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THE PRIVATIZATION OF BRITISH RAIL

— AN ECONOMIC ANALYSIS —

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This paper examines the privatization and reform of British Rail, the background to the process and the current structure of the industry. The various mechanisms through which improvements in efficiency are sought are then considered. It is argued that four mechanisms can be identified: privatization itself, vertical separation of infrastructure and operations, franchising and open access.

I. Introduction

The privatization of British Rail is the most ambitious, radical and complex attempt ever made at reforming a rail network¹⁾. In 1994 the existence of British Rail (BR) as a national, vertically-integrated railway company came to an end, marking an important step in the reform of the industry. The privatization of BR and its associated reforms for improving efficiency (vertical separation of infrastructure and train operations, franchising of passenger rail services and the opportunity for open access to the network by operators) has by its nature and sheer complexity provoked doubt about whether the process can be successful. One thing that is certain, however, is that several lessons can expect to be learned.

The purpose of this paper is to clarify and analyse the reform of the British railway industry. The background to the process is examined, the current structure of the industry is explained and the reforms through which efficiency improvements are sought are analysed in detail. It is hoped that the experience gained from the BR reforms can be applied to other countries and to other industries.

The structure of this paper is as follows. In Section II, the historical development of railways in Britain will be briefly considered and the movement for the reform of BR and its various options will be addressed. Section III describes the reformed structure of the rail system. In Section IV the mechanisms for improving efficiency will be addressed. Finally, some conclusions are drawn.

1) Other countries that have, to a greater or lesser extent, introduced railway reform include Japan, New Zealand, Argentina, Sweden, Germany and Italy.

II. The Background to the Privatization Decision

1. The Structural Development of Railways in Britain

In order to understand more fully the implications of the current proposals for the reform of the railways it is useful to consider how the structure of the industry has changed and developed over time.

In the earliest phase of railway development, beginning with passenger rail services in 1825 with the famous Stockton to Darlington Railway, lines were constructed and operated by independent private companies, authorised by Acts of Parliament. Initially it was assumed that railway lines would operate in a manner similar to that of roads, with a right of access to anyone who wanted to use them for travel (Transport 2000, 1991).

The complexity and difficulty of running a railway with different operators using the same tracks soon became apparent, however, and from 1830, following the establishment of the Liverpool to Manchester Railway, to the present day railways have generally been established as vertically-integrated companies, with the owner of the track being responsible for train operations or, in some cases, lines being leased and run as though being vertically integrated. It is interesting to note that the current reforms of BR mark the first significant attempt to revive the principle of open access – the right of any qualified person to gain access to the railways and operate commercial services.

The number of railway companies increased to over 400 by the end of the nineteenth century but amalgamations reduced this number drastically by the beginning of World War I, when the government took control. Following government direction in the Railways Act 1921, railways were reorganised into four regional companies in 1923²⁾ but, with increasing competition from road transport, increasing losses and a lack of investment, the decision was taken in 1947 to nationalise the railways which from 1948 jointly became known as the Railway Executive, a part of the British Transport Commission.

The losses continued to increase, however, and the Transport Act 1962 saw the establishment of the British Railways Board (usually known as British Rail or BR) followed by a dramatic reduction in the size of the network after the so-called Beeching Reports of 1963 and 1965. The relative performance of rail is indicated in Table 1.

2) The famous Great Western Railway (GWR), the London Midland & Scottish Railway (LMS), the London & Northeastern Railway (LNER) and the Southern Railway.

TABLE 1 DISTANCE¹ TRAVELLED BY THE PUBLIC IN GREAT BRITAIN

	Rail		Road						Air	Total		
	British Rail bpk	Other ² bpk	Total bpk	per cent.	Car and van bpk	Bus & Coach bpk	Other bpk	Total bpk	per cent.	bpk	per cent.	bpk
1954	33	6	39	17	72	92	27	191	93	—	—	230
1964	32	5	37	11	214	71	16	301	89	2	—	340
1974	31	5	36	8	333	61	9	403	91	2	1	441
1984	30	6	35	7	432	48	15	495	93	3	1	534
1994 ³	29	7	35	5	596	43	10	648	94	6	1	689

1 Distances are rounded to the nearest billion passenger kilometres.

2 Represents London Transport Limited, Docklands Light Railway Limited, Strathclyde Passenger Transport Executive's underground railway in Glasgow, Greater Manchester Metrolink Limited, Tyne and Wear Metro and South Yorkshire Supertram Limited.

3 Road data for 1994 is provisional.

Source: HMSO — *Transport Statistics Great Britain (1995)*.

The Transport Act 1968 included provisions to separate services that were not self-supporting from the commercial system and provide financial support for them. This support included that from Passenger Transport Executives (PTEs), given responsibility for public transport policies in the major metropolitan areas. Nevertheless, BR was subject to continued criticism of its productivity performance (see, for example, Pryke and Dodgson, 1975).

Further reorganization was completed in 1992 with the division of BR into five commercial sectors (or business/profit centres): InterCity, Network SouthEast, Provincial, Railfreight and Parcels. Of these, by 1993 only Network SouthEast and Provincial were receiving financial support from the government.

The relative financial performance of BR can be understood by an examination of Tables 2, 3 and 4 giving international comparisons (reproduced from the Transport Committee Report, 1993). The government itself acknowledged that BR's performance was no worse than that achieved by other European railways as the tables indicate, though in 1990/91 BR was still receiving 700 million pounds in subsidies for unprofitable passenger services that could not be eliminated, largely for political reasons. In an attempt to revitalize the rail industry, the government looked to privatization.

TABLE 2 OVERSEAS COMPARISONS – BASIC DATA
(1990, or latest available figures)

	Route KM	Staff (000s)	Passenger KM (000,000s)	Tonne KM (000,000s)	Passenger Train KM 000s	Freight Train KM 000s
Great Britain	17,000	135	33,000	16,000	372,508	59,359
Belgium	3,500	45	6,500	8,400	70,695	21,415
France	34,000	202	64,000	50,000	317,915	163,586
W. Germany	27,000	236	44,000	61,000	404,865	197,205
Italy	16,000	200	46,000	19,000	235,647	66,579
Netherlands	2,800	26	11,000	3,000	105,742	11,572
Spain	13,000	50	15,000	11,000	120,153	48,628
Sweden	10,000	28	6,000	19,000	58,751	39,808
Japan	20,000	194	240,000	27,000	668,893	93,606

(Source: Railway Gazette International, *Developing Railways 1993*: except for train km, which are taken from Union International des Chemins de Fer, *International Railway Statistics, 1990*).

TABLE 3 OVERSEAS COMPARISONS – MEASURES OF EFFICIENCY (1990)

	Train KM per Member of Staff	Mean Train Load		Government Support as a % of Turnover
		Passenger	Freight	
Great Britain	3,200	89	269	18
Belgium	2,000	96	394	52
France	2,400	209	319	28
W. Germany	2,500	105	334	33
Italy	1,500	*194	*272	67
Netherlands	4,500	101	391	41
Spain	3,400	129	231	48
Sweden	3,500	103	470	29
Japan	3,900	355	286	—

(Source: As Table 2).

*1991.

TABLE 4 OVERSEAS COMPARISONS – INFRASTRUCTURE INVESTMENT

Country	Total gross investment in rail infrastructure 1980–1989 Million ECU, 1980 price levels and exchange rates									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
UK	505	459	392	391	500	533	552	732	977	1,096
Belgium	514	520	526	364	259	247	236	205	166	165
France	1,735	1,707	1,775	1,776	1,546	1,828	1,564	1,739	1,876	N/A
Germany	2,484	2,317	2,216	2,173	2,274	2,441	2,629	2,602	2,225	2,088
Italy	420	410	469	722	1,050	780	738	730	1,601	N/A
Netherlands	338	325	366	376	296	316	256	206	248	292
Spain	518	520	521	665	590	352	361	382	576	601
Sweden	95	144	173	179	190	160	153	135	150	214

Source: European Conference of Ministers of Transport, *Investment in Transport Infrastructure in the 1980s*, OECD Publications Services, (1992).

2. The Movement to Privatization

Discussions concerning rail privatization took place within the government at various times in the 1980's and in 1988 the then Secretary of State for Transport³⁾ announced that five options were being considered. These were:

(a) The "BR plc" Option (the sale of BR as a single, vertically-integrated company)

(b) The Track Authority Option (the creation of a separated public track authority owning the network with independent, private operating companies running the trains)

(c) The Sectoral Option (the division of BR into separate operating companies based on the existing business sectors)

(d) The Regional Option (the splitting of BR into a number of independent regionally based companies, responsible for all operations within their boundaries)⁴⁾

(e) The Combined Option (any combination of some or all of options a to d).

The movement in favour of franchising as a means of reforming BR had grown in strength through the 1980s, possibly dating from the work of Starkie. The first definite mention of a preferred method of privatization did not occur, however, until the Conservative Party manifesto for the general election of April 1992. This stated: "Our plans for the railways are designed to bring better services for all passengers as rapidly as possible. We believe that franchising provides the best way of achieving that".

The eventual proposals sought to combine some orthodox privatization of railway infrastructure with an introduction of competition to the railway through a combination of franchising and open access, which are considered in detail below. The government was, however, criticised for moving too quickly with legislation, from a White Paper in July 1992⁵⁾ to the final passage of The Railways Act and the Royal Assent it received in November 1993.⁶⁾

3) Paul Channon.

4) This option can be seen as similar to the break-up of the passenger operations of Japan National Railways in 1987 into six regionally-based companies.

5) New Opportunities for the Railways.

6) Final implementation of the franchising proposals were delayed until December 1995 by a lawsuit.

III. The New Rail System

1. Infrastructure and Train Operations

Following the government's proposals, BR has been broken up into a number of new businesses. These will briefly be examined in turn.

Railtrack

Railtrack – the track authority for the new rail system – came into existence on April 1st 1994 and was floated on the stock market on May 20th 1996. It owns and manages the vast majority of track, signalling and other railway infrastructure and has the responsibility for timetabling, safety, maintenance and investment. It also took over from BR a property portfolio including stations and railway land and buildings.

Railtrack's income for the fiscal year ending in March 1995 was 2,275 million pounds⁷⁾, the majority (86%) of which came from charges to the operators of passenger train franchises and the remainder from freight revenue and property rental income⁸⁾. Railtrack does not receive any funding directly from the central government.

Railtrack leases stations and depots to the passenger train operator which runs most of the services through the station or makes the greatest use of the depot. Maintenance work is contracted out to the newly-formed infrastructure maintenance companies (IMCs) and track renewal companies (TRCs).

Crucially, for the introduction of competition to the railway and the operation of passenger services, Railtrack will be in the near-unique position of having responsibility for granting train operators access rights to the track and charging them for that access to a "train path" (a timetabled allocation of space on the track to allow a train to proceed at a particular speed). Its control of central timetabling, train planning and signalling, with its overall responsibility for train movements handled by different operators is a situation without significant precedent on this scale in railway history.

The Rolling Stock Fleet

In order to solve the problem of the supply of rolling stock, three rolling stock leasing companies⁹⁾ ("ROSCOs") were established with rolling stock inherited from

7) SBC Warburg sale prospectus.

8) In the future some fees will be paid by train operators for open access to the tracks. This issue is dealt with in more detail below.

9) Angel Train Contracts Limited, Eversholt Leasing Limited and Porterbrook Leasing Company Limited

British Rail. The three companies were privatized in early 1996 and lease rolling stock to the passenger train operators. Most of these operators lease rolling stock from at least two of the ROSCOs and have negotiated short term leases for a portion of their rolling stock, an arrangement which gives them some flexibility to adjust the size of their fleet without financial penalty.

Passenger Train Services

British Rail's passenger services were reorganised in 1994 into 25 different, broadly geographically-based units known as "Train Operating Companies" (TOCs) as listed in Table 5. These TOCs were formed to be run as separate "shadow" businesses within BR so that they could establish operational and financial records prior to privatization. The TOCs, however, have not been sold as private companies but as franchises.

TABLE 5 THE TRAIN OPERATING COMPANIES
The 25 TOCs are shown below :

South West Trains	Chiltern Railway	Great Eastern
Great Western	Cardiff Valleys	Merseyrail Electrics
LTS Rail	South Wales and West	Thameslink
East Coast	Thames Trains	West Anglia Great Northern
Gatwick Express	Anglia Railways	Central
Midland Main Line	Isle of Wight	West Coast
Network South Central	CrossCountry	North East
South Eastern	ScotRail	North London Railways
		North West

Note: European Passenger Services (EPS) operates trains from London to Brussels and Paris under a different arrangement

Franchisees are required to run a package of train services, as specified by the Franchising Director, for a period typically of 7 years. They earn revenues mainly from fares and from government subsidies together with income generated from leased stations and other property. The principal items of expenditure are track access charges paid to Railtrack, station and rolling stock leases and employee wages. The detailed requirements of each franchise operator are determined through negotiations with the Franchise Director, subject to licensing by the Rail Regulator.

Freight Services

The freight operations of British Rail have been restructured into new businesses that have been sold to the private sector. Freight operators pay Railtrack for the use of infrastructure and have long leases for the infrastructure peculiar to freight operations.

In February 1996 the rights to operate three former BR freight companies were acquired by a consortium. The new organization was named English Welsh and Scottish Railways (EWS).

2. Regulatory and Oversight Functions

Appointed by the Secretary of State are the Franchising Director and the Rail Regulator.

The Franchising Director

The Franchising Director, as head of the Office of Passenger Rail Franchising (OPRAF), has the statutory responsibility for administering and supervising the franchising of passenger rail services. He designates services as eligible for franchising and awards franchises, normally on the basis of competitive tendering conducted by himself.

Following the franchise tendering process, the successful bidder enters into a franchise agreement with the Franchising Director the principal elements of which are the passenger service requirements, the pricing structure and the financial regime of the new operator.

The passenger service requirement (PSR) is the core service pattern which the franchise operator is required to provide. This typically includes the minimum number of trains on each service, first and last train times, frequency and the maximum journey times.

The prices charged by TOCs for certain journeys, discounted fares and season tickets are regulated by the Franchising Director. Other fares are normally set at the discretion of the operator. In the major commuter markets, where rail has a degree of monopoly power because of road congestion, the regulation of fares is more extensive.

The financial regime is the level of support payments made by or payments to the Franchising Director which is determined as part of the competitive tendering process. Incentive or penalty payments may be made to the operators according to the quality of service provided, measured principally on the basis of punctuality and reliability.

The Rail Regulator

The Rail Regulator has responsibility for overseeing the arrangements for track access and the charges for access, promoting competition and preventing abuse of monopoly power and promoting the interests of consumers.

Railtrack, as the sole provider of the physical infrastructure necessary for the operation of trains is clearly in a position to exercise considerable monopoly power over the train operators. It is the Regulator's role to monitor the track access agreements between Railtrack and the TOCs, for example to ensure that the TOCs have access to the track at times of reasonable traffic flow. The Rail Regulator is also responsible for determining the level of charges Railtrack imposes on the franchise operators and quality of service that Railtrack should provide, for example by requiring penalty payments from Railtrack if delays should be caused by insufficient maintenance.

For rail passengers an important function of the Rail Regulator is a coordination of the services and information available from the various TOCs. In practical terms this requires the operators to supply timetabling information to Railtrack so that a national timetable can be published and to sell through-tickets, referring to tickets that are valid for journeys involving the use of trains of more than one operator. In a similar vein, TOCs are also expected to give information that may be disadvantageous to themselves to potential passengers, for example about discounts available on other operators.

The Rail Regulator, as distinct from the Franchising Director, has responsibility for administering the open access regime. Any private sector operator, able to secure a licence from the Rail Regulator, will be entitled to apply to Railtrack for access to track in order to run a passenger train service or a freight service. Operators will pay Railtrack in order to secure a train path on which to operate a service, which will not receive subsidies. By this method the government expects to have competition on the same tracks between different operators.

Figures 1 and 2 give an indication of the relationships in the new rail industry.

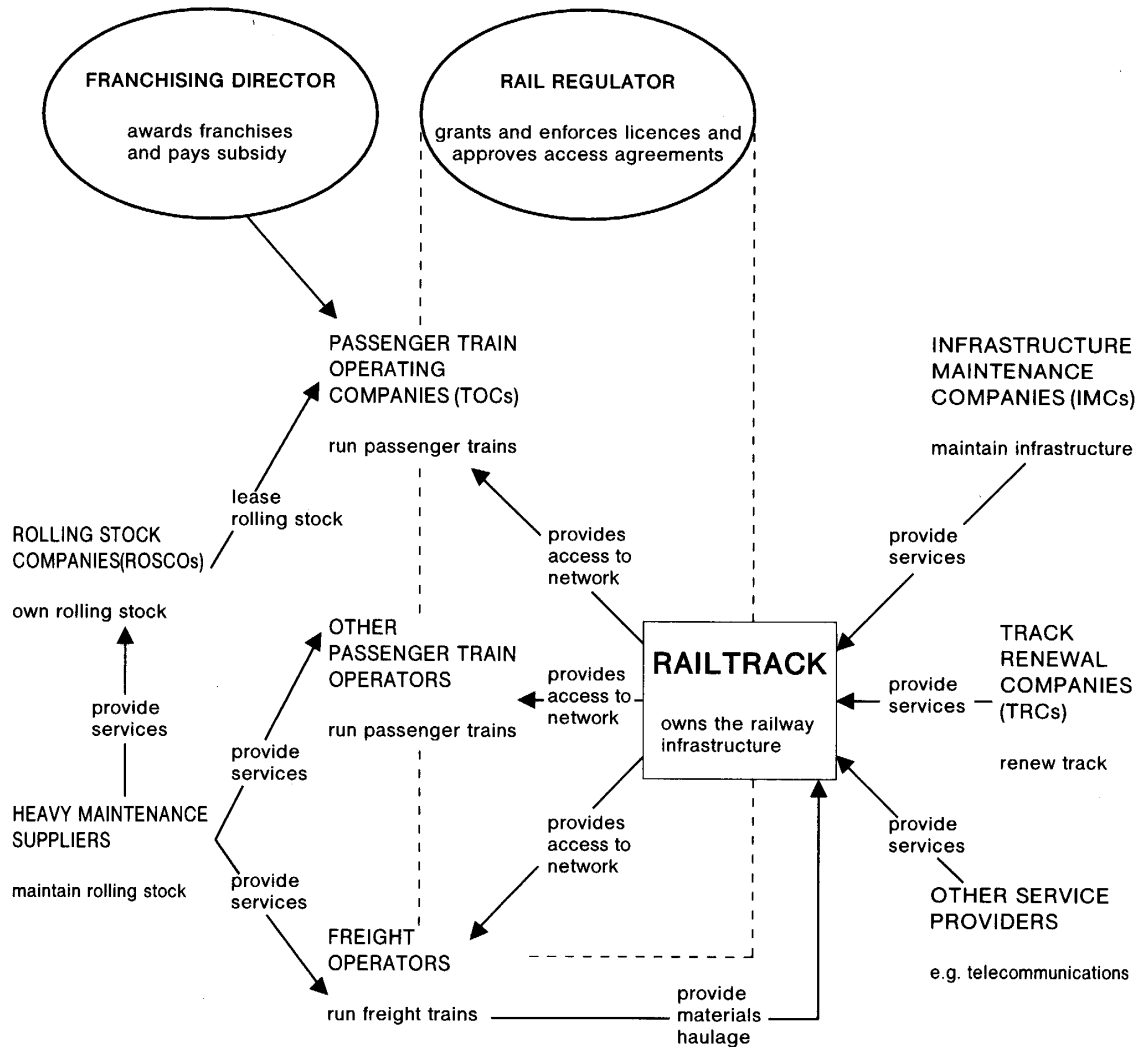


FIGURE 1 THE NEW RAIL INDUSTRY STRUCTURE

The above diagram illustrates certain key relationships between the principal participants in the new industry structure. The companies shown in the diagram carry on activities most of which were formerly carried on by British Rail and certain of them remain wholly owned by British Rail or HM Government. British Rail continues to have a statutory duty to provide railway services where they have not been transferred to the private sector.

Note: The broken line in the diagram above denotes the general ambit of regulation by the Rail Regulator. With limited exceptions, track and Major Station access agreements entered into after 1 April 1994, which include all of those with the TOCs and most of those with freight operators, must be approved by the Rail Regulator.

Source: SBC Warburg, Railtrack Prospectus.

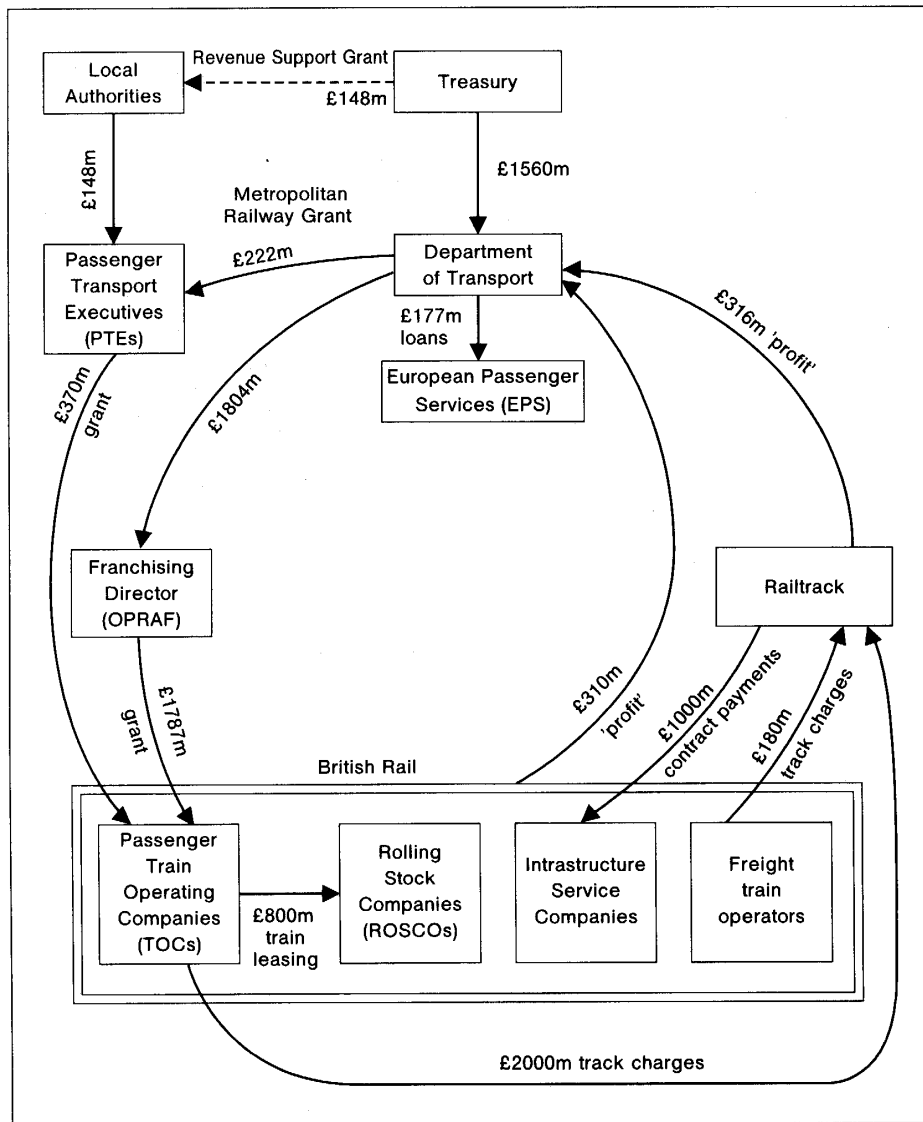


FIGURE 2 THE CIRCULAR CASH FLOW IN THE RAIL INDUSTRY 1994/95, AT 1994/95 PRICES
 Source: Glover, J. (1996) National Railways, A Guide to the Privatised Railway

IV. The Mechanisms for Improving Efficiency

Although the rail industry is in competition with other modes of transport, the opportunities for competition, and therefore improvements in efficiency, within the industry have been thought to be limited. The fixed infrastructure has the characteristics of a natural monopoly with declining average costs, principally because it enjoys substantial economies of utilization (or density). The enormous sunk costs are also an obvious barrier to entry.

In the face of these obstacles it can be said that the reform of British Rail incorporates four mechanisms for the promotion of efficiency - the privatization of the infrastructure, the vertical separation of train operations from track, the franchising of passenger rail services and open access to the track for train operators. Each of these mechanisms are examined in turn.

1. Privatization - the transfer of ownership

1. (1) Why Private Ownership Matters

The government has sought to improve the efficiency of BR through the privatization of its fixed infrastructure in the form of Railtrack. In general it is typically argued that private enterprises perform more efficiently than public enterprises. Several reasons have been advanced to explain this belief and these can briefly be considered (see Parry, 1994).

It is often claimed that the objectives of publicly and privately owned firms will be different. As originally envisioned by Herbert Morrison (1933) in his thesis on transport companies in the UK, state-owned enterprises were to be established at arms length from the government in order to give management freedom to operate in a commercial manner.

However, as subsequent events transpired in the UK and elsewhere, state-owned enterprises proved to be vulnerable to government intervention and therefore caused them to be used to support non-economic objectives such as the re-election of politicians and to boost what is deemed to be social welfare.

Thus publicly-owned firms have been required to provide discounts for certain segments of the population, in order to boost electoral support for the government, and have also retained unnecessary workers to reduce national unemployment levels. Similarly the economic activities of such firms are often distorted through the operation of government subsidies and internal cross-subsidies. In contrast, privately-owned firms have more freedom to pursue objectives that can be seen to be more closely related to the efficient operation of the firm, such as profit maximization and growth.

The principal-agent literature suggests that in private firms the private stockholders will act to make the management act in a profit-seeking manner, though in large firms with large numbers of dispersed shareholders monitoring problems will arise depending on the degree of organization of the stockholders. Similar monitoring problems, where the principals, the government, may not have incentives to seek efficient operation, in public firms may lead to greater tendencies to X-inefficiency. In addition Niskanen argues that state-owned enterprises, exploiting the monitoring problem, will tend to compete for an enlarged share of the

public budget.

The property rights school, championed by Alchian (1965), offers a number of explanations for the deviation in behaviour between public and private sector companies, derived from the effective absence of property rights in the public sector.

It is suggested that private companies will be more efficient because the owners, the shareholders, stand to benefit in person in the form of financial gain from the efficient operation and distributed profits of their companies. The owners therefore have a strong incentive to monitor the company management. In state-owned enterprises, however, "ownership" is dispersed among the general population who receive no direct financial gain from the efficient operation of the company. There is, therefore, minimal incentive to monitor the performance of the management and, moreover, non-economic goals, such as the perceived enhancement of social welfare may have greater priority.

In addition, the absence of effective property rights in the case of public sector companies means that such rights can not be traded. Thus the managers are not exposed to takeover threats and the possible loss of their own positions, indicating that private sector managers will have greater incentives to seek superior economic performance.

Finally, the existence of property rights in the public sector also leads to the possibility of bankruptcy. Consequently, management has the incentive to strive for a level of performance enabling them to avoid bankruptcy, an incentive that does not apply in the public sector.

1. (2) The Evidence on Public Enterprise Behaviour

The main conclusions from empirical studies of the comparative performance of public and private enterprise can briefly be summarized. Although a significant number of such studies have been made it should be noted that some fundamental problems exist, including the relative scarcity of cases where comparisons of similar firms can be made, and the difficulties in distinguishing the influences on performance resulting from changes or differences in ownership, competition and regulatory policies.

In the UK the major studies in the field have been carried out by Pryke (1971,1981), though with ambiguous results. In his 1971 study he reported that Britain's nationalized industries compared favourably with the private sector. However, ten years later, he found the performance of the public sector enterprises to be "third-rate". Subsequently, though, Molyneux and Thompson (1987) found that performance had improved, mainly as a result of the introduction of strict financial controls that imposed greater discipline on the nationalized industries.

The major international surveys of evidence on comparative performance are also somewhat inconclusive. Borchering et al. (1982) report that the overwhelming evidence is in favour of lower cost and higher productive efficiency of private companies compared to public sector firms in the same industry. Boardman and Vining (1989), in their international survey of competitive industries also find that state-owned firms are less profitable and less efficient than their private counterparts. On the other hand, Millward and Parker (1983) emphasize the ambiguity of these studies and argue that ownership may not be the principal factor in determining performance.

In cases of direct competition between public and private enterprises the results are also indeterminate. Caves and Christensen (1980) in their study of the Canadian National and Canadian Pacific Railroads, one public and one private, find that the two do not differ significantly in their productive efficiency. Davies (1971, 1977), however, finds Australia's domestic private airline to be superior to its public rival in productive efficiency, measured in terms of labour productivity.

In Japan, comparisons of public and private urban railways have been made. These studies, based upon labour productivity, have found the performance of private firms to be superior (Miyajima and Lee (1984), Mizutani (1993)).

Thus, while the evidence indicates the superior performance, in general, of private sector firms it can be said that it is not as conclusive as might be expected from the criticisms, in theory, of public enterprise. Thus, time will tell if the privatization of BR's infrastructure can improve efficiency.

2. Vertical Separation

The vertical separation of the operation of train services, which are not necessarily a monopoly, from the fixed infrastructure, which is clearly a natural monopoly, has been promoted as a method of facilitating competition in the rail industry among operators. It also can produce other benefits, including better managerial accountability and growth of management expertise, as well as enabling a clearer identification of where subsidies are needed, thereby eliminating the wasteful cross-subsidization in an integrated network.

Vertical integration of railways, whereby the trains are crewed by employees of the organisation which owns and maintains the track and signalling, was almost universal from 1830 (with the establishment of the Liverpool and Manchester Railway mentioned above) to 1988 when a separate track authority was established in Sweden.

In the UK before April 1994 BR owned the fixed infrastructure and could choose to let other companies use the network for a fee which was subject to negotiations but not subject to any regulations as to its level. BR required that all

trains be driven by BR traincrew. Privately-owned rolling stock ran on the network but had to be approved by BR.

Private-sector freight wagons were operated extensively (Starkie (1983), Dodgson (1994)) and, from 1986, a limited number of freight locomotives also ran on the network but had to be driven and maintained by BR staff. Privately-owned passenger services were rather few in number, perhaps the most famous being the Venice Simplon Orient Express (VSOE), though they were hauled by BR locomotives. The industry structure under the nationalised network can not, therefore, with the overarching presence of BR be said to have been conducive to the entry of competition with its concomitant benefits.

This situation began to change in July 1991 when the Council of the Council of the (then) European Community passed Directive 91/440/EEC to become effective from the beginning of 1993¹⁰⁾. The directive required railways to maintain separate accounts for rail infrastructure and operations. In addition, the directive required fees for the use of rail infrastructure and that access be granted to EC rail systems for certain defined categories of operators, such as firms engaged in international combined transport.

This liberalization was followed in October of the same year when the UK Secretary of State for Transport¹¹⁾ requested BR to liberalize domestic services in advance of legislation. BR were asked to allow private operators to use their own drivers and traincrew and consultants were appointed to advise on fair ways of charging for, and securing access to, rail infrastructure (Dodgson 1994).

The movement towards a vertical separation in the rail industry had thus been growing in the early 1990s. The implementation of the Railways Act 1993 and the establishment of Railtrack, the Roscos, the TOCs and the freight companies meant that the separation of the ownership and management of the fixed infrastructure from the ownership and management of the rolling stock had been accomplished.

Although this vertical separation has potential benefits, such as the greater financial/managerial accountability and the opportunity for the development of greater management expertise mentioned above, it also may well be the cause of several problems on the new rail network.

A general criticism of vertical separation that could be made is that by increasing the number of explicit contractual relations in the industry it gives rise to transaction costs that could otherwise be avoided (see, for example, Williamson, 1975).

Furthermore, in the rail industry Railtrack will be in the unique position of scheduling trains even though it is not an operator. This adds cost and complexity

10) Official Journal of the EC L237.

11) John MacGregor.

to network operations, for example – a situation avoided in Sweden where scheduling has remained the responsibility of the national train operator SJ.

Concerning the vertical separation introduced by the British government, two criticisms can be made, both of which are related to the division of responsibility between Railtrack and the franchise operators.

Firstly, prospective franchisees have complained that Railtrack's control of the track will make it difficult to control costs (evidence to the Transport Committee Report, 1993). It is estimated that about 40% of railway operating costs will lie within Railtrack, outside the control of franchise management, thereby reducing the scope for cost reduction and efficiency improvements.

Secondly, the division of managerial responsibility for day to day operations is likely to affect adversely the performance of franchisees. For example, any problems or disruption caused by track or signalling faults will be the responsibility of railtrack but the franchise operators will have to endure the consequences.

3. Franchising

Franchising is a mechanism for introducing an element of competition to markets where conventional competition is impossible or impractical. Whilst the fixed infrastructure of the railways – Railtrack's business – is clearly a natural monopoly in which competition, in terms of the provision of duplicate routes is clearly unfeasible, it is less clear that the operation of trains by a TOC is such a case. Nevertheless, the nature of the rail business, with its need for precise scheduling of trains on a given section of track and for a relatively fixed package of services to meet the demands of various passengers, mitigates against outright competition on the rails between different operators as was shown by the experience in the earliest days of the industry.

For these reasons, franchising was selected as an alternative method of introducing competition into the provision of passenger rail services with the intention of stimulating improvements in efficiency. A brief description of the concept of franchising with its potential benefits and drawbacks can now be given.

The idea of franchising was originally introduced as a way to enjoy the benefits of single-firm production without suffering from monopolistic behaviour. It introduces competition – in the form of an auction – with several firms bidding for the right to be the monopoly producer. The concept was originally proposed by Chadwick in 1859 and developed by Demsetz (1968) as an auction in which firms compete *for* the market (or "field" in Chadwick's terminology) rather than *in* the market.

Under the UK rail franchising proposals the franchise to operate a TOC, with

the package of prices and service levels defined in the passenger service requirement, is awarded to the highest bidder or, since most TOCs will still receive subsidies, the bidder requiring the lowest subsidy¹²⁾. The thinking underlying the proposals is that the most efficient prospective operator will bid highest, or require the least subsidy, and that the bidding process will enable the state to “profit” from the operator’s efficiency.

One further point that can be made concerning the UK proposals is that, by having a number of franchises and operators it also allows the possibility, over time, of a degree of yardstick competition. This is a method of promoting competition, and therefore efficiency, between regulated firms with similar, but geographically separate, operations through the regulatory mechanism¹³⁾. Okano (1989) shows its application to rail reform in Japan¹⁴⁾.

Franchising, however, is not without its problems and some general criticisms of franchising can be reviewed (based on Domberger (1985) and Vickers and Yarrow (1988)). Firstly, as time passes the existing holders of franchises, incumbent firms, have access to information that is not available to outsiders. Thus potential challengers, fearing that incumbents will make bids that accurately reflect the costs and revenues of the franchise, will be discouraged from bidding and thus competition will be reduced or eliminated.

The duration of the franchise can also affect the efficiency of operations. A short franchise period will make the operator reluctant to carry out investment necessary to improve efficiency, on the grounds that the expenditure on the investment will not be recovered before the next round of bidding, when the franchise may be lost. On the other hand, a long franchise period will reduce the competitive pressure on the incumbent, with a consequent tendency to have higher prices and a lower quality of service.

Furthermore, incumbent firms will be subject to changes in market conditions and must therefore have some flexibility to alter prices and services, creating difficulties of contract specification (see Williamson, 1976). In turn, this flexibility will require regulation, if monopoly power is not to be exploited. This implies a return to the type of regulated operation that would exist even in the absence of franchising.

All these criticisms apply to the UK rail case and certain additional comments can be made concerning the specific proposals. The regulatory regime that has been introduced to enable some adjustment to market conditions is of the so-called RPI-X type widely employed in the UK. In other words, prices are to rise by no

12) See Dnes (1993) for a consideration of different bidding processes.

13) The concept of yardstick competition comes from Shleifer (1985) and Littlechild (1986) gives a suggestion for its application.

14) Examined in Parry (1993).

more than the general rate of price inflation minus X percent annually¹⁵⁾. Ultimately, however, though perhaps simpler to implement this is little different from rate-of-return style regulation with its associated problems of asymmetry of information between the regulated firm and the regulator.

The multiplicity of franchisees may also cause problems with the provision of through-ticketing (see Glaister and Travers, 1993) and the potential problems associated with vertical separation also, of course, apply to the franchisees as the operators of services on infrastructure owned by Railtrack.

4. Open Access

Finally, the proposals for open access to train paths can briefly be addressed. Open access implies a general right in law for any qualified operator to demand access under circumstances in which it may be contrary to the commercial interests of the host railway to sign such an agreement. This has the potential to disrupt railway operations, reducing the quality of customer service in a number of ways.

Given the nature of rail travel, as distinct from road travel, poor performance by one operator, such as delays or mechanical failure, would adversely affect the performance of other companies using similar train paths. As a minimum, elaborate systems of financial compensation would need to be developed but would take a significant amount of time to be implemented.

Moreover, experience of bus deregulation suggests that even small variations in scheduling can have a large effect on passenger numbers. For example, if company A's train path is scheduled slightly ahead of company B's train path then A is likely to attract almost all of the potential customers. B would then demand a train path scheduled slightly ahead of A in what would be an ongoing process. Buses also displayed tactics such as intentional "delays" in departure in order to increase the number of passengers and trains would face the same temptation, leading to a disruption of services provided by other operators. (Freight services, where precise scheduling is not so important, might, however, make good use of open access.)

Open access might also negatively affect network integration (CLES, 1989). Given that rival companies would be operating trains, companies might be unwilling to operate services that would feed passengers into trains operated by rivals. Moreover, the right to demand access to train paths would make it difficult to produce a meaningful timetable that could be published. Fears have also been expressed that the existence of rival companies would limit the ability to use discount tickets, rail passes and other similar ticketing arrangements.

15) X has been set at 0 for three years from January 1996 and at 1 for the following four years.

Finally, it is likely that the right of open access would only be taken up in the case of the most profitable services and train paths. This practice, known as cream-skimming, would necessarily reduce the profitability of franchise operators and would probably require increases in public subsidies to franchisees in order for them to continue providing a full range of services.

These problems associated with open access indicate why it has been decided not to allow open access, at least during the early phase of the franchising process.

V. Conclusion

The privatization of BR, and its associated proposals, can be seen as the most radical attempt at large scale railway reform ever attempted. A number of mechanisms in addition to privatization — vertical separation, franchising and open access — have been introduced with the object of improving efficiency, though they are not without potential problems. It remains to be seen what the effect of the reforms will be in reality.

Monitoring of developments in the UK, and the various approaches to the fundamental problem of improving efficiency, should provide useful indicators for the best way to conduct rail reform and privatization in other countries.

References

- Alchian, A.A. (1965) "Some Economics of Property Rights," *Il Politico*, 30: pp. 816-829
- Boardman, A.E and A.R. Vining (1989) "Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed and State-Owned Enterprises." *Journal of Law and Economics*, 32 (1) (April): pp. 1-33.
- Borcherding, S. et al. (1982) "Comparing the Efficiency of Private and Public Production: The Evidence from Five Countries." *Zeitschrift fur Nationalokonomie*, Supplement 2: pp. 127-156.
- Caves, D.W. and L.R. Christensen (1980) "The Relative Efficiency of Private and Public Firms in a Competitive Environment: The Case of Canadian Railroads." *Journal of Political Economy*, 88 (5) (October): pp. 958-976.
- Chadwick, E. (1859) "Results of different principles of legislation in Europe: of competition for the field, as compared with competition within the field, of service." *Journal of the Royal Statistical Society*, 22 (September) pp. 381-420.
- Davies, D.G. (1971) "The Efficiency of Public versus Private Firms, The Case of Australia's Two Airlines" *Journal of Law and Economics*, 14 (1) (April): pp. 149-165.
- Davies, D.G. (1977) "Property Rights and Economic Efficiency - The Australian Airlines Revisited," *Journal of Law and Economics*, 20 (1) (April): pp. 223-226.
- Demsetz, H. (1968) Why Regulate Utilities? *Journal of Law and Economics*, 11 (1) (April): pp. 55-66.
- Department of Transport (1992) *New Opportunities for the Railways*, Cm 2012, London: HMSO.
- Dnes, A.W. (1993) "Franchising Passenger Rail," *Scottish Journal of Political Economy*, 40 (4) (November): pp. 420-433.
- Dodgson, J. (1994) "Railway Privatization", in *Privatization and Economic Performance*, eds. Bishop, M., J. Kay and C. Mayer, Oxford: Oxford University Press.
- Domberger, S. (1986) "Regulation through Franchising", in *Privatisation and Regulation - the UK Experience*, eds. Kay, J., C. Mayer and D. Thompson. Oxford: Clarendon Press.
- Glaister, S. and T. Travers (1993) *New Directions for British Railways?* London: The Institute of Economic

Affairs.

- Glover, J. (1996) *National Railways, A Guide to the Privatised Railway*, London: Ian Allan.
- Littlechild, S. (1986) *Economic Regulation of Privatised Water Authorities*. London: HMSO.
- Millward, R. and D.M. Parker (1983) "Public and private enterprise: comparative behaviour and relative efficiency." in R. Millward et al. (eds.) *Public Enterprise Economics*, London: Longman.
- Miyajima, M. and S.D. Lee (1984) "A Study Comparing the Efficiency of Local Public Enterprise and Private Enterprise: Railway Industry (Chiho Koei Kigyo to Minkan Kigyo no Koritsusei no Hikaku ni Kansuru Kenkyu; Tetsudogyo wo Rei to shite)," *Journal of Public Utility Economics (Koeki Jigyo Kenkyu)*, 36 (1): pp. 79-100. (In Japanese).
- Mizutani, F. (1993) A Private-Public Comparison of Labor Productivity and Utilization in Japanese Urban Railways (Paper presented at the Third International Conference on Competition and Ownership in Surface Passenger Transport).
- Molyneux, R. and D.J. Thompson (1987) "Is Nationalised Industries' Performance Still Third Rate?" *Fiscal Studies*, 8 (1) (February) pp. 48-82.
- Morrison, H. (1933) *Socialisation and Transport*, London: Constable.
- Niskanen, W.A. (1971) *Bureaucracy and Representative Government*, Chicago and New York: Aldine.
- Okano, Y. (1989) "Kisei to Kigyo Kodo - Kokutetsu Mineika no Eikyo" *Keigaku Ronshu* 55 (2): pp. 2-15. (In Japanese).
- OPRAF (1996) *Passenger Rail Industry Overview*.
- Parry, R.H.N. (1993) "The Reform of Japan National Railways: Theory and Performance - an Economic Analysis" (Kokutetsu Kaikaku no Riron to Genjitsu - Keizaigakuteki Bunseki). *Rokkodai Ronshu* 40 (1): pp. 107-119. (In Japanese).
- Parry, R.H.N. (1994) "An evaluation of the reform of Japan National Railways" (*mimeo*)
- Pryke, R. (1971) *Public Enterprise in Practice*, London: MacGibbon and Kee.
- Pryke, R. (1981) *The Nationalised Industries: policies and performance since 1968*, Oxford: Martin Robertson.
- Pryke, R. and J. Dodgson (1985) *The Rail Problem*. London: Martin Robertson.
- Railways Act, 1993, London: HMSO.
- Salveson, P. (1989) *British Rail*, CLES.
- SBC Warburg (1996) *Railtrack Prospectus*.
- Shleifer, A. (1985) "A Theory of Yardstick Competition" *Rand Journal of Economics*, 16: pp. 319-327.
- Starkie, D.N.M. (1984) "BR - Privatisation without tears" *Economic Affairs*, 18 (4): pp. 16-19.
- Transport Committee (House of Commons) (1993) *The Future of the Railways*. London: HMSO.
- Transport 2000 (1991), *A New Future for Britain's Railways*.
- Vickers, J. and Yarrow, G. (1988) *Privatization: An Economic Analysis*, Cambridge: MIT Press.
- Williamson, O.E. (1976) "Franchising bidding for natural monopolies - In general and with respect to CATV," *Bell Journal of Economics*, 7: pp. 73-104.
- Williamson, O.E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Free Press.