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## Railway separation European diversity

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*The European railway sector currently exhibits a wide variety of institutional configurations as a result of the reforms initiated by European legislation. This chapter describes the situation in the Netherlands, Germany, Switzerland, Great-Britain and France, providing a good coverage of the current variety of institutional arrangements in the European railway sector, with some additional information about Japan as an illustration of an alternative and inspiring organizational form. The chapter shows that much has been achieved on the basis of very different institutional choices. The facts and opinions collected show that some countries are clearly satisfied with the choices made, while one has to observe that other countries realize that they still face a number of unsolved issues. Elements allowing to understand the main changes and achievements are synthesized.*

The creation of an integrated European transport area and a genuine and successful market for transport by train is central to the transport policy of the European Union (eu). The railway sector was for many decades dominated by state owned railway companies, a strong national focus forgetting about potential international markets to the benefit of road transport, and concerns about its customer-friendliness and the efficiency of its operations. Pointing to its declining share in the market for the mobility of people and especially freight, the European Commission (ec) developed a policy to revitalise the Community's railways (ec 1996, 2008). This policy included several measures to strengthen the railways' competitiveness through the introduction of market opening and competition starting with freight transport. It also includes measures aimed at generating a greater technical harmonization throughout the whole sector such as to facilitate international connections across the eu by fostering interoperability. Several legal measures (and so-called packages of directives and/or regulations) have consequently been adopted starting from 1991 onwards, both within national markets and in a cross-border sense. The 91/440 Regulation (adopted in 1991), which forms the basis for these reforms, asked the member states to put the railways in a position that enabled them to

independently manage their affairs in a sound financial manner, this included a reduction of the railway debts that heavily burdened many European railways. A separation between infrastructure and transport is central in this policy ever since 1991. While the original basic requirements only demanded an accounting separation between infrastructure management and train operations, it is quite clear that the favoured institutional configuration is an organizational or even institutional separation between an infrastructure manager and (several) train operators and further legal measures developed by the ec have been moving in that direction. These further measures also aimed at gradually allowing railway companies to operate across the territory of the eu, at standardizing a number of requirements for market access, infrastructure charging, technical requirements, signaling and safety systems, passenger rights, etc. Fundamentally it also required the allocation of track capacity to become independent from train operations.

As a result, the national and international rail freight markets are now completely deregulated and liberalized. Even international rail passenger services will be liberalized from 1 January 2010. Railway reforms were initiated in the member states. Interestingly, these have led to a wide variety of institutional configurations. This chapter describes the widely divergent situation in the Netherlands, Germany, Switzerland, Great-Britain and France, with some additional information about Japan as an illustration of an alternative and inspiring organisational form.

The emerging question is whether these different institutional arrangements are compatible with the requirements of the ec. The recent actions taken by the ec, such as infringement procedures in 2006 and letters of formal notice in 2008, point in this direction. According to the ec, almost all of the member states are failing to properly implement eu railway legislation, even if they are referring to relatively minor issues. In October 2006, the ec began infringement procedures against 13 member states that failed to notify the ec of the transposition into domestic legislation of two key directives of the second railway package. In June 2008, the ec sent letters of formal notice to 24 member states regarding their failure to properly implement the First Railway Package legislation. Only the Netherlands appeared to be fully in conformity with all requirements at that moment.

The more fundamental question that arises is whether the institutional changes induced by the ec will deliver in the long term the expected improvements and whether they are the only solution to a successful railway sector. The numerous reluctances to follow the indications from Brussels could actually be symptomatic for more fundamental genuine arguments against at least some of the institutional requirements included. Moreover, we have to acknowledge the reality of the success of alternative organizational configurations that also succeed in making the railway market grow; and thus achieving a main policy goal set by the ec. Both the

Japanese passenger railways and the American freight railways are growing. They are substantially more profitable, while not adopting a separated management of infrastructure and train operations.

In this chapter, the most important elements of the institutional reconfigurations chosen by the different countries will be examined. They will be presented according to a standardized figure, explaining the relationship between authorities, infrastructure provider and transport operators, including the kind of the relation and the main financing linkages. The conclusion of the chapter will provide some general remarks and observations about the observed variety.

### The Netherlands

The Ministry of Public Works and Water Management (Ministerie van Verkeer en Waterstaat) is responsible for general railway policy, payments to the railway sector and for issuing of concessions for passenger transport on the main railway network and for infrastructure management on the whole network (see Figure 16.1). The regulation is the responsibility of several bodies. The transport inspectorate

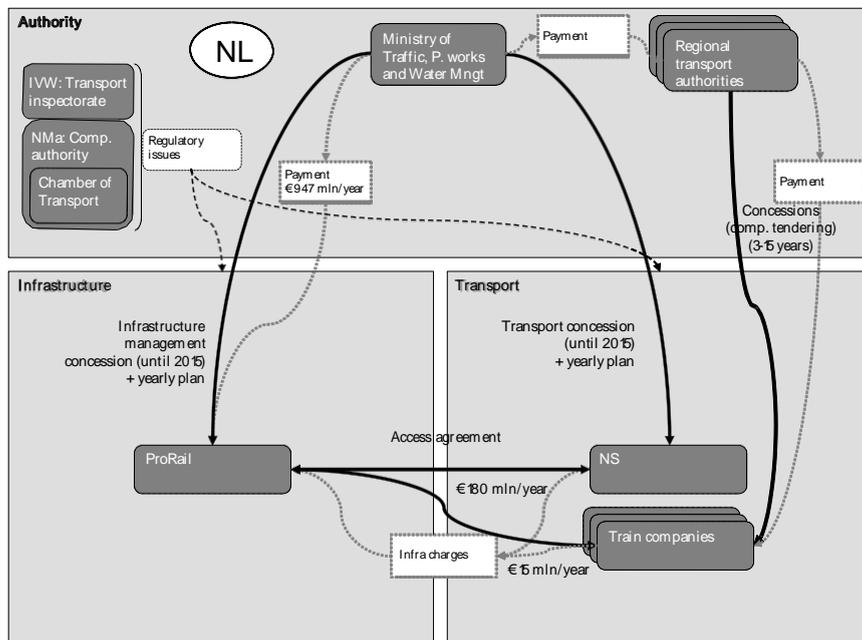


Figure 16.1: Institutional configuration of the railway sector in the Netherlands

(Inspectie Verkeer en Waterstaat) is responsible for railway safety issues, and the chamber of transport, part of the Competition authority (Vervoerskamer van de Nederlandse Mededingingsautoriteit), oversees the fair access to the railway network, access charging and capacity allocation.

ProRail is the infrastructure manager of the Dutch railway network. ProRail is a company organized according to private law but owned for 100 percent by the Dutch government. It results from the separation of the historical operator into an infrastructure management company, a train operator and several other businesses. ProRail holds a railway infrastructure management concession for the whole network, this concession was directly awarded and lasts until 2015. The Ministry pays a yearly subsidy to ProRail for maintenance, management and building of infrastructures. ProRail receives access charges from the train operators for the use of the tracks, these charges are far below full costs. Access agreements regulate the relationships between ProRail and the various train companies.

The Dutch national railway operator (Nederland Spoorwegen, ns) is a company organized according to private law but owned for 100 percent by the Dutch government. Differently from the situation in many other European countries, ns has since its creation, in 1938, always been a private law shareholding company owned by the Dutch state. The ns holds a transport concession for the provision of non-subsidized passenger railway services on the main railway network. This concession has been directly awarded and lasts until 2015. The responsibility for the contracting of (subsidized) regional train services has been decentralised to regional transport authorities, these contracts are gradually submitted to competitive tendering. These contracts regulate the service level provided and the payments involved.

Both ns and ProRail have, according to the text of their concession, to maintain a certain service level. The chosen principle for the concession relations is that of a gradual transition from input steering to output and outcome steering during the concession period. To realize this, an essential element within the obligations of the concessions is that both companies have to produce a yearly transport plan (ns) and infrastructure management plan (ProRail). These plans are similar in that they require the companies to establish a set of performances that have to be delivered. During the first years of the concessions the companies specify these in terms of specific actions aimed at achieving specified performances. These are then gradually, in the latter years of the concession migrated into new and better yearly threshold values that the companies guarantee to realize, effectively resulting in a transition to output steering. Both plans have to be judged and agreed upon yearly by the Ministry. The idea behind this arrangement is to follow a continuous but realistic improvement path resulting from common agreements between the parties with, however, sufficient pressure for effective improvement via political and social

focus and pressure, and *in ultimo* some financial penalties.

The first period of the reform (from 1996 up to 2001) was based on a harsher and more one-sided type of financial incentive contracting. That did not, within the institutional context of the time, result in good performances. Rather to the contrary, general discontent grew. The current regime is the result of the second reform that started with the policy update introduced in 2001 and based on a more cooperative approach, realizing the necessity for all actors in the new institutional setting to get to grips with the new institutional context in a more gradual fashion. Following the recently published governmental position paper on the official evaluation of the current railway legislation, it appears that the government considers that the current regime is now working satisfactorily and that no further major change to the regime is needed (Ministerie van Verkeer en Waterstaat 2009).

Germany

The Ministry (Bundesministerium für Verkehr, Bau und Stadtentwicklung) is responsible for railway policy and financial support to the railway sector (see Figure 16.2). The German States and their regional transport authorities contract regional

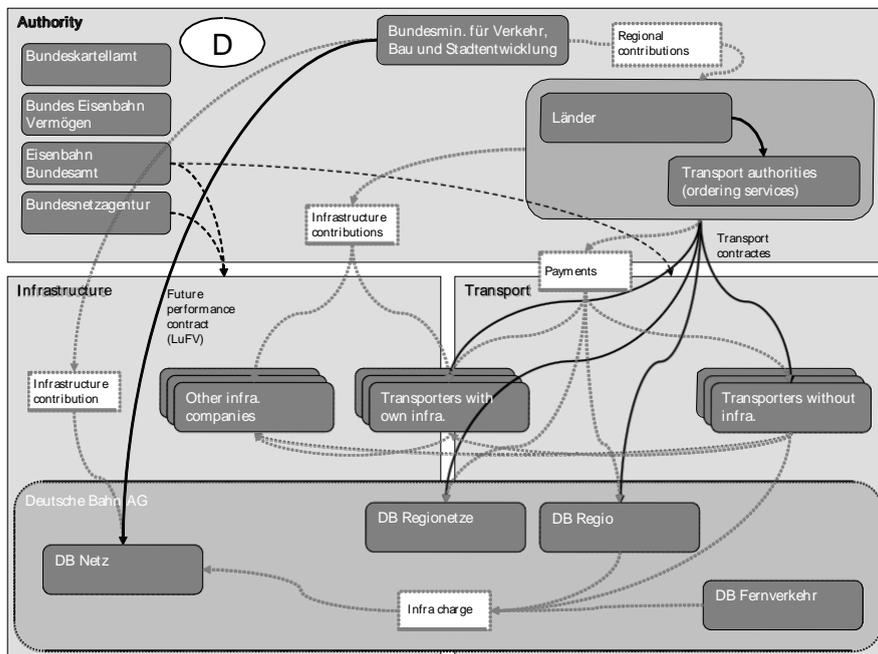


Figure 16.2: Institutional configuration of the railway sector in Germany

train services. The Bundeskartellamt is the competition authority, since 2007 is the Bundesnetzagentur (bna), as department of the Ministry of Economic Affairs, responsible for the railway network. The Eisenbahn Bundesamt allocates the track access authorizations and is responsible for safety and separation issues. The Bundes Eisenbahn Vermögen, established in 1994 when the former East and West German railway companies were merged, is in charge of those assets that needed to be separated from the new railway company Deutsche Bahn (db) to be able to face competition.

A company organized according to private law, db is owned for 100 percent by the German State. The infrastructure belongs, within the holding, to a separate infrastructure company (db Netz). Several other small infrastructure companies exist and are mainly owned by local authorities. db Netz is both owner and manager of the infrastructure. There is no concession nor contract that regulates this position. It is obliged to open its network to competitors who have to pay an infrastructure charge. The Ministry pays db Netz for maintenance, management and building of infrastructures. The payments used to be project-related; but a new regime is being developed (*Leistungs und Finanzierungs Vereinbarung*). This multiannual contract will award about €2.5 billion per year and replace the existing arrangements. db developed an infrastructure register to facilitate this.

db provides passenger transport services under several brands. db Fernverkehr is responsible for the long-distance transport. These services are not linked to any contract nor concession, neither are they subsidized. A few independent private companies also provide other long-distance passenger service upon their own market initiative; but this remains hitherto rather marginal. The Ministry transfers sums of money to the German states to contract regional train services. Most of that market is still contracted directly to db Regio. Critics find that some of these contracts provide db a substantial financial advantage. These contracts are, however, increasingly subject to competitive tendering and private operators are currently providing about 12 percent of the total number of train-km in Germany. db Regio provides the regional train services on most of the regional railway lines besides about 50 other operators.

There are in general no specific complaints about the long-distance services provided by db. The main criticisms against db are about its possible anti-competitive behavior, although—it must be said—opinions tend to vary a lot on this issue. There is for instance a broader recognition of the fact that the competitive behavior of db has become much more neutral in recent years. The allocation of track capacity is perceived to work rather satisfactorily although there are still a number of concerns about the access to other infrastructural facilities. The problem facing bna in its regulation of this market is an apparent lack of cooperation by db, a lack of legal

power to obtain the necessary data from db (differently from the British regulators) and a lack of personnel capacity. Furthermore, rather little is known about the true efficiency of db Netz and there are currently no specific efficiency target or sanctions that the authority could impose. bna, amongst others, would favour the introduction of a form of price-cap regulation that is currently non-existent.

The pending privatization of db dominated much of the debates of the recent years. The complex arrangement for a partial privatization in three holdings where only the transport (passengers and freight) and logistics activities would have been privatized for 24.9 percent while the infrastructure (tracks and stations) would have remained for 100 percent in the hands of the Federal State has now been postponed due to the world financial crisis.

Interestingly, the focus of the Federal ministry seems to be directed at reinforcing and stimulating the entrepreneurship of db. The development of extensive contracts seems to be seen as an element that would hamper the realization of this aim.

### Switzerland

The Ministry of the Environment, Transport, Energy and Communications (Eidgenössisches Departement für Umwelt, Verkehr, Energie, Kommunikation) and the Federal Office for Transport (Bundesamt für Verkehr, bav), as part of the Ministry, are responsible for the general railway policy (see Figure 16.3). Several bodies are in charge of regulation: the Competition Authority (Wettbewerbsbehörde) is an independent institute, the Price Control Body (Preisüberwachung) oversees prices charged in non-competitive sectors and the Railway Arbitrage Commission (Schiedskommission im Eisenbahnverkehr) is in charge of conflicts, for instance in capacity allocation.

A specific characteristic of the Swiss regime is the vertical integration between transport and infrastructure. It is often underlined in Switzerland that this integration is important in order to be able to realize an efficient timetable and an efficient operation under efficient investments in infrastructure and rolling stock. Despite the integration, railway companies are nevertheless obliged to maintain a separate accounting for both departments. The Federal railway company (Schweizerische Bundesbahnen, sbb) is designed by law to be the infrastructure manager without need for a specific concession. bav signs four-yearly contracts with the infrastructure departments of sbb and those of the other operators. This contract requires sbb to make its infrastructure available to other operators, in good shape, besides various aims related to safety and capacity. No coercion resources are included in the text. However, sbb is required to report to bav every half year about the extent to which contractual goals have been realized. This is based upon an extensive re-

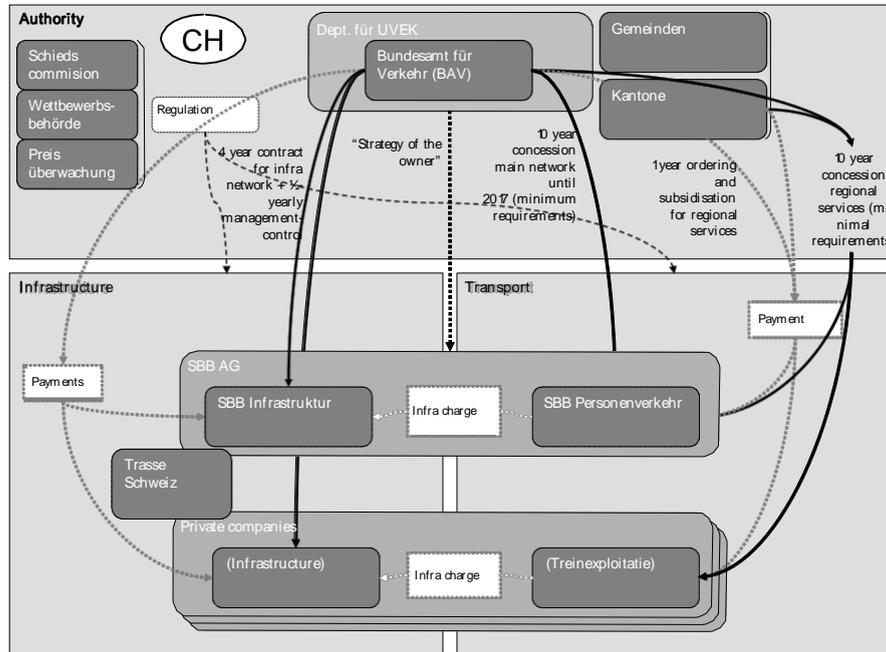


Figure 16.3: Institutional configuration of the railway sector in Switzerland

porting of 30 performance indicators that sbb has to provide to bav. If non-compliance is expected or observed, sbb is asked to formulate corrective measures. bav is also allowed to formulate specific indications to the management or to amend the targets. At a second level, the Swiss government also gives to sbb an owner strategy to follow, including aims that have to be achieved. This document is—following Swiss consensus culture—the result of discussion between the government and the operator. The follow-up of this is assured through regular talks between sbb and the minister. The capacity allocation for the normal gauge network (composed of the three operators sbb, bls and sob) is assured by Trasse Schweiz, as independent organization set up for this purpose to fulfil the European neutrality requirements. The operators pay an infrastructure charge. Numerous regional private operators, who own regional lines, also run through trains on to that main network.

sbb provides the long-distance passenger transport and a part of the regional transport. sbb was set up as a shareholding company that has to behave as a fully private company, but owned for 100 percent by the Federal state. Numerous so-called private operators provide regional services on their own lines. These companies are, however, mostly owned by the Cantons and the Federal government. bav grants a 10 year concession to sbb for the non-subsidised long-distance pas-

senger transport. This concession only includes few concrete obligations amongst which the definition of a minimum frequency to provide between the cities. bav grants, together with the Cantons, concessions for 10 years for regional operators (including sbb and the privates). These concessions also include only very globally formulated obligations for the operator. In practice, these agreements are extended at expiration. It is in the yearly service orders that bav and the Cantons add yearly to these concessions that the subsidization of those regional services is organized. The Swiss legislation includes important integrative features in public transport. This allows for the absence of a specific regulation of fares within those contracts. Fares are to be established in common by all operators, whom the legislation also force to cooperate within a timetable conference.

The absence of separation between infrastructure management and train operations is certainly a cornerstone of the configuration choices made in Switzerland. The general opinion of actors and observers in Switzerland is that the current regime works satisfactorily and that vertically integrated railway companies are an important basis for this to happen. Despite integration and the fact that the timetable is established by the operator, it is perceived that fair access for entrants in freight transport has nevertheless been achieved.

The general principle of the existing railway legislation is based on consensus and absence of strong coercive instruments. Understanding the Swiss consensus culture is essential to understand the functioning of the Swiss railway regime. Problems are being discussed and solved even before the need to take hard coercive action. Due to this, sbb benefits from a substantial amount of freedom and efficiency control does not play a prominent role. Strikingly, formal regulators play only a very marginal role in the Swiss regime. The fact that subsidies do not increase substantially, in combination with rising ridership, leads to a general feeling of satisfaction in the sector and society, and to an assumption that the system works efficiently. Under these circumstances, it is perceived to be very likely that the concession for long-distance transport will again be awarded to sbb after 2017.

The railway actors underscore the importance of the culture in the sector that results in virtual competition, or competition by emulation between all existing railway operators. The existence of numerous railway operators is seen as a source for improvement, even in the absence of further competitive mechanisms and emulation is seen as more important than privatization. Interestingly, the Dutch railways are often cited as a source of inspiration and success for the Swiss railways (especially the traditional clockface timetable, the nodal interchange system, frequency increases, etc). These elements also formed the basis for the refinement of the supply within the investment programme Bahn2000 that, by integration between transport and infrastructure, continuously looked at the most sensible in-

vestments from a system-wide perspective rather than from the point of view of the train and the track separately, as would have happened in a separated railway regime.

Further changes to the regime are not to be expected. The sector and society is satisfied with the current regime and the Parliament seems even tired of further reforms after the various (attempts) at further reforms that took place during the recent years.

### Great-Britain

The Department for Transport (DfT) determines the railway policy and is responsible for the competitive tendering of the railway concessions (called ‘franchises’) since 2006 (see Figure 16.4). The Passenger Transport Executives (ptes) in the six major urban areas outside London cooperate with dft. The Office of Rail Regulation (ORR) functions as an independent body besides the Office of Fair Trading and the Rail Safety and Standards Board.

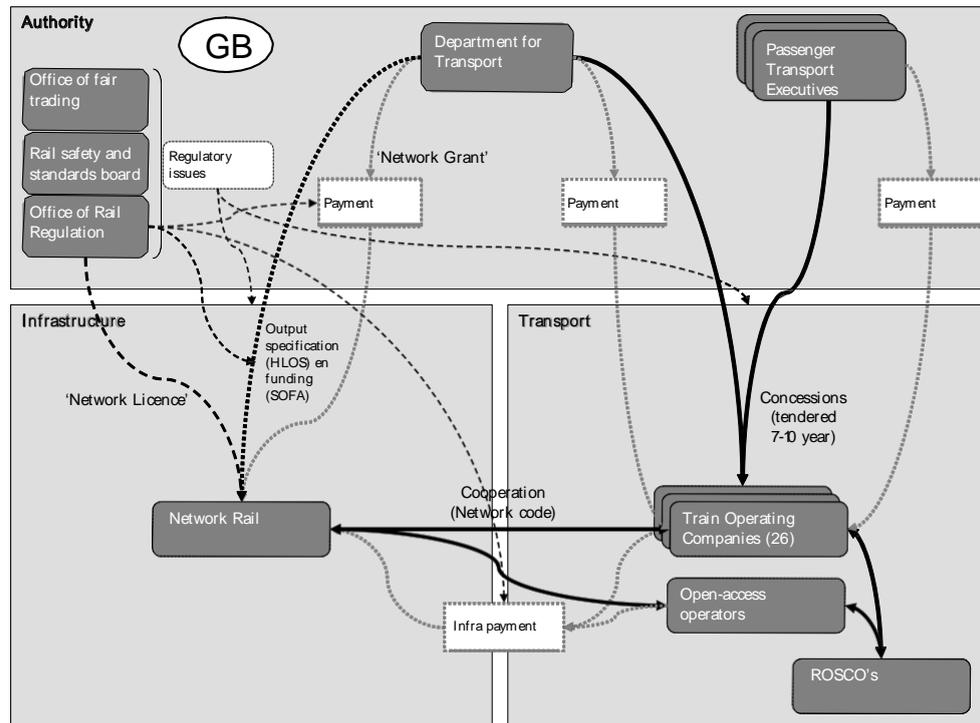


Figure 16.4: Institutional configuration of the railway sector in Great-Britain

Network Rail manages, maintains and builds the railway infrastructure. It is also responsible for the allocation of track capacity, under the oversight of the **orr**. Network Rail works under a network licence that is valid for at least 25 years, and that includes general obligations pertaining to the maintenance and availability of the track infrastructure. Specific infractions could lead to a cancellation of the licence. Network Rail is company limited by guarantee, established in 2002, that is controlled by members, that is, various private and public actors. Profits are to flow back to investments in infrastructure. The relationship between Network Rail and **dft** is essentially a financial relation, supervised by the **orr**. The relationship between Network Rail and **orr** is a regulatory relationship where **orr** determines whether the level of public grant to Network Rail is sufficient for the tasks expected from Network Rail. **orr** also supervises Network Rail through 5-yearly control periods according to which the infrastructure charges are established by **orr**.

In 2007, **dft** published its White Paper with requirements for safety, reliability and capacity in the high-level output specification (**hlos**) and the accompanying budget in the Statement of Funds Available (**sofa**). This way, **dft** specified what it expects from the railway sector in the next 5 year period (which is identical with the 5 year review period of **orr**). This also shows the more prominent role that **dft** gives to the railway sector in the current policy.

**dft** awards the various railway networks to privately owned Train Operating Companies (**toCs**) after a competitive tendering procedure. These concessions (the so-called ‘franchises’) last for 7–10 years and include detailed specifications of the transport services to be provided. The competitive tendering leads to the determination of a concession price. This payment can be both from the government to the operator (unprofitable concessions) or from the operator to the government (profitable concessions). The fare freedom of the operators is limited by a number of regulatory measures. These are rather strict on those relationships where the customer has no or little alternative for the train, while it is less constraining on those relationships where intermodal competition exists (such as with long-distance buses or airlines). Various sanctions are included in the contracts (for punctuality, seat availability, etc.) The concessions do not provide exclusivity as a limited number of open-access operators are allowed to operate on the network besides the **toCs**.

The general opinion in Britain is that the institutional changes that have been implemented in the railway sector since the days of the unitary British Rail have led to a lot of turmoil and that it is now time to observe a period of institutional rest. The general evaluation is also that the current regime works satisfactorily: the rolling stock was significantly modernized, there has been a substantial growth of supply of train services and the ridership has also risen substantially. The railway system is also very safe, also in historical perspective, despite a more or less tendentious

media reports. The original set-up of the British railway reform (as implemented in 1994–1997) was more modelled according to a clear and unique chain of actors: the authority specified general aims and guidelines and created a specific agency, the Office of Passenger Rail Franchising (*opraf*) to organise the competitive tendering of the routes and networks. The companies that won those concessions had to cover all production costs (personnel, lease rolling stock and infrastructure charge). The *opraf* was replaced by the Strategic Rail Authority (*sra*) in an attempt by the newly elected Labour government to reinstate the planning model in the railway sector. However, policy-making through the *sra* was difficult, and some observers consider this was one of the reasons for its abolition and integration of its tasks—especially the competitive tendering of the franchises—within the ministry. As a result, *dft* now has more power on the railway than ever before. Existing concessions were lengthened, rearranged or renewed during this process. But they were also to a large extent submitted to much more detailed specifications of the expected output. Operators have, however, kept most of their commercial freedom (for example, on fares) and further passenger growth was generated.

The strong growth in supply and ridership led to problems after the first franchising wave at the end of the nineties. This growth could hardly be accommodated on the existing, poorly maintained network. The resulting problem for the privatized track owner and manager, Railtrack, that had been created at the time of privatization were huge and led to its failure. This led to a policy change in 2001 with the creation of Network Rail, as new not-for-profit infrastructure manager. This re-created infrastructure manager then started receiving government subsidies again, very much at odds with the original set-up of the British railway reform. This was needed, however, due to the maintenance and investment backlog of the British railway network.

The current concessions (franchises) contain much more extensive financial incentives than what can be seen in other countries with a separated configuration (such as the Netherlands). This is very much in line with the Anglo-Saxon tradition. The control on the infrastructure manager continues, however, to be seen as a weak point in the current institutional configuration. Government has less direct control on this institution than in some other countries (such as the Netherlands), while the regulator, *orr*, has relatively more powers. The introduction of *hlos* and *sofa* will somewhat amend this balance of powers though by creating a slightly more contractual setting than previously.

The discussion on the reintegration of the infrastructure management and train operations ceased to be a main theme. Joint Control Centres have, however, been created between Network Rail and the *toics* to realize a better integration of operational processes (traffic control).

France

The Ministry for Ecology, Energy, Sustainable Development and Planning (Ministère de l'Écologie, de l'Énergie, du Développement durable et de l'Aménagement du territoire) is in charge of policy concerning the long-distance passenger rail services (see Figure 16.5). The French Regions sign contracts for their regional train services with the respective regional division of the state railway company National Society for French Railway (Société nationale des chemins de fer français, SNCF). The Mission de contrôle des activités ferroviaires is in charge of taking care of the complaints on access to the network, etc. The Établissement public de sécurité ferroviaire is in charge of safety regulation. The Conseil de la concurrence is charged with general competition regulation.

The French Railway Network (Réseau Ferré de France, rff), created as a public company charged to operate according to commercial principle, is the owner of the railway infrastructure. It is also charged with formulating policy pertaining to the maintenance and development of rail infrastructure. rff receives infrastructure

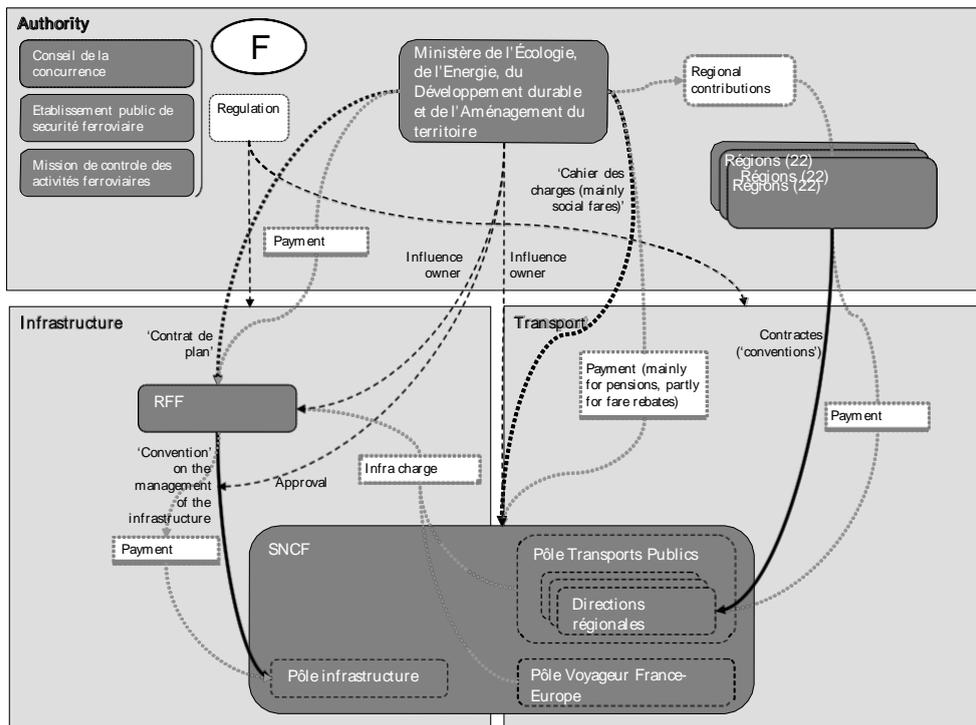


Figure 16.5: Institutional configuration of the railway sector in France

charges from operators on the network. It owns the rail-related real estate that is not used for train operations and it is in charge of selling those assets. The legislation does not foresee a contract between *rff* and the State. The State, however, controls *rff* through a Government representative in *rff*'s board. Interestingly, the official separation between infrastructure management and train operations introduced with the creation of *rff* is partially neutralized by the French legislation which requires *rff* to delegate a number of its infrastructure manager tasks back to *sncf*, which is then officially designated as 'delegated' infrastructure manager. According to this, *sncf* prepares all necessary calculations to carry out the task of capacity allocation, it is in charge of traffic control, network maintenance and of the development of most new infrastructures.

*sncf* is the operator of passenger train services. *sncf* is organized in a number of departments, each having specific tasks in passenger and freight transport. A special law created *sncf* as a public company charged to operate according to commercial principles. According to this, *sncf* is asked to cover its costs with passenger receipts, freight rates and contractual payments from regional authorities. *sncf* actually benefits from a substantial degree of freedom. Its long-distance services are not submitted to a contract. The status of the company, however, allows the State to exert various influences on *sncf*. There is in principle also a contract (*contrat de plan*) between the State and *sncf* that establishes pluri-annual budgetary agreements, but this contract does not seem to be enforced. The general principle is that the high-speed services and the other long-distance services must be profitable. They are akin to free market services and are not submitted to a contract. There is however one intervention by the State on *sncf*'s fares as defined in a list of requirements which contain essentially a number of social fare obligations. The regions pay *sncf* for the expected deficit of the regional railway contracts they order. These are paid for with money received by the Region from the French State.

The French institutional configuration is rather unique due to the remarkable circular relationship taking place between *rff* and *sncf*. According to this *sncf* Pôle Transports Public pays *rff*, as owner of the network, for the usage it makes of the network. *rff* received further money from the State for the development and maintenance of the network. *rff* then contracts out the maintenance and management of the network back to *sncf* for a period of four years, including traffic control and *sncf* is paid for these tasks by *rff*. Few financial incentives and penalties are included in this contract. The level of infrastructure charge is determined by the State after a proposal by *rff*. The State also pays substantial yearly amounts to *sncf* for its pension obligations, and this is the main payment to the railways. According to these arrangements, the power of the French authorities on the railways essentially takes place outside of a contractual setting. The influence of the State

is, however, substantial through its role as owner of *sncf* and *rff* and through its representation in their boards. The power of the regulators was until rather recently very limited.

The choice for an institutional reconfiguration that maintains the ‘unicity’ of *sncf* was essentially dictated by the power of the trade-unions, that block changes with threats of strikes. Competition and competitive tendering are, therefore, not to be expected in the short run. However, it can also be observed that the introduction of contracts for the regional railway services has, in the meantime, led to a growth in ridership. Furthermore, French observers tend to say that *sncf* has managed to improve its performances in recent years. But these improvement seem to be more the result of what was achievable within the social agenda than by a drive to realize substantial efficiency improvements. The sociopolitical consensus to avoid really splitting up *sncf* continues to dominate all discussions. A report by the French Audit Office even points at this situation as the source of substantial problems that will hamper the railway to tackle the challenges it currently faces in terms of market opening and growth. The study also points at the extreme focus of the authority on prestigious rail investments that take place at the expense of an adequate level of maintenance of the regular network, on the almost total absence of incentivized contractual relationships, on the slow pace of reform due to the focus on the sociopolitical problem.

### Japan

The Ministry of Land, Infrastructure and Transport is responsible for the general railway policy (see Figure 16.6). Japanese railway companies keep the traditional integrated configuration. There is no separation between infrastructure and transport. These operators have to obligation to cover all their expenses, both infrastructure and train operations, with passenger fare revenues. On a few routes, separate infrastructure companies have been created, though. This is the case on those routes where such prohibitively expensive infrastructure investments were needed (such as new tunnels under city centres or mountains) that profitable operations is not possible without public support. The background for this is the fact that the Japanese legislation prohibits direct subsidization of railway companies, but allows the authority to participate in the capitalization of such infrastructure companies, together with railway operators. The creation of these infrastructure companies has thus a financial rationale and, contrary to the situation in Europe, nothing to do with the desire to make competition on or for the track possible. It should be noted though, that some limited subsidization does nevertheless exist for punctual measures. The authority formulates for instance policy measures related to the realiza-

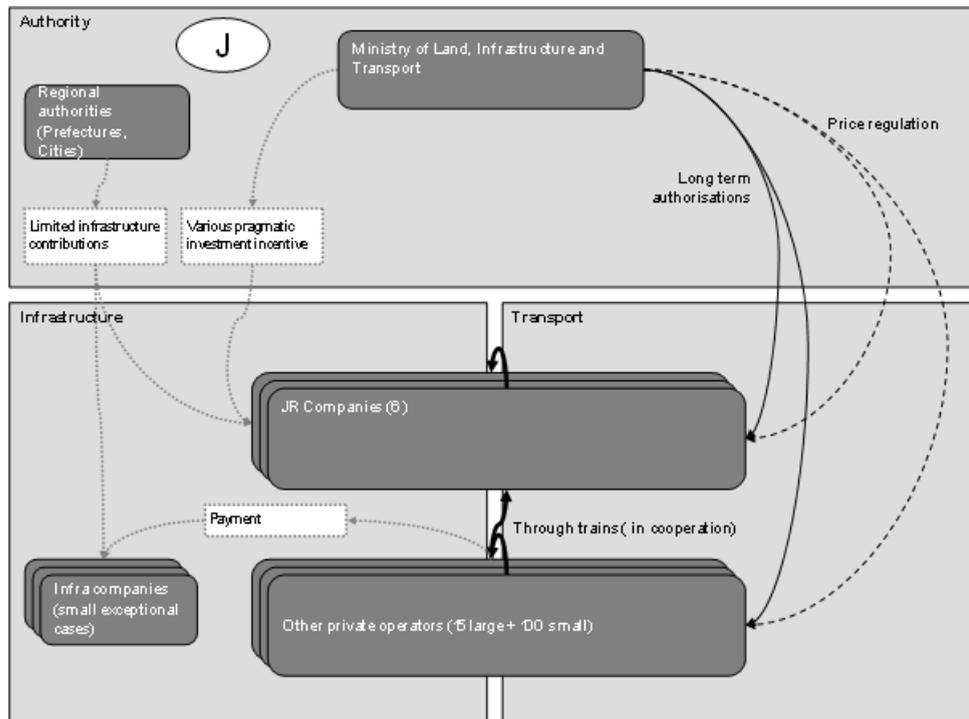


Figure 16.6: Institutional configuration of the railway sector in Japan

tion of better interconnections, more accessibility, higher capacity, etc. These aims are then furthered by ad hoc financial incentives (such as taxation advantages or other forms of financial participations in investments costs).

The former Japan National Railway (jnr) was split into six private Japanese railway (jr) companies in 1986, each operating in one region of the country. The three major jrs, which operate in the main Japanese island of Honshu, have now been floated on the stock exchange and are known as very successful companies. The three minor jrs, which operate on the three islands of Kyushu, Shikoku and Hokkaido, have remained in state hands. The jrs provide commuter services in the main cities, long-distance intercity services and high-speed services (*shinkansen*). Many private operators exist besides these six jr companies. Actually 15 main private operators are mainly active in the central metropolitan areas; and more than 100 smaller private operators exist throughout the country, some of which in cooperation between the public and the private sector for the operations of branch lines.

These operators provide services on their own tracks but also often cooperate with neighboring operators by organizing through-train services between their respective networks. This happens in cooperation, not in competition.

The authority plays a rather background role in the supply of train services. There are, for instance, no specific contracts between authority and operator; and there are no generic subsidies for the operations, as the services have to be profitable, including all infrastructure costs. The licences of the railway companies are not limited in time; and the sector is not submitted either to competitive tendering nor to competition on the tracks. The only competition to take place is that between overlapping networks of railway operators. The railway companies are, however, submitted to various forms of economic regulation that are partly based on competitive elements (such as a fare regulation based on yardstick competition for the operational costs and rate-of-return regulation for the infrastructural costs).

Competition on or for the tracks was no part of the reforms put in place in 1986. Despite this choice, the operators are nevertheless submitted to numerous competitive incentives (yardstick competition, rate-of-return regulation, intermodal competition, competition between networks and competition on the capital and labour markets). Typical for the configuration choices made in Japan is the choice to maintain integral companies, together with their privatization. The success of the many Japanese private railway operators, who already operated successfully for many decades besides the former *JNR*, was the main role model for this choice.

The synergetic development of railways and neighboring real estate is also another key to the success of the railways as life-style developers. This takes place without cross-subsidization between real estate and train operations as each of these departments have, by law, to prove its own profitability. The integration of infrastructure with train operations, together with the absence of direct subsidization, forces the railway companies to avoid excessive infrastructure developments. The infrastructure is tailor-made for the timetable being provided. This is then coupled with typical Japanese step-by-step improvements (*kaizen*) and these practices have led to performance levels that are unheard of in Europe, with a number of trains per track-km that is oftentimes at least twice as high as current European practices, while the technology used is—essentially—as traditional as the European one.

## Conclusions

The countries presented here provide a good coverage of the current variety of institutional arrangements in the European railway sector and Japan. A regime with a combination of a direct award for passenger services on the main railway network,

and competitive tendering on the subsidized regional network in the Netherlands, with a relatively strong steering position of the government via the concession agreements and the yearly production plans. A regime formally based upon open access in Germany (no concession, exclusive right, nor direct steering of the operator), with de facto little competition and a dominant position for db, complemented by contracted routes in regional transport (competitively tendered or not). A regime based on tough competitively tendered contracts in Great-Britain, with a strict separation between infrastructure and train operations. A regime based on a compromise with trade-unions in France, where the separation is such that sncf de facto continues to carry out most tasks, and with almost no contracting. A regime based upon a strong belief in the importance of not separating the railway in Switzerland, where consensus and mutual control between the actors play an essential role, but with substantial guarantee for fair access by entrants. A regime based upon pure commercial incentives in Japan with privatized non-separated businesses who benefit from long-term positions through the absence of contracts or competitive tendering, with an authority that sporadically distributes ad hoc subsidies where it is really needed.

Four of the six countries presented here have kept some form of integration between infrastructure management and train operations (Switzerland, Germany, France and Japan). The configuration chosen in Germany led to considerable scepticism as to the role of the infrastructure manager and fair access to the network, although this seems to have waned in recent years. The configuration chosen in Switzerland is based upon a strong belief in a non-unbundled railway. France adopts a rather hybrid configuration by combining a formal separation with a delegation of many tasks from the infrastructure manager to the traditional train operator. Great-Britain and the Netherlands chose for a fully separated configuration. This is combined with extensive regulation in Britain as there is no strong contractual link between the Ministry and the infrastructure manager. In the Netherlands, on the contrary, the contractual link is stronger and the regulatory oversight weaker than in Britain. Japan chooses to keep the traditional non-separated configuration. This is even a cornerstone of the regime as Japanese railways are important actors in Japanese society, benefiting from a long-term position and by being integral developers of land and transport, providing real estate, including shops, offices and residential areas at stations and along railway lines.

It is interesting to see that there appears to be much more discussion on the public interest in connection with railway provision in the Netherlands than in the other countries presented here. Interestingly, one can also observe that the control power of the Dutch authorities on their railway already includes more monitoring and coercion resources than in most other countries, with the notable exception

of Great-Britain. The German railways are essentially free in their actions. The authorities mainly take action through the subsidization of infrastructure and growingly through the contracting and competitive tendering of regional train services. The French railways constitute a particular case. Influences take place mainly in an indirect setting, through the role of the State in the management of the state owned company. Regional railway services are already contracted, but with a monopoly for the state company. The Swiss railways are submitted to various forms of steering and control at arm's length. These instruments include almost no coercion resources. This is, however, not perceived to be a lack in the system as the relatively cooperative and constructive way in which the Ministry performs its steering role in a non-confronting and indirect fashion is seen to have lead the sector to a high(er) level of performance. The British railways are, amongst the railways presented here, those that are submitted to the largest amount of rules and regulation, despite the strong private character of the sector; which sector—incidentally—sighs under the growing weight of state regulation that has appeared during the last decade. The Japanese railways are at the complete opposite of this, being fully independent from authorities, both financially and as far as their service supply is concerned.

The facts and opinions collected in writing this chapter show that some countries are clearly satisfied with the choices made, while one has to observe that other countries realize that they still face a number of unsolved issues. The French case showed that substantial issues will have to be resolved in the near future. The German debate was for a long time dominated by the privatization plans that have now been put on hold. But there remains substantial discordance between interviewed actors on many topics pertaining to competition, regulation, etc. The Swiss case is quite opposite to this. Here discussions have been conducted at a slow but constructive pace and consensus seems to have been reached. The Dutch case was positive at first, but now seems to have reached a satisfying equilibrium. The British regime is perceived to be a success in Britain, the current main preoccupation being a search for stabilization after the numerous institutional changes that have been implemented in the last decade. The Japanese case is the benchmark for very successful railway companies with unknown financial and operational performances seen from a European point of view. The main railway challenge in this country is the aging and, in term, declining population.

This chapter has provided an overview of the institutional diversity that can currently be observed in the European railway sector. A few of the challenges facing some countries have been presented. Elements allowing to understand the main changes and achievements have been synthesized. It would then be tempting to try to establish a link between institutional choices and the highest achievable levels of performances. But one has to be careful when considering an institutional transfer

from one country to another because of differences in context, traditions, history and culture. Some of the institutional reconfigurations implemented in the countries presented here delivered performance improvements. This does not guarantee that the same reconfiguration would deliver the same improvement when implemented in another context, nor does it guarantee that the highest possible level of performance is reached.

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