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TITLE :

Air-rail intermodal agreements: balancing the competition and environmental effects

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Air-rail intermodal agreements: balancing the competition and environmental effects

Abstract

The use of air-rail intermodal agreements has expanded over recent decades. Significant benefits have been associated with such agreements for airlines, rail operators, intermodal airports and consumers. In addition, a number of environmental benefits are perceived to be associated with a modal shift from air to rail. However, these agreements could, in some circumstances, raise competition concerns and, unlike cooperation agreements between airlines, there has been a limited focus by competition authorities to date on examining their competitive effects. Uncertainty as to regulatory treatment may be limiting the spread and scope of air-rail intermodal agreements. This paper considers the factors relevant to any competition assessment of these agreements drawing on general principles and the experience of airline cooperation agreements. It also raises the question of whether environmental benefits should be considered as part of the assessment. .

1. Introduction

Intermodal agreements between airlines and rail operators are an increasingly prominent feature of the transportation landscape. These agreements offer a number of potential advantages for airlines, rail operators, intermodal airports and consumers of transportation services. They enjoy strong political support, particularly in Europe, in part because of the perceived contribution they can make to the achievement of environmental policy targets.

However, air-rail intermodal agreements involve a form of cooperation between airlines and rail operators that could, in principle, raise competition concerns. This is especially the case where agreements involve air and rail services that operate in parallel on a given route, and where the two services are potential substitute forms of transportation. In such cases a tension can be created between environmental policy and competition policy. Unlike cooperative agreements and alliances between airlines, which have attracted significant antitrust scrutiny, there has to date been no real interest by competition authorities in examining the competitive effects of intermodal agreements. This lack of attention by competition authorities has the potential to lead airline and rail operators to neglect the regulatory risks associated with the agreements, or to adopt an unduly cautious approach to the implementation of agreements that can have beneficial commercial and environmental effects.

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This paper considers, in a general way, some of the competition issues that might be associated with air-rail intermodal agreements. In addition, it explores the question of whether, in circumstances where adverse competition impacts might arise, competition authorities should consider the environmental benefits associated with the agreements, and how such considerations might be traded-off against any competition concerns identified.

2. The emergence of air-rail intermodal agreements

2.1. Factors leading to the emergence of air-rail intermodal agreements

Three factors can be associated with the expansion of intermodal agreements in Europe: the ‘rebirth’ of the rail industry; the difficult trading environment for airlines; and the development of airports which can accommodate intermodal forms of transportation.

The European rail industry has received strong political support in recent decades, in part, because of the beneficial environmental impacts of rail as a form of transport (Givoni, 2007 ; Givoni et al., 2009). At the same time, there have been important structural changes in the industry including the emergence of high-speed rail, with the length of high-speed lines (HSL)¹ in Europe multiplying by a factor of 6 (European Commission, 2010). Several authors argue that airlines now actively compete with high-speed trains (HST) for flight times from 30 min to 1 hour (Ivaldi and Vibes (2005), EC DG Tren (2006), Adler et al. (2008), Friederiszick et al. (2009), Jimenez and Betancor (2011)). Indeed, the introduction of a HST on a specific route often leads to a significant reduction in the market share of the more costly air transport alternative (Friederiszick et al., 2009).

Over the same period, air transport carriers in Europe have faced a number of structural and financial challenges. While the reconfiguration of airlines networks into hub-and-spoke systems has revolutionized the way airlines work (Holloway, 2005), it has had unequal effects on pricing and competition on some parts of the network, so that the profitability of some short-haul flights has been reduced (via lower prices) to feed the hub. Legacy carriers (such as Air France, British Airways, or Lufthansa) have also faced the emergence of new competitors on some short-haul routes in the form of low-cost carriers (LCC). The net effect of these changes has been to significantly increase the competitive pressure on some short-haul flights (Dresner et al., 1996; Franke, 2004). Indeed, the combination of competition from HST and the LCCs has caused some legacy carriers to reduce their short-haul services (Grimme, 2007a, 2007b).

¹ A high-speed line is a line on which trains can go faster than 250 km/h at some point during the journey (European Commission, 2010).

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Airports, especially intermodal airports, lie at the interface between the changes in these two industries. More than 130 airports around the world now have a direct link to a rail network or to a high-speed rail network (IARO, 2011). These rail links allow passengers to substitute short-haul flights for trains for some segments of their journey, and allow airports to better manage their slot capacities when facing congestion. Direct rail links also increase airport catchment areas for passengers which can allow them to be more competitive (IATA, 2003; Terpstra & Lijesen, 2011).

2.2. The nature of air-rail intermodal agreements

Several air-rail intermodal agreements have been signed in Europe over the last 15 years. Although all intermodal agreements involve an agreement between an airline and a rail operator to cooperate in the provision of transportation services, in practice the agreements can take different forms and can be distinguished along a number of dimensions.

The agreements can be distinguished, first, by their level of integration (Table 1). Less integrated forms of agreement are similar to traditional interlining agreements, in which an airline is authorized to sell rail tickets, without any further integration of the products. In contrast, more integrated intermodal agreements can involve a form of code-share arrangement. Here the airline and the rail operator decide to ‘share’ the same train trip, and each operator allocates its own flight/train number to the train trip. There may also be some integration of IT systems. Passengers can benefit from this level of integration through guarantees that are offered in the case of delays on one segment of the journey. As in traditional code-share agreements, there are various subcategories of agreement between the airline and the rail operator like “block space arrangements” and “freesale” ones. Deeper forms of integration can take the form of coordination of through-baggage handling and other dedicated services (such as separate first and business class dining facilities on trains), although these agreements are quite rare, largely because of the logistics involved in implementation. While intermodal agreements involve different levels of integration, we are not aware of any agreement that involves direct coordination on the prices or tariffs charged between airlines and rail operators. Instead, the rail operator typically charges the airline for the transport services, and the airline then determines whether, and how, to reflect this cost in the price of the entire trip.

Table 1: Levels of integration of Air-rail intermodal agreements in Europe

Level of integration	Type	Example of product	Example of parties	Cooperation involves:
Low	Interlining agreements	Rail & Fly	DB with 70+ airlines on 5000+ routes	Sales of tickets
Moderate	Codeshare agreements	tgvdair	SNCF with 10+ airlines (Cathay Pacific, Air France, MEA, Qatar Airways, Etihad Airways,...)	Allocation of own flight/train number; possibly some integration of IT systems
High	Joint-venture	AIRail	Lufthansa with DB on Frankfurt-Cologne and Frankfurt-Stuttgart routes	Co-ordination of baggage handling (until 2007) and other dedicated services; separate cabins and dining facilities on trains

A second way to distinguish intermodal agreements is to analyze them from a network perspective, using the concepts and terminology used in airline code-share agreements. The European Commission distinguishes between several types of code-share agreement: (i) parallel operation on a trunk route; (ii) unilateral operation on a trunk route; and (iii) ‘behind and beyond’ routes (EC DG Competition, 2007). Categories (i) and (iii) appear to be relevant to air-rail intermodal agreements, and as discussed below, the distinction between agreements that involve parallel routes, and those that involve ‘behind and beyond’ routes, is critical when it comes to considering the competitive effects of intermodal agreements.

The majority of intermodal agreements are of the ‘behind and beyond’ route category, in which an airline sells (or puts its code on) a non-offered route, operated by the rail operator to provide connections with its own scheduled services. However, some intermodal agreements cover parallel operations, such as where an airline and a rail operator compete on a given route, but also enter into a code-share agreement which allows the airline to sell rail tickets (with its own flight number).

2.3. The perceived advantages of air-rail intermodal agreements

The commercial rationales for intermodal agreements from the perspective of the airlines differ as between ‘behind and beyond’ and parallel intermodal agreements. ‘Behind and

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beyond’ agreements are designed to provide wider access to scheduled airline services, usually originating from a hub airport to international destinations, from a greater number of cities within a country. For airlines that compete with a national carrier at the hub, such agreements potentially allow them to increase their market share on international routes, by giving access to their services to passengers from a wider range of regional cities. For instance, Qatar Airways or Etihad Airways have increased their market presence in France with the “*tgvair*” product that allows them to sell rail trips to 19 cities in France from Paris-CDG airport.

In contrast, the commercial rationale for airlines entering parallel intermodal agreements would be to allow airlines to access the rail operators schedule and to optimize their offer on particular routes. In some cases, they substitute some short-haul flights that are not profitable with train trip to focus on long-distance flights (Givoni and Banister, 2006, 2007; Grimme, 2007a, 2007b). For example, under an agreement between Lufthansa and Deutsche Bahn on the Stuttgart-Frankfurt route, Lufthansa offers both flights and HST services. However, on the Cologne-Frankfurt route, Lufthansa has cut all its flights.

For rail operators, intermodal agreements are seen as providing an opportunity to enhance the ‘modal shift’ that is usually created by the introduction of an HST service (EC DG Tren, 2006). Parallel intermodal agreements will typically increase the rail operator’s share of transport on a given route, as the airline may voluntarily reduce some of its services on these routes and offer the combined air-rail product instead. ‘Behind and beyond’ agreements are also seen to potentially attract greater numbers of passengers onto rail services, which can allow rail operators to increase their load factors on routes that may not always be profitable.

Finally, the potential environmental gains associated with a modal shift toward rail are estimated to be significant. The aviation sub-sector is responsible for an estimated 10% of transportation emissions of carbon (OECD, 2007), and it is generally accepted that HST are more ecofriendly than aircrafts (Givoni, 2007; Givoni et al., 2007). For instance, according to Pfragner (2011), the development of the intermodality at Frankfurt’s airport should reduce carbon emissions by 174 900t per year. Transport policies, both at the European level and in some Member States, have therefore favored the development of HST and intermodal agreements in order to achieve environmental targets.

3. Competition law issues associated with intermodal agreements

3.1. The treatment of cooperative agreements under European competition law

In considering the competition issues that might arise for some forms of air-rail intermodal agreements it is useful to briefly recall the important distinction between ‘horizontal’ and

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‘vertical’ agreements in economics. Horizontal agreements involve two parties at the same level of the production chain which supply products that, from the consumers’ perspective, are potential substitutes, and are therefore normally considered rivals. The central competition concern with horizontal agreements is that competitors may enter into an agreement to not compete with one another in certain respects (such as price setting or quantity determination).

Vertical agreements, by contrast, involve a relationship between two parties who are typically a ‘buyer’ and ‘seller’ of a given service (rather than rivals), and in most situations it is generally in the interests of both parties that the price of the other be set as low as possible. There are various potential efficiency gains associated with vertical agreements, such as: a reduction in transaction costs, and better coordination in the marketing of complementary products. Vertical agreements do not, therefore, generally give rise to competition concerns unless one or more of the firm(s) has significant market power at some stage of the supply chain.

European competition law prohibits all agreements that have as their object or effect the restriction of competition.² Horizontal agreements between competitors, which involve coordination on prices or outputs are generally prohibited by object (meaning that there is no need to examine the actual or potential effects of the agreement). There may, however, be an exemption from the competition provisions available for horizontal agreements that are likely to produce countervailing economic benefits, such as improvements in technical or economic progress or improvements in production or distribution of products (such as in an R&D agreement). The legal position regarding vertical agreements is generally more circumspect, reflecting the fact that there can be efficiency gains associated with such agreements. The assessment of the competitive effects of vertical agreements tends to be complex, focusing heavily on the specifics of context, and in particular on any underlying problems related to horizontal competition. Accordingly, exemptions for various types of vertical agreement from the competition laws are common, and there are a number of ‘block exemptions’ relating to particular types of agreements in specific industries (including in the air transport sector).

3.2. Parallel intermodal agreements

The past twenty years has seen an increasing overlap in the markets that air and rail transport serve in some European countries, leading to greater levels of substitutability between rail and air services on particular routes (EC DG Tren, 2006; Friederiszick et al., 2009). For antitrust purposes, it is generally accepted that air and rail transport services can,

² Article 101 of the Treaty in the Functioning of the European Union (TFEU)

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in some circumstances, belong to the same relevant market, especially for short to medium distances and in the presence of a HST service. The position that rail services and air services operate in the same market for particular routes has therefore been adopted in decisions of the European Commission (Air France/KLM 2004) and the French Competition Authority (BA/Eurostar, 2007).

Consequently, parallel intermodal agreements involve cooperation between rail and airline operators on routes in which they might be considered as substitute providers by end-users and therefore potential rivals. On the general principles described above, agreements of this parallel type could be classified as horizontal agreements. Strategic intermodal interactions on parallel routes may therefore give rise to restrictions to competition on the basis of reasoning similar to that which applies to a code-share or alliance between two airlines operating on a given route, the only difference being the form of transportation. Accordingly, such parallel intermodal agreements potentially fall within the ambit of competition law.

3.3. Behind and beyond agreements

The competitive effects of parallel and ‘behind and beyond’ intermodal agreements differ because ‘behind and beyond’ agreements provide a link between *complementary* transportation networks, rather than substitute networks. It follows on the basis of general principles that the nature of the agreements is more vertical than horizontal, and in situations where neither the airline or the rail operator hold a position of strong market power, there is no significant risk for competition.

However, where one party does hold a position of significant market power, the agreement creates potential for anti-competitive effects. For example, the party with significant market power might be motivated to enter into the intermodal agreement to foreclose or exclude existing or potential competitors from accessing a related, complementary service. An airline with significant market power could, for example, use the agreement to reduce the number of connecting passengers using a competitor airline on a domestic ‘behind’ route. This potential is likely to be even stronger when the agreement is concluded between an incumbent airline and an incumbent rail operator. Drawing a parallel from airline alliances, intermodal ‘beyond agreements’ could restrain the access to the domestic market for a non-partner airline (Reitzes and Moss, 2008 ; Bilotkach and Hüschelrath, 2011).

While this raises the possibility of competition concerns, behind and beyond agreements might nevertheless have benefits that outweigh any competitive impacts, and this will require the balancing of the various costs and benefits of the agreement. Moreover, there are already a number of specific exemptions in the case of air transport which might apply to such agreements. (Council Regulation EC No 487/2009)

4. Balancing the effects of intermodal agreements

On the basis of general competition law principles discussed above both parallel and ‘behind and beyond’ intermodal agreements could, in certain circumstances, raise competition concerns. Consistent with these principles, it is necessary to balance the potential economic benefits of such agreements against their possible adverse effects on competition. In this section we present some observations on factors that might feature in any such balancing exercise, drawing first on the experience of cooperation agreements between airlines (such as code-share agreements), and then, by giving consideration to the question of whether environmental benefits can be considered as a benefit in this context.

4.1. Lessons from the legal assessment of airline code-share agreements

There is an obvious conceptual similarity between airline code-share agreements (between different airlines) and intermodal agreements (between airlines and train operators). The similarity between the two forms of agreement is even more pronounced when it is recognized that almost all intermodal agreements are either interlining or code-share agreements. Given the attention that antitrust authorities have given to airline code-share agreements there is an extensive literature which examines the competitive effects of such arrangements and which can provide insights relevant to air-rail intermodal agreements. On the basis of a comprehensive study of this work, the European Commission concluded that the economic benefits of airline ‘behind and beyond’ agreements are likely to outweigh their disadvantages in a number of circumstances. (EC DG Comp, 2007)

However, the situation is less clear in relation to parallel agreements and, as with airline code-share agreements which involve overlapping routes, much will depend on the nature of the agreement and in particular the extent of coordination and cooperation between the parties on routes where they offer substitute services. On the principles adopted in relation to code-share agreements it might be expected that particular attention will be placed on whether the agreement is expected to lead to reductions in capacity on specific routes, which might have impacts on average price levels for those routes.

4.2. The role of non-economic benefits in the assessment agreements

A relevant consideration in the balancing of the economic effects of intermodal agreements relates to the scope of any ‘benefits’ included in the assessment framework. Traditionally

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these benefits have focused only on economic benefits such as expected improvements in efficiency. There is, however, an open question as to whether the non-economic benefits, such as any potential environmental benefits associated with these agreements, should also be factored into the assessment.

The general question of whether non-economic benefits should be taken into account in competition assessments was recently considered by the UK competition authority, the Office of Fair Trading (OFT, 2010). The OFT observed that widening the assessment framework to take account of non-economic benefits such as environmental considerations could allow competition authorities to identify and consider all of the benefits (environmental, social etc.) of cooperative agreements, some of which may be appreciated and valued by some consumers. Such an approach might also allow for the consideration of the intergenerational benefits of agreements (for future consumers), especially where agreements are clearly beneficial to the environment. At the same time, the OFT recognised that the inclusion of non-economic benefits into the assessment framework was likely to raise a number of challenges. First, assigning a monetary value to non-economic benefits is likely to be complicated and would require the development of a consistent framework to ensure the process is not arbitrary. Second, as non-economic benefits may be spread over several generations, this might require the forecasting of various dynamic factors such as future capacity, prices and network development. Future benefits may also need to be expressed in current terms, which will require that an appropriate intergenerational discount rate be applied. Finally, and from a practical perspective, introducing non-economic benefits into the assessment framework may introduce an additional element of discretion, which may lead to a greater number of appeals and challenges to regulatory decisions from stakeholders.

4.3. Implications for intermodal agreements

Air-rail intermodal agreements have the potential to reduce polluting emissions and congestion by improving the efficiency and the integration of different transport modes. In this respect they have the potential to provide considerable long-term societal benefits consistent with environmental policies and targets.

If the environmental benefits are not taken into account when assessing the impact of intermodal agreements, competition policy risks impeding the achievement of environmental policy goals. The practical issues associated with the assessment identified in the discussion above are undoubtedly challenging. However, these may be mitigated to some extent by the cost-benefit analysis that is already performed for most HSL (and many airport) projects, which include estimation of the non-economic benefits of the project.

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Arguably, such estimation methods might be integrated into the assessment framework when balancing the competitive and environmental effects of the agreements.

There are, however, other potential risks associated with widening the assessment of the competition impacts of air-rail intermodal agreements to account for these non-economic benefits. Principal among these is the risk that the assessment framework is not systematically applied, and that conflicts between the different policy goals (e.g.: economic efficiency and environmental targets) will arise in specific cases. In this respect it will be important for competition authorities to specify their approach to ranking and weighting factors in assessments if the incentive to enter such agreements is not to be chilled.

While the treatment of intermodal agreements under competition law remains uncertain, there is already some evidence of caution by airlines and rail operators in the use and scope of these agreements. For example, most intermodal agreements relate only to international connecting passengers (with the notable exception of the AIRail product in Germany). This decision reduces the number of potential consumers compared to the total size of the market, with the possible aim of remaining below the relevant threshold for which competition concerns may arise. Another example is the open-access arrangements of rail operators. Under these arrangements, rail operators will not refuse any reasonable requests by airlines to enter into intermodal agreements. While this strategy allows rail operators to attract more connecting passengers from different airlines, it also alleviates any competition concerns relating to refusal to supply services (or foreclosure issues), which might arise given that many European rail operators occupy a dominant position in their countries.

5. Conclusion

This paper has considered some of the competition issues associated with air-rail intermodal agreements. While there appears to be significant commercial and environmental benefits associated with such agreements, in some circumstances the agreements – like airline cooperation agreements – can raise competition concerns. Nevertheless, as is the case in relation to airline alliances, and to horizontal/vertical agreements more generally, any competition assessment will need to account for the potential positive economic benefits of the agreements alongside any concerns relating to their effects on competition. An open question, identified but not resolved in this paper, is whether any such assessment should allow for the consideration of the possible environmental benefits associated with air-rail intermodal agreements, and if so, how such an assessment might be conducted.

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