TOWARDS REGULATION OF HISTORICALLY GROWN MONOPOLIES: MARKET MODELS FOR THE DUTCH WEST FRISIAN ISLAND FERRIES

Broos Baanders
Ecorys Transport
Gordon de Munck
AVV Transport Research Centre

1 INTRODUCTION

In 2005, Ecorys Transport conducted a research into the ferry connections to the islands on the coast of the north of the Netherlands. Since many decades the ferry services from and to the five inhabited Dutch West Frisian Islands are being provided by three companies, which are in practice enjoying a monopoly on each of the links. For loading and unloading at all tides, the “roll on – roll off” ships are using movable ramps, owned by the state. These ramps are made available to the ferry companies almost free of charge, and the state does not allow their use by other shipping companies. This practice is not respecting the European rules for public support and competition. The objective of the Ecorys study therefore was to develop sustainable and accepted market models for the future, which are respecting the relevant legal, transport economic and administrative principles, and are guaranteeing at the same time ferry services of a sufficient quality and reliability at a reasonable price.

The case of the Dutch West Frisian Islands is taken as an example for the problems that exist when introducing market competition in transport connections which developed over time and are of major importance for the societies which they serve. In these cases the companies that provide the services have strong ties with the people using them as the ferry companies provide direct as well as indirect employment to the islanders. This can be seen as a possible reason why competition is hard to introduce in these markets: the risks of investment by newcomers is high, there is clearly a political dimension and a reliable connection is in everybody’s interest.

In the next chapter we describe the characteristics of the Dutch West Frisian Island ferries. This is followed in chapter three by a comparison with similar ferries in Germany. In chapter four five different market regulation models are discussed which are assessed in chapter five. The conclusions in chapter six summarize the assessment and give input to the discussion that follows.

2 THE PRESENT SITUATION

The five largest of the West Frisian Islands are inhabited and are each a separate municipality. These are among the smallest municipalities in the country, the smallest having only 1,000 inhabitants. They offer a lot of natural beauty and for this reason they have become heavily dependent on tourism, as is reflected in the fact that their
overnight accommodation is three to six times the number of inhabitants. The tourism has a peak in the summer and the use of the ferries shows the same pattern. The sea between the islands and the mainland, known as the Wadden Sea, is very shallow and large surfaces stand clear of the water at each low tide. Navigation is difficult and it was not until dredging produced channels that are navigable at low tide, that the ferries were able to offer departures at regular hours, rather than varying daily with the moment of low tide.

Figure 1  The West Frisian Islands in the Netherlands and their ferries

2.1 The different histories and characteristics of the ferries

The five inhabited West Frisian Islands are served by three different ferry companies, which each have a different history and different operating characteristics.

The southern tip of Texel, the largest island, is close to the mainland (the city of Den Helder), so the crossing only takes 20 minutes. The ferry has been operated since 1907 by the company TESO (“Texels Eigen Stoomboot Onderneming”, literally “Texel’s Own Steamboat Company”), which was founded by inhabitants of the island because they were dissatisfied with the service provided by the original ferry company. Almost all shares are still owned by islanders, who have an interest in a good and cheap ferry service, for themselves as well as for their clients, who are mainly tourists from the mainland. According to its statutes, it is a non-profit company. It uses its profits for investment in new ships and for keeping the fares low. In 2004, e.g., the fares were lowered by 10% after a new ship was bought at a lower price than the reservation made for it. The crossing time of 20 minutes makes an hourly service possible with one ship, and this is the service in the winter season. In
the summer season the frequency is half-hourly and two ships are used. A third ship is held in reserve. All ships have two car decks and the ramps for roll-on roll-off (RoRo) also have two levels.

The islands of Vlieland and Terschelling are served by Rederij Doeksen (“Doeksen Shipping Company”), a private company which bought the stock of its predecessor in 1923. There are three ferry ships with a RoRo facility for cars (on a single deck), one high speed catamaran (no cars) and one RoRo ship (catamaran) for trucks only. The crossings are direct between the city of Harlingen on the mainland and each of the islands, but the high speed ship sometimes calls at both in one crossing. The crossings on the RoRo ships take 1:45 for Vlieland and 2:00 for Terschelling, and there are 4 to 7 one-way trips per day, according to the season. On part of the route high sea conditions are encountered. The Doeksen company also operates passenger shipping services in other parts of the country.

The two islands of Ameland and Schiermonnikoog are served by Wagenborgs Passagiers Diensten (WPD, “Wagenborg’s Passenger Services”), which is an affiliate of Koninklijke Wagenborg (“Royal Wagenborg”), one of the largest short sea shipping companies in the Netherlands, but also active in other freight transport services. WPD serves the two islands from two different points on the mainland. The routes lead through very shallow waters, making navigation very different from the other two operations. Regular dredging ensures that the ships can operate at low tide, making a regular timetable possible. The ferry was originally owned by the state, which hired Wagenborg to operate it on its behalf. In 1985, the service passed into the hands of the company, a contact between the state and the company specifying, inter alia, the frequencies and fares. There are five single deck RoRo ships, making the crossing in about 45 minutes, with 6 – 14 (Ameland) and 4 – 6 (Schiermonnikoog) one-way trips per day.

2.2 The common characteristics of the ferries

The three companies also have a number of characteristics in common. The most important one, economically speaking, is the fact that they do not receive subsidies, but are making a profit from the people, cars and trucks they are transporting. Their capacity is determined by the high flows of tourists in the summer season. Still, they are operating relatively high frequencies in the winter season, for the convenience of the islanders, even when the occupancy of each crossing is low. Another characteristic is the importance given to reliability: technical redundancy built into the ships provides for reliability figures that are very high compared to the railway or the motorway system. Also common is the fact that each has lower fares for islanders than for other passengers. TESO is the only company which publishes information about this on its website, the others are less open about this part of their fare system, but it nevertheless exists. The reduction offered by the “islander fare” is important: about half the officially published fare.

The history of the ferry companies is very much interwoven with the history of the islands themselves. These are small and relatively isolated communities, where people know each other very well, including the ferry staff who live on the islands. The relationship between the islanders and their ferries is not purely business-like, it
is very much part of local politics. There is distrust among the islanders concerning
the monopolist which provides their only link with the outside world, as well as
support for what they consider as “theirs”. The existence of the “islander fare”, which
has a long history but no clear economic justification, appears to be a product of this
relationship.

2.3 The need for finding a new market regulation model

When our study started, there was no market regulation for the ferries, but in fact the
use of the port infrastructure made competition impossible. Essential parts of the
infrastructure, including the ramps for loading and off-loading, are owned by the state
(the Ministry of Transport and Public Works). These movable ramps make the roll-on
and roll-off for cars and trucks possible at all tides, and are therefore essential for the
operation. The companies were using them free of charge (or almost free), and the
state refused access to other shipping companies. Any investment costs were borne
by the state. This meant that not only was the state making competition impossible,
but that it was also giving aid to private companies in a way that is not allowed by
European regulations.

3 AN INTERNATIONAL COMPARISON: THE DUTCH VERSUS THE GERMAN
ISLANDS

One of the questions asked in the study was if there were lessons to be learned for
the Dutch market regulation from the experience in other countries. There are many
islands of comparable size off the coasts of Europe, which are dependent on a ferry
link with the mainland for their economic development. The vast majority, however,
receive subsidies for their operations and investments, which means that the
subsidising authorities have a large say in the quality, the quantity and the price of
the services offered. In fact, the only other unsubsidised ferry services of comparable
scale that we found, are those of the German Frisian Islands. The string of Frisian
Islands continues from Germany into Denmark, but only one, Fanø, is not connected
to the mainland by a fixed dam and has a subsidised ferry. We have not looked at the
ferries of much larger scale, such as those across the Channel, or those serving the
larger Danish Islands, or the many ferries of the Mediterranean. Nor have we looked
at long distance ferries, such those serving the Shetland or Faerør Islands. Therefore, a comparison was made with the German Frisian Islands, to see how the
market situation of their ferries compared with the Dutch situation.

Figure 2 show the map of the area of all the Frisian Islands in the three countries,
and table 1 gives some key data for the Dutch and German Frisian Islands and their
ferries. The table excludes the islands without ferries, either because they are
connected to the mainland by a dam (the largest and best known is Sylt), or have a
few or no inhabitants. It also excludes the shipping services between the islands and
those with the island of Helgoland, which is about 60 km from the German coast.
These services are almost exclusively operated in the summer season only.

A small shipping company from Terschelling, operating a RoRo ship for ferrying trucks and freight,
requested use of the ramps, which the Ministry refused.

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The German Frisian Islands have the same dependency on tourism, and seasonal fluctuation in their traffic as the Dutch islands. An important difference from the Dutch situation is a legal one: the waters between the islands and the coast are considered as high sea in Germany and as inland water in the Netherlands. This means not only that technical maritime shipping regulations are in force, but also that cabotage has been free for about ten years now, while it is not in the Netherlands. This means that any shipping company from any EU member state is free to offer a ferry service, including of course other German shipping companies. In practice, however, the shipping companies are each enjoying a monopoly, as no competitors have entered the market.

Most of the companies are privately owned, but two are public. The island of Langeoog has a municipal ferry and Wangerooge is served by an affiliate of the state-owned railway company Deutsche Bahn. Some of the companies own the port installations they use, others pay a fee to the owner, often the municipality or the
state. Like in the Netherlands, there appear to be reduced fares for islanders, although we do not know if this is the case for all islands.

Table 1

<table>
<thead>
<tr>
<th>Ferry company</th>
<th>Ferry link island – mainland</th>
<th>Transport of cars?</th>
<th>No. of inhabitants of island</th>
<th>No. of crossings per day</th>
<th>Crossing time (**)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dutch West Frisian Islands</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TESO</td>
<td>Texel – Den Helder</td>
<td>yes</td>
<td>13.700</td>
<td>16 - 30</td>
<td>0:20</td>
</tr>
<tr>
<td>Doeksen</td>
<td>Vlieland – Harlingen</td>
<td>yes</td>
<td>1.100</td>
<td>4 - 5</td>
<td>1:45</td>
</tr>
<tr>
<td>Doeksen</td>
<td>Terschelling – Harlingen</td>
<td>yes</td>
<td>4.700</td>
<td>5 - 7</td>
<td>2:00</td>
</tr>
<tr>
<td>WPD</td>
<td>Ameland – Holwerd</td>
<td>yes</td>
<td>3.500</td>
<td>6 - 14</td>
<td>0:45</td>
</tr>
<tr>
<td>WPD</td>
<td>Schiermonnikoog – Lauwersoog</td>
<td>yes</td>
<td>1.000</td>
<td>4 - 6</td>
<td>0:45</td>
</tr>
<tr>
<td><strong>German East Frisian Islands (Lower Saxony)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AG EMS</td>
<td>Borkum – Eemshaven (NL)</td>
<td>yes</td>
<td>6.000</td>
<td>3</td>
<td>1:40</td>
</tr>
<tr>
<td>AG EMS</td>
<td>Borkum – Emden</td>
<td>yes</td>
<td>6</td>
<td>2</td>
<td>1:15</td>
</tr>
<tr>
<td>Reederei Frisia</td>
<td>Juist – Norddeich (**)</td>
<td>no</td>
<td>1.500</td>
<td>1 - 2</td>
<td>1:30</td>
</tr>
<tr>
<td>Reederei Frisia</td>
<td>Norderney – Norddeich</td>
<td>yes</td>
<td>6.500</td>
<td>9 - 13</td>
<td>0:55</td>
</tr>
<tr>
<td>Baltrum Linie</td>
<td>Baltrum – Neßmersiel (**)</td>
<td>no</td>
<td>520</td>
<td>1 - 3</td>
<td>0:30</td>
</tr>
<tr>
<td>Gemeinde Langeoog (*)</td>
<td>Langeoog – Bensersiel</td>
<td>no</td>
<td>2.020</td>
<td>5 - 8</td>
<td>0:45</td>
</tr>
<tr>
<td>Nordseebad Spiekeroog</td>
<td>Spiekeroog – Neuharlingersiel (**)</td>
<td>no</td>
<td>790</td>
<td>1 - 4</td>
<td>0:45</td>
</tr>
<tr>
<td>Deutsche Bahn (**)</td>
<td>Wangeroog – Harlesiel (**)</td>
<td>no</td>
<td>1.260</td>
<td>1 - 5</td>
<td>1:20</td>
</tr>
<tr>
<td><strong>German North Frisian Islands (Schleswig-Holstein)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPDG</td>
<td>Pellworm – Nordstrand</td>
<td>yes</td>
<td>1.100</td>
<td>5 - 6</td>
<td>0:35</td>
</tr>
<tr>
<td>WDR</td>
<td>Hooge – Nordstrand</td>
<td>yes</td>
<td>110</td>
<td>1 - 2</td>
<td>1:15</td>
</tr>
<tr>
<td>WDR</td>
<td>Amrum – Dagebüll</td>
<td>yes</td>
<td>2.100</td>
<td>4 - 7</td>
<td>1:30</td>
</tr>
<tr>
<td>WDR</td>
<td>Förh – Dagebüll</td>
<td>yes</td>
<td>9.600</td>
<td>10 - 13</td>
<td>0:45</td>
</tr>
</tbody>
</table>

Source: websites of the ferry companies and the island authorities (2005).

All ferry companies are privately owned, except:
(*) municipal service, not a separate company,
(**) part of an affiliate of the German national railway company.

Other remarks:
(***) sailing times depending on tide, i.e. different each day;
(****) excluding high speed ferries.

In the state of Niedersachsen (Lower Saxony), where the East Frisian Islands are situated, some ports are owned by that state. It offers a rebate on the user fee for the port installation, on condition that the ferry company offers a relatively high frequency in the winter season. The westernmost German island, Borkum, is in fact lying off the Dutch coast. The operator, AG EMS, therefore operates a service from the Dutch port of Eemshaven as well as from the German city of Emden. In the Netherlands it owns the port installations, including the ramps, unlike the Dutch operators.

It is remarkable that the two companies serving three North Frisian Islands, NPDG and WDR, have the same structure as the Dutch TESO; both are non-profit
companies owned by islanders and created in the late 19th century who were dissatisfied with the shipping companies of the time. The North Frisian Islands are situated in the state of Schleswig-Holstein and its government estimates that the owners of the ferries represent the interests of the island, so there is no need for state intervention. The port installations are owned by the companies themselves. WDR also paid for the dredging of a channel to its mainland port of Dagebühl, in order to make the schedules independent from the tidal movement.

Regarding competition, each company has its own market and the market behaviour seems to be non-intervention in the markets of the others, even if some of the German ferry connections have a history of fierce competition and there are no legal barriers to competition. This is probably linked to the fact that on each island there is a narrow co-operation between the tourist industry, the ferry company and the municipality, all working together to “sell” the island and its services as one package to the tourists. The most important competition is in fact between the islands, in the tourist market.

A remarkable difference between the Dutch and German ferries is the fare level, which is much higher in Germany. In table 2, a comparison is made between the fares, allowing for the difference in crossing time. This was done by calculating a relative fare; it was calculated as the fare per hour of sailing, which uses only published data from the companies (i.e. fares and scheduled trip durations), avoiding the problems of commercial confidentiality of data. The Dutch non-profit company TESO has the lowest relative fares of all, and this is taken as the index base. WPD is about 50% more expensive, and the Doeksen fare is over 2 times that of TESO. But most of the German ferries are much more expensive than the Dutch ones. We were not able to do an analysis of the costs of the operators, as the information is confidential. But the fact that operating to high sea standards is more expensive than to inland waterway standards, may be one explanation. This may also make the operation of Doeksen more expensive than those of the others. Another factor explaining the higher level in Germany may be the fact that they do not get port facilities for free.

The difference between the German islands is very pronounced as well, with a factor 4 between the lowest and the highest. The most expensive service, the Baltrum Linie, is a very small scale operation. As in the Netherlands, the German non-profit companies (WDR and NPDG) have a lower fare level than most of the others.

Another outcome of the analysis was that the supply side of the market is remarkably stable, even if there has been fierce competition the past. The last change was in 1972, when WDR absorbed the private company serving the neighbouring island of Amrum. Despite the cabotage freedom, the companies clearly prefer not to interfere in each others markets. The strong relationships between the islanders and “their” ferry offer perhaps a sociological explanation for the lack of competition.

Nevertheless, from time to time discontent with the ferry company leads to plans from islanders to start a competing company (exactly in the way the existing non-profit companies were started). On the island of Borkum, some islanders were said to be contemplating to set up a competing company of the non-profit type, but the status of
these plans is unclear. This can be compared to the present plans made by a couple of businessmen on Terschelling, who are planning to set up a non-profit company (according to the TESO model), to compete with the ferry of Doeksen.

### Table 2 Comparison of fare levels

<table>
<thead>
<tr>
<th>Ferry company</th>
<th>Ferry link island – mainland</th>
<th>Index of passenger fare per sailing hour TESO = 100 (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dutch West Frisian Islands</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TESO</td>
<td>Texel – Den Helder</td>
<td>100</td>
</tr>
<tr>
<td>Doeksen</td>
<td>Vlieland – Harlingen</td>
<td>246</td>
</tr>
<tr>
<td>Doeksen</td>
<td>Terschelling – Harlingen</td>
<td>216</td>
</tr>
<tr>
<td>WPD</td>
<td>Ameland – Holwerd</td>
<td>154</td>
</tr>
<tr>
<td>WPD</td>
<td>Schiermonnikoog – Lauwersoog</td>
<td>154</td>
</tr>
<tr>
<td><strong>German East Frisian Islands (Lower Saxony)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AG EMS</td>
<td>Borkum – Eemshaven (NL)</td>
<td>320</td>
</tr>
<tr>
<td>AG EMS</td>
<td>Borkum – Emden</td>
<td>272</td>
</tr>
<tr>
<td>Reederei Frisia</td>
<td>Juist – Norddeich</td>
<td>393</td>
</tr>
<tr>
<td>Reederei Frisia</td>
<td>Norderney – Norddeich</td>
<td>352</td>
</tr>
<tr>
<td>Baltrum Linie</td>
<td>Baltrum – Neßmersiel</td>
<td>933</td>
</tr>
<tr>
<td>Gemeinde Langeoog</td>
<td>Langeoog – Bensersiel</td>
<td>563</td>
</tr>
<tr>
<td>Nordseeki Solo</td>
<td>Spiekeroog – Neuharlingersiel</td>
<td>504</td>
</tr>
<tr>
<td>Deutsche Bahn</td>
<td>Wangerooge – Harlesiel</td>
<td>408</td>
</tr>
<tr>
<td><strong>German North Frisian Islands (Schleswig-Holstein)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPDG</td>
<td>Pellworm – Nordstrand</td>
<td>343</td>
</tr>
<tr>
<td>WDR</td>
<td>Hooge – Nordstrand</td>
<td>204</td>
</tr>
<tr>
<td>WDR</td>
<td>Amrum – Dagebüll</td>
<td>222</td>
</tr>
<tr>
<td>WDR</td>
<td>Föhr – Dagebüll</td>
<td>305</td>
</tr>
</tbody>
</table>

Source: websites of the ferry companies and the island authorities (2005), calculations Ecorys.

(*) As the routes of the ships are often not direct and the actual distance of the crossing is not known for all islands, the travel time by traditional ferry is taken as a proxy for distance. As these ships all travel at roughly the same speed (about 20 km/h) the fare per sailing hour gives a good approximation of the relative fare levels. The fare compared is the fare for a passenger travelling without a vehicle. The fares for cars, bicycles, etc. vary more or less in the same way. The few high speed catamarans (e.g. with Doeksen and AG EMS) travel at more than double this speed and a higher fare is charged for them.

## 4 POSSIBLE MARKET REGULATION MODELS

The purpose of developing models of market regulation was to find a model that would:
- ensure sustained ferry services of sufficient quality and reliability,
- at acceptable fares,
- ensure an acceptable service level (frequencies, fares) in the season of low demand,
- have acceptable transition and transaction costs,
- respect European and national regulations,
- in which the operators would pay the market price paid for the publicly owned port installations.

For this purpose we have developed five models in the study, ranging form fully public to fully private and distinguishing between no competition, competition for the market and competition in the market. The main characteristics of the models are shown in table 3.

Table 3 gives an overview of the characteristics of the models.

**Model 1 – public operation**

In model 1 the public authority is the owner of all facilities necessary for the operation, the ferry ships and the port and pier installations. The staff are employed by the public authority, which also decides on the timetables, the service quality and the fares. The public authority does not have to be the state (which is the main public actor at the moment), but can also be the province (as used to be the case for the West Scheldt ferries in the province of Zeeland) or the island municipality (as is the case for the German island of Langeoog). Competition from other ferry operators is banned in this model. The advantages for the user (passenger and truck operator) of having only one ferry service provider are that it is clear what services are on offer and that the same ticket can be used for all crossings. The organisation of the operation is simple because the operator also takes care of the traffic regulation.

**Model 2 – concession**

In model 2 the authority tenders a concession according to EU procedures. The concession is a public service contract (PSC) which gives the winner the exclusive right to operate the ferry service for a determined period. This is competition “for the market”, where the competition takes place at the time of the tendering. It is the type of competition that was introduced for public transport in the Netherlands in 2001, by the Public Transport Act 2000 (except for the mainline railways).² In the European (draft) regulations it is called “controlled competition”.³ The advantages of service transparency and traffic regulation are the same as in model 1.

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Table 3  Overview of the main characteristics of the market regulation models

<table>
<thead>
<tr>
<th>characteristics</th>
<th>model 1 public operation</th>
<th>model 2 concession</th>
<th>model 3 limited public influence</th>
<th>model 4 self-regulation</th>
<th>model 5 fully private operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ownership of the vessels</td>
<td>by public authority</td>
<td>2A: by ferry company</td>
<td>by ferry company</td>
<td>by ferry company</td>
<td>by ferry company</td>
</tr>
<tr>
<td>ownership of the port equipment</td>
<td>by public authority</td>
<td>2B: by lease company</td>
<td>by public authority</td>
<td>by public authority</td>
<td>by ferry company</td>
</tr>
<tr>
<td>fee for port equipment use</td>
<td>market price</td>
<td>market price</td>
<td>reduced market price</td>
<td>market price</td>
<td>market price</td>
</tr>
<tr>
<td>form of competition</td>
<td>no competition</td>
<td>for the market</td>
<td>for the market</td>
<td>in the market</td>
<td>in the market, but with high threshold</td>
</tr>
<tr>
<td>operation in peak season only</td>
<td>no</td>
<td>not allowed</td>
<td>allowed, but not advantageous</td>
<td>allowed</td>
<td>allowed</td>
</tr>
<tr>
<td>transparency of accounts</td>
<td>exists</td>
<td>required</td>
<td>required</td>
<td>not required</td>
<td>not required</td>
</tr>
<tr>
<td>transparency of market data</td>
<td>exists</td>
<td>necessary</td>
<td>necessary</td>
<td>not necessary</td>
<td>not necessary</td>
</tr>
<tr>
<td>public influence on fares</td>
<td>complete</td>
<td>yes, ferry company commits itself in the concession bid</td>
<td>no influence</td>
<td>no influence</td>
<td>no influence</td>
</tr>
<tr>
<td>public influence on timetables</td>
<td>complete</td>
<td>yes, ferry company commits itself in the concession bid</td>
<td>yes, defined in public service contract</td>
<td>no influence</td>
<td>no influence</td>
</tr>
<tr>
<td>public influence on quality</td>
<td>complete</td>
<td>yes, ferry company commits itself in the concession bid</td>
<td>no influence</td>
<td>no influence</td>
<td>no influence</td>
</tr>
<tr>
<td>duration of operation</td>
<td>undetermined</td>
<td>determined: 6-8 years</td>
<td>determined: 2 years</td>
<td>undetermined</td>
<td>unlimited period</td>
</tr>
<tr>
<td>revenue risks</td>
<td>borne by public authority</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
</tr>
<tr>
<td>cost risks</td>
<td>borne by public authority</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
<td>borne by ferry company</td>
</tr>
</tbody>
</table>

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The concessionary has the exclusive use of the public port installations needed for the ferry service, including the movable RoRo ramps, against the payment of a fee. As the user fee to be paid is part of the concession bid, it will reflect market prices. The channels in the shallow waters are open for all ships, not just the ferries, so we assume the costs of dredging and buoying remain public costs, not charged to the ferry concessionary.

In the tendering process, the winning bid is chosen as the best combination of price (fare and fees), quantity (number of sailings, timetable) and quality for the user. The proposed fare level and structure is part of the bid and, as there are no subsidies involved, the revenue risk is for the bidder.

At the renewal of the concession, a few rules are needed to facilitate the transition from the outgoing to the new operator, and to ensure that the incumbent operator has no undue advantage in the tendering process. These rules concern:

- the ownership (and renewal) of the fleet,
- the ownership (and renewal) of the installations and buildings ashore,
- the position of the staff employed,
- the provision of predefined market and transport data.

To a large extent, the ferry ships are custom designed for the specific link they are serving, and it will be inefficient to transfer them to another link or to transfer other ships to them. This especially true for the ferries serving Texel (two car levels and exact dimensions of the berthing installations) and Ameland and Schiermonnikoog (operation in very shallow waters). In order to obtain a level playing field for all competitors, we distinguish three sub models:

- model 2A – the concessionary owns the ships, but when he looses the concession, he is obliged to hand them over and the new operator is obliged to accept them, at a price determined in the tender, unless both parties agree otherwise (this is the same clause applied in the concessions for regional rail lines operating specialised equipment, according to the Passenger Transport Act 2000);
- model 2B – the ships are owned by a leasing company and can be leased by the winner of the concession, on equal terms for all bidders;
- model 2C – the ships are owned by the public authority and rented to the concessionary.

For the installations and building ashore, the same sub models can be applied. Each have the effect that the fleet can stay on the link from which they were designed if the concession changes hands and that there is a level playing field between the competitors.

Regarding the staff we think it is advisable for social reasons to have rules for the transfer of the staff directly employed in the ferry services from the outgoing to the new concessionary, in the same way as is provided for in the Dutch Public Transport Act 2000. The small labour market on the islands is an important consideration in this respect. Also to be taken from this Act is the requirement for the incumbent operator to provide predefined market and transport data, needed for writing the terms and conditions for the new tender.
These sub models mean that the concession duration does not have to correspond with the depreciation period of 25 years, as was argued by the ferry companies. Such a long period would make it difficult to define fares, timetables, etc. for the whole period, and there would be long intervals in the competition. A shorter duration, e.g. 8 years, seems more appropriate.

**Model 3 – limited authority influence**

In model 3 competition in the market is allowed, but the regulation ensures that any operator who wants to enter the market is obliged to provide a year-round service, with a minimum number of crossings per day in the winter (low) season. This avoids the “cherry-picking” behaviour of companies that would only operate in the summer season, when the trips are most profitable. The danger of cherry-picking was used as an argument by the existing operators against opening the market for competition.

In this model, the public authority will grant a rebate on the fee for use of the port equipment to any operator applying for a licence who accepts to run the minimum number of daily trips all year. Every two years the authority announces that it will offer licences (Public Service Contracts) for two years, specifying the minimum number of trips and the rebate on the user fees. If there is only one applicant, he will get the obligation to operate the minimum number of trips. If there are two applicants, the minimum number for each will be halved, and so on.

The user fee and the rebates have to conform to European norms, notably the Altmark ruling of the European Court of Justice. As there is no bidding and the user fee still has to reflect market prices, the fee has to be determined in another way, perhaps derived from the investment costs. As every applicant who fulfils the condition will get a licence, no selection procedure is needed, and therefore authority involvement is limited. The short, two-year period means that the operators always feel the threat of possible of new entrants in the market. High fares e.g., can attract new competitors.

The model allows for other competitors to operate without such a Public Service Contract, but they will have to pay the full user fee for the port facilities.

**Model 4 – self-regulation**

In the fourth model there is full competition in the market. Every operator can enter the market, even if operating only in the summer season, and use the port facilities by paying the full user fee. As it is still possible that there will only be one operator (as we find for all German islands), monopolistic behaviour is possible, in which case the Netherlands Competition Authority “NMa” can use its powers under the Economic Competition Act, as in any other sector.

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4 This ruling of 24 July 2003 (C-280/00) gives four criteria under which compensation for public service obligations is allowed, the last of which says that in the absence of a public tender the compensation has to be determined based on the cost of a comparable company.
**Model 5 – fully private operation**

The final model is the one in which the authority sells the port facilities (e.g. through an auction) to an operator who is then free to use them and to allow access or not to other shipping companies. After the sale, public authority involvement is minimal. As in model 4, misuse of monopoly power is checked by the Netherlands Competition Authority (NMa). Market entry by competitors is still possible, if the competitor builds his own facilities or if he can successfully argue that the owner should grant him their use because of the “essential facility” regulation.⁵

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**5 ASSESSMENT OF THE REGULATION MODELS**

The models were assessed from a legal, an economic and an administrative perspective. The economic assessment will be treated here in some detail, the other two assessments will be touched on briefly.

**5.1 Economic assessment**

Market regulation normally supposes that producers active in the market have a profit motive. A peculiarity of the Frisian Island ferries is, however, the presence of non-profit private operators, who have a quite different market behaviour from those with a profit motive. The long term goal of the Dutch company TESO can best be described as to stay as close as possible to the costs, including reservation for fleet renewal and other investments. TESO does not borrow, but pays for investments from its own reserves. For the Doeksen and WPD companies the goal can be described as the more traditional maximisation of profit in the long run. This leads to a different market behaviour, the most noticeable effect of which is that the relative fares (per km or per hour) for TESO are lower than for the other two, while with the shorter crossing distance for TESO the relative costs are probably higher.

For the market regulation models that rely on competition, it is important that there is effectively interest from potential competitors. The danger of non-intervention behaviour among the ferry companies is real, as is shown by the German situation.

A potential competitor will make a trade-off between the expected profits and the costs of entry into and exit from the market. In the case of competition in the market (models 3, 4, 5) the most important entry and exit costs are related to finding (and disposing of) the necessary ships and staff. In these models the exit costs may act as an important barrier to entry. In the case of competition for the market however (model 2), the barriers for entry into the competition are not important. The staff of the outgoing company is transferred to the incoming one, so there are no costs for the former. Likewise, the transfer of the ships is regulated in the three sub models to create a level playing field between the incumbent and potential new operators, so they do not represent a cost to the competitors who lose the competition.

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⁵ In some cases of a position of power of an operator, a competitor can ask the court or the competition authority to be awarded access to an “essential facility” owned by the operator.
Apart from the entry and exit barriers, the expected profitability is the most important consideration for a potential competitor. In the models of competition in the market (models 3, 4, 5) the profitability is determined at the outset by the incumbent ferry company. If its fare level is well above the cost level, the resulting profitability may attract competitors, causing profitability to go down. If it wants to prevent this, the incumbent company should set its fares at a level at which market entry by others is not warranted by the entry and exit costs. This may still result in a profitable situation for the incumbent operator.

A non-profit company, however, will set its fares at a lower level, a level at which there is no or very little profit. In the case of competition in the market there is very little chance of competitors entering, unless they are able to operate much more efficiently. This means the non-profit operator must still control its costs. In the same way, the non-profit operator will be able to make an attractive bid in the case of competition for the market (model 2). But in this case its advantage is smaller, because there are no entry and exit barriers for the competitors.

Table 4 gives an overview of the market characteristics of the regulation models.

In model 1 (public operation) it is the public authority which determines the level of service and the fares. It may set fares at a level close to costs, as it considers the ferries as essential services for the island communities. However, traditionally public operation does not lead to the lowest costs and as authorities are always pressed for more income in their budgets, a tendency to generate profits may result. This means that model 1 is not necessarily the one leading to the best quality-price ratio.

In model 2 (concession) the concession is awarded to the competitor offering the best package of fares, services and quality. In its bid, each of the competitors will make an assessment of what the competition has to offer, and this will ensure the margin of profits is small when competition is strong. Such a market is known in the literature as a “bidding market”; the degree of competition is not determined by the number of competitors, but by their determination to win (or not to lose) the concession. This behaviour can be seen in the recent bids for bus service concessions in the Netherlands, where the number of competitors is often three, but there still is fierce competition. It supposes, however, that several companies do engage in the competition. If e.g. the incumbent operator knows that there will be no other serious bids, the result may be a package which is expensive for the users, and which will last until the end of the concession (e.g. 8 years), when the tendering is done again, with possibly more competition. As said, the non-profit operator may set its quality-price ratio at a level which is hard to beat for the competition.

In model 3 (limited public influence), the effects of a lack of competitor’s interest is much shorter, namely 2 years. If there is only one operator, who keeps difference between costs and fare revenues large, new competitors will be able to enter the market after two years. This means that there is a constant stimulus for this sole operator to keep profits down, below the level at which the competitors find it attractive to enter given their entry and exit costs.

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<table>
<thead>
<tr>
<th>characteristics</th>
<th>model 1 public operation</th>
<th>model 2 concession</th>
<th>model 3 limited public influence</th>
<th>model 4 self-regulation</th>
<th>model 5 fully private operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>form of competition</td>
<td>no competition</td>
<td>for the market</td>
<td>for the market</td>
<td>in the market</td>
<td>in the market, but with high threshold</td>
</tr>
<tr>
<td>market structure</td>
<td>public monopoly</td>
<td>private monopoly</td>
<td>free competition</td>
<td>free competition</td>
<td>free competition, but the threshold makes it look like a private monopoly</td>
</tr>
<tr>
<td>market entry and exit</td>
<td>not possible</td>
<td>in case of bidding for concession: entry and exit costs limited by transfer of ownership, lease and staff contracts</td>
<td>unrestricted; entry costs small (depending on reduced fee (*)); some exit costs (staff)</td>
<td>unrestricted; entry costs small; some exit costs (staff)</td>
<td>unrestricted; entry and exit costs large (depending on access to port equipment)</td>
</tr>
<tr>
<td>market behaviour (**)</td>
<td>not applicable</td>
<td>maximisation of profitability in the concession period</td>
<td>maximisation of profitability in the long run</td>
<td>maximisation of profitability in the long run</td>
<td>maximisation of profitability in the long run</td>
</tr>
<tr>
<td>profitability</td>
<td>not applicable</td>
<td>depending on supply in the concession bid and reaction of users</td>
<td>depending on fee for port equipment use and reaction of users (***)</td>
<td>depending on fee for port equipment use and reaction of users (***)</td>
<td>depending on price for buying port equipment and reaction of users (***)</td>
</tr>
<tr>
<td>transparency of accounts</td>
<td>exists</td>
<td>required</td>
<td>required</td>
<td>not required</td>
<td>not required</td>
</tr>
<tr>
<td>probability of sufficient competition</td>
<td>not applicable</td>
<td>risk of insufficient number of bidders, because of non-intervention tradition</td>
<td>unclear because of non-intervention tradition; option will also function without competitors, but with a lower degree of market discipline</td>
<td>unclear because of non-intervention tradition; option will also function without competitors, but with a lower degree of market discipline</td>
<td>small</td>
</tr>
</tbody>
</table>

(*) for the use of port equipment  
(**) for companies with a profit motive; different for non-profit companies  
(***) profitability is also depending on the actual entry of a competitor to the market
In model 4 (free competition) the threat of a competitor entering the market works in the same way as in model 3, with the difference that a entry of a competitor is possible at any time, not just every two years. The most important difference, however, is the absence of the obligation to operate in the winter season. In fact, a new operator sailing only in the summer season may force the incumbent operator to stop cross-subsidy between the summer and winter seasons.

In model 5 (fully private operation) the operator owner of the port facilities can exclude others from the use of these facilities, meaning that market entry is much more difficult for potential competitors. And there is no incentive to operate in the winter season, except socio-political considerations, like those of a non-profit operator.

The economic assessment was completed with a multi criteria analysis, which led to the following conclusions and recommendations.

- The best choice is between the models 2A (concession with transfer of the ownership of the assets) and 3 (public service contracts every two years, with admittance of every applicant and a minimum number of crossings in the low season). The risk of model 2A is that insufficient competition will develop, in which case the incumbent operator can afford to make a relatively expensive offer.
- If for the authorities the certainty of transport is the prime criterion, models 4 and 5 should not be chosen.
- If however a limited authority involvement is the prime criterion: the best choice is between models 4 and 5, and not for 1 or 2.

5.2 Legal assessment

The starting point for all the models was the compliance to the rules set by the EU. At the time of the study, the last known version of the proposed regulation form the EC, dating from 2002, was still in discussion. The Commission was working on a new proposal, but the details of this were not yet known. The new proposal was published later in 2005 but no longer covered transport by inland waterway, which meant that it was not relevant for the Dutch ferries. All models were designed to respect the 2002 proposal, except for one aspect of model 3, as it was not possible to grant the contracts without comparative selection. But as the 2005 proposal does not concern the ferry services, there would be no problem for model 3 in this respect. The “Altmark” ruling of the European Court of Justice, moreover, gives important guidelines for the way in which the public service contracts, if any, should be awarded.

6 Amended proposal for a Regulation of The European Parliament and of the Council on action by Member States concerning public service requirements and the award of public service contracts in passenger transport by rail, road and inland waterway (COM (2002) 107)
8 But it should be noted that the Economic and Social Council as well as the Council for the Regions have advised to bring inland waterways within the scope of the regulation.
9 See footnote 4.
5.3 Administrative assessment

The heavy role of the Dutch state with regard to the Frisian Island ferries dates form a time when in the field of transport many authority functions were performed by the state. Over the last decade, a policy of decentralisation meant that the state transferred many tasks to the provinces, the municipalities, or to regional authorities that are in fact co-operations between municipalities. The present government has the policy that public tasks should be performed at the lowest level of government that is practical and efficient for the task. Our advice was that this would be the provincial level in case of the ferries, particularly as the island municipalities are very small. There are two provinces involved, North Holland (for the island of Texel) and Friesland (for the other islands).

The administrative assessment also looked at the amount effort required from the authorities in the different models. Clearly, model 1 (public operation) requires the heaviest involvement, but model 2 (with the tendering of concessions) also means a substantial effort. It is less for model 3, as there is no selection between the operators, and small for models 4 and 5.

6 CONCLUSIONS

The objective of the study was to develop sustainable and accepted market models for the future, which are respecting the relevant legal, transport economic and administrative principles, and are guaranteeing at the same time ferry services of a sufficient quality and reliability at a reasonable price. The study concluded that the models that best satisfied this objective were model 2A (a system of tendered concessions that are limited in time; giving competition for the market) and model 3 (a system of public service contracts for two years that were available to any company requesting this, on the condition of a minimum number of crossings all year round; giving competition in the market). Model 2A gives the public authorities more influence on price, quality and quantity than model 3, but also requires more input from them. The risk in model 2A is that if there is insufficient competition at the moment of tendering, the authority may end up with a relatively expensive deal for the concession period. In model 3 this risk is smaller, because a competitor can enter every two years and the original operator has an interest to keep his margins down in order not to attract competitors for whom the market may be attractive despite the entry and exit barriers.

In the specific case of a non-profit company like TESCO, model 5 also meets the objective. In this model the port installations would be sold to the non-profit company (with some clauses on what would happen if it would change its non-profit character) and after that the authority input would be minimal. This would create the situation existing in Schlewig Holstein (the companies WRD and NPDG).

The study also raises a few interesting discussion points, which will be addressed in the presentation and discussion:
- the technical limits to allowing several operators on the links, given the limited capacity of the port facilities and the limited depth and width of the waterways;
the degree of regulatory capture, i.e. the way the ferry companies were trying to influence the discussion on the regulatory models;

the self-regulating system of the “co-operative” ferries of one island (Texel) in the Netherlands and two in Germany;

the apparent non-intervention behaviour of the current operators in both countries;

the private initiatives to create competing companies;

the social and political links between the operators and the small communities of the islands, leading e.g. to the remarkable feature of the “islander’s fare”.

The political discussion on finding a sustainable and politically acceptable market model for the ferry services is still continuing in the Netherlands, and the report has provided an input to that discussion.

7 POST SCRIPT

A year after the study was completed, in July 2006, public service contracts were signed for the ferry services of three of the islands: Vlieland, Ameland and Schiermonnikoog. These were signed by the Minister of Transport, the mayors of the three islands and the managing directors of the companies Doeksen and WPD. They allow for an annual fare increase equivalent to that for the national public transport fare system, and a continuation of the current frequencies and quality. A price for the use of the port facilities was also agreed, introducing the possibility for other companies to use the facilities when they are not in use by the “main operator” in order to avoid disruption of its services. In her speech at the occasion, the Minster said: “The inhabitants of the islands are entitled to having reliable transport and continuity. There are ferries which operate in this manner now and we need to keep it that way.” It is notable that no such contracts were signed for Terschelling and Texel. In the case of the former, the municipal council voted against the signing of the contract, possibly as a consequence of the discussion among islanders about the ferry being too expensive.10 In the case of the latter, the non-profit company TESO is being treated in a different way.

The contracts announce that in the next two years a concession system will be developed, much along the lines of model 2A from the study, but with a cycle of 15 years, and including transfer of staff and ships from the outgoing to the new operator, in case of a change of operator. The Minister also announced that in the first cycle, the concessions would, if possible, be awarded directly to the existing operators.

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10 This discussion was stimulated by the announcement in late 2005 of a number of local businessmen that they intended to found a non-profit company (modelled on TESO) to operate a competing ferry service from Terschelling.