

PUBLIC FUNDING TO LONG DISTANCE BUSES: AN ENTRY BARRIER OR A NECESSITY ?

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ABSTRACT

Despite the deregulation of the market, the Norwegian express bus market is heavily concentrated to one major actor; Nor-Way Bussekspress which is owned by 40 different bus operators. We investigate this lack of competition. Although several entry barriers can be identified from a theoretical point of view, we find most of them to have negligible effects in the real world.

One important entry barrier that we find is the fact that the main company, Nor-Way Bussekspress, receives public subsidies for certain local parts of their express routes, paid by local county councils. This not only guarantees a certain minimum of revenue, but is also an efficient barrier for potential operators to enter the market.

However, this kind of arrangement has several positive effects. It makes a more extensive service possible, and diminishes the need for additional local public transport. Whether these benefits offset the welfare loss of reduced competition is an open question.

INTRODUCTION

Like in an increasing number of other countries, express coach services in Norway are deregulated. This means that operators who have the necessary qualifications can set up any express coach service and decide service levels, fares etc themselves.

However, despite this apparent open access to the market, there is evidence from a number of countries that only one, or a very few, express coach operators control the entire market. Few entrants or smaller operators survive. This is also the case in Norway.

This paper investigates why this is so. It discusses different barriers to enter the market from a theoretical point of view, and looks at current regulation and practice in Norway.

The road map is as follows: First, a definition of express coach routes, which suits our purpose, will be given. Second, entry barriers and incumbent's advantage will be discussed from a theoretical point of view. Third, the Norwegian bus market and its history will be presented, before entry barriers in the Norwegian market will be mapped. Then a discussion on local public transport on express coach routes follows, and alternative ways of organising the market in to avoid certain entry barriers. The last part of the paper summarizes and gives some concluding remarks.

Express coach routes

“Express coach” is a term introduced by the industry. In Norwegian official documents the name “county border crossing bus transport” is chosen. While express coach routes are defined geographically in other countries, the Norwegian definition is administrative. In Norway an express coach is bus transport that crosses a county border.¹ In comparison the English definition includes route buses which travel at least 15 miles; in Sweden 100km; and in Finland 250km (Holmefjord and Steckmest 2001).

There are different types of express buses. Some cross a national border. In this paper, however, the focus will be on express buses which travel within one country. Moreover, there are commercial and partly commercial express coach routes. Some support the local market, while others mainly have long distance travellers. The following table illustrates how express coach routes may be categorized.

	Commercial routes	Subsidised routes or routes with governmental grants
Most holiday, leisure and business trips	Nor-Way Bussekspress Lavprisekspressen (“low fare express”) Konkurrenten (“the competitor”)	Nor-Way Bussekspress
Commuters and local trips	TIMEkspressen (“the hourly express”)	TIMEkspressen

Figure 1: Express coach categories with examples of Norwegian brands

In this paper the column titles are of importance; the rows which show the aim of the travellers are not crucial in this paper's context, but add some knowledge to different types of express coach routes.

ENTRY BARRIERS AND INCUMBENT'S ADVANTAGE

By most standards, a deregulated express coach market like the Norwegian should be highly contestable, cf Baumol (1982) and Sheperd (1984). Well functioning leasing and sub-contracting markets, few regulatory barriers and so on minimise entry and exit costs and make it possible to duplicate an incumbent's route network almost instantaneously. Cream-

¹ Routes that cross the border between Oslo and the surrounding area Akershus are excluded in the definition as Oslo and Akershus are recognised as one local public transport area (N-2/2003). However, airport buses that cross the county border are not regarded as local public transport, but as a niche product. Thus, the permission authority may also test how airport bus routes will affect local public transport.

skimming or hit-and-run entry is simple, relatively risk-free and associated with very low sunk costs.

However, there is very limited evidence of actual entry and of on-street competition in express coach markets. Of 248 licences to express coach routes in Norway there are only eight licences that cover the same distance, and not all the companies which have a licence use it. The number of distances with competing express coach operators is, in other words, very low. Several entry barriers have been suggested, although their effects and relative importance are scarcely documented.

Experience from England suggests that access to infrastructure (notably terminals, but also attractive depot locations) is a critical factor. The issue of non-discriminating access to terminals has to a large degree been solved in England. However it has only marginally changed the competitive environment.

Economies of experience are a typical advantage in passenger transport. Evans (1990) finds that an incumbent's local knowledge and experience represent important barriers for newcomers to successfully enter their market. Customer loyalty is a related incumbent's advantage, which has proven to be a valuable asset in a competitive environment.

Thompson and Whitfield (1996) labelled some entry barriers as 'innocent', i.e. brand loyalty, strong financial position and an extensive network of sales offices. Such 'innocent' advantages put incumbents in a position where they can deter entry effectively. They show how National Express (NE) in England used their strength to fight fiercely against any entrants on their routes in the early years following deregulation. NE gained a reputation for retaliating against entrants, they argue, and this reputation survived for many years and still deters entry. This (actual or threat of) predatory behaviour is a forceful entry barrier, according to the authors.

The proposition of nearly zero sunk costs may be challenged. There will always be some fixed or irrecoverable costs involved in setting up a coach service. Sunk costs include costs of training and gaining knowledge of the specific markets. Further, labour protection regulations provide employers with a minimum responsibility for their employees – a fact which renders the immediate dismissal of staff impossible. Similarly, rolling stock leasing contract agreements make it impossible or expensive to terminate within the contract period. Also, Kessides (1986) argue that investments in advertising are irrecoverable costs of entry.

Economies of scale and scope are potential barriers to enter the express coach market. They mean, respectively, that the larger or multi-product operators have a cost advantage over smaller or single-product operators. There is little evidence suggesting that scale economies are generally present in public transport. Thompson and Whitfield (1996) suggest scale economies of marketing, although this statement is not supported by any figures. One issue, however, appears to be prominent in express coach operations: the fact that smaller companies need a relatively larger stock of extra staff and vehicles (at depots and *en route*) on case of illness or breakdown. For example, imagine two companies that operate say four and eight buses respectively, and that both need one spare bus which steps in when the others are maintained or break down. For the smaller company this represents 25 percent of the fleet and inefficient use of capital. For the larger operator, on the other side, the extra bus represents only 12.5 percent extra, which in any case is probably needed in order to take out buses for regular maintenance.

In relation to scale economies, there may be economies of network size. A hub and spoke structured network, for example, allows larger and more efficient vehicles to be used on the heavy routes between hubs, and in total a more efficient utilisation of the bus fleet. Hub and spoke networks are attractive from passengers' point of view because the spoke routes can offer through-service to a large number of destinations (OECD 2001), and because the trunk routes are typically high frequent and of high standard.

Regarding economies of scope, Figure 1 illustrates how subadditivity may appear in the joint production of two goods, Y_1 and Y_2 (e.g. local buses and express coaches, or route A and B). The idea is that the joint cost of the two products $C(Y_1+Y_2)$ is trans ray convex. This benefit can appear e.g. if the joint production allows for more flexible use of the fleet and staff.

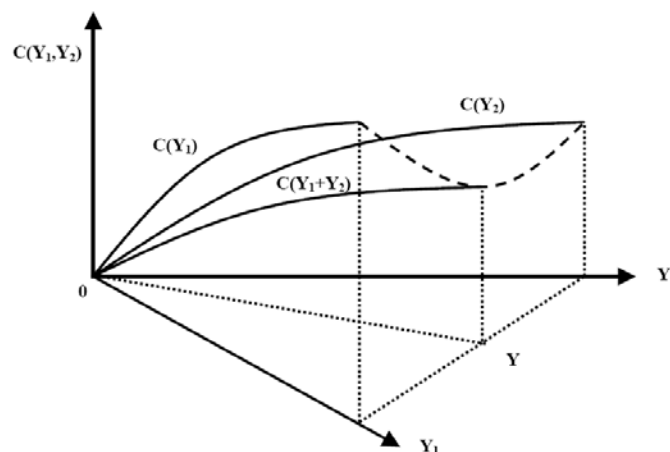


Figure 2: MC subadditivity in joint production of two products, Y_1 and Y_2 . Source: Growitsch et al 2005 Figure 1.

The regulatory framework plays of course an important role in stimulating or deterring entry. Although designed to minimise entry barriers, certain requirements nevertheless have such effects. It has been argued that in English local public transport the six weeks prior notice requirement of any change of schedule (including withdrawal from service), prevents an entrant from responding quickly to aggressive behaviour by immediately withdrawing from the service. The long notice period also provides incumbents with abundant of time to position themselves and fight entry. In these lines, Beesley argued that the six weeks notice before major changes can be made to on a route effectively deterred hit-and-run entry. Another widely-used regulation is that of compulsory participation in fare schemes (concessionary fares etc). Such arrangements allow for cross-subsidising and also represent a bureaucratic barrier for smaller operators to enter a market.

The discussion above shows that what appears to be a relatively contestable market at a first sight, proves to contain several factors that sum up to efficient entry barriers in the express coach markets. Further, several characteristics of the industry appear to favour the existence of one, or a few, dominant operators.

However, despite there being only one or a few large operators controlling the markets, Thompson and Whitfield (1996) argue that the disciplining effect of the threat of entry guarantees competitive price and service levels. That is, the performance of even a single monopoly supplier will not diverge significantly from a highly competitive benchmark. If it does, the monopoly supplier runs the risk of losing its entire market to an entrant, they argue.

THE NORWEGIAN BUS MARKET AND ITS HISTORY

Before discussing different entry barriers in the Norwegian bus market, a retrospective view will be given in order to show how the express coach market arose. This is important as history may help explaining why the incumbent may have an advantage in the express coach market today.

Most express coach routes are extended local routes, and local bus companies operate most of them (Leiren et al 2007). The reason is to be found in the traditional way of organizing public transport in Norway. The companies get subsidies in order to deliver local public transport within a certain area or on a distance, i.e. the operators have an "area licence" or a "route licence". This makes it complicated for passengers to travel long distances that cross areas in which different operators have licences. Passengers may experience barriers such as bus changes which result in less comfort and might imply waiting. In addition bus changes make the travel more complex as more information is required. A solution to this problem is that bus companies cooperate on establishing common through-services.

In the 1980s local bus companies began to apply to the permission authority to cooperate on through-services by extending already existing local routes. By doing so the local public transport service remained, and operators kept their subsidies for these local routes. At the same time the extension of the local routes were commercial. This created a win-win-situation for three actors. The Public Transport Administration got more service of the same amount of subsidy, the bus companies increased their income, and the passengers received better services.

Express coaches developed through combined licences. Did this limit the development of increased competition in the bus sector? In the 1980s when the express coaches in Norway were introduced, the local public transport market experienced a period of business decline (NOR-WAY 1997). More pensioners and women would hold a driver's licence, travels by tourists would to a certain extent be substituted by foreign companies and airlines. In this situation, the market would many places not be large enough for competition among express coach operators. The cooperation, however, resulted in series of innovations that resulted in the development of a new service. Historically seen this kind of service would most probably not have been established without cooperation.

Today, the dispute is about the degree of competition in this new transport market, which is a sign of how successful the innovations have been. At the same time there is a steady development of new services in the market. Still, some of these involve cooperation between existing companies. However, the dynamic aspect of the market has to be balanced with the consideration of competition. The travellers' interests are decisive. The travellers would want broad services, but also low fares.

The dynamic aspect has resulted in an express coach market that cannot easily be grasped. This is due to the fact that some of the routes are commercial, but in some counties express coachservices and local public transport are coordinated. It means that express coach operators carry out local public transport and get public funding for doing this. One example is that pupils travel on express buses to school. Another is that a Public Transport Authority, which in Norway are the counties, funds or buys services in order to maintain a service within its county, while the part of the distance outside the county borders are commercial. There are also counties cooperating on funding express coachroutes. While one county funds the express coachroutes in one direction, the other county gives subsidies for the routes in the opposite direction.

Moreover, the express coach market is complicated regarding who owns the products. This is due to the fact that many of the routes are operated in cooperation between companies. ½ of the distances of Nor-Way Bussekspress are operated in cooperation among two or more companies. At the same time the market concentration in the bus market in general is high because of mergers. In Norway today six corporate groups comprise 35 percent of the bus companies and 65 percent of the subsidised production (Mathiesen and Solvoll 2006). With the merger of two companies these corporate groups are now five. Only these consolidated companies have market shares larger than five percent of the Norwegian bus market.

Mergers may create entry barriers, and lack of competition may make the company put fares at a higher price level. Because of this it may be profitable for the company to reduce the service. However, where service is discontinued, new actors may enter the market. A merged company knows this, and may choose to maintain the service although it may earn the same amount by putting down parts of the service. By maintaining its service it limits potential actors in entering the market (National Competition Authority 2007). So far the Norwegian Competition Authority has not forbidden any mergers in the bus market. This may be explained by the disciplining effect of the threat of entry guarantees competitive price and service levels.

Two groups dominate the Norwegian express coach market. They are TIMEekspressen and Nor-Way bussekspress. The former is owned by the Norwegian State Railways, and the latter is owned by 40 different bus operating companies, including TIMEekspressen. In order to operate a “Nor-Way” express coach service, the participating operators must meet certain requirements (driver training, guaranteed seat for all, bus specifications etc). There is one example that one of the shareholders of Nor-Way has set up a service which competes with the Nor-Way service, albeit with another brand name.²

It should be mentioned that Nor-Way Bussekspress is not an operator. It does not own bus material nor operate express coach routes; it is an umbrella or a marketing company in which the majority of express coach operators are members. The fact that the express coach market is characterized by such a dominating company is not unique for Norway. It is also the case in several other countries.

ENTRY BARRIERS IN THE NORWEGIAN BUS MARKET

The history of how the bus market traditionally is organized in Norway, and the complexity of today’s market with mergers and owner structure has been showed. These aspects have been related to the theory of entry barriers and incumbent’s advantages. Which entry barriers are to be found in the Norwegian express coach market? This is the topic of the following part.

² The company Sporveisbussene is a member of Nor-Way Bussekspress, but has chosen to operate its express coach brand Lavprisesekspressen (“low fare express”) independent of Nor-Way Bussekspress. Lavprisesekspressen has a different concept than the ones in Nor-Way Bussekspress. Tickets have to be ordered online, the departures are more seldom and the stops are fewer.

Regulatory barriers

The Norwegian express coach market used to be heavily regulated. The permission authority³ would test a route's effect on train services and local public transport. Gradually the market was deregulated. This was a consequence of research results and a new focus on the travellers. Research (Strand 1991; COWI Hjeltnes 1994/1998/1999; Holmefjord and Steckmest 2001) showed that train and express coaches would cover different segments of the market, introduction of express coach routes would generate new travels, and bus and train together would bring more travellers to choose public transport than the modes would achieve separately.

Finally, in 2003 today's regulation was introduced. With some exceptions there are no regulatory barriers that limit the entry to the market. The market is not open, but in reality all operators fulfilling certain demands are permitted to deliver express coach services, i.e. they receive a licence to cover a certain distance.

However, the permission authority tests how express coach routes will affect local public transport, and approves express coach routes. Thus, counties may impose express buses to "close" their doors on distances which they share with local public transport. To the express coach operators this may be negative as well as positive. On one hand, express buses are not supposed to take passengers from the local public transport market. On the other hand, express coach operators may not want to serve local passengers anyway. The latter may be solved by keeping the fare of local transport on express buses relatively high in comparison to local transport fares.

An example of "closed doors" is commuter buses going from surrounding areas to larger city centres. To decrease the commuters' travel time, local transport is responsible for travels within the city border. Behind a certain border of a densely populated area the commuter buses only stops for exits on its way into the city. Following the rules the bus is then supposed keep its entry doors closed. The bus drivers maintain this rule differently. Some let travellers enter, when the bus stops for passengers to exit; others keep the doors closed although local travellers want to enter. Accordingly, on the way out of the city local passengers who want to travel to a certain stop may be rejected, although the bus will stop there, *if* there are travellers who want to enter on that stop.

The fact that express coaches may be prohibited from letting passengers entry or exit on certain stops is not due to infrastructure barriers. Terminals may be owned by municipalities or Public Transport Authorities, and no particular operator is given preference in the allocation of slots. The Public Road Administration is responsible for stop facilities along the routes.⁴ These authorities are not supposed to discriminate different express coach operators. Thus, we do not view access to infrastructure as an entry barrier.

Economies of scale and sunk costs

There may be some economies of scale in Norway. The larger a company is, the more efficient it may operate, i.e. a bus and a bus driver may produce more kilometres (less positioning/idle time). Even small companies whose main business is bus journeys may be

³ Since 2006 the permission authority is the county in which the company has its business address. If the address is not in the county in which the route has its end station, the permission authority is delegated to the county with the end station or the county with most of the route's passengers. If conflict arises, the Ministry of Transportation and Communication will decide.

⁴ Operators are free to change commercial express coach routes, and the Public Road Administration has no guarantee as to whether a bus stop constructed for express coach services will be used in the future.

able to reduce the positioning/idle time by operating an express coach route in high peak periods. However, a small operator may be worse off in cases of breakdown or nonattendance, as it will have less reserve capacity (extra material and reserve staff).

Sunk costs may also be seen in the Norwegian express coach market. Although buses may be easily sold, there is a notice period of one month in Norway (national work environment law). In national collective agreements in the bus sector the notice period increases with seniority. An employee who has worked at least five years in a company has a notice period of two months; ten years seniority gives three months notice period. For workers who are 50 years or older it is four months, and six months for those who are 60 years or older. Moreover, due to passenger considerations a new service is not supposed to change during the first two months.

Economies of network and loyalty

Few passengers will gain from hub and spoke networks in the Norwegian market. Most express coach passengers travel from one destination to another without transfer. This is typical for the passengers travelling to/from the larger cities. Hub and spoke networks which are common in air transport, is not important in the express coach market. Thus, we do not view this as a plausible explanation for lack of or a low degree of competition. The most crucial advantage of a large network in Norway is the fact that most travellers only visit one source of information before travelling. They typically only visit the homepage of Nor-Way Bussekspress. The company has a strong brand, and surveys show that passengers are loyal and satisfied with its products.

In this year's survey of "Norwegian customers' barometer" Nor-Way Bussekspress is ranked as high as number four among companies in all industries measured on how satisfied their customers are.⁵ Another express coach brand, TIMEkspressen, is ranked as number 23. With the exception of the airport train (Flytoget) the express coach brands are ranked higher than any other public transport brands.

⁵ BI Norwegian School of Management has asked 8549 customers about their satisfaction with companies which they use. The survey comprise 177 companies (www.kundebarmeter.no).

Industry	Company	Satisfaction	Loyalty	N
Passenger transport	Flytoget (airport express)	81,3	83,1	100
	Nor-Way Bussekspress	81,3	89,0	101
	TIMEkspressen	76,8	82,8	100
	Norwegian (low cost airline)	71,9	84,8	100
	Oslo trikken (Oslo tram)	67,3	83,2	202
	Sporveisbussene (bus company)	67,2	88,4	100
	NSB (Norwegian State Railways)	65,7	86,9	100
	SAS Braathens (Scandinavian Airlines)	57,9	78,6	100
	T-Bane (Oslo metro)	56,8	81,5	100
	Passenger transport	69,6	84,2	1003

Figure 3: Ranking of companies within public transport 2007.⁶ Source: www.kundebarmeter.com

In addition to satisfaction, loyalty is also measured. The survey shows that the customers of Nor-Way Bussekspress and TIMEkspressen are loyal. This is a major entry barrier for potential actors. However, the survey views loyalty in two different regards: affective (satisfaction) and calculative (price) attachment to the product. This may render a possibility to find an answer to the following question: Does the customer maintain his/her relation to the operator because he/she *has* to, or because he/she *wants* and *likes* to? A high score on satisfaction as well as loyalty may indicate that the customer is loyal because he/she wants to and likes it. Certainly a customer may also be satisfied and loyal as well as lacking alternatives.

Internal surveys carried out among Nor-Way Bussekspress' passengers confirm the "Norwegian customers' barometer". They show that the passengers' satisfaction is stable and very high, and loyalty is also stable and even higher. In the internal studies being "loyal" means that the passenger would recommend the brand to others.

The cooperation in Nor-Way Bussekspress may create entry barriers. On one hand, the cooperation may result in lack of information among the customers of competing alternatives. Nor-Way Bussekspress' name is strong – it has a good word and a long tradition. The company was established in 1987. However, internal surveys carried out by Nor-Way Bussekspress among its passengers show that most of them knows the name of a certain express coach product better than the brand name Nor-Way Bussekspress.

⁶ Interpretation of the numbers: A score below 60 means that a company's customers are dissatisfied, and a score between 60 and 70 implies that they are indifferent. Satisfied customers require a score of 70 or more. A company with a score of 80 or more has very satisfied customers.

To sum up, loyalty seems to be an "innocent" entry barrier in the Norwegian express coachmarket – but nevertheless a barrier. One way of decreasing the extent of such an entry barrier is to introduce a common source of information of all public transport routes.

Cooperation

There are different categories of cooperation in the express coachmarket, and some of them have already been described: (1) Bus companies cooperate in order to supply through-services by extending a local route. (2) The members of Nor-Way Bussekspress share logo, the concept of guaranteeing every passenger a place, tea and coffee onboard, a common education of the drivers, and common route tables and marketing. (3) Within Nor-Way Bussekspress 50 percent of the routes are operated in cooperation among two or more companies. The companies own the product together. (4) Bus companies also cooperate on material. Through agreements with local journey operators express coachoperators may have access to extra material in case of breakdown etc. This makes it possible for companies that are not members of Nor-Way Bussekspress to guarantee every passenger a place.

Cooperation makes it possible for the companies to follow hours of service regulations – it makes it possible to use the same bus, but change driver on long distances. Also, demand variations make extraordinary input of material and employees necessary on weekends or special occasions. According to Fearnley *et al* (2006) cooperation is useful of the following reasons. If material breaks down, reserve material may be located far away. Bus companies seldom locate their material many places in the country. Depots are expensive and material centralised. Cooperation with another company with a different geographical localisation may, thus, be of great advantage.

Kystbussen that cover the distance between Bergen and Stavanger is such an example.

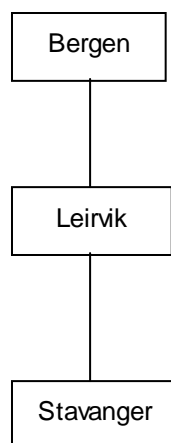


Figure 4: Localisation of depots between Bergen and Stavanger

The drivers in Veolia Transport (which is localised in Stavanger) drives the bus from Stavanger to Leirvik. In Leirvik a driver from Tide Trafikk (localised in Leirvik) takes over the bus and drives to Bergen. The passengers do not have to change bus. In Bergen passengers exit and new entry, and the bus with the same driver returns to Leirvik, where a driver from Veolia Transport drives the bus to Stavanger. Advantages are that the drivers do not need to stay overnight, the passengers do not need to change bus, luggage does not have to be carried to another bus, and reserve material will not be too far away.

Cooperation also renders the possibility of sharing the risk of entering a market. This way cooperation may enable entries of small companies into the market. However, in the long run cooperation may make a monopoly rent possible if it deters hit-and-run entry.

Local public transport

Other difficult considerations are the role of express coaches in local public transport. On one hand, express buses contribute in maintaining local public transport in many counties. On the other hand, the fact that some of these operators gain subsidies may create entry barriers for other operators.

Express coach services represent small fractions of a local public transport provider's total business, and potential operators may not find it worth risking a lot by challenging an express coach incumbent. Few companies which do not deliver local public transport, have established express coachroutes.

One explanation may be found in the fact that some express coachroutes partly get subsidies from the Public Transport Authorities. The operators achieve grants or subsidies for delivering local public transport on express coachroutes.

To grant some operators funding for delivering express coachservices may distort competition when other operators cannot receive such grants. Coordination of local public and express coach routes may create entry barriers where the operator receives grants for doing this. The public grants that an operator achieves make the incumbent able to have lower fares its competitors. Such cross subsidising may, in the words of Stigler (in: Knieps 2001), create cost asymmetries between the established and the potential actors which do not have access to the same funding.

A comparison among the express coach market on the following distances may support the thesis that entry barriers exist where express coachoperators deliver local public transport.

- Bergen-Haugesund-Stavanger (Kystbussen)
- Kristiansand-Arendal-Oslo (Soerlandsekspressen, Lavprisekspressen, and Konkurrenten)
- Bergen-Foerde-Nordfjordeid (Vestlandsbussen)

The three cases are similar regarding travel time and there are competing public transport services. They differ from each other in number of competing express coachoperators. Kystbussen's competitor withdrew its route in August 2006 because of unprofitability. Three companies compete with each other on distance B. On distance C there are no competing express coachoperators.

While the county of Rogaland compensates Kystbussen for usage of a youth card, and the Vestlandsbussen receives subsidies from the county Sogn og Fjordane, the routes between Kristiansand and Oslo are a 100 percent commercial. This is also the only case with companies that are not members of Nor-Way Bussekspress. Of the case's three operators only one is a member of the marketing company.

However, the population density may explain the necessity of subsidies to the Vestlandsbussen. The population density in the core area of Vestlandsbussen's market is only 7.9 persons per square kilometre against 88.8 between Oslo and Kristiansand (Leiren and Riseng 2007). Between Bergen and Stavanger the population density is 133.7.

The compensation that Rogaland gives Kystbussen is not comparable with the subsidies to Vestlandsbussen. We do not view the compensation as an entry barrier for the following reason: Rogaland offered the earlier competing express coach operator an identical compensation for usage of youth card. The company, however, chose not to join this agreement.

Seen from a social economic perspective, entry barriers such as public grants or subsidies may not be bad. The reason is that high competition in peak periods may create problems for bus companies delivering services in off-peak periods, and which depend on income from peak periods. Moreover, counties that subsidise or give grants to express coachoperators argue that this – whether an entry barrier or not – improves the service.

LOCAL PUBLIC TRANSPORT ON EXPRESS COACHROUTES

Leiren *et al* (2007) find that it seems reasonable to let local public transport be a part of express coach services. The counties' experiences are to a large degree positive. The counties with the most extensive use of funding express coachroutes are the most positive ones. They compromise with the operators, and argue that all actors gain from the coordination of local public and express coachtransport.

When express buses can use local stops, passengers may avoid change of transport, and time of departure is coordinated. Some counties also argue that local public transport becomes cheaper when coordinated with express coachroutes. The county of Sogn og Fjordane is of the opinion that if they could not coordinate its transport with express coachservices, local public transport would be ten times more expensive to support. An advantage is also seen in the fact that some express coachroutes would not have existed, if the operator had not achieved some economic support by the authorities.

Many places the express coach routes are the only public transport service on a distance. Where the population density is low, the Public Transport Authorities buy transportation of pupils, which is the only public transport service that a county has to provide by law. The service on some distances depends on public grants on parts of it. Through grants a route that commercially would only be operated from B to C is, for example extended to cover the distance between A and D, as illustrated below.



Figure 5: An extended express coach route

However, the counties see a challenge in the coordination of the planning. This is most crucial to the balance between journey time and the number of stops, detours to population centres and coordination with other express coach and local routes. Where express coach routes are not part of the local transport system the counties address a disadvantage in the fact that they

as Public Transport Authorities do not get statistics and lose some information about public transport travellers. Others argue that because an express coachroute already exists, local public transport is not prioritised in certain areas. Other challenges regard fares. Minimum fares on express coachroutes treat long distance and local passengers unequally.

The counties are predominantly positive to local public transport services on express coach routes. Still, however, most of the respondents answer that the service would have been similar or have costed the same amount of money if there had been no express coachroutes to cover the distances they do today. Other counties do not answer this question, or argue that they are too uncertain to give an appropriate answer.

ALTERNATIVE WAYS OF ORGANISING THE MARKET

There are alternative ways of organising the market in order to diminish public funding as an entry barrier. First, the Public Transport Authorities may not give any operator subsidies or grants for local transport on express coach routes. In some counties this may increase the production cost of local services. It may also result in a lower level of service (see figure 5), as the distance covered by the express coach operator may be shorter.

Second, the Public Transport Authorities may take on the responsibility of express coach routes and put them out for competitive tendering. An open tender procedure rather than direct grants may ensure equal treatment of the incumbent, its competitors and potential entrants. One Public Transport Authority did plan an express coach route and invited bus companies to give an offer to operate it. There are, however, reasons to believe that long distance services would diminish if counties were the only providers of regular (i.e. route) bus transport. The reason is that the counties that provide for local public transport are not responsible for transport exceeding their county borders.

Third, the Public Transport Authorities may require separate accounts for subsidised/commercial parts of the route. By doing so, any cross subsidising (i.e. use profit from subsidised services to combat competitors on the commercial part of the route) will be observable.

CONCLUSION

In this paper it has been showed that despite the apparent open access to the market, there are entry barriers which structure the market in favour of one major or few express coach companies.

We argue that the regulatory barriers are small, there are no significant infrastructure barriers, and no hub and spoke networks. However, there may be some economies of scale regarding reserve material requirements, and sunk costs due to notice period. Another crucial entry barrier is loyal customers. However, the customers are also satisfied which may imply that they would have chosen the existing express coach brand although competing express coach routes existed.

Moreover, there is considerable co-ownership and cross-ownership, as well as wide use of sub-contracting in the industry. Competitive entry by (independent) operators is therefore a risky business because it will reduce their chances of for example sub-contract driving for other operators. They also run the risk of retaliation from a united express bus industry.

Cooperation has twofold effects regarding entry barriers. On the one hand, cooperation may create entry barriers by making monopoly rent possible in the long run. On the other hand, cooperation may render entries possible for smaller companies which separately would not be able to take the risk.

Another crucial, and probably the most important, entry barrier is the public funding of local public transport to express coach operators. Express coach routes are mainly commercial, and when operators achieve public grants in addition to their commercial income, and this public grant is not to be achieved by a potential competitor, we argue that public funding creates an entry barrier. By organizing the market differently this may be avoided.

We suggest the following alternative ways of organizing local public transport and long distance buses so as to minimise this barrier to enter the long distance market and to provide for more competition in express coach services:

- Not give any operator subsidies for express bus routes
- Let the Public Transport Authorities be responsible of express bus routes, use open tender procedure rather than direct grants
- Require separate accounts for subsidised/commercial parts of the route

These arrangements may improve the competitive situation, thus securing low prices and high service standards, while at the same time fulfilling the authorities' public service obligations at a lowest possible cost.

However, public funding to long distance buses also has positive effects that probably offset the negative effects. Coordination of local public transport on express coach routes reduces the need for an additional transport service. The Public Transport Administration may, for example, buy transport of pupils from express coach operators rather than more expensive taxi services. The coordination makes a more extensive service possible.

REFERENCES

- Baumol, WJ, 1982. Contestable markets: an uprising in the theory of industry structure. In: *American Economic Review* 72:1 pp178-183
- BI Norwegian Management University. *Norsk Kundebarmeter* (Norwegian customer barometer) <http://www.kundebarmeter.com>
- Evans, A., 1990, Competition and the Structure of Local Bus Markets In: *Journal of Transport Economics and Policy*, **24**, No. 3, 1990
- Fearnley, Nils, Trine Hagen og Merethe Dotterud Leiren. 2006. *Kystbussen. Konkurransesituasjon og markedsvurdering* (Kystbussen: Competitive situation and market analysis). Working paper PT/1853/06.
- Growitsch, C., Jamasb, T and Pollitt, M., 2005. *Quality of Service, Efficiency and Scale in Network Industries: An analysis of European electricity distribution*. IWH-Diskussionspapiere 3/2005. Working Paper, September 2005. <http://www.electricitypolicy.org.uk/pubs/wp/eprg0504.pdf> accessed 11 June 2007
- Kessides, I. N., 1986. Advertising, Sunk Costs, and Barriers to Entry. In: *The Review of Economics and Statistics*, **68**, No. 1, 1986, pp. 84-95.

- Knieps, Günter 2000. *Wettbewerbsökonomie. Regulierungstheorie, Industrieökonomie, Wettbewerbspolitik*. Springer. Berlin.
- Leiren, Merethe Dotterud and Kåre Riseng 2007. *Etableringsbarrierer i det norske ekspressbussmarkedet*. 19 January 2007 (not published).
- Leiren, Merethe Dotterud, Hanne Samstad, Nils Fearnley, Marit Killi, Christian Steinsland, Anne Madslie, Anita Vingan and Harald Minken. 2007. Ekspressbusser – et sammensatt marked (Express coaches – a complicated market). Working paper OI/1915/2007 to be published
- Mathiesen, Terje og Gisle Solvoll 2006. *Store strukturendringer i bussnæringen etter innføring av anbud*. (Large structural changes in the bus industry since the introduction of competitive tendering). Samferdsel No. 8.
- Nor-Way Bussekspress 1997. *10 år med Nor-Way Bussekspress* (10 years with Nor-Way Bussekspress).
- Norwegian Competition Authority. 2006. *Prosjekt om intermodale konkurranseflater i persontransport i Norge. Sluttrapport* (Project on intermodal competition within Norwegian passenger transport. End report) Asplan Viak 2006-510867.
- OECD 2001. *Competition issues in road transport*
<http://www.oecd.org/dataoecd/0/37/2379173.pdf> accessed 11 June 2007
- Shepherd, W.G, 1984 "Contestability" vs. Competition. In: *American Economic Review* 74:4 pp.572-587
- Thompson, D and A Whitfield, 1996. Express Coaching: Privatization, Incumbent Advantage, and the Competitive Process. In: Bishop, M, J Kay and C Mayer (eds.) *The Regulatory Challenge*. Oxford University Press 1996