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## AN INDEPENDENT REVIEW OF RAIL PRIVATISATION IN BRITAIN

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### Introduction

The privatisation of the rail system in Britain can be seen as the third, and most controversial, stage of a process which began with the Transport Act of 1980 and deregulation of express coach services in that year. This was followed by the deregulation of local bus services (apart from London and Northern Ireland) under the Transport Act of 1985, effective in 1986. The interest generated in such changes was considerable, forming a significant element in the first 'Thredbo' conference in 1989, and similar gatherings since.

The rail privatisation has been the most complex and extensive, due in part to the different nature of the industry, involving infrastructure as well as service operations, and freight as well as passenger. The government's own policy was often unclear in the early stages, as Shaw (1) has shown. The structure of the industry remains a subject for intense debate, especially the role of Railtrack (monopoly provider of infrastructure).

There are many different aspects of rail privatisation, which have been explored by numerous authors. The main approach which I have adopted is to look at the net financial impact on the state, bringing together many aspects which might otherwise be considered separately (for example, changes in revenue, ridership, payments to franchise operators, income from sales of assets). It also leads on to consideration of net gains and losses to users, through changes in fares and service quality. Operator profitability is also a factor, since it determines the ability of the privatised train operating companies (TOCs) to sustain operations.

This paper follows an earlier piece of work reported to the 1998 World Conference on Transport Research (2) which examined the net financial impacts of rail privatisation, based on the known sale value of the privatised businesses, and the commitments made in the first round of passenger franchises (all of which, with one minor exception, were for seven years or more). It is now opportune to examine the outcome after the first four full years of franchised operation, in which much more is known of trends in ridership and financial performance.

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As in the case of the express coach and local bus industries it

is important to distinguish as far as possible the external factors which would affect performance of the industry apart from privatisation and deregulation per se. For example, in the case of local buses an underlying negative trend might be expected due to rising car ownership, the question being the extent to which ridership losses (in aggregate) were greater or lower than might be expected from this and other related causes. Conversely, in the case of the rail industry since privatisation the main external factors have been positive, notably growth in GDP and employment in central London. It is the sharp growth in express coach travel, of about 50% between 1980 and 1986, which is perhaps most obviously a direct positive consequence of deregulation, given the previous decline and absence of significant positive external factors during that period.

It is also important to distinguish privatisation and deregulation effects separately. For example, the rapid growth in coach travel in the early 1980s occurred while the main operator (National Express) was still in state ownership, not being privatised until 1988. Local bus deregulation in October 1986 applied with immediate effect, but privatisation of most of the industry took place over the following eight years. In the case of rail, the industry is wholly privatised but if anything is more regulated than before, notably in terms of service levels and fare controls.

#### Structure of the industry

This is very complex, and well described elsewhere. A brief review is provided at this point to set the scene. Prior to privatisation, British Rail (BR) was an integrated organisation, providing both passenger and freight services. Passenger operations were grouped in three business sectors (Intercity, Network South East, and Regional Railways), who were also responsible for their infrastructure. The new structure comprises:

25 TOCs, each covering a specific set of routes under a franchise agreed with the Strategic Rail Authority (SRA). They are largely monopolies within their own catchment areas, but some competition has emerged through prior existence of alternative routes (e.g. London to Birmingham) and a very limited amount of 'open access' operation permitted by the Regulator (new services which compete with incumbents).

Railtrack PLC, owner of tracks, signalling, stations and other infrastructure, which charges TOCs and freight operators for access. It is responsible for maintenance and renewal of the existing infrastructure, but is now less likely to be involved in major enhancement. Railtrack was privatised by sale of shares to the public in May 1996.

Rolling stock leasing companies (ROSCOs). Three main companies, privatised by direct sale in November 1995, which were subsequently resold to other businesses for about 50% more than the state secured initially. The existing fleet was split between these companies, initially with little price competition between them. TOCs obtain almost all their stock from these

companies but can also purchase outright or lease from manufacturers for supply of new stock.

Freight operating companies (FOCs). Most of the freight business was sold to English Welsh and Scottish (EWS), then a subsidiary of Wisconsin Central. The other main operator is Freightliners, the rail container operator, sold to a management buy-out. In this paper the financial outcome in the freight sector is treated as neutral, the gains from sale of the companies by the state being largely offset by additional access grants (3).

Apart from Gatwick Express, all TOCs required financial support at the start of the privatisation period. Most of this comes from central government via the SRA but in the seven major conurbations outside London, the local Passenger Transport Executives (PTEs) determine service levels and fares on rail services, and are responsible for the support payments to operators, which are included in totals shown later.

#### Trends in passenger traffic

Table 1 shows trends in passenger traffic since 1989/90 up to the latest full year for which figures are available, 1999/2000. Passenger-km are used as the preferred measure, since passenger trips may be subject to an element of double-counting following separation of TOCs from the previous British Rail structure. In practice, the difference is fairly small : for example, 'passenger trips' rose from 812m in 1989-90 to 947m in 1999-2000, by 135m or 16.6% (4), compared with 15.0% for passenger-km.

It can be seen that total ridership fell from a peak in 1989/90 associated with a high level of economic activity in that year, to a low point in 1994/95. This was associated with a recession (which also affected other modes) and in 1994 itself by strike action (mainly affecting long-distance and regional operators). The overall volume then rose steadily at about 5% a year to a new peak of 38,300m in 1999/2000, an aggregate growth of 33.4% from 1994/95.

This pattern varied by sector, the long-distance operators showing the smallest growth, both over the whole period (2.3%) and in the growth phase after 1994/95 (23.4%). The largest percentage growth over the whole period was in the regional operators (which cover some major interurban routes, and operations within all the conurbations outside London, as well as low-density rural services), of 33.9%. Data published by SRA enables a fairly close matching with the three sectors previously found under the BR structure. Allowance for the transfer of Gatwick Express (a non-stop service between central London and Gatwick airport) from Intercity to regional increases the long-distance growth and reduces that for regional rail, but only to a modest extent.

Table 1 Passenger travel on national railways 1989/90 - 1999/00

Year	Million passenger-km			
	Whole network	of which: Long-distance operators	London & S.E.	Regional operators
1989/90	33,600	12,900	15,200	5,600
1990/91	33,200	12,700	14,900	5,600
1991/92	32,500	12,600	14,300	5,500
1992/93	31,700	12,200	13,600	5,900
1993/94	30,400	11,400	13,200	5,800
1994/95	28,700	10,700	12,900	5,000
1995/96	30,000	11,100	13,300	5,600
1996/97	32,100	n/a	n/a	n/a
1997/98	34,700	12,300	15,500	6,800
1998/99	36,300	12,600	16,500	7,200
1999/2000	38,300	13,200	17,600	7,500

Percentage change:

1989/90 - 1999/2000	+15.0%	+2.3% (+3.9%*)	+15.7%	+33.9% (+30.3%*)
1994/95 - 1999/2000	+33.4%	+23.4% (+25.2%*)	+36.4%	+50.0% (+46.0%*)

Average trip length (km) in 1999/00

Whole network	40.4	183.3	27.1	33.2
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\* Percentage change after effect of reassigning Gatwick Express volume of 200m from regional to intercity in 1999/2000.

Data under the 'long-distance operators' from 1997/98 comprises the franchises for Anglia (inter city services), GNER, Great Western, Midland Main Line, Virgin West Coast and Virgin Cross Country. For the period up to 1995/96 inclusive, it comprises the former 'InterCity Sector' of British Rail, broadly the same services but also including Gatwick Express (which carries about 200m passenger-km per year). London & S.E. (South East) comprises the franchises closely corresponding to the former Network South East (Chiltern, Connex South Central, Connex South Eastern, First Great Eastern, c2c (formerly LTS), Silverlink, South West Trains, Thames Trains, Thameslink, West Anglia Great Northern). 'Regional' comprises all other operators (including Gatwick Express from 1997/98), including *inter alia* all PTE services.

Source : National Rail Trends 2000-01, quarter 3. Strategic Rail Authority March 2001, tables 1.1a, 1.1b and page 24. Sector data up to 1995/96 inclusive is from Transport Statistics Great Britain 1996 edition, table 5.11(a), HMSO London September 1996

Just over half the absolute growth in rail use over the whole period took place on the London & South East operators, and only about 6% on long-distance. SRA data also indicates (5) that the proportion of demand attributed to season ticket use fell from 32.7% to 27.4% over the whole period, although it did grow very substantially from the low point in 1994-95, representing 31.3% of the absolute network total growth between 1995-96 and 1999/2000. It is concentrated largely in the London and South East area, and correlated with employment levels in central London. Work by Lange (6) indicated that, on a year-by-year basis for the period 1975-1995, a significant relationship was found between GDP change and growth in total rail use, and also separately for InterCity and London & South East sectors - but not for regional, which was more strongly affected by local economic variations and service quality changes.

It is clear that much of the recovery since 1994/95 is due to growth in GDP, stimulating travel in rail and other modes above the trends of the early 1990s. Work by DETR in connection with the ten-year transport plan published in 2000 (7) indicates that a model calibrated on the period from 1978 for 'non commuting' traffic (i.e. non-season ticket travel) provides a very good fit both before and after rail privatisation based on the following approximate elasticities:

GDP change	: +2
Total car traffic	: -1
Average real rail fares	: -1

The 'car traffic' term is influenced both by changes in car ownership and factors affecting use of each car. The latter includes the effect of rising fuel costs due to the 'fuel tax escalator' up to 2000. This model has also been used by DETR to forecast changes under the ten-year plan, implying that a further growth of about 40% would be quite plausible. The model did not find specific service quality factors to be significant at the aggregate level, although train kilometres run had increased over the period.

Diagram 1, reproduced by kind permission of DETR, shows the estimated non-season passenger volume from this model, and the actual outcome, giving a very close fit, including the growth phase since privatisation.

DETR were not able to calibrate a model with a good fit for commuting (i.e. season ticket) traffic. However, in this case it would be even less likely that rail service quality has been a factor, given the lack of major investment in the period since privatisation (although medium-term growth might have been evident from the cross-London Thameslink service after its opening in 1988, and Chiltern route following its modernisation shortly before privatisation). Another factor in London & South East trends is the reinstallation of ticket barriers at busy stations, as operators have sought to reduce fraudulent travel. This would provide a 'growth' in use from those not previously paying the full price for their travel, as distinct from a change in travel patterns as such (8).

Diagram 1 : Actual and predicted volumes of 'non-season-ticket' rail demand.

Index, base 1998 = 100.

Source : DETR (see text)

Actual outcome is denoted by the black line and solid boxes, predicted by the grey line and open boxes.

Rail privatisation *per se* thus does not emerge as a primary factor, and one can argue that much of the growth since 1994/95 would have taken place in any case. However, an element of the regulatory framework in the Railways Act 1993 has been important, namely the regulation of fares. Most season ticket and 'Saver' standard class travel was limited to average annual increases not exceeding the Retail Price Index (RPI) and from 1999, an 'RPI-1' formula has applied. This directly covers about half the total traffic volume, the other half being in any case a price-elastic market dominated by discretionary travel and subject to modal competition. While real prices rose in the late 1980s and early 1990s, average real revenue per passenger-km has remained almost unchanged since 1995, at about 8.6-8.8p in 1999/2000 prices (9).

There is however an exception in the long-distance sector. Here, average revenue per passenger-km rose by about 8% in real terms between 1997/98 and 1999/2000 alone. A likely factor is the increases in 'Super Saver' fares, a category not regulated, which is a commonly used 'walk on' fare for personal leisure travel. While the range of low-price book ahead 'APEX' and similar tickets has widened, a user requiring the same walk-on facility as before effectively pays a higher price.

A consequence of the overall stability in real revenue per passenger-km is that change in total revenue is closely correlated with changes in volume. Hence, real revenue growth of 34.9% has occurred since 1994/95 (9), enabling TOCs to absorb reductions in franchise payments substantially from this cause, in aggregate terms.

#### Support payments to passenger train operators

Table 2 shows support paid to passenger train operators from 1990/91, adjusted to 1999/2000 prices. That for the years to 1995/96 was almost wholly to British Rail (apart from the last few weeks for 1995/96 in respect of South West Trains and Great Western franchises), 1996/97 a mix of BR and TOCs, and from 1997/98 inclusive entirely in franchise payments to TOCs. This corresponds to a similar table in my 1998 paper in respect of the period to 1997/98 after allowing for retail price inflation. It can be seen that support increased in the early 1990s, largely due to the recession and its effects on revenue. It then jumped very sharply, doubling between 1993/94 and 1994/95, due to the internal restructuring of the railway industry prior to privatisation, in which Railtrack and ROSCOs were set up as separate companies (see discussion below). Commitments made by franchise operators then produced the drop to 1999/2000. Under their original commitments a steady drop would have continued to 2002/03. At 1999/2000 prices, for example, they would have fallen to about £900m.

However, it was clear that some very optimistic bids had been made, especially in the later stages of the franchising process. Whereas the first two bids, by Stagecoach and Great Western Trains, may now be seen as relatively cautious, the later bids implied very large increases in revenue, given that operators directly control only around 30% to 40% of their costs.

If the originally-anticipated sum of franchise payments to operators from 1997/98 is compared with the outcome, a further difference of about £125m per annum may be noted in terms of the public expenditure. This attributable to the fact that five PTEs opted to secure services on 'gross cost' contracts in which the operator is paid for services provided, while revenue is retained by the PTE - as in the case of gross cost bus contracts described by Steve Tough and myself at the 1993 Thredbo conference (10). In terms of total public spending, however, this may be 'netted off' against the PTE payments to the franchisees. For example, if a group of PTEs were supporting services in the public sector era which had a gross cost of £300m per annum and revenue of £100m, the net support would have been £200m. If these were then franchised on a gross cost basis to TOCs, the payment to the TOCs would have been £300m (ignoring any cost changes), but in terms of net public expenditure this would still have been offset by the £100m revenue retained by the PTEs.

In addition to the base revenue levels at 1995/96, some of the PTE networks have recovered from earlier low levels of traffic, and West Yorkshire in particular has benefited from strong growth in Leeds. In practice, the net payments made by PTEs fell by about £91m (23%) in real terms between 1995/96 and 1999/2000 (11), presumably a mix of cost reductions, revenue growth and any losses absorbed by franchisees where reductions in payments were faster than these factors would permit.

Table 2 also shows adjusted figures for 2000/01 to 2002/03 inclusive. In contrast to the originally-expected outcome, certain franchises have been renegotiated following financial difficulties represented by their owners, and reflecting the earlier over-optimism in bids for some regional operations:

Merseyrail Electrics and Northern Spirit (operating urban services within Merseyside, and an extensive network in north east England). These were originally gained by MTL (the main bus operator on Merseyside). Following its sale to the larger Arriva group in February 2000, the latter originally was committed to continue the franchises for only one more year. Subsequently, after renegotiation with the SRA, Northern Spirit will receive £55m than originally agreed for 2001/02, and Merseyrail £9m (12).

In a similar case, Prism (a business set up by group of bus executives holding four rail franchises) ran into difficulties with its Cardiff Valleys, and Wales & West franchises. Prism sold out to National Express (now the largest rail franchisee), with arrangements that these two would be surrendered. In practice, a revised agreement was reached between NE and the SRA, increasing Wales & West's payments for the 9 months to 31 December 2001 by £38m, and Cardiff Valleys by £11m (13). Finally, First North Western, covering the north west region, is incurring substantial losses. An arrangement was recently made in which it repaid £37m to the SRA (the discounted equivalent of expected future losses), but will then receive an extra £20m p.a. in 2001-03 while operations in the area are restructured

(14).

Within table 2, an extra £150m p.a. has been added (at 1999/2000 prices) for 2001-03 to allow for these changes. In practice, some other regional companies are also in difficulty, and further renegotiation may be required.

The SRA has also brought forward the process of renegotiating existing franchises prior to their original termination dates, even where operations are profitable, as part of its longer-term approach. Agreements in principle have been reached for Chiltern and South West Trains (retained by their existing franchisees) and South Central (transferring from Connex (Vivendi) to GoVia this month). However, profiles of expected cash flows are not yet available.

For purposes of long-run calculations I have assumed that the figure of £1050m net support per annum will continue to apply from 2003/4 inclusive. In my earlier 1998 paper I made an equivalent assumption (based on the then expected real 2002/3 figure), i.e. that the net annual cost to the SRA would remain

Table 2 : Support to national passenger rail services in Britain

£ million at 1999/2000 prices (approximate)

Year	Out-turn or original sum of franchisees' bids	Adjusted figure
1990/91	1000	
1991/92	1300	
1992/93	1600	
1993/94	1320	
1994/95	2540	
1995/96	2360	
1996/97	2340	(gross)
1997/98	1940	
1998/99	1600	
1999/2000	1380	
2000/01	1210	1190
2001/02	1100	1250
2002/03	900	1050

Notes:

Derived from table 4.1 in Strategic Rail Authority bulletin 'National Rail Trends 2000-01, quarter 3', March 2001, converted to 1999/2000 prices by author. Allowance is also made from 1997/98 for revenue received by PTEs directly at £125m per annum. 'Gross' figure refers to payments before 'administered profit' for BR services in that year. For basis of 'adjusted figure' see text.

unchanged. If projections were taken from those longer-running franchises (such as Virgin West Coast) continuing after 2002/03 then a further reduction would occur. However, this would involve extrapolating from a limited number of possibly unrepresentative cases. Furthermore, doubts must also exist as to whether the longer-term franchises will actually perform according to their present schedule. While some improvement will certainly be expected in the case of the Virgin franchises, as new trains and higher speeds come into effect, further delays are occurring in the infrastructure upgrade, and other franchises in the regional grouping may well need more support than presently budgeted.

#### Operator profitability

In order to remain in business, the franchised TOCs must attain an operating profit, after taking into account passenger revenue, franchise payments and any other income, set against Railtrack access and ROSCO leasing charges as well as direct operating costs. A very small percentage operating margin may suffice, given that TOCs' capital investment is very small - a 1% margin gives a high return on capital - but in practice a somewhat bigger figure would be needed to act as a 'safety margin' to allow for future changes in revenue and costs, especially revenue uncertainty.

The reduction in public expenditure on franchise payments to operators (including PTE revenues) between 1995/96 and 1999/2000 at 1999/2000 price levels was about £980m (from table 2). Passenger revenue over the same period grew by £708m (15), i.e. around 72% of the reduction would be offset by passenger revenue growth. The remaining 28%, i.e. about £270m, would largely be covered in aggregate by the reduction in Railtrack access charges over this period of 2% per annum in real terms set by the Regulator in 1995 (at 1999/2000 prices these fell by about £200m between 1995/96 and 1999/2000, after the initial 8% reduction). Hence, only a small part (about £70m, or 7% of the drop in net support) would be attributable to net cost reductions (or lower profit margins) by the operators. This would imply a reduction in operators' total costs - excluding track access charges - of around 3%. Note these calculations assume that operators were basing their bids on costs after the initial 8% reduction had been made, and were allowing for the cut of 2% per annum thereafter.

This is in very marked contrast to the local bus industry, in which profitability has greatly improved since 1986, but very largely due to reduced real costs, and increased real fares partly offsetting passenger volume reductions (16). As already noted in this paper, real revenue per passenger-km has changed little since privatisation, hence rail users have not suffered the financial losses experienced by their (lower-income, lower-status) opposite numbers using the bus.

Estimates by TAS, described recently by Cheek (17), suggest an aggregate operating profit for the 25 franchises in 1999/2000 (or the nearest equivalent financial year - accounting years vary between companies) of about £165m, profits of about £90m in

the long-distance sector, and £115m in London & South East being offset by a loss of £40m in regional (all regional operators apart from Scotrail losing money). It should be borne in mind, however, that in the last year of British Rail, 1996/97 its passenger train operations reported an 'administered profit' of £200m (or about £215m at 1999/2000 prices), reducing the net financial support required from the state by an equivalent sum. The overall margin in 1999/2000 corresponded to about 3% of turnover.

Further discussion of variations in operator profitability is provided by Powell (18).

The main achievement of the TOCs in cost terms lies not primarily in reducing total costs but in being able to manage an increase in train-km of about 9% since privatisation while containing costs, i.e. producing a reduction of about 10% or more in real cost per train-km. TAS data imply a drop of about 3% in money terms in total cost per train-km between 1996/97 and 1999/2000 (19), which I estimate as about 11% in real terms, bringing down total costs by about 3%. Given that most growth in service has been off-peak, using existing stock and that Railtrack charges vary little with train volume, one would of course expect the additional train-km to have a much lower unit cost than the previous average.

There are also cases of TOCs which have made 'across the board' service increases in both peak and off-peak periods, associated with new rolling stock. Notable examples are Anglia, doubling the Norwich-London main line frequency to half-hourly, and Midland Main Line, likewise doubling its core frequency (albeit with much smaller diesel multiple units, which now handle intermediate flows). Substantial ridership growth has occurred - in the MML case, about 15% in one year after an 80% growth in train-km (20) - and in such cases there would appear to be an association between operator initiatives and passenger volume, although this is not very evident at the aggregate level indicated in DETR modelling (see above).

#### The net outcome

From the viewpoint of the state, the rail industry structure set up from 1994/95 produced a large internal cash flow which was 'recycled'. Railtrack and the ROSCOs made high charges to TOCs (resulting in the large increase in payments to passenger rail services shown in table 2). However, while they remained in the public sector, the net increase in public spending was much less. When other subsidiary businesses such as infrastructure and telecommunications companies are included, the state-owned rail system produced an internal 'profit' of about £890m per annum from 1994/5. However, as companies were sold off the flow was lost to the public sector.

Hence, the state gained through 'one off' sales of assets, but lost a long-term future cash flow of about £890m per annum. While a seemingly high sum was obtained for all the businesses, a total of about £4500m in the 1995-98 period (mostly represented by Railtrack and the ROSCOs) - less cost of the

privatisation process - this reflected a relatively low price:earnings ratio of about 6:1 for the biggest businesses, and much lower for the infrastructure companies. Hence, if one assumes all other factors remaining unchanged, the £890m per annum cash flow would be lost. Over 15 years this would amount to about £9,300m, or if discounted at 6% per annum in real terms (the discount rate for public sector investment appraisal). Thus, the state could be seen to be losing money as a result. Further details of this line of argument are set out in my 1998 WCTR paper (2) and in fuller detail in a paper in 'Transport Reviews' (18).

This loss was offset by the reduction in payments to franchisees, as a result of their diminishing bids (table 2). Taking the then expected outcome to 2002/03 and extrapolating this figure to the end of the 15-year period (i.e. 2010/11) it could be shown that the state would benefit overall, assuming that gains in the franchising process were wholly attributable to the franchisees' own actions.

In order for this to be achieved, the greatest cost reduction pressure was on Railtrack, whose income derives very largely from rail passenger operations (over 80%) and which was in turn due to fall at 2% per annum following the Regulator's decision. Its annual profits would have been wiped out by 2001 had it not succeeded in obtaining corresponding cost reductions, notably through contracting-out track maintenance and renewal. The TOCs needed to stimulate ridership in order to attain their franchise payment reduction targets. Increased train-km may have played a part in this, necessitating the lower unit costs estimated above.

However, it can be argued that much of the revenue gain would have occurred in any case due to ridership growing for the reasons stated above. In addition, some further cost reductions might have been expected under continued BR ownership, rather than no efficiency gains at all. In my 1998 papers I assumed that a continued cost reduction by BR would have produced an equivalent effect. On this basis, the net financial outcome for the state was very similar whether privatisation had occurred or continued BR ownership continued.

In the light of further evidence, it would seem reasonable to assume that most of the net revenue gain would have occurred under continued BR ownership due to the extent to which ridership and revenue gain has been determined by external factors. In addition, the support per annum now required is higher in real terms than originally expected.

A further factor is the large growth in Railtrack access charges permitted under the latest periodic review by the Regulator. Total support payments increase by 34.5% between 2000/1 and 2001/2 then by about 5% over RPI to 2005/6, more than reversing the previous reductions (21). These do not incur a direct cost to the TOCs, as the franchise agreements render any changes at periodic review a pass-through to the SRA. However, the net effect on the state is clearly to increase costs very substantially.

Table 3 : Estimates of financial gains and losses to the state

At 1999/2000 prices, discounted to base year of 1995/96 at 6% per annum over 15 year period (year 1 = 1996/97, year 15 = 2010/11).

£ million

Gain through sales of Railtrack, ROSCOs and other Companies (excluding freight)	+4537
Less costs of privatisation process	- 648
Initial gain	+3889
Loss of 'recycled profits' from subsidiary businesses	-9333
Net outcome	-5744
(Reduction in Railtrack income through reduced access charges, assuming constant from 2001	-3308)
Reduction in support to franchisees, compared with BR in 1996/97, assumed constant from 2001	+9550
(after allowing for access charge reduction	+6242)
Net gain before effects of taxation (6242-5744)	+ 798
Taxation income to state:	
Windfall tax in 1997	+ 130
Railtrack tax payments 1996-1999	+ 220
ROSCO tax payments, £100m p.a. over 15 years	+ 970
TOC tax payments, £45m p.a. over 15 years	+ 440
Sub-total	+1760
Overall gain to the state	+2558
(assuming all revenue gains due to franchisees' actions)	

#### Notes

Method used follows that set out in references 2 and 18.

Railtrack access charges and net support to franchisees are assumed to be constant from 2001 (but see text)

Railtrack tax payments are based on actual data to 1999, but assume no profit (or tax liability, after capital allowances) thereafter.

ROSCOs and TOCs tax revenues are based on an average rate of 30% corporation tax on profits of £330m and £150m p.a. over the whole period.

Table 3 shows the effects of assumptions made regarding net financial impacts on the state. The sales proceeds and franchise payments to date are 'known' figures, but clearly projecting over the whole 15-year period involves some speculative assumptions regarding stability in franchise payments and access charges. The most approximate element is the taxation revenue to the state which depends on profit obtained, assumed tax rates and extent of liability for tax.

The figures as presented are probably the most favourable outcome that could be shown for privatisation. Given that most of the reduction in franchise payments is due to revenue growth (largely from exogenous factors) and lower access charges (as allowed for in the table) these factors would apply equally well under state ownership. The issue for debate might then be whether the state could have sold Railtrack for the value actually obtained in the light of the Regulator's decision to reduce access charges, were there not some expectation of Railtrack's ability to reduce costs sufficiently to remain profitable.

The further review of Railtrack access charges is not covered in the table. This will cause very large increases in payments from 2001, notably in the form of direct grants rather than via TOCs (charges to TOCs as such actually fall in 2001/2, then rise at 4-5% p.a.). Clearly, some of these increases arise from a more realistic view of future cost levels, potential efficiency gains, and need to reinvest in the system that would also have applied under public ownership. However, some elements could be seen as related directly to privatisation - for example, the assumption that Railtrack would incur real interest rates of about 8% in raising capital, whereas substantially lower rates would apply to direct public borrowing : this is analogous to the argument applying to the funding of London Underground renewal by 'Public Private Partnership' (PPP or direct state borrowing).

#### 'Hatfield' and after

Data in this paper is based on annual figures up to the financial year 1999/2000 inclusive. However, since October 2000 a sharp reversal in the growth trend has occurred, and major financial difficulties have been faced by all rail businesses.

This stemmed from a derailment at Hatfield (on the GNER main line about 30 km north of London) on 17 October 2000. While the number of fatalities (four) was less than in other recent accidents, the cause was quickly identified as the fragmentation of a rail on a section of curved track. This potential problem of 'gauge corner cracking' was then considered to affect many other sections on the network, resulting the immediate imposition of severe speed limits and a number of temporary closures. Long-distance services of all operators were very badly disrupted. Only from the 2001 Summer timetable (21 May) has a normal service been restored.

Until the Hatfield crash, strong growth in rail use had continued, in line with trends since 1996: immediately before

the crash intercity revenue was up by 16% on the same period one year earlier. However, for the four weeks to 31 March 2001, intercity revenue was down 12.5% on the same period in 2000, and regional 0.1%, although London & South East was up 3.6% (22). The last figure may reflect less scope for its users to change their behaviour than on routes where more modal alternatives exist, and resumption of some underlying growth.

Insofar as the problems are due to Railtrack, that company compensates the operators for loss of revenue and other effects, and hence the transaction is internal to the privatised rail system. However, the state becomes involved due to the effect on future profitability (affecting franchise renewals, for example), and urgent cash problems faced by Railtrack : given its existence as the single monopoly provider, it is difficult to see how it could be permitted to go out of business. Under the revised access charging regime, a large increase would be due in any case, but some payments of about £1,500m have been brought forward to enable Railtrack to overcome short-run difficulties.

While some of the problems faced by the regional TOCs were anticipated by a number of industry observers, the scale of problems associated with Railtrack is probably beyond anyone's earlier expectations.

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