
Tendering in Scandinavia, Systems and Results: Sustainable Competition through Tendering?

Bjørn Andersen

Møre og Romsdal College
Molde, Norway

1. Background

In Scandinavia, regulatory reforms for regional and local public transport began in the late 1980s and the beginning of the 1990s. In the four countries, Denmark, Finland, Norway, and Sweden, competition for the market has been introduced or will be introduced.

The process of change in Scandinavia has been going on for many years and has been a gradual development. Denmark, Norway, and Sweden in late 1970s and beginning of 1980s transferred responsibility for regional and local public transport to the regional level either directly to country councils (Norway) or to transport organizations owned and financed by regional and local councils (Denmark and Sweden). These regional organizations still have responsibility for public transport and still have too powers to create an integrated public transport system for their areas with uniform fares systems and fare levels and with a politically defined quality of service for public transport.

During the 1980s, the Scandinavian countries moved in the same direction again towards more competitive regimes, but unlike Britain they opted not for competition in the market, i.e., full deregulation, but competition for the market-tendering. The process towards change is dealt with in Andersen (1992) and Andersen (1993a) and (1993b).

The aims of the change of regulatory regimes in Scandinavia are the same in all countries

more effective public transport through competition but, at the same time, securing the benefit of an integrated public transport system. The solution, then, is tendering.

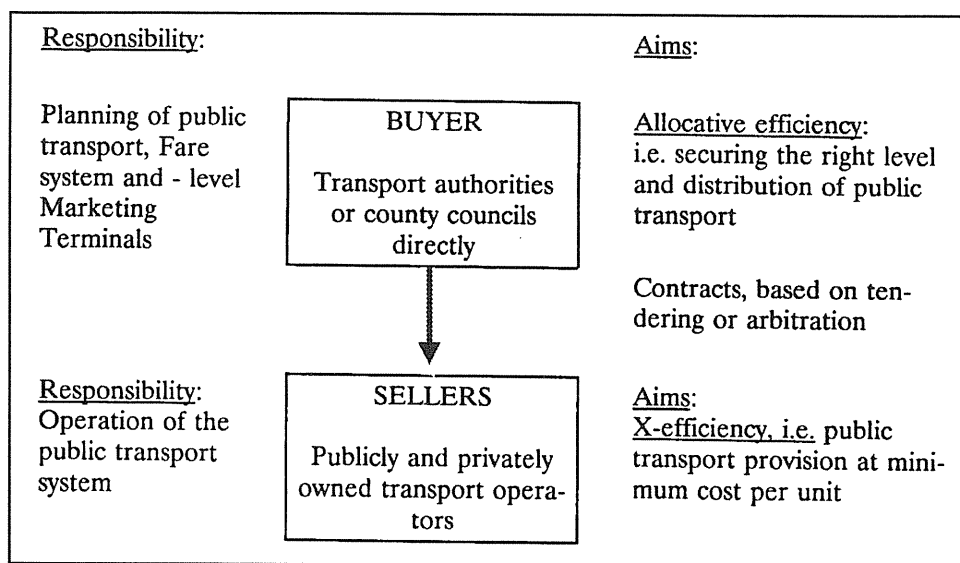
The reason for this is that, in all Scandinavian countries, there are clearly stated transport policy aims concerning public transport provision as a social necessary service. However, there have been clear needs to reduce public expenditure in all countries, and this has led to a solution of competition for the market rather than in the market. In Denmark, there has also been a clear ideological reason for opening up for tendering in Copenhagen, resulting in a demand for privatization of 45 percent of bus provision in the area through tendering. In the other three countries, the need to reduce public expenditure and creating more efficient public transport systems has been the main motives behind the reforms envisaged.

2. The Systems

In Sweden, Denmark, and Norway, the process of change has been based on the same fundamental principles of creating clear **buyer and seller roles** in public transport and with opportunity for using competition as a means of obtaining the necessary provision of public transport.

In Figure 1, the basic characteristics of the systems are described with public authorities being responsibility for defining what and how much public transport to buy and fare levels, and public and private operators to perform the task of operating the system. The pros and cons of this system were much discussed when Britain changed its regulatory regime and will not be discussed in detail here, see Banister (1985), Beesley and Glaister (1985), Gwilliam et al (1985), and Henscher (1988).

**Figure 1: The buyer-seller relationship in Scandinavian public transport:
Responsibility and Aims**



The important question of how to organize this system in practice where there are publicly owned operators or public operation that has been a part of a previous monopoly regime, has been a vital one in Scandinavia. Principally, this problem must be dealt with care to create transparency and an atmosphere of mutual trust. That suggests that the buyer role must be strictly separated from the operator role if the previously publicly owned operation shall continue in one way or another.

In Table 1, the main characteristics of all the Scandinavian tendering systems are described. The table shows there are significant differences in the systems but some main features that are similar in all countries. The following conclusions can be drawn:

1. Except in Copenhagen, the decision to use tendering rests with the local authorities, i.e., it is not compulsory by law.
2. In Denmark and Sweden, where tendering has been used, minimum cost contracts are used where transport authorities are responsible for the revenue side (have the risk for income).
3. Tendering periods are normally three to four years except in Norway where the minimum period is five years.
4. Sweden and Norway have also opened up for tendering outside the bus sector: for rail (Sweden), shipping services (Norway), and, on an experimental basis, ferries (Norway).
5. Certain types of conditions concerning buy-back of buses, transitional periods of tendering introduction, or use of accepted employment contracts exist in the countries, thus, not creating a fully competitive factor market.

The introduction of tendering in the Scandinavian countries is at different stages, from only agreement on the rules (Norway, Finland, and Denmark outside Copenhagen) to extensive use (Sweden and Copenhagen). The results of tendering to date are dealt with in later sections. The tendency all over Scandinavia, however, points towards more use of tendering just as it does in the European Community. This must be

Table 1: Summary of Tendering in Scandinavia

	Sweden	Denmark — Copenhagen	Denmark — outside Copenhagen	Norway	Finland
Legal basis	Yes, through acts of 1985 and 1988 transferring licenses to transport authorities.	Yes, through act of 1989 demanding privatization of 45% of bus provision in Copenhagen through tendering	No, through an agreement between organization of transport authorities and operators' organization.	Yes, through act of 1991.	Yes, through act of 1991.
Tendering compulsory	No	Yes, for 45% of service provision	No	No	No
Max/Min tendering period	Not defined, normally 3-5 years	Max. 8 years, normally 4 years	4 years for those opting for tendering through agreement	Min. 5 years	Not decided
Tendering system	Min. cost contracts	Min. cost contracts	Min. cost contracts	Not decided, net subsidy contracts today based on arbitration	Not decided, currently min. cost and net subsidy contracts
Percentage of operation tendered	Bus: about 50% of buses in scheduled transport per spring 1993. Rail: 3 lines in Stockholm. Use of tenders for local railways. Tenders for gov. subsidized rail traffic (100%)	30% per April 92. 15% new + 20% old tenders i.e. 35% from April 1994, totally 45% from same date (discussions on 100% tendering through opening up for authority's own services to compete.	Nothing except local bus in one area. 5 transp. authorities decided to use tendering from 1994, 4 not yet decided and 2 continuing with arbitration	Not yet in operation. One trail area in Oslo in 1991. (3 lines). Can be used both for bus and shipping services in reg. and local transp. And on experimental basis for ferries.	Not yet in operation. Helsinki from 1994 starting with regional routes.
Conditions attached to tendering	No specific conditions	Compulsory use of wage agreement in force	Compulsory buy-back of buses when changing to tendering, first time not later. Wage agreements.	Compulsory use of wage-agreements in force. 5-year transitional period if tendering is used to avoid buy-back clauses.	

seen as a clear alternative to the British full deregulation, i.e., competition in the market.

3. European Community Public Procurement Rules and its Consequences for the Use of Tendering

Denmark is a member of the European Community. Finland, Norway, and Sweden have applied for membership in the EC. In addition, the agreement on the European Economic Space has been signed between EC and EFTA (the European Free Trade Association), where Norway, Sweden, and Finland are members. This agreement will come into force in 1993 and will create a "common market" in industrial products, transport, etc. (That is, the EFTA countries will be part of the Single Market created by EC from January 1, 1993. The EFTA countries have, in that respect, accepted EC rules concerning transport and public procurement in force for the Single Market of the EC.

The European Economic Space Agreement will mean that there cannot be any discrimination on the basis of nationality concerning public procurement, and rules have already been passed for buying goods and for works contracts in the transport sector (European Community, 1990). There has also been submitted a proposal for services (European Communities, 1989). And, when this is accepted by the Council of Ministers of the EC, it will also have significance for public transport in Europe. In December 1992, the Council of Ministers reached a joint position on the proposals, and the new rules will come into force most likely from July 1, 1994 if no problems occur in the process towards passing the rules. These new rules of public procurement will mean that

1. a process of **transparency** in public procurement of services, including land transport, must be created;
2. there will be clear rules as to how this procurement process shall be undertaken and also as to what criteria to use to choose seller (price or economic most favorable contract); and
3. three different types of buying process — tendering, restricted tendering, or buying by arbitration — can be used.

The rules do not prohibit public production of public transport; i.e., they will not apply for a transport authority that provides all its public transport internally (own resources), but they will have to be applied in a situation where there is a transport authority buying services from **outside operators** or where the authority decides to use tendering. The new rules will most likely result in a process towards use of tendering in many countries not using it today and also speed up the process in countries where tendering is to a certain degree used today, because tendering will be the only system of securing non-discrimination according to the article in the Treaty of Rome (articles on competition and articles on transport).

4. Results to Date

4.1 Sweden

The use of tendering started in Sweden in 1990 after opening up for it from 1989. The first acts had been passed in 1985. Also, through the "Transport Policy Decisions" of 1988, Parliament confirmed the process towards increased competition in public transport.

Table 2 shows the situation in Sweden by October 1992, indicating that only two transport authorities had not tendered any traffic by autumn 1992. However, there are great variations in the percentage tendered. If we take this into account, about 50 percent of the total number of buses in scheduled transport had been tendered, but this percentage gradually will change as some of the larger cities in Sweden (Stockholm,

Gothenburg, and Malmö) increase their share of tendered services. Stockholm and Gothenburg have just undertaken their first rounds, and Malmö will not start until 1994 having allowed its municipally owned operator a long period of adjustment.

The results of tendering in Sweden are interesting in many respects. Andersen (1992) and (1993a) deals with the savings in more detail, but the following conclusions can be drawn (all savings refer to costs in minimum-cost-contracts):

1. Cost savings have been between five and 15 percent in the first rounds up to 1991.
2. The new rounds conducted in 1992/1993 have resulted in much larger savings especially in medium sized towns and where municipally owned operators have been forced to compete through tendering. In areas where there have been re-tenders, the savings from the first rounds have been sustained and increased. In one area, Kronoberg, the savings in the first round were 10-15 percent but have been increased to 20 percent through re-tendering in 1992 for operations starting in 1993. The increased savings can be attributed to more experience with tendering for both the buyer and the seller.
3. The savings in Stockholm for 20 percent of bus traffic and three suburban rail-lines are four percent, but one must take into account the fact that large savings were taken out in the authority operated buses before tendering started to be able to compete (15 percent cost reduction before tendering in own account operation).

Table 3 shows the savings in the Gothenburg area for 30 percent of city traffic put to tender in 1992 for operation from 1993. The table shows that there are extensive savings, and costs are nearly halved from 1989 to the tender price from 1993. In addition, the quality of operation has been increased through demands for low-floor buses and buses using more environmentally-friendly fuel. And this has been secured **within** these cost-savings.

Table 4 shows the results of the first round of tendering in Stockholm. The first tendering round in Stockholm consisted of about 20 percent of bus traffic in the area and three suburban rail lines, the Lidingø line, the Nocklebyline, and the Saltsjöline. Totally, there were nine different tenderers, and all received between four and six tenders including the rail tenders. The rail tenders are **operating tenders**, where vehicles, plants, etc. are based from an SL subsidiary.

Table 4 shows that the transport authority through its subsidiaries (SL Bus AB, SL Lidingø Trafik AB, SL Tunnelbanan AB, and SL Tog AB) won 20 percent of the bus traffic and 37 percent of the total traffic. The operator, Swebus AB, won most of the bus traffic (80 percent) and a total of 63 percent of traffic. (This operator is owned by the national railway company). The discussion of Stockholm in relation to concentration in the industry is dealt with in section 5, but the most interesting result was that the second biggest national operator, Linjebuss AB, did not win any area in Stockholm. The reason for this is that both the two big national operators, Swebus and Linjebuss, must have given tactical bids taking into account what they knew of the present cost level of SL Bus AB, the incumbent operator, and Swebus was more successful than the other in that process. Stockholm is also interesting in a national context, because, during the 1992/1993 rounds of tendering, Linjebuss **gained** market share and expanded about 30 percent through new tenders and taking back old. On the other hand, Swebus has not gained market share but lost/won about the same amount of tenders. But its expansion came through **take-overs** of other operators and especially the third largest private operator, Wasabuss, with a fleet strength of 250 buses.

This development can underpin the "theory of most successfully guessing the incumbent's cost..". Total

Table 2

Transport authority Län=County	# buses (normal or large) in scheduled traffic		Operator's share of the traffic (number of buses) Transport authority					Share of traf- fic tendered	
	Total	Urban	Own	Muni- cipal	Swebus (rail)	Linje- buss	Other	Rural	Urban
AB-län	1500	500	1500	-	-	-	-	15	23
C-län	229	162	55	8	114	-	52	1	3
Uppsalabuss	130	130	130	-	-	-	-	-	0
D-län	229	60	219	-	-	-	10	4	0
E-län	400	167	-	267	65	52	16	100	100
F-län	292	127	-	90	108	6	88	100	100
G-län	109	14	-	-	70	21	18	100	100
H-län	196	35	-	28	65	43	60	100	100
I-län	34	5	-	-	22	-	12	100	100
K-län	119	38	-	-	44	53	22	100	100
L-län	181	28	-	-	70	60	51	80	100
M-län	456	180	-	200	195	39	22	20	0
Helsingborg	46	46	-	-	46	-	-	-	100
Lunds komm.	37	37	-	-	-	37	-	-	5
N-län	146	54	-	45	61	23	17	100	100
O-län: GBL	107	20	-	20	67	-	20	30	0
GLAB	410	1 209	-	5	227	111	67	30	30
Stadstraf.G.borg	221	221	-	195	-	25	1	-	30
P-län	289	119	-	116	127	-	46	30	8
R-län	236	33	-	34	115	-	87	42	68
S-län	253	68	-	60	106	-	87	10	100
T-län	234	70	200	-	6	-	28	0	0
U-län	159	64	153	2	3	-	12	0	0
W-län (exkHedem.)	237	36	73	-	-	65	99	100	10
X-län	210	60	-	44	103	-	63	100	25-30
Y-län	304	103	-	155	53	68	28	100	100
Z-län	186	64	-	79	42	-	65	75	0
AC-län (exlLyckse)	186	73	-	51	75	28	100	20	5
Umeå	56	56	56	-	-	-	-	-	0
Skellefteå	17	17	-	17	-	-	-	-	0
BDlän (exlBoden, Gällëvare, Kalix och Kiruna)	232	92	-	22	35	5	170	7	0
Luleå	65	65	65	-	-	-	-	-	0
Piteå	23	13	-	23	-	-	-	-	100
SUMMA	7 597	2 866	2 451	1 461	1 819	636	1230		

savings in Stockholm is SEK 13 million per year of total tenders of SEK 331.9 million per year.

There are several other interesting aspects of the results of tendering in autumn 1992/spring 1993:

Table 3: Bus traffic costs in Western Gothenburg. (price level January 1992)

Average cost for 1989 all operation	100%
Average cost for 1990 all operation	94%
Average cost for 1991 all operation	86%
Average cost for 1992 all operation	80%
Cost for part tendered 1992 for operation starting in 1993	55%
Source: Svensk Lokaltrafikk 5.92.	

1. Several municipal companies lost out completely and have to close down their activities, e.g., Jönköping and Halmstad. These losses are due to high cost level as discussed below.
2. In **three towns** in Northern Sweden ("Västernorrland"), three municipal operators lost to Swebuss, but the authorities changed the rules during the process and made the winner negotiate with the municipal companies about taking over employees, buses, and plants. And, if not coming to an agreement, the municipal operation should continue but with the winner's price. The conclusion of the process is that Swebuss took over one (Härnösand) and two continue (Sundsvall and Örnsköldsvik) but to the **winner's price**. Whether they will survive will depend on their ability to cut costs (about 20 percent). This experience shows that there is much to be said about competition rules and the performing of the process, but this is under change in Sweden now, where a new Competition Act will be introduced this year.
3. In Northern Sweden and Western Sweden, a lot of new "**bus-pools**" both of municipal operators and of private operators have been created. Their main task is to compete with the large operators, Swebus and Linjebuss. The municipal pool won nothing, but some of the private pools won tenders. (See also Section 5.1). These pools consist of smaller operators who are not able to compete for larger "packages" in their own right. One could discuss whether such bus pools can be said to be **cartels** restricting competition, but in Sweden they have been accepted as creating rather more than less competition.

The situation in Sweden today shows that **municipal operators** face a serious competition problem unless they can do something about their costs. An example reveals this. In one town, one of the private operators calculated that it needed 19 employees in maintenance and administration. The incumbent municipal operator used 54. However, competition rules between private and public operators are not equal. If the public operators shall succeed in the future, they have to be allowed to compete in areas other than their own, which today they legally cannot even if some have done through bus pools and in Stockholm. But to allow this, the government will most likely demand an **arms-length relationship** through creating limited companies. But, on the other hand, private operators fear that municipal operators will be at an advantage through their owners demanding a lower rate of return than private operators have to earn on their investment. They can also be favored in other respects by their public owners.

There was an interesting development in 1993: an agreement was reached by the national Swedish operator, Linjebuss A/S, and the largest public transport operator in Europe, CGEA, one of three large public transport groups in France. The two operators have established a company owned 51 percent by CGEA and 49 percent by Linjebuss A/S to create a platform for development of railway and underground

Table 4: Results of 1st round of tendering in Stockholm starting in 1993.

Area	Accepted tender		Next best tender		
	Operator	Mill.SEK	Operator	Mill.SEK	Add price%
Lidingöban-an	SL Lidingö	24.3	Swebus AB	26.7	9.9
Nockleby-banan	Trafik AB	12.1	Swebus AB	14.5	19.4
Saltsjö-banan	SL Tunnel-banan	33.6	Ej jämbörb		
Vaxholm	SL Buss	32.5	Swebus AB	33.9	4.3
Åkersberga	AB	29.2	Linjebuss	29.8	2.0
Lidingbø (buss)	Swebus AB	95.1	Trafik AB	99.9	5.1
Bromma Ekerø	Swebus AB	18.9	SL Buss AB	19.2	1.8
Ribby	SL Buss AB	22.3	Swebus AB	25.6	14.8
Øsmo/ Nynäshamn	Swebus AB	64.0	SL Buss AB	68..0	6.3
Södertälje	Swebus AB				
Source: Press release SL.					

traffic in Scandinavia. Tendering in railway and underground traffic already occurs in Sweden, cf. Stockholm and county council railways, and unremunerative state railway lines.

The CGEA company is owned by the estate and public service company, Generale des Faux. And, of about 33,000 employees in CGEA, about 10,000 are employed in public transport. Four billion of a total revenue of 11 billion come from public transport.

4.2 Denmark - Copenhagen

Through passing an act to reorganize public transport in the Copenhagen area in 1989, **three important issues** were taken up. **First:** the reorganization of the operation through creating two different departments of HT (Transport Authority), one responsible for planning and buying of the necessary public transport provision in the Greater Copenhagen area, and one department operating the authority-owned buses in the area. **Second:** a proposal to change the governing system of the transport authority in the area, slimming down the board and changing responsibility locally. **Third:** a proposal for privatizing through tender 45 percent of the bus operation in Greater Copenhagen (15 percent from 4/1/91, 30 percent from 4/1/92, and 45 percent from 4/1/94). In addition, there have been tenders for several service lines in the area not counting in the legally binding tendering.

To date, three tenders have been carried through: 1st tender round August 1989 (5 percent); 2nd tender round, October 1989 (15 percent); 3rd tender round, March 1991 (10 percent). The fourth round was published in March 1993 and includes the last 15 percent of the original tenders plus 20 percent of old tenders (rounds one and two), totally, 35 percent of the bus traffic in Copenhagen to be put into operation from 4/1/94.

The work of HT with tendering, in my opinion, has been conducted most professionally. And, through the several tendering processes conducted, the authority has experienced a lot of problems. **HT's strategy** for tendering can today be summed up in the following way:

1. It is of utmost importance to create constant competition, i.e., sustainable competition. This is done through four-year contracts and a policy of sequential tenders.
2. A policy of avoiding re-monopolizing of operation in the Copenhagen area.
3. Tender of smaller packages making it possible for small operators and new operators to come into the market and,
4. At the same time, try to concentrate the tenders geographically so that they are attractive for larger operators.
5. Efficient resource utilization through flexibility.
6. Clear and stringent demand on the quality of the operators — highly specified tenders as regards quality.
7. Clearly defined quality of vehicles to be used also concerning environmental quality (emissions) and use of e.g. light diesel.
8. No responsibility for HT for buying buses after the elapse of a tender but, on the other hand, offering used HT vehicles available for sale to winners of tenders.
9. A provision in the tenders for the winner to take over the necessary employees from the incumbents/previous tenders, but of course not more personnel than needed.
10. Full transparency in tendering concerning prices of all participants in suitable form.

The results of the tendering process in the Copenhagen area are shown in Table 5 and as follows.

1. Through tendering, the price per vehicle hour has been reduced by about nine percent from 1990 to 1992 through the change from own operation to use of private tenderers. There has been a decrease in HT's own operation cost of about five percent per vehicle hour (though bearing in mind the different structure of lines, rush hours, etc).
2. The experience shows that a clear strategy for tenders and clear rules for choosing of tenderers were necessary. If price alone was to be used as a criteria, the Swedish operator Linjebuss would have won all tenders in third round. (This problem is discussed further below).
3. The monopoly tendencies are obvious, and, over time, there will be increased concentration in Danish bus operation (see section 5.1)
4. The experience in Copenhagen shows that new operators came into the market — scheduled operators, non-scheduled operators, goods transport-operators, and one foreign operator (Linjebuss) — though there have been several other foreign bidders/interested.

Table 5

Cost Savings per Vehicle Hour in Copenhagen as a Result of Tendering and Efficiency Measures (1992 prices)	
	DKK/veh. hour
Transport authority own operation 1990	420
Average price 3 tenders (1990-92)	408
Average price 3rd tender (1992)	383
Linjebus price 3rd tender (1992)	372
Transport authority own operation (priced agreed for 1992)	410
Transport authority own operation price spring 1992	399
Goal transport authority own operation 1.Jan.1993	380
Source: Copenhagen Public Transport Authority (HT) tendering unit.	

5. HT has found that the optimal tender period is four years and that price differences are very small, indeed, by increasing the tendering period from four to five years (0-2 percent). This is an interesting result as one of the arguments of the operators was that prices would decrease if the tender period increased. The results of increasing the period from four to five years show that this is not true, generally, but it may be that much longer periods eight to 10 years are required before there is any significant change.

The experience in Copenhagen has been interesting in many respects and included one important **controversy**, i.e., the privatization process combined with tendering. This means that HT's own operation has had to be decreased as the given result was to be 45 percent of bus traffic privatization through tendering. The fourth tender in Copenhagen was published 3/15/93 consisting of

15 percent new tenders (the last part of the original 45 percent given by the act of 1989) and

20 percent re-tenders expiring.

The tenders will start 4/1/1994, and the date for submission of tenders was 5/18/93. The board of HT will make its decision on allocation of tenders before the end of September 1993.

This fourth tender round has caused much discussion in Denmark, because the new minister of transport (there was a change of government in Denmark in 1993 with a labor led government) allowed both HT's own bus division and other publicly owned operators, the Danish State Railways and local railway companies, to submit tenders even though this was not allowed by the act of 1989. Further, a new law was submitted to the Danish Parliament in May proposing a change in the 1989 act requiring a 100 percent tender of the Copenhagen public transport and allowing public operators including HT's own operation to take part in the tendering. After much discussion in the Danish Parliament, the Minister of Transport had to withdraw his proposal, but it is intended for resubmission when the Parliament starts working again this autumn. However, it is understood that the public operators, including HT, cannot take part in the fourth tendering round consisting of 35 percent of the public transport supply in Copenhagen.

As regards the results of the fourth tender round, the following can be summarized:

1. There were 20 operators submitting tenders including the two large Swedish operators, Linjebuss A/S and Swebus A/S (owned by the Swedish State Railways), and one German operator. Both HT and DSB submitted tenders.
2. Totally, 276 different tenders or combinations of tenders were given.
3. Differences between the tenders were due to different combinations of new and used buses.
4. The fixed-price change from the second to the fourth tender round was from Dkk 420/hour to Dkk 380/hour based on used buses taken over from the public operator. The difference between new and used buses is only four percent; the difference between four and five year contracts is less than one percent; and the maximum price difference for a eight year contract is only 10 percent. The results show a total decrease in fixed prices of about 10 percent.

The final allocation of tenders will be made by the board of HT by the end of September 1993.

The discussion of whether HT's own operation can participate in the future continues. And the question of how to organize HT's bus division is especially important. Critics say that a minimum of a joint-stock company with an arms length relationship is necessary.

Another interesting aspect of competition in the Copenhagen area has been the obvious lack of competitive strength of the private smaller operators that had contracts with HT before tendering started (18 percent of operation). These contracts were based on standard-costing and a secure buy-back clause on buses. In my opinion, these favorable contract-terms have created a situation not unlike that of the incumbent with rather "lazy" operators. This can explain why a newcomer from abroad - Linjebuss - could set up an operation in the area and be the cheapest operator for tenders in round three (Linjebuss has won three first rounds, about 14 percent of the total operations in the area, and about 50 percent of all that has been tendered, after having won about 10 percent itself and taken over another operator with about four percent of tenders).

The question of inhibiting clauses to avoid re-monopolization in the tenders is also interesting from a theoretical point of view, i.e., whether the bus market can be said to be contestable. This question is discussed in Andersen (1992) and Banister et al (1992). If entry barriers are low, there can be no justifiable reason for such clauses, because competition will work anyway (see section 5). Another side of this question is the future EC procurement and competition rules prohibiting discrimination. Using such clauses will be against EC rules, and, therefore, they cannot be used in the future. The other options available will then be lowest price or economically most favorable tender. It will not be possible to show that "re-monopolization clauses" will produce this result for the future on a legal basis, and such clauses, therefore, must not be included in future tenders.

4.3 Denmark outside Copenhagen

Regional transport authorities for public transport have been created by an act of 1978 in most areas outside Copenhagen. All bus operations in these areas have been subsidized through standard costing with equal unit costs throughout Denmark and with a buy-back clause for buses. The system operates on a minimum-cost basis with the authorities responsible for planning of routes and fares etc.

These contracts are up for renewal in spring of 1994 and through an agreement between the association of the regional councils, the bus operators association, and DSB will be open for tendering. This is first and foremost a result of two factors: **first**, the new EC procurement rules for services, which will come

into effect from 1994, and **second**, the need of regional and local authorities to reduce their expenditure and finding tendering a solution. To date, this has happened:

1. Five authorities have decided to gradually introduce tendering from 1994 in part of their areas.
2. Three authorities will continue with a system of arbitration on revised standard costing. One with an eight-year contract instead of the present five year contracts.
3. Four authorities have not yet decided what to do and can opt both for tendering and for using standard-cost arbitrated contracts.

In any event like in Sweden, there will be a process of transition towards tendering, and this will most likely take some time. The process, however, has started and will also make tendering outside Copenhagen a reality within a year's time.

4.4 Finland and Norway

Through acts in 1991, both countries opened up for use of tendering. In Finland, the process has not started, but it has been decided that there will be tendering in the Helsinki area no later than 1995. In Helsinki, tendering will start with the regional routes in the suburban areas.

In Norway, new regulations need to be produced. These regulations have not been submitted pending the creation of the European Economic Space and its consequences on public procurement of services in the EC, see section 3. However, there has been one small-scale trial in Oslo, two service-lines and a rush-hour line. This trial revealed two basic problems to be solved at least in the Oslo-area:

- On what basis shall the subsidiary of the municipal operator be allowed to compete; this involves issues such as average vs. marginal costing, rate of return on capital used, and other aspects of joint costs of the municipal operator in relation to the competitors' costs.
- the organization of the tendering process at present is dealt with within the municipal transport authority but in a separate department.

In Norway at present, there is impatience as many of the county councils lack money and see the opportunity for savings by starting to use tendering. Most likely, the first tenders will be awarded in the first half of 1994 after the necessary regulations have been introduced during 1993.

5. Some Area of Concern in Scandinavian Use of Tendering

5.1 Introduction

There are some areas of concern regarding tendering in Scandinavia that have to be tackled if competition for the market is to be an alternative to other solutions like full deregulation.

1. The problem of concentration in Scandinavian public transport: Is it a threat to sustainable competition?
2. The problem of using minimum-cost contracts with a transport authority responsible for public transport revenue. The lack of incentives for operators as regards passengers and income.

3. The problems of capital cost and use of tendering especially in rail, ferry, and shipping tendering. Can operating tenders be used to avoid barriers to competition?
4. The problems of creating x-efficiency in an environment where there is no competition in the factor markets for wages and where there are different buy-back clauses for buses or operating tenders where vehicles and plants are owned by the tendering authority.

These questions are dealt with below.

5.1 The problem of concentration in the Scandinavian bus industry — Is the market contestable and can competition be sustained in the long-term?

The structure of the bus industry in Denmark, Norway, and Sweden is different as shown in table 6. These figures show there are clear tendencies towards concentration in each country with large nationwide groups: DSB in Denmark, Swebus and Linjebuss in Sweden, and Norwegian State Railways (NSB) in Norway. The other large operators operate **regionally** and in the larger urban areas and are dominated by publicly owned operators except in the Oslo-area, where private participation is strong. Andersen (1992) has a more detailed discussion of these questions, but we shall try to deal with the following issues here:

1. The possible future dominance of the Swedish market by the two national operators Swebus and Linjebuss and whether competition can be sustained.
2. The consequences of allowing HT and DSB to compete freely all over Denmark, i.e., that the ban on HT own operation to compete is lifted and DSB is also allowed to compete in Copenhagen. What role will Linjebuss play in the rest of Denmark?
3. The concentration in Norwegian bus operation and especially in the Oslo area. What will that mean for future competition?

In **Sweden**, the latest rounds of tendering during autumn 1992 and spring 1993 has sparked a fear of monopolization of the Swedish bus market. This fear has been voiced by the Swedish Competition Authority among others. Through winning of tenders and an aggressive take-over policy, Swebus and Linjebuss (two national operators) have increased their market share (number of buses) from 22 percent to 27 percent and from nine to 10 percent of the market nationally. Municipal operators including Greater Stockholm hold 45 percent and other private operators hold 18 percent of the market. (This 18 percent is the same as previously, but as the second largest private operator has been bought by Swebus, there has been an increase in private market share).

The central issue, however, is not national market share but that the market share of some operators is much higher than 20 percent in some regions. In fact, there are several regions where two operators have a monopolistic share of the market. (See Table 2.) For example, in Gävleborg län, Swebus bought the fifth largest operator in Sweden, and the second largest private operator, Wasabus, has 98 percent of the market. In addition, Swebus dominates the **unsubsidized interregional bus market where it has about 90 percent of the market**. The possibility this creates for cross-subsidization cannot be undervalued.

The issue we will discuss is whether the market is contestable: if the two large operators take a monopolistic rent, will new operators be able to enter the market? This will be dependent on two things: (1) Economies of scale in bus operations, and (2) Barriers to entry.

The question of economies of scale in bus operation has been dealt with by many researchers: Lee and

Table 6: Structure and concentration in Scandinavian bus industry.

	Denmark outside Copenhagen	Norway	Sweden
Average size (# buses)	5 (1991)	54 (1992)	9 (1988)
Concentration ratio of 5 largest operator groups	61% (1991)	67% (1992)	56% (1991)
of which publicly owned	52%	40%	47%

Steedman (1970), Koshal (1970), Viton (1981), and Windle (1988). Most of these studies conclude that there are constant returns to scale between unit costs and bus miles in urban bus transport. This coincides with Norwegian results from the 1960-1970s also, Andersen (1968). In the discussion on economies of scale, we do not deal with other important aspects of economies such as economies of densities and economies of networks. These are dealt with in Windle (1988). We also do not deal with the important question on productivity in privately owned and publicly owned operators, see Hensher (1988).

The empirical research done in the USA, Australia, and the UK point in the direction of absent economies of scale, but the experience found in Scandinavia and especially in Sweden now during the change to use of tendering make it necessary to ask some questions as regards the validity of this for all purposes and in all respects. The conclusions must obviously be the same in Scandinavia as in other countries for some of the input factors, but the large national operators claim important economies of scale in the following areas: 1) Purchase of buses; 2) Purchase of fuel; 3) Purchase of insurance; 4) Finance; and 5) Administration.

Both of the two large Swedish national operators claim economies in these aspects to be substantial, and that is one of the reasons they succeed in tendering, i.e., basing their philosophy on local operation (without certain economies of scale) and centralized purchasing (with economies of scale). The important factor binding these two together is their **leadership** philosophy, i.e., the administration of the operators combining small scale operation with large scale purchasing.

If we use Linjebuss as an example, their strategy for expansion into the market rests heavily on their "model for establishing new operating units" and on their effective use of **yardstick-competition** between operating units. The leadership of this operator claims that without a clear philosophy and tools, they would not have been able to grow in the Swedish bus market. However, the extent of these economies of scale is unknown. But the operator claims that with their model and system, it is not profitable to set up an operating unit with less than 20-25 buses. This should give the minimum scale necessary, but there is no maximum scale — that will depend on circumstances.

In relation to our problem, monopolization, however, we must ask whether economies of scale in purchasing are enough to create re-monopolization. This is doubtful.

As mentioned, several "**bus-pools**" of private and public operators have been created in Sweden to secure economies of scale in purchasing, etc. Some of these bus-pools (though not the publicly owned pool) have secured tenders. In Sweden, there is another area of concern: the lack of clarity regarding rules on competition for publicly owned operators. In the long run, this could result in the disappearance of all medium sized municipal operators through take-overs by Linjebuss and Swebus. If there are be no other contenders, there will be cause for concern over monopolization, since 45 percent of all buses in Sweden are owned by publicly owned operators including the larger cities.

Regarding **barriers to entry**, this can be found first and foremost in: (1) Availability of used buses, (2)

Availability of maintenance facilities, and (3) Availability of terminals, ticket-handling etc.

These issues have been dealt with in Banister et al (1992), but the solution for the whole of Scandinavia must be a market for second-hand buses and a change in the **traditionalist** view of self-supply of maintenance facilities to a more modern and less expensive view. The establishment of Linjebuss in Denmark shows us that it is possible to create a new operator easily.

The situation is different in **Denmark**, because the two largest operators — HT and DSB — are not allowed to compete in Copenhagen. DSB operates outside Copenhagen as it has done for years.

In a tendering situation open for competition, the three largest operators HT, DSB, and Linjebuss probably will dominate the market, but the experience from Linjebuss' own establishment in Copenhagen shows us that the barriers to entry are few, and there should be ample room for contesting the incumbents if tendencies for taking out monopolistic rent occur.

Norway has a different situation. The geography makes it possible to create local monopolies because of ownership in terminals and facilities especially in rural areas and because of the size of the present operators. However, if an active policy of creating new operators is pursued, especially for small operators in rural parts of Norway, there is no reason tendering should not work in these areas. In the Oslo area, there is obvious monopolization going on awaiting competition for the market and today four large operators fully dominate this market. However, there are few barriers to competition in tendering, and, thus, outside competitors can be brought in as in Sweden and Denmark. My main conclusion is that, at present, there is small cause for concern as regards re-monopolization, even though there are signs of economies of scale and barriers to entry. Scandinavia must also try to solve some of the problems concerning the development of competition rules.

5.2 Problems with minimum cost contracts

One of the most significant features in Scandinavia is the use of minimum cost contracts, which leaves responsibility for revenue to the transport authority. This issue has been dealt with in Andersen (1992), Tough (1992), and Henscher (1988). The problem is the lack of incentives concerning the revenue side and how to create a system that makes an increased number of passengers worth while. In Scandinavia, this is seen as necessary if cost savings are to be sustained. Cox and Love (1991) have discussed the alternative of "Threatened competition" used in Australia, and, in Scandinavia, there is work going on to try to establish some kind of **minimum cost contracts with incentives**. There are several problems here:

1. How to create a system of incentives where accountability is taken care of, both regarding an increase in passengers and the quality of the public transport system and at the same time giving the operators an increased possibility of acting on its own.
2. How to preserve a system with uniform responsibility for fares and transport planning if there is more operator initiative.
3. How to monitor a system with more flexibility. Is a system of quality monitoring necessary for the introduction of incentives? If so, how is it created?

At present there is work going on in Copenhagen concerning a system of quality indexing combined with incentives. In Sweden, the Gothenburg authority has created a system with incentives in rural parts of the region but without using tendering. The Gothenburg system has some similarities with the Threatened competition in New South Wales, see Svensk Lokaltrafik (1993).

The really big problem with regard to incentives is how to separate gains created by the operators in their own right and gains created by the system as a whole and external factors? Much work must be done before there is a satisfactory solution to this problem. If not successful, there must be considerable doubt whether the cost savings realized up to now can be sustained. This must also be seen in the light of the lack of competition in factor markets in Scandinavia. This, of course, can be dealt with if we change the rules to allow for more competition in factor markets.

5.3 Capital cost and fixed facilities and use of tendering in rail traffic and ferries/shipping — The existence of barriers to competition

In Sweden, tendering has also been applied to rail traffic (e.g. Stockholm and transport authority railways) and also for government subsidized rail traffic. This has been accomplished through operating tenders, where equipment has been leased from the transport authority.

The problems with barriers to entry are apparent here and could give the incumbents obvious advantages over new entrants. This has also been one of the main concerns.

The question of competition on the rail has just been analyzed by a governmental commission (see SOU, 1993). This analysis deals with competition on the rail in its broadest sense, full competition, vs. franchising, separation of operation and track, rail charging, etc. The suggestions in this analysis will partly solve the questions concerning ownership of terminals, rail vehicles, and maintenance, etc. in a tendering system. The issues will not be fully resolved, because much will still rest with the national railway administration although under more transparent conditions. Opponents say that barriers cannot be removed before the ownership of terminals and maintenance works are removed from the incumbent and there is a working market for second-hand rail-vehicles and locomotives.

The other issue concerns the ability of new entrants to enter the market and to compete on equal terms. This has been solved in Stockholm by using **operating tenders**, where rail vehicles and maintenance facilities are still owned by the transport authority and leased to the winning tenderer. The problems with operating tenders are discussed in Williamson (1986) and Andersen (1992). If one wants to use tendering in rail traffic, the most likely solution is operating tenders. In Norway, the same problem has been discussed as regards ferries. But, the ferries are currently owned by the operators, and, due to different capital costs depending on age, it is obvious that this will favor incumbents with low capital costs compared to new entrants, who have to buy new ferries. This problem, however, omits an important factor. The ten largest regional ferry operators, although monopolies, have a mix of old and new ferries balancing out capital cost disadvantages to a certain degree. This will make it possible for them to compete with each other if parts of the ferry network are tendered. The problem is how to create **new entrants** to the market.

5.4 Competition in the factor markets

In Britain, competition in the market has created competition also in factor markets (see White, 1990). The situation in Scandinavia is different. In Denmark and Norway, the legal requirement is that the prevailing wage contracts within the public transport sector shall be used. As shown, there are provisions for transferring employees to new operators (Sweden and Denmark) and there has been much discussion on whether or not there should be buy-back clauses of vehicles. These rules inhibit competition in the factor markets, and the tenderers thus have to compete on utilization of personnel, on procurement, on administration, and maintenance costs etc. The important question, then, is can savings be achieved and sustained? Experience from the last tenders in Sweden suggest that savings can be sustained, but definite conclusions cannot yet be reached as only few tenders have come up for renewal. One indication of

sustainable savings, however, is the extensive change in operators in the re-tendering process. (although, the two large national operators have increased their market shares and have had to change tenders and regions to a large extent).

There is no real direct competition in factor markets. Indirectly, there is, because of progress towards equalization of tariffs for different types of employees (municipal, state, and private). Municipal employees in particular see that they are not able to compete without equal wage levels and structure including social costs. (At present the difference between private and municipal operators is about 10 percent in Sweden). There is a clear tendency towards more equal tariffs, and this process has been accelerated by the many losses of tenders suffered by municipal operators in 1992/1993.

6. Some Conclusions

Preliminary conclusions can be drawn from the Scandinavian experience to the present:

1. The cost savings from tendering has been considerable both in Denmark and Sweden: 10 percent in the rural areas and up to 20-30 percent in urban areas of Sweden operated by municipal operators; and, in Copenhagen, around 10 percent.
2. There are signs that savings can be sustained upon re-tender. But there are two main obstacles: a) the use of minimum cost-contracts and b) lack of competition in factor markets.
3. There is also fear that increased concentration in the market may reduce savings in the long run due to re-monopolization and the creation of new barriers to entry. The existence of two nationwide operators in Sweden (with economies of scale in purchasing and an efficient system for yardstick-competition between operating units) is seen as a threat to competition. The danger may be overstated as the contestability of the market is obviously there.
4. The future of municipal operators who are unable to cut costs will be bleak, either loosing out in competition or being sold to private operators for financial reasons. In any event, it is necessary to come up with clear rules for competition between publicly and privately owned operators. This regards both rate of return, pricing policy in publicly owned operators with operation both in competitive markets and sheltered markets. The problem of cross-subsidization between tendered regional/local market and unsubsidized rather monopolized interregional market is worrying in Sweden.
5. In any event, there is a need to strengthen competition policy and competition authorities in all Scandinavian countries. This must be done whether or not Scandinavian countries become members of the EC. Today, the powers of the competition authorities are too weak.
6. New methods to combine operator incentives with authority control of fares and routes have to be found. Some kinds of incentives combined with strict quality control may be the answer. Here, much work needs to be done. The threatened competition model may be an alternative.

In any case, the change in regulatory policies in Scandinavia have shown that it is possible to combine a system of social goals for public transport with both allocative and x-efficiency in operation through a system of competition for the market — **tendering**. When Denmark, Finland, and Norway actively start using tendering combined with more use in Sweden, many of the problems will be resolved. It is my opinion that **tendering** will be a better alternative than full deregulation and competition in the market, because social-effectiveness goals can be retained.

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References

- Andersen, B. (1968) Prognose for driftskostnader og kapitalkostnader for kollektive nærtrafikkselskap i årene 1968-80. (Prognoses of operating and capital costs in urban bus operation). TØI.
- Andersen, B. (1992) Organisatoriske endringer i samferdselssektoren i Skandinavia. Privatisering, anbud og omlegging av jernbanepolitikken. (Organizational changes in the Transport Sector in Scandinavia. Privatization, Tendering and Change of Railway Policy.) Norwegian. Nordic Council of Ministers.
- Andersen, B. (1993a) Reform in Local Public Transport. Some Evidence from Scandinavia, in Banister, D. and Berechman, J. (eds.) *Transportation in a Unified Europe: Policies and Challenges* Elsevier. (forthcoming)
- Andersen, B. (1993b) Endrede rammebetingelser i europeisk kollektiv-trafikk. (Changed operating conditions in European Public Transport) Norwegian. MRDH.
- Banister, D. (1985) Deregulating the bus industry, the proposals. *Transport Reviews*, vol.5, pp.99 - 103.
- Banister, D. Berechman, J. and De Rus, G. (1992) *Competitive Regimes within the European Bus Industry. Theory and Practice* (to be published). *Transportation Research*, vol.26A. pp.167 - 178.
- Beesley, M. and Glaister, S. (1985) *Deregulating the Bus Industry in Britain - a Response*. *Transport Reviews* Vol.5, pp 133-142.
- Cox, W. and Love, J. (1991) *International Experience in Competitive Tendering*, Paper for Int. Conf. in Privatization and Deregulation in Passenger Transport. Tampere.
- Europeiske Fælles-skaber (1989) Forslag til endring af direktiv 90/531/EØF om fremgangsmåderne ved tilbudsgivning indenfor vand- og energiforsyning samt transport og telekommunikation.
- Europeiske Fælles-skaber (1990) Rådets direktiv af 17.sept. 1990 om fremgangsmåderne ved tilbudsgivning inden for vand- og energiforsyning samt transport og telekommunikation. (90/531/EØF)
- Gwilliam, K.M., Nash, C.A. and Mackie, P.J. (1985) *Deregulating the Bus Industry. The Case and Against*. *Transport Reviews*. Vol.5. 133 - 142.
- Hensher, D.A. (1988) *Productivity in Privately Owned and Operated Bus Firms in Australia* in Dodgson, J.S. and Topham, N. (eds.) *Bus Deregulation and Privatization*, Avebury.
- Hensher, D.A. (1988) *Some Thoughts on Competitive Tendering in Local Bus Operations*. *Transport Reviews*. Vol 8. 363 - 372.
- Koshal, R.K. (1970) *Economies of Scale in Bus Transport II, some Indian Experience*, *Journal of Transport Economics and Policy*, vol. IV, No.1, 29 - 36.
- Lee, N. and Steedman (1970) *Economies of Scale in Bus Transport I. Some British Municipal Results*, *Journal of Transport Economics and Policy*, Vol.IV, No.1, 15 - 27.

- Svensk Lokaltrafik (1992) Mer att vinna än någonsin i årets upphandlingar. Svensk Lokaltrafik, juni 1992 side 8 - 15. (More to win than ever by rendering Swedish).
- Svensk Lokaltrafik (1993) GL først ut med incitamentsavtal. Svensk Lokaltrafik nr.2.93. 10-11. (GL first by incentive agreements). Swedish.
- Sveriges offentliga Utredningar (1993) Økad konkurrens på järnvägen. SOU 1993:13 (Increased railway competition). Swedish.
- Tough, S. (1992) A Comparison of Minimum-Cost and Minimum Subsidy Public Transport Tendering Methods. TSG, University of Westminster, mimeo.
- Viton, P. (1981) A Translog Cost Function for Urban Bus Transport, *Journal of Industrial Economics*, 29, 287-304.
- White, P. (1990) Bus deregulation: A Welfare balance-sheet. *Journal of Transport Economics and Policy*, Vol. 24 pp. 311- 32.
- Windle, R.J. (1988) Transit Policy and the Cost Structure of Urban Bus Operation, in Dodgson, J.S. and Topham, N. (eds.) *Bus Deregulation and Privatization*, Avebury.
- Williamson, O.E. (1986) *Economic Organization. Firms, Markets and Policy Control*, Harvester Wheatsheaf, New York. 258-297.

