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CHAPTER 4

RAIL AND TRANSPORT POLICY: NATIONAL PARADIGMS AND SUPRANATIONAL STRUCTURES[1]

Frank Dobbin

Introduction

The story of EU rail and transportation policy is about the inter-relation between economic and political integration. The European Union is often seen as a structure for enforcing discipline on governments in a free market. The idealized market is driven by transcendental economic laws of exchange that determine what is efficient and what is not, and that help to shape social institutions. The modern social institution that has done the most to promote modernization and progress – the state – plays no role in the constitution of market efficiency. On the contrary it can only act to disrupt primordial or natural markets. The great expectation that analysts hold for the EU is that it can negotiate modern states out of the economic picture. The argument in this book, in contrast, is that economic integration under a single European market will not be as simple as eliminating industrial interventions that interfere with natural markets, but will involve national paradigms concerning: (1) how and where markets produce efficiencies, and (2) the role of the state in the constitution of various markets. This will demand not a withering away of European states, but the imposition of a new supranational structure that will affect some particular, as yet unfinished vision of the market.

This chapter explores the European Union's emerging high-speed train policy, which is modelled on the recent British privatization experiment – an effort to move from 'hierarchy' back to 'market', in economist Oliver Williamson's (1985) terms. The idea is to take apart a vertically integrated industry, composed of national railroad monopolies,

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and subject its component parts to competition. Rail car production, reservation services, train service, track construction and maintenance, rolling stock repair – the idea is to privatize all of these stages of production and open them to competition. The Union's emerging policy is to effect this strategy across Europe, permitting national railroads and new private firms to compete for business on all European routes, as airlines now do. Although the potential technical, economic and social gains are generally perceived as huge, different national visions of the state–market interrelationship has complicated and prolonged the process.

The principal goal is to describe the forces that have led the EU toward a common policy of privatization and free competition. The policy choice is striking, in part because it is novel for most countries, in part because the most recent trial – in Britain – has been an unmitigated failure, and in part because it flies in the face of what has been the conventional wisdom about railroading for a hundred and fifty years.

The first part of this chapter reviews the Union's emerging high-speed rail policy. The Union heard several proposals for a high-speed rail system, including some based on the highly successful French experience with the TGV. Why did the EU move toward a British-style plan? It is argued that the particular structure of the Union favours a neo-liberal policy – just as the American federal structure favours similar policies. Thus, the French policy solution was kept off the EU table by its incompatibility with the Union's institutional structure. Europe's initial decision to adopt a federal system thus constrained its industrial policy, for the French model depends on a state with a capacity for leadership and with substantial technical expertise.

The second part of the chapter considers the evolution of the high-speed rail policies of Britain and France, which served as the models from which the Union chose. These countries began not with a market and a statist orientation, respectively, but with two very different ideas about how states and markets are related. Their railroad systems represent two different visions of the market, not a market and a non-market. During the 1970s and 1980s, both countries pursued public high-speed train projects. Perhaps the most interesting theoretical implication is that EU members have very different visions of market forces, and thus that when they speak of unleashing 'the market' they have very different things in mind.

Finally, another goal of the chapter is to remind the reader of what any European traveller knows; that the French model has been the more successful of the two. Given its failure in practice, it is all the more striking that the Union has embraced the British model. The Union's decision to follow Britain's failed approach rather than France's stunningly successful approach to high speed rail holds clear implications for the future. One is that the federal structure of the Union will play an

important role in 'selecting' policy paradigms (Hall 1993, Dobbin 1993a) for consideration, and in deselecting others. If in any industry there is a case for the French model, it is in railroading.

The European Community's Fast-train Policies

For many years, Europe's national railroads operated on a single broad model. Railroading was presumed to be a natural monopoly, and hence it was thought to be best organized as a state enterprise or as a highly regulated public utility. Public subsidies were thought to be inevitable, as the public subsidized competing forms of transport by building roads and airports. This model was challenged even as Europe was facing integration, on one side by France's great commercial success with public high-speed rail, the TGV, and on the other by Britain's aggressive effort to divide the national railroad up into dozens of privately held companies.

High-speed train service first reached Europe in 1981, when the French opened the newly constructed TGV line between Paris and Lyon. Since then, many new routes have been added. The German Intercity Express (ICE) began operation in 1991, and within a few years service on the Würzburg–Hanover and Mannheim–Stuttgart routes was added. Italy began offering a high-speed 'diretissima' service in the 1980s between Florence and Rome, and it now serves Milan, Genoa, Venice, and Turin. Spain opened a high-speed rail service using the French TGV technology on the 471 km route from Madrid to Seville (*Economist*, 29 October 1994: 23). In 1995, the Eurostar service connected London with Brussels and Paris via the channel tunnel, winning 25% of London–Paris air traffic in its first three years (*Engineering News Record* 1998, *Travel Trade Gazette* 1997). Sweden's tilting trains have been operating at high speeds since the late 1980s. Notably missing from this list is Britain, which modified diesel trains to run at 125 mph but which has yet to upgrade tracks or buy high-speed trains. Even Eurostar runs at low speeds on the British side of the channel.

As early as the mid-1980s, the European Union, the UIC (Union Internationale des Chemins de fer), and the European Conference of Ministers of Transport proposed a master plan for European high-speed rail, and actively debated the advantages of alternatives (ECMT 1986). By the end of the 1980s, members of the Union were firmly behind a new high-speed rail system covering all of Europe, and had proposed an international system of high-speed routes, with an estimated cost of 60 billion pounds (Black 1990, Hoop 1991). The hopes for such a system were two-fold. Some saw great economic promise in such a system, which was expected to generate new traffic, to alleviate airport congestion, and to stimulate commerce generally. Others saw great political

promise in such a system, which could join the disparate regions of the Union into a single community. This vision of political and cultural integration is drawn directly from nineteenth-century France, where boosters heralded the capacity of rail lines to integrate regions with diverse cultures into a unified nation. Belgian railway chief Daniel Desnyder recently outlined a new proposal for a 30,000 km high-speed rail network, linking up all of Western Europe, with another 15,000 km of track to complete connections to Russia (*Travel Trade Gazette Europa* 1997). The plan builds on the model of France's LeGrand Star, which connected the far-flung provinces of France to Paris via trunk lines (Doukas 1945). Desnyder's plan depends on gateway cities to each of Europe's peripheral regions, and he promotes it with prose that could come directly from France's nineteenth-century plan. High-speed trains are as important to European integration as the single currency, Desnyder argues: 'High-speed must be the key development of the European network of tomorrow' (*Travel Trade Gazette Europa* 1997: 9).

European transport ministers came to the table with very different visions of how the industry should be organized. Some promoted the elaboration of the existing set of bilateral service agreements among countries, a solution based in the international relations model rather than in any particular economic model. Others used the arguments of economists to promote two more innovative models. Some promoted the public-utility model that had been most successfully developed by France. This model had widespread support among transport economists, who viewed the industry as a natural monopoly, by dint of its high sunk costs, low marginal costs, and demands for managerial co-ordination. Still others promoted the airline model of competing service providers that was then being implemented in Britain. This model had the support of Chicago School economists, who view competition as the best way to manage all transactions.

Directives from the EU Transport Ministry make clear that the British airline model is emerging as the winner. My contention is that the decision to adopt a federal system more or less determined the course of industrial policy, even if participants did not realize it at the time. There were compelling efficiency arguments to be made for each of the three models. A natural experiment, in which each of the models was tried in different contexts, suggests that, of the three, the British model was least likely to succeed. In recent decades, bilateral service agreements had been used on most international European routes, with substantial success. The French public-policy model had been put to a thorough test in France, and had succeeded by virtually all accounts. The British airline model had been put to two tests: one in the 1970s when Britain tried, and failed, to pursue a neo-liberal approach to high-speed trains; and one in the 1990s, with the privatization initiative, which thus far has been an unmitigated failure. We take the two main proposals,

discussing the efficiency rhetoric behind each and recent evidence of its viability.

The Two Competing Models

The French favoured an EU rail policy that looked like their own. There were strong technical arguments in favour of a single, integrated, high-speed rail system, having to do with the need for vertical as well as horizontal managerial co-ordination in the industry. There were strong economic arguments as well, having to do with the EU's capacity to use its good credit to raise capital at low cost. And there was good evidence that an aggressive, state-led, high-speed rail network could be a financial success. But the French plan barely received a hearing.

The French model calls for an integrated international high-speed rail network, with one operator, one technology, and one international trainset supplier. The integrated strategy would follow the model of the channel tunnel – in essence a joint venture between British, French, and Belgian units – but would impose a single technology. The tunnel is operated by a unified management team, using a single train technology adapted to operate on three different kinds of infrastructure. Under the French-model proposal, a single technology for track, signalling, and rolling stock would be chosen for all of Europe. Airbus operates on a similar joint-venture model. For fast trains, the problems of technical incompatibility can be complex. Choices of train and track technologies are not independent, because non-tilting trains like the TGV can run at high speeds only on special routes that minimize turns, whereas tilting trains can run on serpentine routes. The choice between tilting and non-tilting trains, then, is linked to the choice between using existing freight/passenger lines and building new, dedicated, high-speed tracks. Signalling system standardization is also demanded by high-speed trains, which are computer-guided. A single, unified, system operated by the European Union would resolve all of these problems.

The model is based on a variety of different economic assumptions. A central assumption is that the industry is essentially a natural monopoly, due to its high sunk costs and low marginal costs. These characteristics lead to predatory pricing under conditions of competition. Predatory pricing drives small competitors out of the market, and leads toward monopolization. Introducing competition is self-defeating under these conditions. A second assumption is that, as Alfred Chandler (1977) has argued, the industry has compelling natural requirements for integrated management. Vertical integration under a single management hierarchy produces the best co-ordination, and hence generates the lowest prices and best service. This was the logic the French expressed for their own

system. That this system has been a resounding success is perhaps the best evidence that it is viable.

The French have more or less conceded the fight, but they continue to believe that the neo-liberal model will not only poorly serve Europe, but will undermine the efficiencies to be found in the current French rail system. Most French leaders continue to argue for the efficiency of their own model. Louis Gallois, head of France's national railway (SNCF), argued in 1996 that the EU's 'ill-conceived liberalism' was a threat to French railroads (*Economist* 1996: 73). French officials have opposed the cornerstone of the airline model, of separating track from operations, in the belief that this would destroy the efficiencies that vertical integration brings (*Economist* 1996). France has responded to the apparent success of the neo-liberal model by leading the charge to establish high technical standards for the new EU routes. With high standards, the French national railroad will retain a comparative advantage and will rebuff market entrants with poor technologies (*Transport Europe* 1995).

The second proposal followed the recent British privatization experience, begun in a piecemeal fashion in the early 1980s and realized between 1994 and 1997. Under this scheme, the EU would allow independent operating companies, including national railroads and private concerns, to offer competing service. Rail lines would be financially separated from operating companies, with the lines holding regional monopolies and renting the use of track to users. The airline analogy comes from the independent and competitive character of operators, and from the role of the state in providing infrastructure (directly, or via private concessionaires) in return for user fees. Predictably, in the early 1990s, Britain's Tory Transport Secretary Malcolm Rifkind was a leading advocate: 'I would look forward to the day when any railway operator within a single internal market in Europe . . . was free to provide services' (Freeman 1991). By 1991, the EU had issued a directive that set the stage for such a system in freight. It eliminated international barriers, so that any freight operator could compete for business between Manchester and Milan or Madrid and Berlin (Freeman 1991). The European Community Task force, Group Transport 2000 Plus, backed such an arrangement for fast passenger transport, which would charge national governments, or private sector concessionaires, with maintaining the rails in return for user fees, and would permit any and all comers to operate trains (Hoop 1991).

Since late 1991, the Union has pressed national railroads to separate track maintenance from passenger operations, or at the very least to make accounting transparent (so that user fees might be estimated), as a first step toward this model. Under the system, broad technological standards are established by the EU, but service providers are free to operate in an entrepreneurial way. Train-building, reservation services, maintenance, and other functions would be opened up to market competition.

The current plan builds on the privatization scheme that John Major pushed through in Britain, in March of 1994. British Rail was broken up into nearly one hundred separate companies, with several dozen private carriers competing to offer service on inter-city routes, a separate company (Railtrack) maintaining the track on a fee-for-service basis, and distinct companies handling rolling stock and maintenance. Privatization was largely complete by April of 1997, with a number of private carriers, such as Virgin, offering service and promising to implement high-speed service on high-volume routes. But in the first three years of operation, reliability and punctuality have declined, and formal complaints have risen to unprecedented levels. Speculation has made fortunes for some early bidders in the privatization scheme, and by most estimates the Major government gave away vast amounts of public capital at fire sale prices in order to speed the privatization through. *The Economist*, usually a champion of privatization, describes the experience as an overwhelming failure, largely due to a set of perverse incentives that fail to reward private companies for achieving economies and for improving service. The potential for such a model, it appears, depends entirely on the incentives built into public policy – policy can create market-like incentives, or preclude them.

One might expect that the British opponents of privatization would now be claiming victory, and championing a public model. This is far from the case. The architect of the EU policy is not John Major, but Neil Kinnock, former Labour Party leader and subsequently the EU Transport Minister. Kinnock, who opposed Major's plan to privatize Britain's railroads, now argues that railroads 'should be first and foremost a business'. His EU ministry issued a report in 1996 calling for the separation of passenger rolling stock and track in all countries, and the opening up of competition in all markets to service providers from throughout Europe (*Economist* 1996). In a speech in February of 1998, he argued: 'the EU has a challenging policy agenda, notably in promoting revitalisation of the railways through pragmatic liberalisation and through establishing a coherent framework for infrastructure pricing, which should have a major impact on both the volume of traffic and its cost' (Kinnock 1998). Some analysts have noted that EU policies in many domains emerge not through democratic processes, but by the 'stealth' of EU officials, who sneak new policies through under the broad mandate of the Union (Weale 1997, see also Andersen and Eliassen 1996). Under the broad mandate of opening up markets, Kinnock's transport ministry has made substantial progress toward implementing this new model.

The EU and the National Experiences

The Union, and national governments, have made substantial progress towards implementing this model. In air transport, they moved ahead

quickly, setting a precedent for rail. The airline industry was 'liberalized' in April of 1997, when the industry was 'deregulated' so that any airline from any of the fifteen member states, plus Norway and Iceland, could compete for business on any route (Lewis 1997). Putting its faith in the market and the Court of Justice to work out the details (in a manner reminiscent of American regulation), the Union deregulated airlines before addressing a myriad of problems facing policymakers. Among those problems there is regulatory 'harmonization', airport slot allocation, value-added taxes on airlines, user charges, and a unified European aviation authority.

In railroading, national governments have anticipated the competing-provider model by moving to privatize parts of national railroads. They build new routes with joint public–private financing, destined for operation by private firms. With capital support from the Union, governments are moving responsibility for new infrastructure projects out of the offices of national railroads and into the offices of separate, public–private, agencies (*Tunnels and Tunnelling* 1997a).

Sweden was the first to separate train service from track maintenance, in 1988, followed by Norway, Switzerland, Britain, the Netherlands, and Germany (*Economist* 1994). Sweden has reorganized Swedish Rail on a business model, with private-sector managers, bonuses linked to performance, profit centres for each of its units, pricing structures borrowed from airlines, and new and refurbished trains. And Swedish Rail lost its monopoly in July of 1996, which opened the road for competition. In Germany, the national rail company, Deutche Bahn (DB), brought in a manager from Daimler-Benz, and began, in 1996, an eight- to ten-year programme of restructuring before the scheduled privatization of its passenger, commuter, and freight services. The Dutch government has phased out rolling stock subsidies, in a first step toward operating on a business model.

The airline model does not mean, as one might expect, that railroading is expected to become fully self-supporting. Instead, it permits the coexistence of a neo liberal model of railroad operations with a very statist model of infrastructure investment. The EU is not getting out of the railway business, as the US government sought (but failed) to do when it created Amtrak to handle passenger business and Conrail to handle freight. By separating infrastructure from service, the EU is able to underwrite construction without appearing to subsidize the industry – in stark contrast to the situation in the USA, where infrastructure and operations are united and thus where infrastructure subsidies are indistinguishable from operational subsidies.

This approach allows the Union to promote a new high-speed rail network for its political advantages, while maintaining free-market rhetoric. The Union has an ambitious French-style plan for a region-wide system, which will facilitate travel between the centre and peripheral

regions, such as Spain, the north of England, and Sweden (where a bridge/tunnel link between Copenhagen and Malmo ties or 'connects' Sweden to the rest of Europe by rail). In 1994, at a summit in Corfu, Europe's leaders ratified a plan for high-speed rail that prioritized nine inter-regional networks. By late in 1995, the list had risen to 14. As the *Economist* summarized the goals of this network: 'The commission wants among other things to help tie peripheral regions of the EU closer to the economic heart: high-speed rail has become a fashionable means to that end' (*Economist* 1994). The first network, the PBKAL (Paris, Brussels, Cologne [Köln], Amsterdam, London) has the main components in place (*Economist* 1994). Other priorities include: Munich–Verona, Paris–Brussels–Cologne–Amsterdam–London, Madrid–Barcelona–Montpelier, Madrid– Dax, Paris–southern-France–eastern-Germany, Lyons–Turin, Netherlands–Germany (*Tunnels and Tunnelling* 1997a). All told, leaders at the Corfu summit estimate that the cost of the 23,000 km network, half of which comprises upgraded track and half of new track, will exceed 200 billion ECU (*Economist* 1994). Many of these lines, including Madrid–Barcelona–Montpelier and Lyons–Turin, will depend on public–private financing, with routes themselves maintained not by national railways but by international concessionaires. Regional lines as well are increasingly depending on joint financing, as in the case of Italy's Rome–Naples and Florence–Bologna lines, for which the state takes a minority stake, with private sources and the EU making up the difference (*Tunnels and Tunnelling* 1997b). Work on many of the new lines has already begun.

The choice of this system was ultimately determined by the federal structure of the EU, and by the coincidental popularity of neo-liberal ideology. Neo-liberalism offered a rationale for the British-inspired model, despite a lack of good evidence that the model can succeed. Federalism made the French model impracticable, because it requires a state with the managerial and technical capacity to operate a huge, vertically and horizontally integrated, enterprise. The fact that the French capitulated so quickly, accepting the British model, suggests that they understood well that the EU did not have the institutional capacity to carry out such a project. As compared with the existing system of bilateral service agreements, the British model has several advantages. One is that it coincides with neo-liberal ideology, by subjecting the various parts of the industry to market competition. The other is that it allows for rhetoric of neo-liberalism to be espoused, at the same time that the EU subsidizes the infrastructure on routes it considers to be of political importance. The book's cover says it is by Milton Friedman, but the text could be Louis XIV.

Two Visions of the Market

In this section, we review the British and French high-speed rail policies and their underlying assumptions. These were the models that the Union's transport ministry was confronted with. It will be shown that the two models do not represent a statist approach in the first case and a market approach in the second. Rather, the two models represent two different conceptions of the market, and of the role of the state in the market. Those different conceptions led to policies that made the French approach successful, and the British approach a failure.

British and French high-speed rail policies of the 1970s and 1980s were designed to constitute disparate sorts of consumer markets, capital markets, producer markets, secondary markets, and international markets. Their policies in these realms illuminate the very different ways in which the two countries understand markets. Policies in both countries appeal to market forces, but whereas, in Britain, public policy is driven by the notion that markets are exogenous to, and prior to, the state, in France, policy is driven by the notion that markets are produced, stimulated, and guided toward national goals by the state.

There is little question of the relative efficacy of the French and British high-speed rail policies of the 1970s and 1980s. By 1990, France was operating state-of-the-art 300 km/h trains on a new network of rail lines dedicated to fast passenger service, and making money doing it. Britain was operating 1960s-technology 200 km/h trains on the nation's undependable, and failing, nineteenth-century freight/passenger network, and losing money. Political observers have put down these differences to France's 'statist' approach and Britain's 'market' approach, but upon close scrutiny this typology breaks down. Policy-makers in each country pursued a set of policies that, they believed, would properly constitute a market for high-speed rail. And policymakers in each country effected these policies through a nationalized railroad. The state–market dichotomy simply does not describe the French and British approaches. These countries worked with entirely different conceptions of state and market.

By the end of the nineteenth century, French and British policies contained very different visions of the role of state and market in the economy (Dyson 1983, Andersen 1992, Hall 1992, Dobbin 1993a, 1993b, 1994) – one in which the state is integral to the market and generates private economic activity, and another in which the state is quite distinct from the market and can only respond to the private economy. Their different 'policy paradigms' suggested very different mechanisms underlying growth. Britain's policies symbolized entrepreneurial drive as the source of economic dynamism, and symbolized positive state action as a threat to entrepreneurialism, markets and growth. They represented the market as a natural outgrowth of society. France's policies

gave state technocrats a key role in transforming entrepreneurial drive into progress. They symbolized the state as creator and nurturer of markets. Whereas in British policy, the state was represented as exogenous to the market, in French policy, the state was represented as endogenous.

High-speed rail policies followed the logic of these nineteenth-century policies, despite the fact that rail industries in both countries had been revolutionized by nationalization. Next the very different ideas about markets found in the two countries' early high-speed rail policies are outlined.

The success of Japan's high-speed Shinkansen line, opened in 1964, stimulated both Britain and France to adopt fast train programmes by the end of the 1960s, under their nationalized rail systems. France's Société Nationale des Chemins de Fer (SNCF) established a Research Department in the mid-1960s, and in 1972 the state committed itself to building a high-speed rail link between Paris and Lyons. The line went into service in 1981, with TGV (literally, high-speed train) trains produced by a public–private joint venture under the Compagnie Générale d'Electricité.

Across the channel, British Rail (BR) initiated two new in-house high-speed train projects in the late 1960s. The 'High Speed Train' project produced the InterCity 125 (designed to run at 125 mph) by making minor modifications to existing train technology. The more ambitious Advanced Passenger Transport (APT) project was to build a much faster train. In 1982, after three trial runs that brought minor technological problems to light, BR dubbed the APT project a failure and abandoned research, arguing that the state lacked the capacity to manage the development of such a complex technology (Potter 1989). While BR's technical task was somewhat greater than SNCF's, because BR had determined to build a train that could run on existing sinous track by tilting into the curves, the Italian and Swedish experience showed that such a train was feasible (Flink 1991, 1992). BR spun off its rolling stock division (BREL) to privatize the problem, and later moved to a strategy of competitive tendering for high-speed train technology which made BREL one among private equals (Potter 1993). The end result is that Britain has no high-speed rail service, and France has the most elaborate and successful system in the world.

What caused the French to succeed and the British to fail? Both sought to develop high-speed rail through nationalized railroads, but the French had a vision of the market in which the state was an appropriate and potentially successful actor. The British had a vision of the market in which the state was nothing more than a disequilibrating force. In every market realm, the British vision prevented the state from succeeding.

Consumer and Capital Markets

Where does demand come from? Both French and British policies were predicated on estimates of market demand, but those estimates were based in different ideas about the origins of demand. French policy treated markets as a product of state action, and demand as a *result* of public policy. From the 1960s, the French state gave the SNCF substantial autonomy to act as they saw fit when it came to planning new railroads (Faujas 1991d). They embraced France's 'free market' approach to public monopolies, which suggested that they behave entrepreneurially to stimulate demand. This strategy was outlined in a widely read government report, the Nora report, which was inspired by the experiences of Electricité de France (Beltran 1993: 4). The SNCF thus underwent an 'intellectual makeover' which 'resulted in their no longer reasoning as a monopoly but as one element in a highly competitive sector' (Beltran 1993: 1). They sought to create demand.

In accord with this entrepreneurial approach to nationalized enterprises, the SNCF staffed its new Research Department with highway transport economists who held three very entrepreneurial ideas. First, they assumed that a new technology could bring new riders, and thereby produce economies of scale. Second, they assumed that demand was not a linear function of speed. Dramatic increases in speed could draw large numbers of passengers from other means of transport. Third, they assumed that an aggressive transport policy could not only draw riders from airlines, but could *create* demand. These assumptions suggested that public policy could generate legitimate, new, demand. With rosy projections in hand, SNCF economists could make compelling arguments for the viability of new rail lines (Polino 1993). The Paris–Lyons line's success proved them right, and the Government soon gave the go-ahead for high-speed rail lines connecting Paris with Lille, Calais (and the channel tunnel), and Brussels to the north; with Le Mans, Tours, and Bordeaux to the south-west; with Nancy and Strasbourg to the east; and with Marseilles and Cannes to the south (Neher 1989).

British policymakers, by contrast, began with the premise that demand was a function of characteristics of the private economy that were not within the control of the state, and thus was impervious to government manipulation. They assumed, as well, that government efforts to increase demand would disrupt an efficient equilibrium – they would disrupt free markets. Decisions regarding the future of the railways were politicized so that BR could never develop its own independent plans for promotion of railroads. British Rail used conservative estimates of demand, presuming that public policy could not draw riders from air transport, could not reduce costs through scale economies, and could not generate additional demand for transport. The Ministry of Transport's projections were based on the effects of incremental increases in speed

on the West Coast line after its electrification in 1966, which suggested that for each 1 mph increase in speed they could expect ridership to increase by 0.8 per cent. As *The Economist* wrote in 1985, 'The ministry of transport denies that a better service would attract many new passengers' (1985d: 26). As late as 1985, they refused to consider evidence from the Paris–Lyons line as applicable (May 1992), and refused even to accept evidence from the success of their own 125 mph trains. As *The Economist* wrote:

> Trains can benefit from the gloss provided by novelty: the introduction in Britain of the HST125, the world's fastest diesel train, resulted in traffic increases far greater than could be accounted for by traditional forms of measurement. [However] the ministry of transport [still] refuse to allow the word "image" into their financial equations. (*Economist* 1985b: 30)

In consequence, the Ministry of Transport consistently estimated that demand could not support French-style high-speed rail transport, and discouraged the creation of a system. This contributed to the under-funding of technology research, and to the demise of the APT programme in 1982.

Both SNCF and BR relied on private capital to finance railway development, but they approached private capital markets very differently. In France, SNCF behaved entrepreneurially to attract bond investors to its early projects. It went to international capital markets, seeking funds on the promise of the project, and not on the basis of government guarantees of private capital. Prospective investors used the same criteria they used when considering private projects. This approach was a striking success. For the Paris–Lyons line, a third of the capital came from New York banks alone, and for the Paris–Atlantic line, 70% of the 13-billion-franc capitalization came from international markets (*Economist* 1984, Macdonald 1991). The debt for these first two lines was paid off quickly, and this made future issues attractive to investors. To attract capital to its later ventures, SNCF invited two hundred financiers to travel on the latest record-breaking train between Paris and Angers to hear a financial pitch. SNCF finance director Pierre Lubek argues: 'SNCF's main priority is to build up large, liquid lines of stock in the French market that will attract investors from abroad as well as locally' (Macdonald 1991).

France's later financing strategy made the private sector not merely a source of capital, but a co-owner. SNCF financed the TGV-Est, from Paris through Strasbourg, in a consortium with private developers that will lease the line to SNCF for a period of thirty years, whereupon it will become the property of the state (*International Railway Journal* 1990). To pay for rolling stock, SNCF arranged to sell new trainsets to a banking consortium and lease them back (Black 1991a). Underlying these

strategies is the belief that the state can generate legitimate demand in private capital markets – that, for a promising transport project, the state can be as good a capitalist as anyone. The banking community has bought this approach. As one British banker put it: 'In the TGV, SNCF has a good product that makes money. If they want to borrow to build more of them, I don't see there being a problem finding investors' (Macdonald 1991).

British policymakers, by contrast, began with the assumptions that the state cannot generate legitimate demand in capital markets and cannot be a competent entrepreneur. Successive governments argued that public projects are inherently uncertain, and that to protect investors from the state's incompetence, it must guarantee private capital. Because guaranteed bonds come under Parliamentary limits on national debt, this meant that British Rail could collect little private capital (Black 1990). One British Rail executive argued that BR should no more guarantee loans than SNCF should: 'Why should they? . . . If banks are prepared to lend to Poland or Brazil, why not to SNCF, or us? Is SNCF likely to collapse? France is likely to collapse first. These loans would be "gilt". And if you give us access to the capital markets, the whole argument for privatization collapses' (Black 1991b).

During the 1980s, administrators at British Rail sought to circumvent public borrowing limits by following the French model, of selling train-sets to a consortium and then leasing them back. Government economists rejected the deal, arguing that such arrangements should be counted against the national debt limit (*Financial Times* 1992). This caution is peculiar to British rail policy, for as the Labour Party's John Prescott pointed out, private investment is common 'in European railway systems, and it is only ideological nonsense and Treasury daftness that prevents us doing it in this country' (Freeman 1991). 'Ideological nonsense' or not, the British inclination to think that any rail expansion will be the financial responsibility of the state is not limited to Conservatives. The last Labour government cancelled a link from London to the channel tunnel because cost–benefit analyses, based on the conservative techniques discussed above, showed that the line would not pay off bondholders (*Economist* 1988). In late 2000, some six years after Eurostar connected London with the continent, Britain has yet to build a high-speed link between London and the tunnel, which would reduce the London–Paris journey by more than half an hour, to less than two and a half hours. The rosiest projections are that the link will be completed in 2007 (*Economist* 1994). The British state, convinced of its own incompetence as a capitalist, repeatedly tied its own hands in order to protect prospective investors.

Production Markets

Who will provide railway service? In France, the state holds an unchallenged monopoly and few policymakers see advantages in a private production market. Transport minister Paul Quiles summed up the French position: 'Our analysis shows there is no advantage to the community – privatisation is not on the agenda. Our aim is to have a railway in a sound financial state, meeting the demands of the community. Good management is in no way at odds with the concept of a public company' (Black 1991b). State technocrats argued, along the lines of Alfred Chandler (1977), that the industry has unique problems of co-ordination. They concluded that a vertically integrated structure best suits the industry. And they saw the state as the most able manager of such a system. Even when an economic downturn prompted Mitterand to delay the construction of the Paris–Atlantic line, which was projected to turn a healthy profit, fast-train advocates never suggested privatization to solve the problem (*Economist* 1984). In France, private production of rail service is not generally seen as efficient.

By contrast, Britain began to try to privatize rail services several decades ago, and succeeded in the 1990s with a push from John Major. The argument behind this policy is that public managers are simply incapable of running enterprises efficiently because they are not driven by the profit motive. Privatization makes anything more efficient, even if it is not accompanied by competition.

Even before the dramatic privatization scheme enacted by John Major's government, Britain took a number of small steps. First, after privatizing its rolling stock division, in 1991 British Rail put out tenders for bids for the new HST250 (to run at 250 km/h) train, in an effort to stimulate private production (Flink 1991, 1992, Potter 1993). Second, in the 1980s, BR was reorganized according to private management principles, into a set of 'profit centres' based on the M-form approach of cost accounting in which separate divisions keep independent books. The aim was to produce distinct, competitive, divisions as a first step toward privatization (Black 1991b). The success of the new regional operating divisions was heralded by *The Economist* in 1985: 'it is noticeable that the lines in Cornwall and Scotland have shown a good deal more enterprise since they were granted a degree of independence' (*Economist* 1985a: 60). Third, from 1982, BR tried to spin off divisions that were profitable enough to attract buyers, selling the National Freight Company, British Rail Hotels and, as mentioned, the rolling stock company BREL. Transport Secretary Rifkind described privatization as a panacea for inefficiencies in the system: 'Many of the criticisms against BR are justified. I would like to see as much of BR as possible privatised in the next Parliament' (Black 1991b). Fourth, several proposals were mooted for full privatization even before the Major government took

action, including a proposal that would have created private regional operating monopolies. As Tory MP Robert Adley argued in a debate over how to privatize: 'All that we have to do in order to do what the Japanese are doing is the following: we build 2,000 kilometres of mainline railway for high-speed trains at public expense. Then we transfer British Rail, free of charge, to six non-competing regional monopolies, financed by the public sector. Having done that, we write off all BR's debts and financial commitments' (Black 1990). The Japanese embassy insisted that this is not Japan's policy at all, but Adley articulated the sentiments of many. Under this scheme of privatization without competition simply putting the railroads in private hands was expected to make them more efficient. In May 1992 the Government announced an alternative strategy to create private, regional monopolies. The new plan would allow private firms to run trains on British Rail track, in direct competition with BR service. The 'airline' model of rail organization would make BR only one among competing producers of rail service. The state would maintain the network in return for user fees, and the government's InterCity trains would be ineligible for further government funding (*Financial Times* 1992, Potter 1993). From 1994, BR was broken into nearly a hundred different companies.

The plan that finally succeeded included both privatization and competition. Proposals now under consideration include privatization of British Rail as a single enterprise, privatization of separate regional operating companies as monopolies, and the break-up of BR into a public rail network and private operating companies (Roche 1991). In previous efforts to effect privatization, and in the current scheme, British policy-makers characterize private ownership as efficient in and of itself because it induces efforts to maximize profits. Indeed the privatize-the-whole-thing plans as well as the spin-off-regional-monopolies plans would simply transform a public monopoly into one or more private monopolies – but with profit motives. For British policy-makers, BR is incapable of acting entrepreneurially. While the French have shown no inclination to believe that private parties would do a better job than the SNCF, the British have consistently tried to move the railroads into private hands.

Secondary and Export Markets

Approaches to the secondary economic effects of railroads differ markedly. In France, it is the role of the state to create and foster markets for goods and services. As a result, secondary effects are part of the calculus of infrastructure development. As in Britain, French rail projects are expected to produce a net return of 8%, but in France, projects with important secondary effects are subsidized when the need arises. A case

in point is the TGV Est, connecting Paris with Strasbourg, which was projected to return 4.5%. Rather than scrap the project, SNCF organized public capital infusions that would be forgiven, on the principles that regional growth would more than compensate for public outlays and that the line will have public-relations value because it will connect Paris with Strasbourg, where the parliament of the European Community is located (*International Railway Journal* 1990). France has continued to subsidize TGV rolling stock research as well with a logic of secondary effects – that improved trains will expand ridership Despite the remarkable financial success of the first TGV lines, the state has continued to finance research and development on TGV trains, to the tune of 66 million European Currency Units for the period 1990–94, in the belief that the new technology will have beneficial secondary effects. It will generate increased internal demand through improved comfort and speed, and will attract international buyers(Neher 1989). French policy has been oriented to the notion that transport policy can, and should, generate secondary growth in non-rail markets.

In the French model, secondary economic effects of public investments are part of the calculus of infrastructural development, while in the British model the primary economic effects of public investments are all-important – new projects must be profitable in themselves. In France policy-makers believe that it is the role of the state to fund projects that will have positive secondary economic effects on the economy. Under this logic, it is the duty of the state to do what it can to promote the growth of secondary markets by undertaking infrastructural transport projects that might not show primary economic returns. In Britain a very different view of the role of the state in secondary markets emerges. Public projects must be profitable on their own. In the British calculus, the market should decide which projects the state undertakes because only the market can discipline the state.

The British have a very different approach to secondary economic effects. As *The Economist* assesses British policy:

> Whereas the British Treasury insists on treating railways as an industry that has to earn a commercial return on its capital, countries such as France and Germany take the view that railways produce benefits to the community at large . . . that should be recognised when making investment decisions. The British view, that such benefits have to be captured in the fare paid by the passenger, has had the effect of ruling out any building of completely new lines for high-speed trains in Britain. (*Economist* 1994: 23)

Long before the Conservative Party's privatization flurry in the 1980s, British policy-makers contended that railways should be self-supporting, and that the state should not second-guess markets by subsidizing rail. Thus, far from treating railroading as a locomotive of growth, the state sought to streamline British Rail so that only profitable portions would

survive. By the beginning of the 1980s, British Rail benefited from public subsidies that amounted to only 0.29 per cent of GNP; whereas her continental peers (Germany, France, Holland, Spain) averaged 0.7 per cent of GNP. By 1990 British Rail subsidies amounted to only 0.12 per cent of GNP (Black 1991b). 'The British philosophy is that people who use the railways should pay the lion's share of the costs "up front" in fares' (Black 1991b). This logic was linked to the test of 'commercial viability' that was applied to new rail projects during the 1980s (Black 1990). Margaret Thatcher responded to the idea of using public capital for the channel tunnel link by arguing that private parties would finance the line if it were worth building: 'We don't believe we should subsidise international rail services' (Black 1990). As one analyst concludes, high-speed rail in Britain was stalled by the 'insistence of the British Government that any investment in improved InterCity rail infrastructure must be wholly commercially viable' (Nash 1993: 7).

This approach is predicated on the idea that public capitalization of projects that would lose money constitutes a misallocation of the nation's resources, regardless of what the secondary effects might be, and threatens to create externalities that are ultimately inefficient.

Railroads are not generally thought of as an export commodity. But the visionaries behind France's TGV project saw it, from the very beginning, as a potential source of international revenue. Despite the rapid proliferation of national projects to design high-speed trains – Germany, Sweden, and Italy brought projects to fruition – the SNCF was determined to make its technology the industry standard. The national railroad built the Paris–Lyons line as a full-scale advertisement for the TGV, and even before the Lyons line opened in 1981, SNCF and the trainmaker actively promoted the technology in international markets. Since 1981 they have engaged in unabashed boosterism; inviting foreign dignitaries to ride on the TGV, nurturing fast-train proposals from infancy in a wide range of countries, and developing comprehensive TGV proposals for markets around the world. In 1989 they convinced Spain to buy the technology. They succeeded in promoting modified TGV trains connecting London, Paris and Brussels via the channel tunnel. In the USA they have promoted TGV technology for systems in Florida, the Midwest, California/Nevada and Texas. In a consortium with the Quebec trainmaker, Bombardier, they won the Florida contract, only to have the funding pulled out by the state. They have wooed Australia, Canada, Korea and Taiwan (Agence France Presse 1991; Menanteau 1991, May 1992, Schmeltzer 1992). The costs associated with competing internationally have been large, because as Hubert Autruffe, undersecretary of the Ministry of Transport, argues:

> a TGV cannot be exported in the same way an Airbus can, which requires only an airport: TGVs require a particularly costly, heavy infrastructure that

> demands two to three years of preliminary studies that only the most advanced countries are capable of conducting. The required experience – to design in Texas one of the most important infrastructural projects ever realized in the United States – our clients simply do not possess. (Menanteau 1991)

In their determination to remain internationally competitive, the state and GEC-Alsthom, now jointly owned by British GEC and French Alcatel, have continued to fund research to ensure that the TGV remains at the cutting edge of technology (Neher 1989). Recognizing the benefits of tilt-train technology, GEC-Alsthom joined with the Quebec train-maker, Bombardier, to provide the first tilt trains for the American market, due to begin operation on the Northeast Corridor in 2000.

While British Rail's early tilt-train technology potentially enjoyed a much larger market than the TGV, because tilting trains can operate at high speeds on existing tracks throughout the world (whereas the TGV requires special, new, tracks), British policymakers rarely discussed the Advanced Passenger Transport project as a possible source of international income. Sweden and Italy embarked on tilt-train projects when Britain did, and both are now marketing trains to other countries. Sweden lost a close competition with Quebec's Bombardier for the trainsets that will serve the Washington–New-York–Boston route in the USA, and both Sweden and Italy have sought British contracts from the new, private, service providers (Flink 1991, 1992). The decision to kill the promising APT project was predicated on the belief that the state would not be able to market the technology abroad to recoup initial research and development costs. There is no small irony in the situation, because BR developed the initial bogie innovations that made France's TGV possible, yet BR did little to exploit the technology save for installing it on conventional trains to create the HST125 (Potter 1989: 103). British Rail has presumed from the start that the state would not be able to market its rail technology internationally – meanwhile, governments in France, Italy and Sweden have assumed otherwise, as has Quebec's private Bombardier.

Conclusions: The State and the Market in Fast-train Policy

The two model policies that the Union chose from, then, were based in very different visions of the role of the state in the market. First, French policy is motivated by the belief that the state can and should generate demand for transport; whereas British policy is motivated by the belief that the state neither can nor should generate demand. Second, French policy is motivated by a belief that the state is a competent economic actor; whereas British policy is motivated by a belief that the state is an

incompetent economic actor. Between French and British policies we do not simply see a continuum of intervention, but very different conceptions of how markets work and the role of the state in the market. This section underscores the success of the French public-utility model, and the failure of Britain's 'airline' model. It would be wrong to conclude that the airline model cannot succeed, because it has not been given a fair chance. But it is striking that the EU never fully considered the French model, which was such a clear success, and chose a model that had not been put to the test. Perhaps the most interesting conclusion to be drawn is that nations and groups have very different ideas about what a market is and where it comes from, and that these may not readily converge in the Union.

In the first half of this chapter, we took into consideration the path that the European Union's high-speed rail policy has taken. Three different proposals were heard for how high speed rail should be organized: one for an expansion of the previous system of bilateral service agreements; one for a single, publicly run, system modeled on the French experience; and one for competitive service, modeled on the new British policy. The model that has taken hold, did so without a sustained discussion of the options. The competitive service model has been pushed by the EU since 1991, and it is now widely accepted as inevitable. National governments everywhere, even in France, have reoriented national rail policies to this model, separating track construction and maintenance from service provision in anticipation of opening up service competition to all comers. A similar 'neo-liberal' model was put into effect in EU air transport in 1997.

What is striking about this model is that there is poor empirical evidence to suggest that it was the best of the three options, and that some important actors initially opposed it. France, which has the most successful high-speed rail system in the world, opposed it on grounds of efficiency – the industry's demands for coordination make competitive service impractical. Some industries, the French argued, are best organized from the top down. The best empirical evidence against this model comes from Britain. On the one hand, Britain's neo-liberal approach to high-speed rail doomed its own project in the 1980s. On the other hand, the recent British privatization experiment in railroading has been disastrous, with high levels of speculation, low levels of competition and abysmal service. This experience suggests that the received wisdom about railroading from the nineteenth century, which is that the industry cannot sustain real price competition because of its high fixed costs and low marginal costs, may still hold. As Charles Francis Adams, Massachusetts' first railroad commissioner and later President of the Union Pacific Railroad, wrote in 1893: 'There are functions of modern life . . . which necessarily partake in their essence of the character of monopolies . . . Wherever this characteristic exists, the effect of

competition is . . . to bring about combination and closer monopoly. The law is invariable. It knows no exceptions' (Adams 1893: 121). This line of thinking led nations throughout the world to nationalize private railroads into integrated systems. The EU seeks to reverse the trend, and to surmount the problems associated with high fixed costs by separating the track from the running of trains. But barriers to entry will remain high, as they are in the airline industry. In short, the French model had produced the best and most profitable high-speed rail system in the world. The British model was based on an economic theory that had been proven wrong in real-world tests dating back to the nineteenth century.

Why, then, does the British model appear to be succeeding in the EU? Institutional analysis offers insights. The EU's federal system, like the American system, is not structured to facilitate government leadership in industry. The EU lacks a professional cadre of technocrats. It lacks a centralized political structure, which can bring a visionary policy to fruition. And it lacks the kind of revenue-collecting authority at the heart of France's high-speed rail policy. Instead, the EU's federal structure, and dependence on the Court of Justice for enforcement, give it the core administrative features of the US government. In the United States, early state leadership in the economy was undermined by the same administrative weaknesses that plague the EU. Congressional efforts to stimulate the rail industry via land grants, in the 1860s and 1870s, produced graft and a backlash against public leadership, in large measure because the federal government lacked the administrative structure, and professional expertise, to plan and manage the land grant projects.

In the United States, the federal structure spawned a series of industrial policies, under the umbrella of antitrust, that made the state a referee in the market. Policies regulating competition were well suited to the American state, because they required little more of the state than that it set out abstract rules and because they relied on private actors to use the courts to compel their competitors to comply with those rules. The neo-liberal model succeeded in EU high-speed rail because the Union has virtually identical institutional capacities. Why did the French not insist on imposing their own approach to fast trains on Europe? It was clear that the Union did not have the capacity to undertake such a programme. What alternatives were left? The only alternative that received serious consideration was the neo-liberal 'airline' model.

The Union's administrative capacities in effect kept the French model off the table. For the proponents of the 'airline' model, it was fortuitous that American-style neo-liberal rhetoric swept the world in the decade after 1989. That rhetoric emerged from the American experience, as economists sought to derive economic laws that naturalized the American industrial policy regime. As Fligstein and Mara-Drita (1996) argued in

the case of the Union's adoption of the Single Market Programme, the EU high-speed rail policy depended not only on what was rational – for all three proposals were oriented to rationality – but also on cultural and social factors. The proposal that appears to have won was structurally compatible with the EU's federalism, and culturally compatible with the new wave in public policy, neo-liberalism.

In the second half of the chapter, a review of the history of British and French high-speed rail policies of the 1970s and 1980s traced the origins of two models considered by the Union. French and British policies were built on different sorts of market logics. The French have a vision of the market in which the state is endogenous, charged with creating markets and industries. In virtually every realm, in consequence, the SNCF behaved as custodian of the nation's future, but also as an entrepreneur. The French presumed not only that their state could be an effective capitalist, but that their state could do the job better than the private sector, given the industry's large needs for capital, unusual demands for co-ordination across time and space, and particular importance for the rest of the economy. By contrast, British policy was consistently oriented to the idea that the state exists outside of the market, and that assertive public policy will produce inefficiency and will disrupt the natural economic equilibrium. These ideas doomed Britain's early high-speed rail experiment.

The French and British experiences support the efficacy of the French system and throw into question the efficacy of the British 'airline' model. France's high-speed rail network is not only the most advanced in the world, but the most profitable. Britain pulled the plug on its own high-speed rail programme after minor setbacks, in 1982, and is alone among the large European countries in still lacking a high-speed rail system. We do not argue that this evidence suggests that the EU plan will necessarily fail, but that, in the French approach, the EU had a proven product that it chose to ignore.

Corporate governance varies dramatically in form across societies, showing little tendency to converge despite the fact that most economic theories predict convergence (Fligstein and Freeland 1995). Until recently, the case of railroading was an exception. Throughout the world, railroads that began on very different tracks, converged on the track of public monopolies. The economics of the industry were thought to demand this. The great power of neo-liberal rhetoric and the privatization movement has changed all of this, although what we are seeing is not exactly convergence, for even privatization takes very different forms across settings (Starr 1989). It is likely that the European rail industry will not move toward a new equilibrium, of privatization, but toward a mixed system, with public ownership dominating in some countries, private ownership in still others, and mixed ownership elsewhere. The regulatory system that the Union has created does not

preclude any of these alternatives, but it does seem to preclude the sort of state-first approach to industrial policy that has served France well. This illustrates the close relationship between political and economic integration in Europe.