

Experimental tendering. An analysis of experiences from the road/ferry sector in Norway.

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Introduction.

Ferries are integrated part of trunk road transport networks in Norway. For ferry transport in a two-year experimental period The Norwegian Public Roads Directorate (NPRD) has submitted parts of the ferry network to competitive tendering. The main objective with this process was twofold, to lower ferry transport subsidies and to improve performance of ferry services. NPRD has in this period transferred responsibility for the tendering process for ferry transport to subsidiary road authorities at the county (regional) level. This has resulted in variations in the design of the tendering process. NPRD decided partly to guide the process and focus was to get as many types of tendering contracts as possible, cost and income contracts with or without incentives. This strategy was founded by NPRD to get a wider tendering experience.

Ferries represent scheduled transport services run by private or public/private companies, contracted by the NPRD. Experiences from recent use of competitive tendering in comparable sectors like public transit suggest that NPRD may be able to increase volume and quality of the ferry services. However, some institutional rigidities considering how ferries and the road system will be handled in a political process influence *inter alia* the pricing regime and thus the supply of ferry capacity. These rigidities call for a careful design of the tendering procedure. It is important to focus on the rigidities within the re-negotiation framework, which seem to be very important in tendering processes and has very important implications for the cost of a contract. During the period Molde College was involved in an evaluation of the tendering processes in the petroleum industries in Norway. Experiences from petroleum industries regarding contract procedures, and how these industries can avoid struggle for re-may be relevant to NPRD in their tendering process.

Molde College/Møre Research has analysed this experimental use of competitive tendering. We have analysed selected ferry crossings along the Northern and Western coast of Norway. The paper will report on approach, methods and findings, and will discuss how the tendering process may be developed to further improve the services. Other aspects assessed are how different regional road authorities actually designed the tendering process, and how various experimental designs outcome could be used to improve or redesign contracting tendering processes like this. We also discuss institutional barriers like pricing regimes, quality aspects and the supply of vessels could be handled in the future. We have to emphasise that we are in the middle of the evaluation process. In Norway NPRD has been testing out tendering for less than 2 years, some ferry links is yet to start the process. Thus data and empirical evidences are limited, but some important findings will be listed. We also looked into contract design to discuss how both regional and central authorities behaved in the planning process to avoid re-negotiations. But let us start to run through the planning process that started early in the 90's involving 5 of 19 of regional NPRD-offices that were involved in ferry link tendering. In section 2 we analysis the tendering planning process with focus on main planning problem by shifting subsidy regime. In section 3 we list findings so far for the process and focus on general improvements of tendering processes.

2. The planning process.

The Norwegian Public Roads Directorate (NPRD) decided in 1990-91 to discuss tendering as a mean to reduce subsidies for ferry transport. Ferry links for fjord crossings and sea crossing are linking islands and other rural areas to mainland transport networks. These ferry links are mainly located in Western and Northern Norway.. Therefore NPRD decided that all central ferry counties should try out tendering, involving regional road authorities on the West Coast and in Nordland county in the planning process. NPRD uses tendering processes in road construction, and thus the regional road authorities had tendering expertise at any office, but they needed extra legal consideration for the ferry tendering process. The NPRD supported them with juridical expertise, and each regional office involved one tendering planning group. The groups consisted of legal expertise together with economists. 3 to 4 years were spent to prepare tendering contracts, which they did independently. The final contract documents was presented to NPRD during 1995-96, and the first tendering contracts were signed in 1997. The first ferry link run operated by a ferry company winning a tendering contract was established in mid-97. This paper focus on those contracts already operating, but there will be more ferry links operated by contracting firms in the near future. We focus only on the four links already operating; one is in Hordaland, one in Sogn og Fjordane, one in Møre og Romsdal and one in Nordland County. We put extra focus on Møre og Romsdal because they have started a stage 2 in this tender process by contracting out the second ferry link. There are some striking differences between this and the other links, so we will have some focus on the stage 2 also. But let us start with stage 1 where we focus on three elements in the process:

- 1) establishing of and access to necessary knowledge of tendering processes.
- 2) how the regional offices contract formula could guarantee competition and
- 3) open up the process for as many participants as possible
- 4) getting political acceptance for tendering processes.

NPRD selected a broad variety of ferry links to get a broad experience. The regional offices were free to choose the links, which lead to a reasonable wide range of types. A striking fact is that no main road link going from south to the north of Norway was chosen, but two of the links connect towards the capital, Oslo. Only one will be what we call a tourist link with clear seasonal fluctuations in traffic. All the others will have less traffic variations. One link was special, with *local funding*. None of the links had traffic income above 25% of the total company revenue. According to the law the government has to redeem the company if the competing link for contracting exceeds 25% of the revenues, this limit acting as a legal constraint to the design of the tendering process. In one county the regional office selected an entirely new link, causing traffic estimating problems. The rest were already operating links. In another county NPRD suggested two possible links, but seasonal traffic for alternative 1 and large size for alternative 2 made the regional authorities choose another link. With one exception, all the contract winners were allowed to invest in extra capacity.. We are concerned with the fact that some regional road

authorities representing the state had county authorities as counterpart, because 100% of the ferry company were in possession by the latter. For entering firm the advantage of incumbency was questioned.. How serious this objection might be and how strong influence this could have had for the outcome and contract winner is hard to say. We can hardly measure it, and our guesses might only be vague, but we do not think this have changed the set of winning companies. The standard of the chosen links varies both between links and within the same link, with lower standard for part of the link. Another striking fact was that traffic was influenced by the introduction of tolls on adjacent roads, to some degree causing traffic deterrence. This complicated the selection of links, and it caused severe problems for ferry companies because the ex ante traffic estimates on the adjacent toll roads turned out to be too optimistic. In the tendering process we see some striking common denominators: The road authorities wanted to increase capacity by building new vessels. Thus it became attractive for the companies to take part in the tendering process. This improved the frequency of departures for the contracting link, making gains in the traffic market. For some links, departures were established during night-time. It turned out to be possible to improve supply of ferry services within the same budget limit. A new ferry also improves fleet flexibility as well as overall capacity, benefiting the operation of the ferry links within the county. Thus, subsidised links could be benefiting from the tendering process giving a local company an extended number of suitable vessels. For one link the capacity was to be reduced without tendering. This was the main motive for selecting that particular link, so instead of reducing standards, contracting made it possible to keep up standards.

So the links were picked for the following motives so to speak:

- 1) to improve the capacity and quality of ferry services in the region
- 2) to improve supply without rising subsidise volume for regional NPRD offices
- 3) increase ferry fleet in the region to make it more flexible
- 4) try out alternative operation models to be more effective than existing fleet
- 5) get political acceptance for the tendering process by new services like night ferries and lower operating staff.

3 important relations were put in focus in the process to help the regional road authorities run the contracting and tendering process. First of all it was necessary to invest in *effective and working knowledge* of tendering as a process. The lack of regional office legal expertise necessary to run tendering processes was seen as one of the main obstacles. General legal expertise could only partly compensate for that. Former tendering experiences were mainly designed for road construction, not long term operating contracts. The access to legal tendering competence needed more specified law and legal knowledge than the regional offices had in possession.

Part two in the process was to ensure *adequate competition*. The discussion was concentrated around subjects like who should own the companies are the ferry fleet, where a national government controlled body was one alternative. The conclusion was to let private firm own and

operate ferries, thus mainly existing ferry companies took part in the competition. Our conclusion on that subject is that the number of contract bidders was sufficiently large to ensure that a competitive environment was established. The discussion on that subject continues into stage 2, focusing on whether one could increase the number of contracts stepwise or whether large overall contracts for ferry operation should be implemented in the future. With a single market we predict a merging process reducing the number of firms to a few. The tendering process is a way of getting into a competitive position before such a market structure might emerge. Winning contracts were of the *winner's curse* type to prove indirectly that competition was effective. It is important to notice that there was a high number of participating companies in the tendering process. Our conclusion is that competition was working, creating *turbulence* with many ferry companies bidding for the contracts. Thus ferry operation could be made more rational, and the effectiveness of the operation was undoubtedly improved. There was also one *outside company or new entrant* up till then not operating domestic or inland ferry links. This striking fact implies that the ferry operations are attractive to new entrants. The entrants estimate the costs of effectively run ferry fleets to be lower than cost for subsidised ferries. If changes occur, the contract winning firm will then ask for renegotiations. And if they pick extra capacity from subsidised ferry operations this will be tough discussion since NPRD and the ferry operator might disagree on cost components as well as cost level in a *marginal cost approach*.

The last part in the process was that the *local companies were contract winners*. We believe the most important reason must be that the local firm would prove maritime knowledge to be at least as good as any competitor. There was no incumbent firm advantage for winning contracts. But at the same time no risk premium were calculated, not to say included in any of the contracts because extra capacity were present within the local winning firms fleet operating all the nearby links. For future contracts this will cause problems, since we expect contract costs to be underestimated. But a stage 2 in Møre og Romsdal the contract was awarded an outside company. It will depend on the local ferry company's fleet for reserve capacity. This local firm lost the contract and being the only ferry firm with available capacity nearby they might earn extra profit by pressing up price for extra capacity. Thus cost of extra capacity is underestimated in the existing contracts. At the same time we see that strong competition has reduced price even below 0-profit level to stop outsiders entering local ferry markets. The local company can also shift cost components from tendering to subsidised fleet operation. This problem is known from petroleum industries in Norway, and we will use our knowledge of those industries to improve the ferry operation contracts.

So beside all differences some of the ferry links was characterised by its exposure to traffic changes that the winning firm hardly could foresee. This could and did happen to several of the links, and excess capacity is tougher to handle within the tendering system compared to the subsidised ferry links. The change of capacity requirements will ask for re-negotiations. This is the toughest part of the tendering process, but ask for tougher negotiation strategies for the regional offices since the winning firm had set the price so extremely low. The splitting up of the

subsidised ferry network gave less flexible ferry fleets in each region. The strategy has thus been questioned in the political process following the process. An administrative change like this is likely to reduce the efficiency of the ferry industries. It will cost extra, and both the need for more negotiations and the cost of it, increases the need for ferry subsidies. Both the regional offices and the ferry companies will then have common interest in avoiding such costs, their interests differs compared to the central NPRD office organising the tendering process interested in reducing total cost and they might benefit from re-negotiating processes.

Up to now, the tendering reduces the subsidies marginally, but better quality and more supply of ferry transport, have been described as a success story, thus the tendering system will not be dropped. The conclusion for stage 1 is that the tendering will lower transport costs for all involved partners. The regional offices have reduced the need for administration of the ferry transport system and can concentrate on different urgent tasks such as operation of the rest of the ferry industries. Reduction of administrative costs is thus important. The regional offices have got an extra parameter for controlling the local ferry transport system, this extra handling instrument is import for several reasons. First of all it put pressure on the companies in negotiations over subsidies in the ferry operations that are not subject to tendering. As there are reasons to believe that the ferry firms with the better competitive edge will survive in a future tendering market, tougher pressure on ferry companies can be useful also for the internal efficiency of the firms, not only for the NPRD.

The extra information gained from the process is characterised as marginal; most of what is required of information was already there at the beginning. Up to now, there is no empirical evidence that there is any “ratchet effect” (***) explain this term briefly) in the process, but this will be discussed in a different paper presented at this conference. As mentioned, the indications are clear that tendering has been competitive because the companies have improved their competitive edge and none of the competing ferry firms has decided to stay out of the process. They are in fact competing in each other’s market segments, and positioning for future tendering seem to be much more important. This might influence the fleet as well as industry structure in years to come. What will be the development depends on the form and number of contracts. This will be discussed in a report presented to the NPRD and DOT in Norway later. The extra fleet capacity with a much lower average age than the rest of the fleet also adds to the competitive edge. Thus it was important to win contracts, and this might explain why the “ratchet effect” didn’t seem to appear.

Type of contracts varied also. Altogether 3 types of contracts were designed, we differ between *net subsidy* and *minimum subsidy contract* on one hand and the other. There is a combination they call *gross cost contract* with an opening for revenue transfer to the ferry company as an incitement that is a mixture with cost subsidies and minimum subsidy contracts. Letting the regional office handle some extra or generated revenue above estimated income to be transferred to the operator might help improve the quality of the services and add an extra element to the contract. This is

important with a low profit margin contract as winner's curse contract will be!! But differences between the five regional offices concerning revenue or income handling has not yet been discussed. Having different contract forms open up for some kind of discrimination of regional offices. For those not allowed to keep extra income within the system it wouldn't be fair if some offices are free to give some of the contract winning ferry firms extra money. Also allowing some regional offices to keep extra income for themselves will increase their budget. At the same time the central NPRD could collect extra money from the other offices, this might cause problems both for the offices. For the ferry companies there is no alternative, but for the subsidised ferry system this will be unfair if this will give unequal share of the total income from ferry transport between the regional offices. And we put a lot of focus on the loyalty problems that could arise between different agents in the ferry market. The regional office's focus should mainly be on the users, thus the tendering system has been a success giving the ferry transport network extra ferry capacity, better quality of services and night transport which is very important for some links. This opens up for activities people living on island hardly will choose because it will be too costly if it requires staying overnight away from the island. And some fjord crossing links are necessary for local industry so they can send their products easier to markets outside the region and better services reduce transport costs.

3. Some findings and results.

For the chosen links we see some striking similar facts: one of the main objectives for tendering was to increase capacity by building a new ferry. Thus it was attractive for the companies to take part in the tendering process. This improved the frequency of departures for the contracting link so users would gain from the tendering process. For some links night departures were established. And for the regional NPRD offices it was possible to improve supply of ferry services within the same budget limit. A new ferry also improves fleet flexibility as well as overall capacity all benefiting the operation of the ferry links within the county. Thus subsidised links could be benefiting from the tendering process giving a local company a better ferry fleet, and with a better-adjusted fleet and with more capacity. For one link the capacity was to be reduced if not accepting tendering. This was the main motive for picking that particular link, so instead of reducing standards, contracting made it possible to keep up standards.

We can sum up some important results so far:

1. Large cost reductions and lower subsidies for tendering ferry transport.
2. More efficient and better structured ferry transport organising .
3. Lower operational costs reducing crew cost and more flexible shift systems.
4. More ferry capacity with better supply quality with new ferries and higher frequencies for the tendering links.
5. Establishing of night ferry supply (could have been established in the subsidised system as well, but the fact eased the political acceptance of tendering).

The most intriguing part of the tendering processes will be re-negotiations of winning contracts. With low bid winners the cost is reduced to a minimum to win the contracts. Re-negotiations can be established as a second round contract negotiations to regain some lost income or cover some extra cost to improve profitability of the tendering link. For the regional offices it has been easy to see that the local ferry company is struggling to earn profit for the tendered link. The company will lose money, and even being the best operating regime wouldn't help so need for more money is obvious. Since the reserve or extra ferry capacity will be operating in the subsidised system, it is possible to regain money via that system. Some cost components might be shifted from the tendering ferry link. So far, evidence for such shifts is not present, but we have reason to expect that this will be the future fact, also as long as the contract winner is the local firm. So one has to improve the tendering contract regarding this matter. There are several criteria for re-negotiations of the contracts. One condition is changing traffic volumes. The problem could be that ferry firms could go bankrupt, then local NPRD offices must take over and operate the ferry link. This might work for short run operation, but still the motive will be to let *private firm* run ferries in Norway.

For the regional road authorities, the tendering process was also a learning process, improving their tendering knowledge including operation of supply. Tendering is a way to discipline the ferry companies. The regional road authorities can also use media to put pressure on the ferry firms when negotiating subsidies and tendering contract terms. We have already seen a lot of evidence on that. Media have been used so dissatisfied ferry users can express their lack of confidence in the firm's operation of ferries as well as lack of or low supply capacity. The regional offices to put pressure on the ferry operator have not used extra ferry capacity being available, but not used by the company. Also discussion on operation terms and tendering process involves politicians, administrative staff at the regional offices, the ferry companies and ferry users. There are reasons to say that the use of media plays a significant role for the well functioning of the tendering process.

What were the most important aspects of the tendering process so far? We put focus on the following:

- i) the tendering process created *turbulence* so ferry operation could be improve
- ii) more efficient ferry operation and well functioning competition reduced costs
- iii) competition was achieved by opening up for many entrants new and existing
- iv) better control over the ferry sector for NPRD regional offices
- v) extra control mean for operation of ferry transport
- vi) internal joint forces made the *local ferry company* able to win the contract
- vii) new entrant proves that domestic ferry transport in Norway *might be lucrative*
- viii) tendering was a success that local NPRD managers want and need.

The threat for regional offices to establish more tendering links put pressure on the subsidised ferry industry to work as an instrument of controlling the sector. At the same time the pressure might help local ferry companies to improve competitive edge so they might in a better way win future contracts. To negotiate with a tough counterpart (the toughest regional office) ferry companies can trim their organisation to a minimum. Thus it can lower their cost and will be able to win more of the future contracts. Whatever future tendering market the government establishes the local firm will benefit from that. So all involved partners might be in a win-win situation by such a strategy. The report to the Department of Transport (DoT) in Norway will launch different possibilities for future tendering processes. This part is not ended yet, but we might be able to present some suggestions at the conference presentation of this paper. We also put forward proposals for content of contracts to help reduce the need for re-negotiations. The process seen from the NPRD's point of view was to establish knowledge at the regional offices so they could handle the tendering process. They needed legal support to create better contract formulas to reduce ferry transport cost through tendering. And they were supported by all means to improve the competition by finding tendering organising models to help or to encourage more firms to participate in the tendering competition. But at the same time NPRD wanted to reduce ferry transport administration costs to a minimum, and tendering reduced the need for administration as well. So all aspects were focused, the effect searched for by NPRD was achieved and all components put into the tendering package by NPRD were successfully put together and operated according to the goal for the central office.

There is also a second stage in the tendering process. This started when Møre og Romsdal decided to contract out another ferry link. This time the final competitors were both coming from outside, one already involved with domestic ferry transport (Troms Fylkes Dampskipsselskap or TFDS), the other (Brøvig) was new entering complete new types of markets, but with maritime experience over a long period. The contract winner was TFDS, but the loser in final round Brøvig launched a legal case against NPRD for awarding the contract to TFDS. Since awarding the contract was decided by the regional NPRD, and they did it on conditions set out in the contract offering, it was no doubt the lowest bid. The differences challenged were also working against the Brøvig bid because their crew was lower than TFDS. Seen from outside it looks strange because the contract bid challenge will worsen the contract terms for Brøvig and impose extra costs. So the legal basis and reasoning is impossible to fully cope with just for the time being.

4. Future concerns to be studied in the ongoing tendering process.

Both challenges of the contract decision and the lawsuit indicates that the ferry transport cost in a tendering process might increase in the future. The local ferry company decided to stay out even if it had been offered the contract for the decided price! Thus the profit margin must be very low. And as we said, the extra capacity requirements will no doubt rise costs with tender contracts. We no doubt have seen that cost elements has been shifted from tendering links to the subsidised net

of ferry links with local company winning the contract. Some sign of lacking revenue to cover all costs for ferry transport within the limits of the contract condition indicates that we need to watch the tendering process closely for a longer period. Without further evidence it will be impossible to sort out the real cost of ferry transport. We have reason to believe that the gross costs contract with incitement that has been launched for one link, can help improve the tendering process if this will stimulate supply improvements. The motive for revenue transfer is obvious, the effect will no doubt help both involved partners, ferry company and regional office, to search for improvements of ferry transport supply.

The need for subsidy reduction will no doubt require more efficient ferry transport at lower costs. So far cost reduction has been kept within the ferry transport system paying for better capacity and quality of the services. For some tendering contracts traffic growth has been higher than expected and thus capacity must grow. Re-negotiation of contracts will open up for changes of contract. So far the negotiations indicates that the ferry company tries to increase subsidies to improve profit margin. The regional office will stick to contract terms asking for *marginal cost covering*. So the discussion between the company and the regional office is concentrating on what elements and the level of cost elements to be part of the negotiations. We easily see that profit elements must not be included, is one cost controversy. Another cost controversy is the shift between normal subsidises ferry transport and the tendering ferry transport. A third one is capital or capacity costs with shift of ferry with age differences. This will be included in a risk premium, but this premium has so far not been included or even tried to be measured. The problem could be solved by establishing a new state owned company leasing out ferry capacity to different operators to avoid problem with hiring extra capacity when ferries need extra ordinary maintenance or need immediately repair if engine or other operating elements break down. In the present system extra capacity must be hired from a *local competitor loosing the contract bid*. This might rise the cost of extra capacity, but the answer will not be known in at least one year when second stage is suppose to start.

We have so far concentrated the evaluation of tendering on case studies. We interviewed all 5 of the regional offices involved. We collected accounting data for each link, but this part is still to be done when writing this paper. But a quick look through some link data indicates that tendering has been profitable to companies operating links showing growing traffic volume, while reduced ferry traffic or traffic below estimate is causing severe problems for ferry operator. The traffic estimates involve revenue loss risk for the company, thus tendering shift risk from regional office to ferry companies. This has benefited NPRD, and has been still another argument for tendering seen from NPRD's point of view. All our data so far indicates that the ferry companies has underestimated all revenue risk elements. Other cost risk elements has probably been underestimated as well. Even having cost reduced by new crew shift arrangements leave little to be gained beyond cost reduction achieved already. So traffic reduction risk and cost components, might be underestimated and we believe that the tendering contract for future ferry transport will be higher than all awarded contracts so far indicate will be the price level.

5. Conclusion.

That might be our conclusion. The tendering effect might be overestimated, even though it is more than expected the gains seem to be overestimated. With no risk premium there, all contract prices under any reasonable profit earning level, some cost elements hidden in a subsidy supported ferry transport network we believe contract winners will need to cover more costs. The fight for winning the contract will depend on the size of and numbers of contracts, the restructuring of ferry industry might develop like the bus industries in UK did when selling out. So we believe there are some severe obstacles ahead, but the process has started, nothing so far indicates that it will be stopped. For future contracts the number of firms competing might change, but it is possible to earn profit in the sector. So we expect all kinds of newcomers, domestic ferry firms, domestic maritime ferry as well as non-ferry operators and last, but not least international shipping firms with maritime operation knowledge able to run ferry transport. Cost indicators seem to support that conclusion, we have seen no signs that there should be cost advantages for incumbent firm to stop entrants into this market. So tendering will work to reduce ferry transport cost, what must be studied closer is if there exist better alternatives or complementary contracts that could help ferry industry to improve its efficiency and operation of ferries. This will be done later in the process, but the paper will not be able to report on it now.