Rail Reform – lessons from British Experience

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Introduction

‘There are two sorts of madmen
Those who think they are Napoleon and
Those who think they know how to run the railways’

Britain undertook the most major rail reform of any European country, including privatisation of the entire railway, in 1994-7

Since then there have been many revisions of the structure of the industry

Aim of this presentation: to see what lessons can be learnt from this experience

Pre privatisation

– Vertically integrated monopolist (except for some urban railways notably in London)

– ‘Deeply inefficient’ (Government White Paper)

– One of the most efficient railways in Europe (Oum and Yu, 1994)

– How was that position achieved?

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Sector Management, 1982

BR divided into sectors and subsectors each with their management, accounts, targets and financial constraints.
Passenger (Inter City, London and South East, Provincial)
Freight (Bulk, containers and wagonload freight, parcels)

Costs allocated on a prime user basis with other sectors paying the avoidable cost of their use of the asset. Sector managers were responsible for decisions on staff and assets (including infrastructure)

Much rationalisation and revision of working practices (e.g. single line track, flexible rostering, one person operation of trains)

BR Sector results

Operating surplus 1982 prices

	1982	1988/9
Inter City	-196	41
London	-310	-98
Provincial	-489	-332
Freight	2	49
Parcels	8	-9
Total	-985	-349

Privatisation

Many options considered:

- Privatisation by sector
- Privatisation of regional companies

- But only vertical separation of infrastructure from train operations was considered to provide the competition necessary for privatisation to succeed

- Competition in the passenger sector would be mainly by franchising with some open access
- Competition in the freight sector would be on track, with complete open access

How was privatisation undertaken?

1. Vertically separated privatised infrastructure manager
2. Virtually all passenger services franchised to private train operating companies (so competition for the market)
3. Some on track competition where franchises overlap (London – Cambridge, London – Birmingham etc),
4. Limited open access competition in passenger where ‘not primarily abstractive’
5. Freight operators privatised with complete open access in freight
6. A strong independent regulator to regulate the infrastructure manager

Infrastructure Manager

A new company, Railtrack, was formed to take over the infrastructure and was privatised by sale of shares

Railtrack was a purely commercial monopolist, at one remove from the final market.

Three issues arose
How to prevent excessive prices?
How to ensure efficiency?
How to incentivise investment ?

How to control the prices and costs of the infrastructure manager?

Regulation

RPI-x control on track access charges

x determined by estimating the revenue requirement of an efficient operator (benchmarking?)

Set for 5 year control periods

How to incentivise investment

- Railtrack to be entirely paid for by track access charges.
- Incentives for quality via the performance regime (penalties for delays or line closures)
- For passenger services track access charges were based on a two part tariff with the variable part equal to marginal cost
- For freight, charges negotiated on an individual basis
- -The regulator became increasingly involved in investment decisions approving plans to ensure that Railtrack met the ‘reasonable needs’ of its customers

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Infrastructure manager

- Railtrack much criticised for:

Short termism

Lack of investment and declining infrastructure quality

Insolvency due mainly to a big increase in maintenance and renewals costs following a fatal accident.

Replaced by a (quasi) public sector company Network Rail

Rail infrastructure cost trends 1998-2017 (real terms)

	Per train-km (RPI)	Per train-km (CPI)
Maintenance	-13%	+2%
Operations	+2%	+19%
Renewals	+20%	+40%
Total OM&R	**+6%**	**+23%**
Enhancements	+892%	+1056%
Total cost	**+67%**	**+95%**

Was a private infrastructure manager bound to fail?

- So the only major European privately owned infrastructure manager ended in insolvency
- Was it inevitable that private ownership of the infrastructure manager would fail?
- Private ownership does have benefits in terms of effectiveness of financial incentives
- Might Railtrack have taken a long term view of asset condition and investment?
- Might the regulator have done more to regulate quality as well as price?
- But clearly incentivising a privately owned infrastructure manager is a complex task

Competitive tendering of passenger services

Public authorities specify services to be provided and fares to be charged (either precisely or at least minimum services and maximum fares)

Bids in terms of subsidy required each year of contract (or premium paid for a profitable service)

Provides incentives to minimise costs and provide good quality of service if taking revenue risk and revenue substantial

Issues in competitive tendering

- Size and length of franchises
- How to attract bids?
- How to manage transition?
- How to incentivise investment and changes in working practices?
- How to determine timetables?
- How to set fares?
- How to allocate risks?

Size of franchises (m train km) 2008

	Mean	Range
Britain	26.5	3.2 – 44.9
Sweden	2.6	0.8- 6.3
Germany	3.3	0.1-95.0

Are British franchises too large?

Franchise length

- Length very variable but in Britain 7 years (+3 extension) has been typical (although up to 25 years - 30 in South America) Are longer franchises needed to incentivise investment?
- But rolling stock placed in the hands of leasing companies and stations owned by the infrastructure manager so little investment needed in physical assets
- Even so, need to incentivise long term strategy in terms of marketing and of working practices

Measures to attract bids

Franchising only effective if there is significant competition. Measures to encourage bids

- Detailed information on costs, traffic volumes and revenue collected by DfT and made available to all bidders
- Rolling stock placed in the hands of leasing companies
- Successful bidders take over an existing company with its staff
- Can walk away but financial penalties for doing so

But bids are complex

Bids include a series of plans:

-Franchise management (including alliances)

- Train service and performance (including timetables and staff and rolling stock diagrams)

-Revenue (including fares)

-Customer experience and stations (including information systems and station facilities)

-Page limit 1000 pages!

-Preparation costs millions!

How to manage transition

– British approach

Set up companies which are taken over by the franchise for the period of the franchise.

No problem with acquiring staff and rolling stock (in most countries the new franchisee has to recruit its own)

May be the only approach with such large franchises

But new franchisee inherits wages and working practices,

This is not the case in most other countries

Timetables

Timetables are constructed by the IM trying to reconcile bids from different operators

Not designed to make most efficient use of the infrastructure or to give the most attractive offer in total to passengers.

Problem of overcommitment of capacity

-e.g. Manchester hub (Transpennine, Northern, Freight)

Max reliably 12 trains per hour instead of 14 actually timetables

Extreme difficulty in dealing with short term problems e.g. Unworkable timetables in Thameslink; Northern due to lack of driver knowledge

Fares

- -All passenger operators required as a licence condition to accept through and interavailable tickets
- Fares on each route set by a lead operator (other operators could offer lower fares, and all could offer cheaper advance purchase tickets
- Led to a complicated and often irrational fares structure

Risk

- Incentives to reduce costs and increase revenue maximised by transferring all risk to franchisee
- But will lead to a risk premium on the bid especially in respect of risks they can’t control (GDP growth; fuel prices)
- Allow to surrender early but with penalties (franchise failure costly - need for emergency arrangements prior to refranchising)
- So may be sensible for state to take many of the risks (e.g. gross cost contracts) whilst incentivising in other ways (penalties; risk of loss of franchise for poor performance)

Was franchising successful?

Did succeed in attracting significant numbers of bids (usually 4-5 per franchise)

Franchisees mainly British bus companies (First, Go-ahead, Stagecoach) and foreign railways (DB, NS, SNCF, Trenitalia)

But a number of problems emerged

Did it reduce costs?

Train Operating Company Real Unit Cost Changes 1998-2015)

	Per train-km	Per vehicle-km*
Staff	+44%	+34%
Rolling stock lease payments	-20%	-26%
Other	+46%	+35%
Total	+25%	+16%

(excluding payments to Network Rail)

Source: Nash and Smith (2020)

Franchise Failure

Over ambitious estimates of revenue leading to franchise failures

-ECML (GNER, National Express, Virgin)

-Other franchises – Northern, SW Trains, Transpennine

-Post covid no-one could take revenue risk

-Emergency measures moved all Train Operating Companies on to management contracts with government taking cost and revenue risk

British experience - Freight

1994 Railways Act introduced open access for new entrants.

Government also decided to sell existing rail freight services as 6 companies:

3 regional trainload companies

Freightliner – domestic containers (incl to ports)

Rail express systems – post office

Cross Channel intermodal

Freight Privatisation

Only non management buyout bids were from EWS (subsidiary of a consortium led by Wisconsin Central). Sold to DB Schenker. 2008.

Freightliner sold to Management Buyout

All other companies sold to EWS

But Freightliner set up Freightliner Heavy Haul whilst EWS expanded into containers

New Entry

National Power – major customer, Sold out to EWS when it achieved a favourable deal

Direct Rail Services – (subsidiary of British Nuclear Fuels Ltd). Started in transport of nuclear waste, but expanded into other traffic

GB Railfreight. Contracts for Railtrack; expanded into other traffic

Advenza. Bankrupt

Jarvis Fastline. Bankrupt.

Colas. Infrastructure work

Market shares

	1997	2011/2
EWS/DBS	88	60
Freightliner	12	22
GB Railfreight		10
Direct Rail Services		7
Colas		1

Government reaction
1. McNulty Report (2011)

Big problem misalignment of incentives between infrastructure manager and train operating companies

Despite the most complex system of track access charges and performance regime in Europe

(e.g. no incentive on train operators to try help infrastructure manager to reduce fixed costs and costs of undertaking maintenance and renewal work)

Need for alliances between IM and TOCs – but only in one case was an alliance negotiated which shared all cost and revenue risks

Williams-Shapps Plan 2021

1. Need for a ‘guiding mind’ –new rail authority to take charge of infrastructure and operations

Great British Railways (GBR) takes control of franchising from DfT and infrastructure from Network Rail

2. Move to gross cost concessions instead of net cost franchises

Result – GBR will take control of the timetable and fares.

Competition will largely be concentrated on costs (may still be some revenue sharing, especially on more profitable routes)

More flexibility in contract size – concessions could be smaller as less problem of coordinating services

Williams-Shapps Plan conclusions

1. Proposal should tackle the problems of franchise failure (removing most revenue risk) and timetabling and fares (concentrated on GBR)
2. Should tackle cost issue by concentrating attention of bidders on costs and by concentrating service and infrastructure planning in the same body
3. But heavy concentration of decision making on a government agency
4. Will lack of on track competition result in poorer quality services and less innovation?

Lessons learnt

1. There are various options when it comes to rail reform and vertical separation may not be the best
2. Privatising the infrastructure manager has some attractions but also creates problems in giving the right incentives
3. If you want to promote competition, simply introducing open access may not be enough. Restructuring passenger and freight sectors and widespread use of competitive tendering may be necessary
4. Passenger franchising is complex and there are many options in how it is done.
5. By comparison introducing competition in the freight sector is easy and effective