applied with some degree of latitude.

Train paths can be allocated in a variety of ways. It is preferable to institute a dynamic process which makes each of the companies concerned aware that any given path entails a certain cost. Insofar as the infrastructure provider is in a monopoly position, its decisions must be subject to appeal to an arbitrator assigned to moderate the viewpoints of the parties in question. It is vital to introduce an ad hoc structure for this purpose. Moreover, it would be aberrant and contrary to the spirit of railway liberalisation if the traditional carrier enjoyed preferential rights. Liberalisation should mean encouraging the emergence of new railway undertakings to operate services, but competition between operators should remain fair with regard to all supply-side aspects: user charges and train path allocations should not favour one enterprise at the expense of another. In particular, the possibility of cross-subsidisation, which benefits large enterprises—which alone are able to spread fixed costs over different segments of the market—should be eliminated. It can be worthwhile, although complex, to impose penalties on operators responsible for disrupting the system, e.g. by causing delays.

In Europe, it is impossible to harmonize the entire railway network—the disparity of the reforms under way being an insurmountable obstacle—but progress can be made by establishing priorities: the

same pricing structure can be adopted for international freight corridors while covering infrastructure costs to the same extent, irrespective of the networks involved. This would yield a single pricing formula conducive to the development of international rail transport. Lastly, to those who would object that the concept of marginal costs which underpins the Round Table's proposal is a difficult one to apply, it can be responded that it is possible to make reasonable estimates which provide valid approximations.