

# Competitive Tendering of Railway Services in Sweden

## Extent and Effects 1989-1999

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### Abstract

In 1988 the vertical separation of the Swedish State Railways into one train operator (SJ) and one infrastructure holder (Banverket) was implemented. Together with the transfer of responsibility for the regional non-profitable passenger railway services to regional transport authorities, this reform paved the way for the introduction of competitive tendering for these services. Initially, only one new firm entered, but through subsequent tenders this figure has increased to four. Since 1992 it has also been possible for the state's negotiator to procure the non-profitable interregional services by means of tendering. For several years no actual entry occurred on this part of the market, partly due to more demanding conditions compared to other tenders. However, following the outcome of the latest tenders, new entry is set to take place in January 2000. Consequently, what started as a very slow walk towards more competition in the railway sector has taken us to a point where SJ is facing actual competition on almost all parts of the market. In addition to discussing the new entrants, the different types of tenders are compared in some detail in the paper. Some empirical data on the number of bidders, cost reductions, innovations and travelling changes related to tenders is presented and interpreted. The development of the behaviour of SJ and its competitors is also discussed, as well as the further impact upon transport policy.

### Introduction

In several countries today, not the least in Europe, a process of reforms in the railway sector has been initiated, aiming at breaking up the national railway companies' exclusive right of access to the tracks. In Great Britain, a radical policy has led to a privatisation of the whole railway sector and a division of its functions and business areas into a large number of separate firms. In most other countries, a more cautious route towards change has been applied, with a step-wise introduction of competition for the tracks, while the national railway company has been kept more or less intact.

In this respect, Sweden has come a rather long way, opening up almost all parts of the railway market to some form of competition. The purpose of this paper is to show how this development came about, and point at its most important effects, for example in terms of new entrants, and the still on-going process of regulatory change.

## Going from monopoly to competition<sup>1</sup>

The Transport Policy Act of 1988 implied a division of the state's railway assets between one infrastructure holder, the National Rail Administration (Banverket) and one train operator, Swedish State Railways (SJ). This groundbreaking reform is generally considered as the starting point for what is referred to as the deregulation of the Swedish railway sector, since it implied that an important prerequisite for competition became established. However, this was hardly the primary goal with the reform. Rather, in similarity to preceding and later regulatory changes, the most important goal was to find a way to handle SJ's financial problems and to create favourable conditions for SJ to become a profitable train operator.<sup>2</sup>

Several other regulatory changes had preceded the split. For instance, SJ was already in 1985 instructed to separate infrastructure from operations in its accounting. Also, the establishment of the *county public transport authorities (CPTAs)*<sup>3</sup> in the early 1980's turned out to be of great importance for the introduction of competition in the railway sector in the 1990's. One part of the Transport Policy Act was the decision to transfer the responsibility for the passenger train services of the regional (county) lines<sup>4</sup> to these county public transport authorities - along with the rolling stock and the money needed to uphold these services. Combined with the separation of infrastructure from operations, the effect was that *competitive tendering* of railway services became a reality in Sweden. Some CPTAs arranged their first competitive tenders for passenger train services in 1989, as part of the preparations for the transfer of responsibility for the regional lines in mid 1990. Others chose only to negotiate with SJ, making SJ the contracted operator without a preceding tender.

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<sup>1</sup>A thorough description of the regulatory changes in the Swedish railway sector can be found in Alexandersson & Hultén (1999).

<sup>2</sup>The political process leading to the Transport Policy Act of 1988 is described by Nilsson (1995).

<sup>3</sup> In each of Sweden's 23 counties, the responsibility for local and regional public transportation (by bus and now also by train) lies jointly at the county council and the municipalities of the county. In order to handle this responsibility, it has been common to create a separate authority taking the form of a limited company, its shares being owned by the county council and the municipalities. These authorities procure the traffic from bus operators and train operators and are referred to as the *county public transport authorities*.

<sup>4</sup>All railway lines were categorised as being either county lines or main lines. For reasons of simplicity, the terms "regional" and "inter-regional" lines/services are used in this paper. "Regional" services then refer to passenger services run primarily within a county, while "inter-regional" services refer to traffic crossing at least

When SJ got rid of the responsibility for the track infrastructure, it was directed only to perform train services under its own account when this could be done with a profit. While large parts of the non-profitable services were run on the regional lines and therefore came under the responsibility of the CPTAs, there were also some services on the inter-regional network that were non-profitable, but nevertheless were considered to be valuable to keep for socio-economic and political reasons. Beginning in 1988, the state was to be responsible for these services by means of procuring them, instead of just transferring subsidies to SJ every year to cover the deficits. Up to and including the year 1991, these procurements took place without the use of competitive tendering, i.e. the state's negotiator<sup>5</sup> had the task of trying to get SJ to perform as much traffic as possible for a sum that was decided upon each year. Following the experiences of competitive tendering for regional services, a regulatory change made it possible also for the state's negotiator to use competitive tendering, coming into effect in 1992. A special case of state procurement concerned the building of the infrastructure for the new Arlanda Airport Link and the running of passenger train services on this line. It was tendered as a BOT project (Build-Operate-Transfer) in 1993-94.<sup>6</sup>

In spring 1994, a bill on a far-reaching deregulation was passed in Parliament, which would have implied open access on all lines for all train operators on January 1, 1995. However, this decision was cancelled in late 1994 after a shift of power in Parliament following the General Election that year. Instead, the new Government implemented a deregulation on the rail freight market in 1996, and simultaneously enlarged the possibilities for the CPTAs to run inter-regional passenger services.

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one county border.

<sup>5</sup> The state's negotiator is a special authority for the procurement of inter-regional passenger services. Since 1996 it has been organised as a division within Banverket.

<sup>6</sup> This is a brand new line connecting the Central Station of Stockholm with Arlanda Airport. The decision to let the procurement concern both the building of the infrastructure for the line and the operations of passenger services, was due to a widely held belief that this line, if any, would be possible to run with a profit. Therefore, the conditions for attracting private investors were considered favourable. For a full description of the procurement process, see Alexandersson & Hultén (1998).

Following from all these events and regulatory changes, the only part of the railway market where SJ still holds a legal monopoly concerns the inter-regional passenger services that SJ is able to run with a profit by its own account, that is without the use of any subsidies. The forms of competition now in use on different parts of the railway market are summarised in Table 1, also indicating the changed situation compared to 1988.

**Table 1. Forms of competition on different parts of the Swedish railway market**

Part of railway market	1988	1999	Year of change
<i>Passenger services</i>			
Regional (non-profitable)	SJ holds monopoly and receives subsidies	Procurement by competitive tendering (competition <i>for</i> the tracks) Gross cost contracts	1989
Inter-regional (non-profitable)	SJ holds monopoly and receives subsidies	Procurement by competitive tendering (competition <i>for</i> the tracks) Net cost contracts	1992
Inter-regional (profitable)	SJ holds monopoly	SJ holds monopoly	--
<i>Freight services</i>	SJ holds monopoly	Open access on all lines (competition <i>on</i> the tracks), limited by grandfathering*	1996

\* Already established traffic flows of freight trains have higher priority when the available timetable positions are distributed among train operators.

### **Different types of tenders and contracts**

The competitive tenders performed by the county public transport authorities differ from the ones performed by the state's negotiator in several respects. Three may be regarded as particularly important: 1) who has the power to influence what traffic to be tendered and when, 2) the distribution of areas of responsibility, costs and revenues between the train operator and the procuring authority, influencing the type of contracts in use, and, 3) the availability of rolling stock. These differences are well worth a closer look.

## **What traffic to be tendered and when**

All passenger services under the responsibility of the CPTAs may be subjected to competitive tendering, although some authorities have chosen only to negotiate with SJ. Generally, the tendered contracts run for 3-5 years, but there are still some old agreements with SJ that reach well into the next decade. They have yet to be tendered for the first time.

The state's negotiator arranges tenders almost every year but for various amounts of traffic. Some of the contracts only run for 1-2 years, but nowadays a couple of 5-year-contracts are also in use. In order for a line to become subjected to the state's tendering process, SJ first has to announce that it has become unprofitable. Not until then, the Government and the Parliament will consider whether the passenger services on this line are believed to be of such socio-economic importance that they should be upheld by means of taxpayers' money and consequently should be subjected to tendering. Since the financial situation for each of SJ's lines is never made public, it is possible for SJ to keep an unprofitable line from being tendered, for example if SJ has reason to believe that the line could become profitable in the near future. However, as of today, only a few inter-regional lines have never been subjected to tendering: Stockholm-Göteborg, Stockholm-Malmö, Stockholm-Karlstad, Stockholm-Sundsvall, Stockholm-Östersund and Stockholm-Falun/Borlänge/Mora. The latter two were reported by SJ to have become unprofitable in October 1998, but SJ later withdraw this report.

## **Distribution of areas of responsibility**

For the passenger services that are tendered by the CPTAs, it is generally the case that these authorities are also responsible for planning the services (supply, routes and timetables) and market them. They also decide upon ticket fares, and, most importantly, all the revenues from ticket fares accrue to the CPTA. The train operator is compensated for its costs for performing the actual railway services, implying a gross cost contract. In the tenders, the train operators compete by placing bids where the most important factor is the gross amount of money demanded to perform the services. This is in sharp contrast to the situation for the services tendered by the state. For these services, the contracted train operator bears a much larger part of the costs and the responsibility for planning the services, and in return gets all the revenues from ticket fares. In addition to this, the operator receives an amount from the state that is supposed to cover the expected deficit, implying a net cost contract. In these tenders, the competing train operators place bids where the demanded amount of subsidy to cover the deficit is the most important factor.

### **Availability of rolling stock**

The CPTAs have in their possession, often by direct ownership, the vehicles needed to carry out the traffic, which are made available for the operator to use during the contract period. The state as a procuring authority, on the other hand, does not control the rolling stock, despite the fact that SJ is fully state-owned. Therefore, a new entrant either has to be prepared to put in own resources of vehicles or close a deal with SJ on renting vehicles.

### **Actual competition and new entry**

The different conditions for different types of tenders have clearly been important for the degree of actual competition, in terms of the number of bidders aside from SJ for each contract, and in particular for the outcome in terms of new entries. It is unquestionable that the entry barriers are considerably lower for the services procured by the CPTAs, compared to the ones procured by the state. Table 2 is a compilation of the number of bidders and the resulting winner for a selection of tenders carried out by the CPTAs since 1989. Table 3 is a similar compilation of the yearly rounds of tendering carried out by the state's negotiator since 1992. It can be noted that 2-4 bidders have been common in the tenders carried out by the CPTAs, although there are exceptions. The tenders for the three metro lines of Stockholm attracted less bidders for every new line that was subjected to tendering, while as many as five bids were filed when the services of the new high speed tram line were tendered.

The first year of tendering for the traffic procured by the state, 1992, attracted as many as 6 bidders, although three of these never made it to the final negotiations. One bidder (apart from SJ) placed bids on all the tendered lines. For a couple of the following years, these tenders attracted less bidders, but the number has increased again in recent years (Table 3).

**Table 2. A selection of tenders arranged by county public transport authorities**

County	Traffic / line	Tendered year	Number of bidders	Winner	Start of contract
Jönköping/ Halland	County lines of Jönköping and Halland	1989	4	BK Tåg	May 1990
		1993	2	SJ	June 1994
		1997	3	BSM Järnväg	Aug 1998
Dalarna	Borlänge-Malung	1992	≥2	BK Tåg	June 1992
		1994	2	SJ	June 1994
		1996	4	BK Tåg	June 1997
Kristianstad	Ystad-Simrishamn	1995	2	Sydtåg	June 1995
		1998	2	BK Tåg	June 1999
Stockholm	Lidingö tram line	1992	≥2 <sup>1</sup>	SL Lidingö Trafik	Aug 1993
		1996	1	SL Lidingö Trafik <sup>3</sup>	Aug 1997
	Nockeby tram line	1992	≥2 <sup>1</sup>	SL Tunnelbanan	Aug 1993
	Nockeby tram line/ High-speed tram line south	1998	5	SL Tunnelbanan	Aug 1999
	Saltsjö line	1992	≥2 <sup>1</sup>	SL Tåg <sup>3</sup>	Aug 1993
	Metro 3	1993	3	SL Tunnelbanan	Aug 1994
	Metro 2	1994	2	SL Tunnelbanan	Aug 1995
	Metro 1	1995	1	SL Tunnelbanan	Aug 1996
	Roslagen line	1997	4	Linjebuss	Jan 1998
Commuter trains of Stockholm	1998	4 (+1) <sup>2</sup>	BK Tåg + Via GTI + Go Ahead	Jan 2000	

<sup>1</sup> These lines attracted a total of four bidders.

<sup>2</sup> One bidder withdraw from the tender before completion.

<sup>3</sup> The traffic is now carried out by the sister company SL Tunnelbanan, a subsidiary to the regional transport authority of Stockholm.

**Table 3. The state's tenders**

Year of tender	Number of bidders			Winner(s)	Start of contract
	All lines	Certain lines	Total		
1992	2	3	3 (+3) <sup>3</sup>	SJ	Jun 1993
1993	1	2	3	SJ	Jun 1994
1994a	1	2	2	SJ	Jun 1995
1994b <sup>1</sup>			2 (+2) <sup>3</sup>	ALC (A-Train)	Aug 1999
1995	1	1 (+2) <sup>3</sup>	1 (+2) <sup>3</sup>	SJ	Jun 1996
1997	1	3	3 (+1) <sup>3</sup>	SJ	Jan 1998
1998a	1	2	2	SJ	Jan 1999
1998b <sup>2</sup>			≥3	BK Tåg + Via GTI + Go Ahead	Jan 2000
1999	1	2	≥3	SJ Svenska Tågkompaniet <sup>4</sup> BSM Järnväg <sup>4</sup>	Jan 2000

<sup>1</sup> Refers to the BOT tender of the Arlanda Airport Link.

<sup>2</sup> Refers to the traffic between Göteborg and Malmö on the West Coast Line.

<sup>3</sup> Figures within brackets refer to bidders that withdraw from the tender before it was completed.

<sup>4</sup> Entry dependent on final decision to be taken by Government.

These changes over time and between different tenders may have several reasons, apart from what has been mentioned above about the different conditions in different types of tenders: 1) some companies chose not to continue to place bids in tenders when it didn't pay off at once, 2) a couple of new players have entered the scene in recent years, for example the bus operator Swebus after having been sold by SJ to Stagecoach in 1996, 3) some companies have learnt from early experiences, coming back with newly gained strengths in the form of alliances with other firms, 4) some long-term-agreements made in the state's tender in 1993 implied that some of the most interesting lines were not tendered for a couple of years, and, 5) some firms have chosen only to place bids in tenders concerning very large amounts of traffic.

A complete list of the new entrants to the Swedish railway market is presented in Table 4, including also the entrants to the rail freight market. After the groundbreaking new entry of the private train operator BK Tåg in 1990, it took five years before any additional new entry took place. As more and more lines have become subjected to tendering, the rate of new entry has accelerated in recent years. Until very recently, entry had only taken place by means of the tenders arranged by the CPTAs (with the exception of the special case of the Arlanda Airport Link). However, the tender carried out by the state's negotiator in late 1998 will imply that we for the very first time will have a new entrant on an

inter-regional line – the West Coast Line – in January 2000.<sup>7</sup> The implications of this will be discussed later in the paper.

**Table 4. New entrants to the Swedish railway market 1990-2000**

Year	Passenger services tendered by CPTAs	Passenger services tendered by the state	Freight services
1990	BK Tåg		
1991			Österlentåg <sup>1</sup> Sydtåg <sup>2</sup> Dalatåg <sup>3</sup>
1992			
1993			LKAB/Malmtrafik Wasatrafik <sup>4</sup>
1994			Shortline Väst Tågakeriet Woxna Express BK Tåg BSX/Urnet <sup>5</sup>
1995	Sydtåg <sup>2</sup>		Skövde-Karlsborgs Järnväg
1996			
1997			BSM Järnväg Inlandsgods
1998	Linjebuss/CGEA BSM Järnväg		Orsatåg
1999		A-Train <sup>6</sup>	
2000	VIA GTI/Go Ahead <sup>7</sup>	VIA GTI/Go Ahead <sup>7</sup> BSM Järnväg <sup>8</sup> Svenska Tågkompaniet <sup>8</sup>	

<sup>1</sup> Bankrupt in 1994. Business taken over by Sydtåg.

<sup>2</sup> Bankrupt in 1997. Passenger services taken over by BK Tåg.

<sup>3</sup> Bankrupt in 1996.

<sup>4</sup> Services taken over by Woxna Express in 1994.

<sup>5</sup> Business liquidated in 1997. Assets taken over by BSM Järnväg.

<sup>6</sup> Entry through the BOT tender (carried out in 1993-94) of the Arlanda Airport Link.

<sup>7</sup> In alliance with BK Tåg.

<sup>8</sup> Entry dependent on final decision to be taken by Government.

<sup>7</sup> The tender for the inter-regional passenger services of the West Coast Line (Göteborg-Malmö) was a unique event, since SJ had not officially demanded that it should be tendered, despite having lost money on this line for several years. By means of rationalisations, SJ had managed to reduce the losses from 80 million to 30 million SEK per annum, hoping that it would be possible to make the line profitable in the near future. A special Parliamentary decision to subject the line to tendering was taken in 1998, caused by fears that without subsidies, SJ would reduce the frequency of trains as competition from long-distance buses grew stronger.

The market share situation in late 1998 for different parts and sublevels of the railway market is presented in Table 5, which is based upon the turnover of the active firms. The compilation shows that SJ's position is still very strong on most parts of the market. At a higher level of aggregation, SJ is totally dominant. For the market referring to the traffic tendered by county public transport authorities (excluding the metro of Stockholm and some tram lines), SJ achieves only a 55% market share. The second largest firm is Linjebuss, with a turnover of 94 million SEK on the Roslagen line, followed by SL Tunnelbanan with a turnover of about 36 million SEK on Saltsjö line. Both these lines are located in the county of Stockholm.

However, already in August 1999, the market share situation will be changed, since A-Train will then enter as the train operator on the Arlanda Airport Link. Even bigger changes will come about in January 2000. This is when BK Tåg, Via GTI and Go Ahead will take over SJ's single most important contract - the commuter services of Stockholm - and also the inter-regional passenger services on the West Coast Line. Although depending on the outcome of the Government's decision concerning the latest round of tendering by the state's negotiator, it also seems likely that BSM Järnväg will increase its share and that another new entrant, Svenska Tågkompaniet, will see the day in January 2000.

**Table 5. Market shares on separate parts of the Swedish railway market 1998<sup>8</sup>**

<b>Part of railway market</b>	<b>SJ</b>	<b>Second largest firm</b>	<b>Third largest firm</b>	<b>All <i>private</i> firms</b>
Passenger traffic tendered by CPTAs	55,3%	24,5%	9,6%	35,2%
All tendered passenger traffic	86,7%	7,3%	2,9%	10,5%
All passenger traffic	96,9%	1,7%	0,7%	2,5%
All freight traffic	91,1%	8,0%	0,2%	0,9%
All railway traffic	93,8%	4,3%	0,8%	1,6%

<sup>8</sup> Adapted from Alexandersson, Hultén & Ehrling (1998).

## **The conduct of the firms**

SJ's view upon its competitors has shifted over time. For many years, SJ claimed that competition from other *modes of transportation* was quite enough, but lately increased competition from other train operators has even been encouraged by SJ's top management. One reason for this is that more entrants would give SJ a higher credibility when claiming that it is a company facing tough competition. Nine years ago, the entry of BK Tåg in 1990 was initially met with a very hostile, almost predatory behaviour from SJ. This led to a process of legal actions and finally a trial in 1998, in which SJ was accused by the Swedish Competition Authority for having tried to force BK Tåg out of the market. In December 1998 SJ was sentenced to a fine of 8 million SEK for placing a bid in a tender that was too low to cover SJ's own costs. This sentence will make it possible for BK Tåg to sue SJ for damages. In recent years, the relationship between SJ and its competitors has become more relaxed, for example leading to some co-operation in the use of spare vehicles. Most noteworthy, BSM Järnväg works as a subcontractor to SJ on two lines since August 1998.

The competing firms have also changed their behaviour and their strategies. BK Tåg faced its difficulties in winning tenders for passenger services by competing on the relatively more easily accessed rail freight market. Entry to this part of the market has also functioned as a way to make a first move into the railway industry for companies like Sydtåg and BSM Järnväg, there building a position from which it has been possible to take the step into the passenger rail market. The Swedish firms have also gone into alliances with foreign companies. After having lost the second tender for the traffic in the counties of Jönköping and Halland in 1993, BK Tåg initiated a co-operation with French company Via GTI, added with British Go Ahead Group in 1998. Similarly, Linjebuss started to co-operate with French CGEA in 1993, a company that went on to buy Linjebuss in 1998.

## **Effects on costs and innovations etc.**

Data on cost reductions caused by the tenders carried out by the CPTAs is somewhat scarce, partly due to difficulties when comparing cost levels under different conditions. The first tender of the regional services in the counties of Jönköping and Halland reduced the transport authorities' costs by 21%. The second tender implied a further reduction of about 25%, while the third tender caused only a slight decrease in costs. There is reason to believe that the second tender pushed down the price for performing the services too low to cover all costs, at least for some operators. (This tender was the basis for the legal actions against SJ.) The tender for the line Simrishamn-Ystad implied a cost reduction of 18-21%. Finally, the recently completed tender for the commuter services of Stockholm will reduce costs with 25%, despite the fact that the lowest bid was not chosen.

For the services procured by the state, the big cost reductions were accomplished during the first two years of tendering, -21% in fixed prices and similar volumes of traffic. Since then, the state's costs have been kept stable. The mere threat of competition in these tenders seems to have been enough to push down the price demanded by SJ. The result of the tender of the West Coast Line may imply that SJ's annual losses of 30 million SEK "disappear", since the winning consortium does not ask for any subsidies, claiming that ticket revenues will cover the costs. Simultaneously, the very same ticket revenues are lost by SJ (totalling about 200 million SEK per annum), although some new revenues are to be accrued to SJ from hiring out the rolling stock.

All available examples of innovation caused by new entry originate from the experiences of one company, BK Tåg, following its entry in 1990. The company was very active in changing the railway specific equipment of the rail cars to more standardised bus parts. Perhaps the most important thing was a switch to bus engines, which turned out to be better suited for the Swedish climate, more environmentally friendly and cheaper to use and maintain. New routines and working conditions were also introduced by BK Tåg, making the drivers responsible for fuel refilling and cleaning rather than just driving the trains. These changes may be regarded as minor, but they had nevertheless been considered impossible to implement under SJ's regime. The new working conditions were easier for BK Tåg to implement, partly because the company had a large degree of freedom when choosing its employees when it started up its business. SJ has later been able to replicate several of the good examples.

Other changes, for example effects upon travelling rates, are harder to link to new entrants. Rather, the co-ordination of regional train services with bus services, and the high level of ambition among many county public transport authorities to develop the regional train services, has probably been more important in this respect.

## **Concluding analysis and discussion**

The step-wise approach to deregulation and reforms in the Swedish railway sector, initiated in 1988 with the split of the state's railway assets and the decentralisation of responsibility to regional transport authorities, is now beginning to reveal its long-term effects. Today, it is easier to list the lines that have *not* been subjected to competitive tendering than the opposite. While events of new entry used to be rare and far between, we are now on the brink of a break-through for the private train operators. When BK Tåg, together with its partners VIA GTI and Go Ahead Group, starts to run the commuter services of Stockholm in January next year, and also the services on the West Coast Line, SJ will suddenly have a real and strong competitor in the passenger train market. The still preliminary results of the state's latest tender indicate that there is more to come.

The result of the recently completed tender of the West Coast Line gives rise to a couple of fundamental questions, in particular caused by the fact that the winning private consortium does not demand any subsidies from the state to carry out the traffic, but claims that ticket revenues will be enough. What if a line that has been tendered because it is unprofitable suddenly turns out to break-even or even becomes profitable? Does SJ then, based upon its legal monopoly on profitable inter-regional lines, have the right to get the line back without having to win a new tender? Or should the line be tendered, applying a system where the winner is the firm willing to *pay* the largest amount of money for the right to perform the services? And if such a system is applied on one line - why not apply it to all supposedly profitable lines? In Great Britain, to give a simplified picture of the events, all lines have been subjected to tendering - also the profitable ones. Perhaps the regulatory framework in Sweden is about to develop in the same direction.

A series of regulatory reforms in both the bus industry and in the railway sector have caused previously separate industries to come closer to each other. The new entrants to the Swedish market for passenger railway services have a history as bus operators or companies working in a broadly defined transportation sector. Related to this, the Swedish railway sector has become increasingly dependent on events taking place in other countries - and vice versa. Train operators like Stagecoach and Go Ahead are the results of privatisations and deregulations in Great Britain - to some extent reforms that once were inspired by the groundbreaking split of SJ. The appearance of new operators acting on an international scene, sometimes through the formation of international alliances, seems to be what will eventually tear down the barrier of the national border, by tradition of such importance in the European railway sector.

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