

# Competitive tendering of rail services – a comparison of Britain and Sweden

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## ABSTRACT

This paper compares the experience of the two countries in Europe with the most experience of passenger rail service franchising – Britain and Sweden. It examines the nature of the contracts between the franchising authority and the franchisee, and between the franchisee and the infrastructure manager with a particular emphasis on the incentives provided, the degree to which the franchisee has freedom of action on issues such as fares, service levels and the provision of rolling stock and the sharing of risks. It concludes that the Swedish approach works well in a context in which decisions on fares and service levels are largely determined by the franchising authority. The British approach is more problematic, in that it seeks to leave the franchisee more freedom in these matters, but it is doubtful whether the incentives are fully effective. Longer franchise periods are a part of a possible strategy to improve incentives.

## 1. INTRODUCTION

Britain and Sweden are the two European countries with the longest experiences of rail sector reform. In Sweden, the process started with the split of infrastructure from operations in 1988. In Britain, separation occurred in 1994.

At the time of writing, the Swedish state-owned company, SJ AB, still has monopoly control over commercial passenger services although this is due to end shortly. The first subsidised services were franchised out in 1989 and most but yet not all subsidised services are now franchised out, regional services by the respective regional authorities and national ones by a national body, Rikstrafiken. SJ AB submits bids for non-commercial train services and remains the dominant operator.

In Britain, virtually all rail passenger services, commercial or subsidised, were franchised out over the period 1994-7. With the exception of the main franchises in Scotland, Wales, Greater London and Merseyside, which are devolved to the national or local authorities, responsibility for all franchises rests with the Department for Transport in London. The state-owned operator, British Rail, was not permitted to bid for franchises and thus ceased to exist as an operator. Open access entry on commercial services is permitted

subject to the regulator being convinced that these are to the benefit of passengers and not primarily abstracting revenue from franchised operators.

A number of previous papers have considered separately the experience of these countries, most recently Smith, Nash and Wheat (2009) and Alexandersson and Hulten (2007). Our particular aim in this paper is to compare the two systems with respect to their ability to deliver transport services efficiently. Particular focus is on the design of franchises in the two countries in terms of the way contracts are awarded, the details of the contract and in particular the incentives given with respect to cost prudence, pricing and quality of service.

Of course it must be acknowledged that there are major differences between the rail systems of the two countries. Whilst Britain has some 50% more rail route kilometres than Sweden, it carries four times the level of passenger traffic (Swedish railways however carry more freight than Britain). As will be seen from the appendices, many of the Swedish franchises are as small as 1m train km per annum, whereas in Britain, only one of the locally let ones (London Overground) is as small as this, and the largest (Cross Country) runs 50m train km per annum. These differences must obviously be borne in mind when making comparisons.

In order to establish lessons in terms of what works best in securing value for money from rail services, section 2 starts by providing a picture of the aggregate performance of the respective industries in terms of prices, ridership and subsidies. Section 3 considers the overall organisation of the tendering process in the two countries. We then consider in turn the nature of the contract, fares regulation, rolling stock procurement and relations with the infrastructure manager before reaching our conclusions.

## **2. OVERALL PERFORMANCE**

This section is designed to review some descriptive qualities of importance to understand the nature of services as well as their aggregate performance in the respective countries.

The most obvious measures of success are the volume of traffic and cost. Figure 1 provides a picture of rail travel growth in Sweden between 1980 and 2007. Regional traffic has increased by 117%, and long distance services by 22% over the period, making for an average of 46% for the system as a whole. Most of this growth occurred after the reforms. In 2007, 59% of this traffic was on long distance trains.

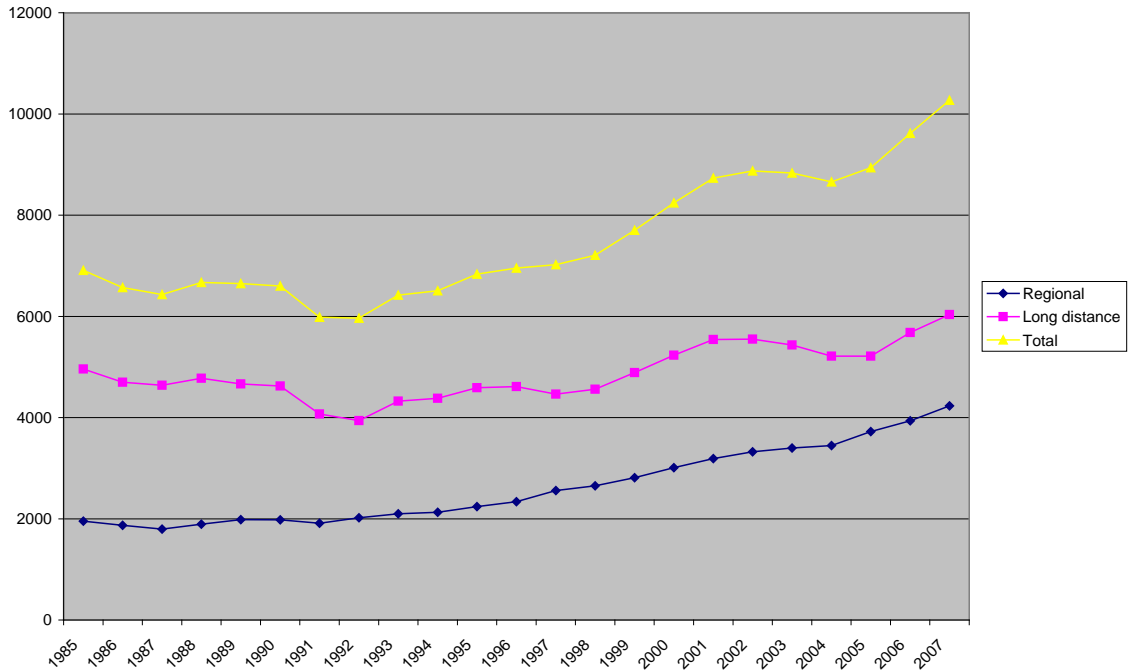


Figure 1: Rail passenger traffic in Sweden

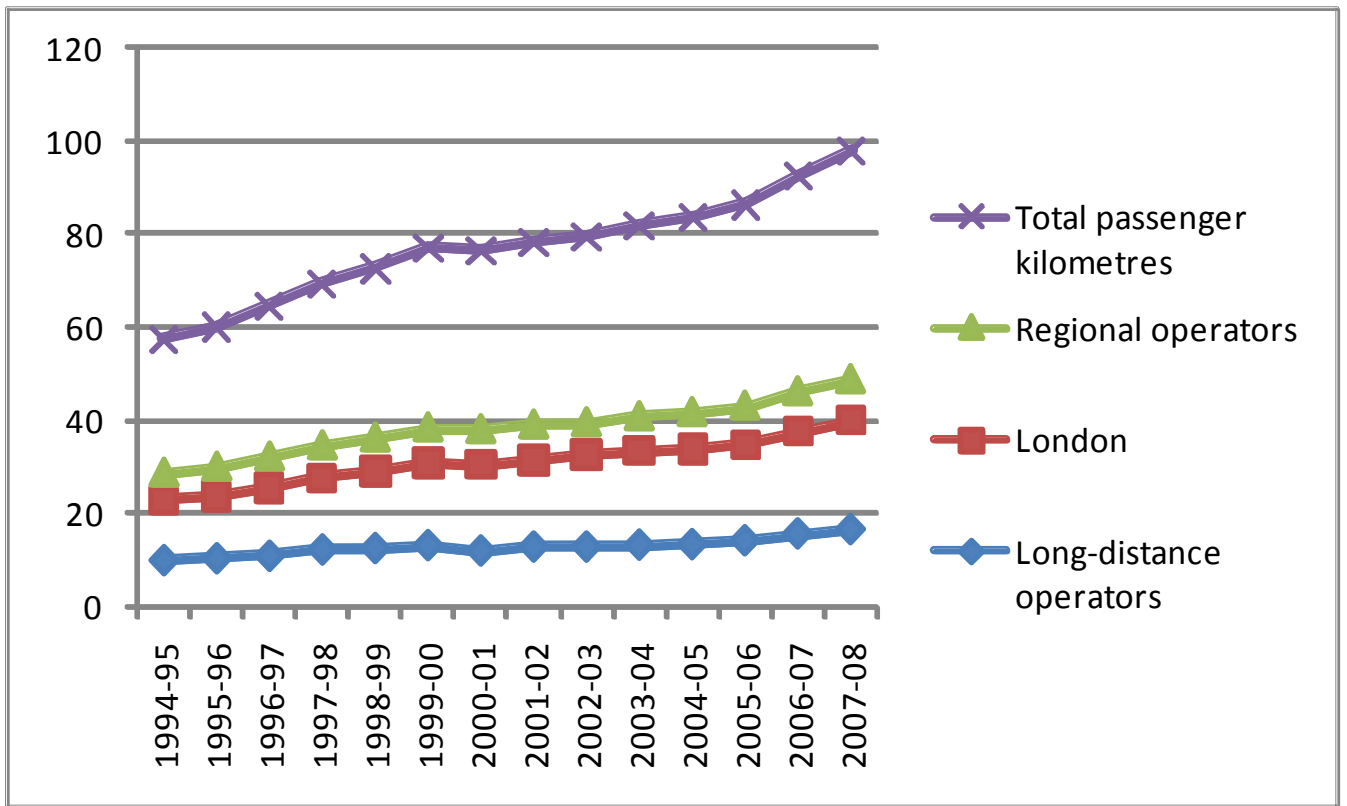


Fig 2: rail passenger traffic in Britain

Figure 2 shows a rather similar picture for Britain for the period post privatisation, although in Britain the fastest growth has been in the London commuter market and the slowest for regional services. Of course this growth cannot be attributed wholly or even mainly to rail reform – other factors including the state of the economy and the cost and journey times for motoring are more important (Wardman, 2006). Nevertheless, the picture on traffic growth appears to be one of success in both countries. Moreover, both countries now appear to be operating reliably, with more than 90% of passenger trains arriving on time (i.e. within 5 minutes for Sweden; within 5 minutes for regional and commuter services and 10 minutes for long distance services in Britain), although in the aftermath of the Hatfield rail accident and the bankruptcy of Railtrack, punctuality in Britain had been extremely poor.

What has been the implication of the combination of reform and of traffic growth for the cost to the taxpayer? In both countries there has been a large expansion in terms of state funding of the infrastructure manager. But in terms of the effects of franchising the results seem to have been very different. For Sweden, Alexandersson and Hulten (2007) conclude that the first round of franchising achieved reductions in subsidy of the order of 20-30%, and that these savings have been broadly maintained. For Britain, changes in track access charges and the split of subsidies between train operating companies and the infrastructure manager make simple comparisons of subsidy levels confusing, but whilst there was also a reduction in costs in the early years of franchising, train operating costs per train km are now 15% higher in real terms than at the start of the franchising process (Smith, Nash and Wheat, 2009). Thus there is some evidence that the approach to franchising in Sweden has worked better than that in Britain. This is a key motivation for the current research.

### **3. ORGANISATION OF TENDERING PROCESS**

In Britain, the process of franchising is a two part process (DfT, 2006). In the first stage, invitations are issued to prequalify. At this stage, bidders have to submit evidence that they are capable of providing the services in question. From those pre qualifying, a short list is drawn up, who are then invited to tender, in terms of the subsidy they will require or the premium they will be willing to pay for each year of the franchise in order to provide a specified level of service. The winner is then selected on the basis of the most favourable financial offer in terms of discounted present value, but on the basis of the DfT forecast of what will happen to costs and revenue rather than that of the bidder. Deliverability is also a key issue; bidders are required to produce robust delivery plans, and if the most favourable financial bid is seen as too risky then it will not be selected.

Whoever wins the franchise takes over an existing train operating company (TOC) and its staff. This makes for easier entry and a smoother transition, but puts less competitive pressure on the staff than if the operator has the chance to bring in its own staff. Rail passenger services were initially franchised out over the period 1995-7, mainly on 7 year franchises, and as 25 train operating companies. The Strategic Rail Authority intended to

move to much longer franchises, but in the event only a few such franchises were let. The current pattern is again seven year franchises, with an option to extend for a further three. There are now 20 such franchises (see Appendix A for details).

British franchises specify quite tightly the services to be provided and regulate some fares (see below). Other franchise conditions go into great detail concerning such things as the amount, quality and capacity of rolling stock to be used and include conditions (generally based on what was offered in the franchise bid) regarding many issues such as staff training, station improvements and upgrade of car parks.

There are a number of performance indicators monitored by the DfT, relating to reliability, punctuality and capacity provided. In the latest franchise, Southern, an index of passenger satisfaction as revealed by surveys is included. If performance is below a stipulated benchmark, the TOC will be warned and required to develop a plan for remedial action. If the situation remains unsatisfactory, then ultimately the franchise can be taken away.

In Britain, currently active in the market are nine groups: National Express, Firstgroup, Arriva, Stagecoach, Virgin, MTR, Govia , SERCO/Nedrail and Deutsche Bahn. Table 1 shows their ownership. It will be seen that the market is dominated by British companies, many of which originated as bus companies, and foreign state owned railways. With only one or two exceptions there has always been enough interest for DfT to shortlist at least three groups to produce full bids.

*Table 1- Ownership of British Train Operating Companies*

Group	Owners	Nature of Company	Nationality
National Express	National Express	Private, bus and rail	British
Firstgroup	Firstgroup	Private bus and rail	British
Arriva	Arriva	Private bus and rail	British
Stagecoach	Stagecoach	Private bus and rail	British
Virgin	Virgin	Private rail and air	British
MTR	MTR	Public rail	Hong Kong
Govia	Go ahead	Private bus and rail	British
	Via rail	Public rail	France
SERCO/NEDRAIL	Serco	Private, utility	British
	Nedrail	Public rail	Netherlands
Deutsche Bahn	DBAG	Public rail	Germany

The prequalification and award process is similar in Sweden to that in Britain. As indicated by appendix B, there are now 22 contracts in operation. One of these services has been subsidised for several years but in 2009 SJ took it into its commercial net. Three of the contracts are tendered by Rikstrafiken and the rest by regional authorities which receive financial support from Rikstrafiken for those services which are considered to provide interregional services except for their regional component. There are still five negotiated contracts, three of them being assigned to SJ at the time of the 1988 separation

of operations from infrastructure. Two of these (in Gothenburg) are now being announced for open bidding.

Contracts are for between three and up to 12 years, but virtually all seem to have an option clause for additional years which is typically triggered. Except for price, different dimensions of quality also play an important role for assigning the contracts. There are examples of appeals against the awarded contracts, inter alia questioning the way in which quality has been measured.

There are a couple of examples of tenders which have received only two bids, but in particular for the larger contracts four and more bids have been submitted in the final bidding round. Table 2 provides information about ownership of the respective operators. SJ is fully owned by the government. Together with People travel group, a subsidiary of Veolia otherwise primarily operating airport coach services, SJ also owns Merresor. There are, thus, ultimately six active bidders in the market. SJ, the government-owned incumbent, is by far the largest. In addition, the Danish and Norwegian government-owned incumbents have a toehold on the market. So have also the private operators FirstGroup, Arriva and Veolia.

	Owner 1	Owner 2
SJ AB (the incumbent)	The Swedish government	
Tågkompaniet	NSB (the Norwegian government)	
Merresor	SJ AB (50%)	People travel group (50%, owned by Veolia)
Arriva Öresundståg	Private, UK DSBFirst (100%)	DSB (the Danish government) and FirstGroup
Stockholmståg	SJ, possibly with ISS and EuroMaint	
Roslagståg	DSB (more than 50%)	Tågkompaniet (less than 50%)
Veolia	Private, France	
Norlandståg	SJ AB	

*Table 2. Ownership of the Swedish Train Operating Companies*

Whoever wins a franchise has to set up their own organisation and recruit staff to run it. In practice, this typically means that the staff of the previous operator is hired, not least in view of that drivers currently are in short supply; training a new driver for passenger operations takes about 18 months. It is still up to the new operator to decide about staffing and organisation of the service.

Even though SJ obviously dominates the market in Sweden, and though other bidders predominantly are large national parastatals or private groups, it seems to be fair to say that the competitive pressure is substantial in both countries. The literature has never fully landed in an agreement over how many bidders are required to make for an acceptable degree of competition. However, it seems to be acknowledged that the savings in costs when the number of bids increase beyond three is not very large. Moreover, all bidders are aware of that they face highly competent adversaries in the contest, meaning that there is a constant need to deliver competitive bids.

#### **4. NATURE OF THE CONTRACT**

British franchises are generally essentially net cost contracts, with franchisees carrying all cost risks except for general inflation and changes in track access charges. Originally franchisees bore all revenue risk as well, but now this is shared (see below). The main exception to this is the London overground contract, for which TfL (Transport for London) is responsible. As this is closely integrated with the London underground and bus networks, and shares their ticketing system, it is a gross cost contract with performance incentives. Fares and services are completely specified by TfL. The following discussion does not apply to the London overground franchise.

In the first round of franchises, a number of franchisees got into difficulties. At that time, revenue was buoyant but they failed to reduce costs as fast as anticipated. So the problems were mainly in the Regional sector, where revenue is small compared with costs. At that time, a franchisee could in these circumstances ask for a viability review in order to make the case for more subsidy, or withdraw from the franchise. British TOCs may surrender a franchise at any time, but they will be charged the costs of refranchising from a performance bond they have to put up when the franchise is awarded (currently 5.5% of operating costs). However if they do surrender one franchise, they may be required to give up any others that they hold. This is however a two edged sword; if several franchises were given up by several of the large groups, this could lead to the return of almost all the franchises to the government in a short period of time.

If a franchisee wishes to withdraw, the government has a choice of renegotiation or of running the franchise itself (it has a call off contract with a rail management consultancy to provide the necessary management expertise in this event). Whichever of these it chooses, it may regard this as a temporary arrangement pending refranchising, or as a longer term solution. Whichever it chooses, it obviously involves increased costs, and reletting a franchise in circumstances in which the previous franchisee got into difficulties is hardly likely to yield as attractive a bid. In practice, the decision has usually been to renegotiate, as offering the least cost solution, but there are worries that this contributed to a lack of cost control. The Department for Transport has stated that its policy now is that companies who cannot meet their responsibilities under their franchise agreement will have to surrender the franchise; it will not renegotiate.

Currently, it is revenue risk that is of more concern than cost risk. The argument for making franchisees bear revenue risk is obviously to give them an incentive to attract revenue by the quality of their services, fares policy and marketing. These incentives are more effective on commercial services, where revenue is high relative to costs, than on heavily subsidised ones, where there will be a much stronger incentive to hold down costs even if it loses revenue. As a result, whether the contract is gross or net, additional incentives may be required on heavily subsidised services. The gross cost contracts in Sweden often have some form of performance payment or revenue sharing agreement. The net cost contracts in Britain still are accompanied by performance monitoring and penalties as described in section 2 above. Earlier franchises in Britain also incorporated various incentive payments but these have been abandoned as too complex.

In the current economic situation, revenue growth is falling short of that expected, and it must be expected that some franchisees on net cost contracts will get into difficulty. This time the difficulty will be more acute in the sectors which rely most on revenue growth to meet their targets – i.e. long distance and London and South East services in Britain – and especially those that have recently been refranchised with ambitious revenue targets leading to bids involving paying a large premium to the government rather than receiving subsidy, and where the possibility of revenue support (see below) is still some years away. Some cuts in staffing have already occurred, including removal of restaurants from all National Express East Anglia and many National Express East Coast services, and one operator – National Express East Coast – has warned that it may have to withdraw from the franchise later in the year.

In the early franchises, the franchisee carried the entire revenue risk. In recent franchises the risk is shared with the DfT as follows:

- Revenue Share. If actual revenue out-turns between 102% and 106% of target revenue, then 50% of the excess between 102% and 106% will be shared with DfT. If it out-turns above 106%, then 80% of the further excess will be shared with DfT.
- Revenue Support. If actual revenue out-turns between 98% and 94% of target revenue, then DfT will provide support equivalent to 50% of the shortfall between 98% and 94%. If it out-turns below 94%, then DfT will provide support equivalent to 80% of the further shortfall. Revenue support arrangements usually only apply after the first four years of the franchise.

Obviously, if a franchise were to operate under these revenue sharing arrangements, and in particular where its share of any increased revenue is limited to 20%, the incentives provided by a net cost contract would be greatly weakened. Given that the prime cause of external revenue risk is the state of the economy, it would be more satisfactory in terms of incentives to provide additional support when GDP growth fell below forecast, and vice versa.

The basic structure of Swedish contracts is tied to the idea of a public sector procurer who wants to have a particular activity delivered by a commercial operator. For this



reason, the invitation to tender provides a detailed account of the service to be run, and the operator is given little latitude to make changes to the way in which operations are handled. Two parts of this concept are that vehicles are owned by the franchising authority and that fares are not levied by the operator; more on these two aspects below.

The contract therefore requires the operator to run the trains according to a set timetable. It typically also includes on-board services (ticketing and catering), although there is at least one example where catering has been awarded separately from operations. The assignment also includes vehicle maintenance, although there is also in this an example where it is handled by a separate agent.

In Sweden, the first of the entrants – BK Tag – became bankrupt in 2005. The operator of last resort is SJ, which took over the failed service through its subsidiary, Mertåg. In the early 1990s, SJ was itself accused of placing unprofitable bids to retake and retain franchises, and was found guilty and fined by the Competition Authority in one such case in 2000. SJ was close to bankruptcy in 2002, one alleged reason being that it had won contracts for non-commercial services on bids below its own costs. The state had to bail it out from these by way of a capital infusion.

Although the contracts basically are of a gross cost nature, tendering authorities try to provide incentives for bidders and for the subsequent operator to contribute to quality, marketing etc. Contracts only rarely are awarded based on lowest cost only. Although quality criteria are notoriously difficult to gauge at the awarding date, they clearly play an important role for the decision to be taken. Bidders are for example encouraged to suggest changes to time tables in order to save on costs and/or to improve on the value-of-services for users.

There are also economic incentives linked to operator performance. The following description is taken from the *Öresundstrafiken* contract, but the structure is similar also elsewhere.

Each month, the operator is required to account for punctuality. Failure to submit a report is penalised at a rate of SEK 10 000 per occasion. Category 1 is defined to be trains on time, 2 between 1 and 3 minutes late; 3 between 3 and 10 minutes; 4 up to 20 minutes; and 5 more than 20 minutes late or cancelled train. Different targets are set for peak and off peak periods.

	Peak period, %	Category	Off peak, %
A	98	1+2	96
B	99	1+2+3	98
C	100	1+2+3+4	100
D	0	5	0

*Table x*

Traveller surveys are made twice a year. Bonuses and deductions are made at SEK 0,25 per passenger when customer quality is above or below a set target. The franchisee is furthermore penalised by SEK 5 000 each time on-board staff are missing. The following penalties also apply:

- Failure to inform travellers about trains which are more than three minutes late: SEK 1 000 per occasion.
- Incomplete information about revenue from ticket sales: SEK 5 000 per occasion.
- Late accounting for ticket sales: SEK 1 000 per day late.
- Failure to charge travellers in the right way: SEK 1 000 per occasion.

## **5. FARES**

In Britain, the franchise agreement specifies certain fares that are regulated, and restricts increases in those fares to the increase in the retail price index plus or minus a certain per cent. In the original franchises, this percentage was -1%, but in recent franchises it has been + 1%. The Rail Regulator does not regulate rail fares (except in respect of his general competition duties concerning abuse of dominant position). Exceptionally, in the case of South East Trains, a higher level of increase has been permitted because of the improvement in service resulting from the use of the new high speed line to London.

The government justified this policy of raising real fares in the 2008 White Paper (DfT, 2008) on the basis that the increase in costs in the industry had led to a situation in which passengers were only paying some 50% of the industry's costs, and that it was fair to restore this to something like 75% over a number of years.

For short distance and commuter services, it is season tickets that are regulated under the above arrangement; for long distance services it is the off peak ticket previously known as the saver. Around half of rail passenger revenue comes from regulated fares, but this proportion is much higher for commuter services and lower for long distance services. Over the period 1995-2008, rail fares rose on average by 4.5% in real terms in London and the South East, by 4.7% on regional services and by 31.1% on long distance. Whilst regulated fares fell by 1.6% over this period, unregulated standard class fares rose by 20.7% and first class fares by 52.8% (ORR, 2009).

As well as actually raising individual fares, franchisees can raise the average level of fares by limiting the hours in which cheaper ticket types are available – several operators, including First Capital Connect and South West Trains, have been criticised for doing this, although they have responded that it helps make better use of limited capacity by directing passengers to less heavily crowded trains.

All train operating companies are required to accept inter available tickets, the fares for which are set by the leading train operator on the route in question. The revenue from such tickets is shared according to a model (ORCATTS) which predicts the relative use of the different operators. In addition they can offer advanced purchase tickets for use on

specific trains; obviously in this case the operator of that train receives all the revenue. Operators other than the lead operator can offer operator specific tickets at a lower fare, leading to some fares competition where franchises overlap. For instance, First Capital Connect offers lower fares between Peterborough and London than the inter available fare set by National Express East Coast. Open access services, operated not under a franchise agreement and without subsidy but also without requirement to pay a premium for the franchise or to contribute to the fixed costs of the infrastructure, may also be permitted. Invariably open access operators offer lower fares than the franchisee.

The other recent development relating to fares policy is the so called simplification which came into effect in 2008. Originally, whilst franchises were required to continue to offer the standard inter-available tickets, they could also choose to introduce their own tickets, and this happened, leading to a diversity of tickets with different names and conditions from TOC to TOC. To reduce confusion, the TOCs agreed last year to restrict their ticket types to a limited number with standardised names such as 'anytime', 'off peak', 'super off peak' and 'advance'. However, a particular type of ticket may still have different conditions, for instance on when it may be used, attached to it according to the TOC in question, and this –plus the fact that a large proportion of ticket types were renamed – may actually have created confusion.

In Sweden, fares are generally set by the franchising authority with little scope for the operator to affect levels. One exception for this is the contract for Tåg I Bergslagen, which is referred to as a net cost contract. Access to all ticket purchases is available through a national data base, TågPlus. Total ticket price for trips including both a commercial and a subsidised component may be expensive since there is no policy for marketing and selling these as a comprehensive package.

According to Alexandersson and Hulten (2007) there has been a substantial rise in rail fares in Sweden, averaging 43% over the period 1988-2003, with even higher increases for regional services.

## **6. ROLLING STOCK PROCUREMENT**

In Britain, choice of rolling stock to use on a franchise in principle rests with the TOC, which procures the rolling stock almost invariably via a commercial rolling stock leasing company (ROSCO). The rolling stock must be able to fulfil the terms of the franchise agreement, which will limit the choice in terms in particular of route availability and performance. Choice of stock is mainly an issue at the franchise letting stage, as TOCs will normally enter into a leasing agreement binding them to particular rolling stock throughout the franchise in order to secure the best possible terms.

There will only be an incentive to use new rolling stock if the combination of additional revenue plus savings in costs (though lower fuel and maintenance costs and/or improved availability and/or track access charges) outweighs any increased leasing costs plus other costs involved in the replacement such as crew training and the need to retain existing stock on a short lease during the changeover. DfT approval is required for all leasing

agreements related to franchises, but DfT rarely uses this as a way of getting involved in negotiations over price.

Sometimes DfT requires that existing rolling stock is used, either because it has other plans regarding replacement (e.g. where the new inter city trains on which it is leading procurement are to be used) or where it has given the ROSCO a binding commitment that the existing stock will be re-used (in order to secure a lower annual rental).

As a result of a complaint from DfT, the Competition Commission has investigated whether the actions of the ROSCOs regarding the pricing of the rolling stock which they inherited at privatization constitute an abuse of market power. (Competition Commission, 2009). The Competition Commission considered that the current franchising procedures did give market power to the ROSCOs, and that longer franchises should be considered. The reason for this is that there is seldom any choice of stock at the start of a franchise; the only real competition comes through the possibility of introducing new stock but that would at best take some years.

From the point of view of the TOC, in considering whether to introduce new rolling stock, and if it does do so, in considering whether to choose anything other than the cheapest, it will only consider any benefits within the period of its existing franchise agreement (i.e. usually 7 years, with a possible 3 year extension to which some consideration might be given). It will use a commercial discount rate. Longer franchises would increase the incentives on train operating companies to consider new rolling stock.

What is crucial with current franchise length is the degree to which the rolling stock leasing company is prepared to offer a price which reflects the benefits of the new rolling stock over its full anticipated life of at least thirty years. Obviously in considering this, they will use a commercial discount rate with a risk premium reflecting the risk that the stock will not be released, or will only be released at a substantial discount, at the end of the existing franchise. The evidence is that for very flexible diesel units, they are willing to take this risk, but for more specialized units, including those tied to a particular electrification system (Britain has two – third rail and overhead) they are not. Thus for a substantial proportion of new rolling stock, the Department for Transport has given a commitment that it will be reused, meaning that it is in effect the body concerned with minimising life cycle costs, rather than the train operating company or the leasing company.

In considering the case for new stock, DfT might take into account benefits beyond the period of the current franchise, although it is quoted by the Competition Commission (2008) as not usually doing so (but presumably if it gave a commitment on future use of the rolling stock it would). It would also presumably use a social discount rate.

In practice, a number of factors have led to the Department for Transport taking a much more prominent role in rolling stock procurement in recent years. Partly this has resulted from a positive decision to try to overcome the incentive problem outlined above, and partly it has resulted from a lack of willingness of the ROSCOs to invest, in the face of

the financial difficulties of the banking industry (which owns the ROSCOs) and the particular uncertainties referred to above. The result is that the Department for Transport is now taking the lead in procuring new trains, including setting up its own leasing company to procure and lease the fleet of diesel trains most recently announced.

Since the start of the 1988 organizational reforms, rolling stock ownership in Sweden has been concentrated in a few public sector bodies. First and foremost, SJ owns (or controls through sale-leaseback deals) all rolling stock that is required for its commercial traffic. Secondly, the respective regional franchising bodies have been the owner of some vehicles that were used specifically for traffic within the respective regions at the split. Third, Affärsverket SJ was created by the government to manage all rolling stock which was not to be used by SJ or which was not assigned to a particular region. This was a way to relieve these two organizations from risks relating to redundant rolling stock. Affärsverket SJ leases existing stock on a cost recovery basis but is not authorized to purchase new vehicles.

In 1999, most franchising agencies set up a jointly owned subsidiary – Transitio AB – for the purchase and ownership of rolling stock. The respective agencies then lease their rolling stock on a cost recovery basis. Except for benefiting from scale economies in standardization and purchase of vehicles, the company also handles heavy vehicle maintenance, owns spare parts and holds a couple of vehicles of each brand as a backup. Although vehicle purchase is channeled through Transitio, the respective regions still owns the vehicles they use, and some purchases bypass Transitio.

No commercial vehicle leasing activity has been established. One reason is probably that the risk premium in the interest paid through Transitio is so small that commercial leasehold would not be competitive. Since about 2001, the government has also been subsidizing the regions' purchase of new rolling stock.

## **7. RELATIONS WITH THE INFRASTRUCTURE MANAGER**

In Britain, a train operating company winning a franchise negotiates a track access agreement with the infrastructure manager to cover the period of the franchise. This bestows a right to a certain amount of capacity on the TOC, but the slots are defined with a degree of flexing permitted; that is to say the timetable can be modified by moving a train a certain number of minutes earlier or later than its current slot in order to accommodate other services. There is an annual timetabling round in which TOCs may propose changes or request additional slots. The infrastructure manager is required to follow a set of criteria in considering priorities which take account both of the social costs and benefits of the service and of practical issues such as continuity. There is an appeals committee composed of users of the line, and ultimately dissatisfied TOCs may appeal to the Regulator.

The existing contractual arrangements in Britain include a number of incentive mechanisms designed to influence the behaviour of the train operating company. The first

of these is the level of infrastructure charges. For franchisees, these are levied according to a multi part tariff. A fixed charge reflects a share of the fixed costs of the network, but is of no particular significance in terms of incentives, as it presumably simply affects the level of the bid in terms of subsidy or premium. The usage charge is levied per vehicle kilometre on the basis of estimated wear and tear cost and includes a high degree of differentiation according to the characteristics of the rolling stock, distinguishing several hundred types of stock on the basis of characteristics such as unsprung mass and axleload. There is also a congestion charge, which varies by service group, a charge for electricity and a charge for the use of stations.

The second important incentive mechanism is the performance regime, which requires train operators to pay Network Rail for delays they cause, thus incentivising reliability. In turn, Network Rail compensates TOCs for other delays, including those for which Network Rail are responsible themselves and those caused by other TOCs. The intention is that any revenue shortfall caused by poor performance due to factors not under the control of the TOC will be made up for by these payments.

Changes in track access charges during the course of a franchise are simply passed through to the state in a change in subsidy or premium and do not affect the financial position of the TOC. When refranchising occurs presumably the level of track access charges again simply leads to an equivalent change in the level of bids. As noted above, the TOC is also substantially protected from failings in performance by the infrastructure manager by compensation under the performance regime. The result is that TOC bears little risk in regard to the infrastructure manager but also has limited incentive to press them on matters of cost and performance. In the British structure, this is made up for by a strong regulator who does indeed press the infrastructure manager hard on these issues, and ultimately has powers including not just control of charges but also fines.

In Sweden there is no long term track access agreement, but TOCs generally expect to be able to retain the slots they need to operate the service they are contracted to run. The franchising agency is basically responsible for annual negotiations with Banverket for the precise time table, but may be assisted in this by the franchisee. There is an important difference between regional train services, where capacity often is available during much of the day, and commuter services. Stockholm's commuter train system is, for instance, decisive for much of the pattern of time tables also in the rest of the country. Capacity shortages in that region for instance means that the commuter trains can not be operated with six departures, which is the actual demand, but four departures per hour during peak periods.

Infrastructure charges in Sweden are much simpler than in Britain, being based largely on the estimated wear and tear cost per gross tonne kilometre. Sweden currently has no performance regime, although its introduction is required under Directive 2001/14. Sweden does now have a regulator, the Swedish Rail Authority, but it is more involved in technical matters and in hearing appeals than in enforcement of efficiency and performance of the infrastructure manager.

We mentioned above that in Britain open access competition may be permitted. The decision on open access is that of the Regulator, whose policy is only to admit such services if they offer real consumer benefits and generate new rail traffic rather than simply abstracting passengers from existing services. There are now several such services, the longest lived being those of Hull Trains between London and Hull. Where there are more operators wishing to run services than the capacity will permit, as is currently the case on the East Coast Main Line, it is for the regulator to decide the best use of capacity. In fact, the regulator has recently allowed two additional open access competitors on the East Coast Main Line. In Sweden, to date, commercial services have been an SJ monopoly, but it is now proposed to allow open access to competitors.

In short, in both Britain and Sweden, the infrastructure manager is a not for profit organisation with charges based on marginal costs (except for the fixed charge in Britain). In neither case does the structure encourage the TOCs to press the infrastructure manager on matters of efficiency; whereas Britain does have a strong regulator to perform that function, in Sweden the regulatory function is also relatively weak.

## **8. CONCLUSIONS**

In this paper, we have contrasted the franchising arrangements in Britain and Sweden. In Sweden, franchising comprises the procurement of services specified by central or regional government, at fares set by them and using rolling stock procured by them. Contracts are generally gross cost with incentive payments based on performance. The aim of the franchising system is basically to ensure that the services are run cost effectively, and by and large the evidence is that this has succeeded, with a typical saving of subsidy of the order of 20-30% being achieved at the first round of franchising and largely maintained thereafter (Alexandersson and Hulten, 2007). Moreover, there has been a major increase in services and traffic, although doubts have been expressed as to whether services are always planned and marketed to the greatest advantage, and it has been argued that involving operators more strongly in this rather than leaving it entirely to the franchising authorities would be advantageous. The continued presence of SJ in the market has also been problematic, in that it has apparently attempted predatory behaviour, although if it is now a genuine arms-length commercial organisation which cannot expect to be bailed out by the government if things go wrong then perhaps that is no longer a problem.

By contrast, franchising in Britain appears both more ambitious and more problematic. The aim has been to leave TOCs more commercial freedom to influence services, fares, marketing and rolling stock procurement, although this freedom has diminished over the years. The principal incentive in this process is that the TOCs bear at least a degree of revenue risk. There is evidence of success in that traffic has grown fast, and there is some evidence that whilst most of this is due to external factors such as economic growth and road congestion these factors do not explain all the growth. But costs have risen substantially; real train operating costs per train km in 2005-6 being 15% higher than in 1996/7 at the start of the franchising process, and 35% higher than at their lowest point in

1999/2000 (Smith, Nash and Wheat, 2009), although it is not clear how far this should be seen as a failure of the franchising system as opposed to being caused by other factors.

What is the efficient way to split risk between the state and the franchisee, accounting for the need to provide incentives to be both cost efficient and to cap risk? There is a vast literature on this topic, which generally argues that risks should be allocated to the party best equipped to manage them. Thus cost risks are generally allocated to the franchisee, although some aspects (e.g. developments in fuel and labour prices in general, as opposed to the precise agreements struck by the franchisee) may be outside their control and in some contracts general increases in these costs are passed on to the state. Revenue risks are more complicated. Whilst they may be influenced by the quality of service of the agent, they are generally much more related to external factors such as the state of the economy. Given its size, the public sector is better positioned to carry such risks. If they do not carry them, this will affect the competitiveness of the bids received in the first place, and the likelihood of a franchisee failing, in which case the state is likely to pick up much of the costs anyway.

In practice there seems to be a simple choice. Where the task is simply to run a predefined level of service in a cost effective way, the Swedish approach of gross cost contracts with performance payments seems to work well. But if it is desired to give the TOC some commercial freedom a lot more thought is required. The current British system involves a number of complicated incentive mechanisms, but it is not clear that these are fully effective.

We have already seen a number of arguments for longer franchises. These would improve the incentives for both developing services and for cutting costs. They would enable the TOC to play a more active role in rolling stock procurement and perhaps also in putting pressure on the infrastructure management, although to make this effective would mean relating the fixed element of the infrastructure charge more closely to the avoidable cost of the services of the TOC, and making the TOC bear the risk of changes in infrastructure charges. They would also reduce the costs of the franchising process itself; each franchising exercise has been estimated to cost bidders of the order of £15m (National Audit Office, 2008). Obviously there would have to be penalties, and ultimately the risk of losing the franchise prematurely for poor performance.

A further problem with the current system is that TOCs have little capital invested in the system, and are able to surrender the franchise with a relatively low penalty (in terms of the performance bond) if things go wrong. Thus may in turn encourage optimistic bidding. Other than increasing the size of the performance bond, an alternative would be to make the TOC more likely to invest directly in the franchise, and this would be easier to achieve with a longer franchise.

Of course a longer contract would expose the operator to even greater revenue risks, which would increase the risk of failure, and discourage competitive bids if the penalty for surrendering a franchise were substantially increased. So some form of revenue protection in the event of an economic downturn would be an essential part of such a system.



A strong counter argument rests with the difficulty of incentivising the TOC to undertake improvements both to services themselves and to related facilities, such as car parking and stations, which may be socially desirable but unprofitable. Even in a short franchise this is a difficulty, and such improvements are often heavily prescribed in franchise agreements leading to accusations of micro management, but in long franchises they would of necessity have to be revised periodically; they could not all be foreseen at the start of the franchise. A solution here is to move to paying a subsidy according to the amount of traffic attracted; the level of the subsidy can be varied according to the social benefits in question, so for instance higher on peak period commuter services than off peak. Whilst in itself this would increase the revenue risk borne by the franchisee, if they were protected from some of the impact of an economic downturn, the net effect may not be problematic in terms of the impact on bids and on the likelihood of failure..

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Appendix A Current Franchises, Great Britain

TOC	Owning Group	Year Awarded	Train km (2007-8) (m)	Pass km (2007-8) (m)	Length
Long distance services					
Cross Country	Arriva	2007	50.2	1136.6	6 (+2)
East Midlands	Stagecoach	2007	10.1	1597.9	6 (+2)
First Great Western	First	2006	44.8	4985.9	7 (+3)
National Express East Coast	National Express	2007	18.8 <sup>1</sup>	4301.9 <sup>1</sup>	6 (+2)
Virgin West Coast	Virgin	2006 <sup>2</sup>	23.4	4213.5	15 <sup>2</sup>
London and South East Services					
C2C	National Express	1996	6.4	916.8	15
Chiltern	Deutsche Bahn (Germany)	2000	9.3	897.1	20
First Capital Connect	First	2006	23.9	3212.3	6 (+3)
Gatwick Express	Go-ahead/Via Rail (France)		2.4	219.5	
London Overground	Deutsche Bahn/MTR (Hong Kong)		1.3	162.1	
National Express East Anglia	National Express	2004	31.4	3946.0	7 (+3)
South East Trains	Go-ahead/Via Rail (France)	2006	28.8	3844.2	6 (+2)
Southern	Go-ahead/Via Rail (France)	2003	28.1	3421.9	6
South West Trains	Stagecoach	2007	40.7	5185.1	7 (+3)
Regional Services					
Arriva Trains Wales	Arriva	2003	23.7	953.3	15
First Scotrail	First	2004	38.7	2503.8	7 (+3)
London Midland	Go-ahead/Via Rail	2007	7.0	591.5	6 (+2)
Merseyrail	SERCO/Nedrail (Netherlands)	2003	6.0	341.8	25
Northern	SERCO/Nedrail (Netherlands)	2004	48.2	1831.9	7 (+2)
Trans Pennine Express	First/Keolia (France)	2004	14.4	1069.5	8 (+5)

Source: ORR National Rail Trends; DfT Website

<sup>1</sup> Data refers to 2006-7, when the TOC was GNER

<sup>2</sup> 15 year franchise awarded starting 1997, suspended due to the failure of Railtrack to deliver the necessary infrastructure improvements in 2002; reinstated in 2006.

Appendix B Current Franchises, Sweden.

Name of service (Ri – procured by Rikstrafiken)	Commuter/ Regional	Procurement/ Negotiated contract (Year of contracting)	Operator	Contract size, million train km	Contract size, million passenger km, 2008	Rikstrafiken subsidy, m SEK 2008	Contract length, years + option	No. of bidders, first round/second round
Kustpilen	R	P (2007)	Veolia	1,9	0,56	22	6+2	4/4
Östgötapendeln	C	N (?)	SJ	?			?	N.a.
Tåg i Bergslagen	R	P (2005)	Tågkompaniet	5,5	2,6	64	5+5	6/3
Tåg i Mälardalen	R	N (?)	SJ	?	1,5	17	?	N.a.
Värmlandstrafik 1	R	N (2003)	Merresor	1,2			3+2	N.a.
Värmlandstrafik (Genvägen)	2 R		Tågkompaniet		0,02	2		
Värmlandstrafik (Örebro – Oslo)	3 R		?					
Krösätåget	R	P (2001)	BK Tåg, Merresor from 2005	2,2	1,3	30	5+0	?/2
Coast-to-Coast	R	N (?)	SJ	N.a.		-	Indefinite/ taken over by SJ	n.a.
Pågatåg Support to Blekinge – Öresund	C/R	P (2005)	Arriva	3,5		-	9+2	9/5
Öresundståg	C/R	P (2007)	Öresundståg		1,6	17		
Stockholm commuter trains	C	P (2005)	Stockholmståg	?		-	7+2	12/5
Roslagsbanan	C	P (2002)	Roslagståg	?		-	5+5	?/4
Upptåget	C/R	P (2005)	SJ			-	5+5	6/3

Kinnekullebanan	R	P (2008)	Veolia	0,8		(85)	4+2	?/5
Bohusbanan	R	P (2003)	SJ	0,9		(85)	3+3	?/2
Rikstrafiken					6,4	85		
support to Gothenburg region								
Alingsåspendeln	C	N (?)	SJ	?		-	25 years	n.a.
Kungsbackapendeln	C	N (?)	SJ	?		-	25 years	n.a.
X-tåget	R	P (1999)	Tågkompaniet			-	8+5	?/4
Sleeper trains to Norrland (Ri)	R	P (2007)	Norrlandståg		545	109		
Day trains Norrland	R	P (2007)	Norrlandståg		74	13		
Mitt-Nabo (Ri)	R	P	Veolia		2 135	55		