

Pricing strategies in integrated transport services

Bachelor Thesis

ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Department of Economics: Maritime Economics and Logistics



Name: Jaap Zeeuw van der Laan

Exam number: 302645

Supervisor: Michele Acciaro

E-mail address: jaapzvdI@hotmail.com

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Executive summary

Freight rates in shipping, similarly to other prices depend in general on differences between supply and demand. Demand in shipping changes daily, and supply is sluggish to adapt to this variations. The resulting freight rates are more variable than prices in general.

The aim of this paper is to answer whether liner shipping companies can reduce variability of prices for integrated services by offering bundled prices, and whom this practice is likely to benefit. Cost determinants and the reasons behind freight variability will also be addressed. In addition the importance of vertical integration will be discussed. At the end of the thesis a set of practical considerations, deriving from interviews with industry experts will be presented and used to test the theory empirically.

Ocean carriers in general are required to ensure enough capacity on their networks. This often results in excess capacity on certain routes as demand conditions change and capacity relocation or lay up is not possible. In times of economic downturns, even if capacity is partially taken out of the market, this results in steep drops in freight rates and large losses. On the long run excess capacity might lead to increasing market concentration, as carriers need to merge to survive, or get acquired by stronger players. Market concentration decreases freight rate variability but at the risk of increasing freight rates, lowering the quality and the frequency or availability of supply.

Since the '80s ocean carriers have engaged in vertical integration, as they observed combining ocean transportation with logistics services seemed to be a good strategy to lower freight rates variability, increase capacity utilisation and counteract rate decreases.

The general advantages of vertical integration derive from economies of scale, economies of scope, increased market control and transaction cost reduction. The general disadvantages stem from the difficulty in determining how far to integrate, the challenges imposed from management of integrated companies where different business divisions may have contrasting objectives, and the difficulty to adjust structures and strategies of ocean transportation and logistics. Furthermore, the weight to assign to each part of the supply chain, may be a hard decision to make, while shipping lines will most likely always opt to give centrality to ocean transportation.

Possible advantage for shipping lines expanding into logistics, is that logistics provides an extra source of revenue. Besides it might lead to demand complementarity, lower transaction costs, better visibility and increased market power. Disadvantages may derive from the reluctance of shippers to entrust their entire supply chains, or large part

thereof, to single providers. Besides, the managerial skills required for ocean carriers may be very different from the managerial skills necessary for a logistics service provider. Finally, freight forwarders might feel threatened and therefore unwilling to work with a shipping line that also operates in a similar business and therefore is to a large extent seen as a competitor.

The advantages of vertical integration for shippers are connected to the willingness and the ability of shipping lines to pass on some of their cost savings to the cargo owners. Probably the main disadvantage of vertical integration for cargo owners can be identified in the fact that they would have to entrust large part of their supply chains to fewer operators, therefore increasing their dependency on them.

Advantages of a bundled price for shippers derive from the fact that it becomes easier to compare transport costs of one year with transport costs of earlier years. In addition, the comparison with respect to costs, between firms offering door-to-door services becomes easier when prices are bundled.

Demand surely exists for bundled prices. Within Europe door-to-door pricing is a common practice among third party logistics service providers. This form of one-stop-shopping is possible in Europe since cultures do not differ too much, distances are short, borders are relatively easy to cross and so the short-sea market is transparent.

The general conclusion of this thesis is that bundled prices are in the interest of both carriers and shippers, since the former can decrease the variability of their revenues, and the latter are able to estimate their costs with more certainty. The interviews and the theories reviewed seem to indicate that bundled prices for integrated ocean transportation and logistics services show smaller variability than price for the stand alone services.

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Chapter 1 Introduction

Demand for shipping is a derived demand. This means that fluctuations in the world economy strongly influence demand and consequently also its prices. The world economy definitely is one of the most important factors influencing supply, demand and resulting freight rates (Stopford 2007). The world economy is influenced by internal and external factors.

Internal factors in general are predictable and follow some kind of cycle, for example; business cycles and economic trends.

External factors on the other hand are referred to as events, for example; a war or unexpected changes in commodity prices like oil. This also leads to changes in shipping demand.

Prices in shipping markets, like prices in general depend upon differences between supply and demand. Demand in the shipping market can change within a day. This can be seen in multiple sectors like; the toy market or computer market. The shipping market is not an exemption to this. However, freight rates are more variable than most other prices of services and goods. As for example prices of a piece of toy or a computer program. The reason for the variability of freight rates is related to characteristics of supply and demand in the shipping markets.

Supply is much less flexible than demand in shipping markets because of the long construction times of vessels. The very large vessels are especially taking a lot of construction time. Another problem occurring is that in comparison to other sectors, except for the service sector, supply of shipping cannot be stored since it is a service and not a tangible product. This two characteristics of supply; its difficulty to adapt quickly to demand and the impossibility of storing the supply of shipping, explains a significant part of the strong variability of freight rates.

Freight rates were less variable because of the existence of conferences. "A shipping conference is essentially a cartel in which member carriers agree on rates and some operational rules" (Doi, Ohta & Itoh 2000). Rates were internally discussed and fixed, causing less variability in freight rates. But since the 1980s conferences allowed their members to act independently with respect to service contracts and business actions. This strongly reduced the importance of shipping conferences. Furthermore, non conference members gained the chance to increase their market share. These so-called

non-members mostly competed on price by using inexpensive labour, simple routes and flexible rates (Doi, Ohta & Itoh 2000). The conference members on the other hand offered reliable services, where faster and made use of extensive networks. Although these members were more reliable, the non-members increased their market share to almost 50 percent (Doi, Ohta & Itoh 2000).

The decreasing importance of conferences made competition fiercer and gave shipping lines more freedom in choosing their strategy. Since prices were not fixed anymore and firms were allowed to act individually, the variability of freight rates increased. Since the 18th of October 2008 conferences are abolished and each liner firm should independently set up its own pricing policy, surcharges, etcetera (Hanjin Shipping 2008). So, in comparison with the situation before 1984, liner shipping companies have much more freedom and decisions to make.

A consequence of this is that strategies have to be developed individually. The strategy chosen has a strong influence on the costs of the shipping line.

Average costs are by now significantly lower because of the existence of economies of scale with respect to ship size. Already very large vessels are sailing, ordered by shipping lines or alliances. Shipping lines are even buying and selling slot spaces to each other so that larger vessels can be operated. Because of this cost decreasing developments potential cost savings at sea are decreasing, so firms are looking for other parts of the supply chain to save costs (Notteboom 2004).

Inland logistics is an important part of the supply chain where it is still possible to cut costs (Notteboom 2004). Nowadays, liner shipping firms have to aim for different parts of the market, expanding its services. Firms have to decide whether only to offer a port-to-port service, a door to door service or something in between.

Some questions arising are: Is it preferable for cargo owners if liner companies specialize on the port-to-port services or is it preferable that firms try to vertically integrate with other transport firms, expanding their services? Would this lead to a better predictability and less volatile prices? Is it possible for liner shipping companies to decrease volatility of integrated transport prices by expanding their services and is this in the best interest of cargo owners?

Decreasing price variability as a result of vertical integration is preferable because of an increase in predictability of prices and more reliability for both shipper and shipping firms. But these integrated prices might also be higher than the sum of prices of all the individual services. In general it is more expensive to a computer than buying all the

parts individually and doing the assembly yourself. These are some of the issues addressed in this thesis.

The goal of this thesis is to contribute to the research about decreasing the variability of freight rates. It tries to research if offering bundled prices decreases variability of freight rates. This research is theoretical as well as empirical. The empiric part contains multiple interview with people working in shipping, logistics or are retired and have a back ground in the world of shipping or logistics.

Research question

The topics and problems mentioned in the introduction have led to the formulation of several questions. The goal of this thesis is to answer these questions.

Can liner shipping companies reduce variability of freight rates offering bundled prices in door-to-door services, and if so, to whose benefit?

This question can be divided in the following sub-questions:

- Can a clear overview of prices and costs in (integrated) liner shipping be given and what factors influence these costs and prices?
- Are there advantages or disadvantages of vertical integration and offering a single price, if so, which are the most important?
- What determines price variability?
- Are there examples of shipping firms offering door-to-door services and how do they perform?

In order to answer the main question a clear overview of pricing mechanisms and cost determinants is necessary to see where improvements can be made.

Vertical integration is related to service bundling. So researching this might give a better overview of factors influencing service bundling. Furthermore it might help understanding the concept of price bundling better.

Freight rate variability is a central matter in the entire thesis, so it has to be clear what is meant by freight rate variability. Furthermore it has to be shown that freight rates really are variable.

Hypothesis:

Offering a single bundled price for door-to-door services reduces variability in total door-to-door freight rates.

Methodology

The earlier mentioned questions should be answered through desk research, through the help of interviews with experts on this topic, by talking to several firms in this industry.

The experts talked to for the interviews about shipping firms and logistics are: G. de Groot, managing Director of Ge-ex; W. Pronk, retired CEO Samskip; T. Tammes, retired manager Seatrade (also did research about price bundling); Y. Buitenwerf General Manager Feeder NV. Seatrade.

The experts interviewed looking from the point of view of cargo owners are: H. Borgers, Director-owner of Borgers Bananas; F. Engels, Logistics manager Nutricia;

A short introduction about the experts and the firms are given in the appendix.

The reason for using interviews for testing the hypothesis is because a part of the outcome is determined by opinions and preferences of shippers as well as from shipping firms. To do research about this topic, interviews are necessary. First to see if there is demand for bundled pricing and second if there is supply in bundled pricing. And, following from this in who's benefit are bundled prices.

Does demand to bundled pricing depends on the management, the scale or on the sector in which the shipper is active)? If it depends on management it can mean that asking for a bundled price is a preference of the current management, so it can change, depending on the current management.

Scale may be important, because in case of a very large firm it might be fruitful to do logistics by themselves (Manager Ge-ex 2009). For a small firm, getting a logistics overview may be too expensive. Such a company might just want to move their products from A to B and is not interested in the way the freight rates are set, only in the height.

Depending on the sector the required services differ. In one sector low cost transport is necessary, for example in the transport of scrap paper. While in another sector reliability

and safety is much more important, for example in case of high quality end products like cars or heavy machinery.

The literature study will result in a clear overview of and insights in the problem and should lead to possible solutions. Where the theory will be tested comparing it to several companies applying different strategies in practice.

Few papers are published about this specific subject and only a small amount of research is done about this topic. This is a reason that the amount of desk research is limited and a practical approach, in this case interviews, is preferred.

Structure

The thesis will be structured as follows: this chapter discusses the background and the importance of the research topic, the research questions and the methodology used. It gives an overview of the goals and the reasons for writing the thesis.

The next chapter provides a review of pricing and costs in (integrated) liner shipping. Having a clear overview of the existing cost categories, existence of prices and reasons for price variability, is important for this research. It will become possible to see which costs can be decreased by vertical integration, what effects it can have on prices and on price variability.

The third chapter discusses the advantages and disadvantages of vertical integration. Discussing vertical integration is important, because vertical integration is related to service bundling. It has to become clear what vertical integration entails in shipping, why there is a development from carriers to integrated transport providers and what the advantages and disadvantages of vertical integration are, for both shippers and carriers.

Chapter four answers several questions, some of which have been mentioned in the methodology, by cargo owners. In this chapter it is important to research if there would be a demand for and supply of bundled prices. Furthermore the vision of several peoples, with practical experience in the shipping and logistics markets, on price bundling are discussed.

The last chapter contains conclusions and recommendations according to the results found. Here the main findings of the paper are concluded. Furthermore, recommendations for further research directions are given.

Chapter 2 Pricing and costs in integrated liner shipping

From a financial point of view, the three most important variables ship-owners have to deal with are: 1) the income of chartering and operating the ship, 2) the operational costs and overhead costs which arise from running the ship and 3) the way the ship is financed (Stopford 2007).

In this chapter the first two variables will be discussed while the last is beyond the scope of this research paper. Having a clear overview of the existing cost categories, existence of prices and reason of price variability is important for this research. It becomes possible to distinguish the costs that can be decreased by vertical integration, what effect it can have on prices and on price variability.

With vertical integration a firm might benefit from economies of scope (Haralambides 2008). Combining several firms into one significantly reduces the size of management and overhead costs. Besides this, fewer contracts between firms are necessary because several individual firms become one, which results in lower transaction costs.

Furthermore, more efficiency in routing can be managed by vessel specialisation with respect to the ports of call. Quicker handling time can be obtained by better communication within the firm controlling not only the deep-sea vessels, but also the feeder ships, terminals and trucking operations. This should all lead to a better connected and more reliable service.

Another important issue might be demand complementarity, which can be expected in vertical integration (Heaver 2001). If a cargo owner wants to transport a good and finds an integrated shipping line by its logistic department the demand for that shipping line might increase because of demand complementarity with the logistics provider.

Demand and supply will be discussed first, because that are the basic market principle. Following this an explanation of the variability in freight rates is given.

Demand and supply

Freight rates, like prices in general, are determined by demand and supply. As mentioned earlier, demand for shipping can show sizable daily variations. This is the

result of several factors such as: the world economy, sea borne commodity trade, average haul length, political events and freight rates (Haralambides 2008).

Day-to-day changes in demand are found in a large number of sectors, for example in the toy market or in the computer market demand fluctuations can occur from day to day and also seasonal changes in demand can be found in both markets. For example during Christmas more toys is sold than on a normal summer day. So, demand fluctuations are not specific of the liner shipping markets. Supply in the liner shipping market on the other hand does have some very explicit characteristics which lead to price variability (Acciaro, 2009).

If demand and supply could be adapted to each other almost immediately and overproduction could be stored for periods of overconsumption, prices would not have to vary much to adjust demand to supply. But in case of a liner-shipping firm, a service is offered which cannot be stored like a tangible good (Haralambides 2008).

Furthermore, changing supply is very difficult because of the following reasons. Firstly, when demand increases before supply is adjusted new ships have to be build. Ship building takes a lot of time, and as orders increase shipyards become full, so that it may take several years before delivery of a new ship is done. A temporary increase in demand in general is not a problem, as the industry has operational overcapacity (Davies 1983).

A second reason is that shipping lines cannot constantly operate with a 100% load factor because of potential customer loss. Operating at full capacity implies rejecting customers. If this would happen several times, customers might walk away to competitors and space is created for potential market. For this reason carriers have a reserve capacity in order to, on average, keep the load factor below 100% (Davies 1983). This means that a temporary increase in demand is not a problem.

However, if demand decreases, a very different problem arises. Liner shipping supply is not elastic, so it almost does not change because of changes in freight rates. The gap between demand and supply grows and freight rates have to decrease in order to decline the gap. This occurs because of the following reasons;

Firstly, in general when demand decreases most manufacturers would decrease supply. In the case of a carrier a certain amount of reliability and especially frequency has to be maintained. Because of this necessity it is very hard for a carrier to decrease the amount of vessels sailing on a certain route in case of recessions.

Secondly, because decreasing the number of vessels is not feasible, a shipping firm might look at the decreasing sizes of the vessels. One by one ships should be replaced by

smaller vessels, where the larger vessels may be moved to other routes. However, doing this is against economic logics because of the existence of economies of scale in shipping size (Davies 1983). What a shipping firm can do is start working together with other carriers, named co-opetition.

Co-opetition is a mix between competition and cooperation (Dong-Wook 2003). So, buy and sell slot capacity to and from other competing carriers enabling to utilize the load capacity of the large vessels.

It should become clear that it is hard to adjust supply to demand in case of ocean transportation and as a result price variability is increased. In order to understand what determines the profitability of a carrier, it is important now to discuss some of the characteristics of costs. This is also crucial in understanding the advantages available to carriers through vertical integration.

Costs

According to Stopford (2009), the costs of running a shipping company depend on the combination of three groups of factors. The first group includes the main variable costs such as fuel consumption, the size of the crew and the physical condition of the vessels, which influences the necessity of repair and maintenance. The second type of factors is related to general economic trends and their influences to costs like wages, consumables, and repair costs. All costs which are not in control by the ship-owner. Third are the costs that depend upon the efficiency of management.

This simple costs categorization does not allow to see the cost decrease obtainable from vertical integration. A more detailed model of costs is necessary for this.

Costs can be divided into five categories: operating costs, periodic maintenance costs, voyage costs, capital costs and cargo handling cost (Stopford 2007). The detail of the five factors is provided in table 1 below.

Table 1.

1. Operating cost	Manning costs
	Stores & lubricants
	Repairs & maintenance
	Insurance
	General cost
2. Periodic maintenance	Not important for this research
3. Voyage costs	Fuel oil
	Diesel oil
	Port costs
	Canal dues
4. Cargo-handling costs	Terminal costs
	Costs for loading and unloading cargo
5. Capital costs	Not important for this research

Based on model of M. Stopford (Stopford 2007)

The operating costs consists of the day-to-day running costs of the vessel and include the costs of the crew, also referred to as manning costs, consumables, for example spare parts, insurance costs and general costs, which are overhead cost for port agencies, communication and management charges.

The second category is periodic maintenance. Maintenance cost can be divided into routine maintenance and breakdowns cost. The third cost category consists of voyage costs, that include fuel costs, port charges and canal dues, paid for example for the use of the Panama and the Suez Canal. The fourth cost category is cargo-handling cost. These are the costs incurred for loading and unloading cargo onto and from the ship. The last cost category consists of capital costs. This will not be discussed in detail, since vertical integration does not significantly changes capital costs.

Operating costs can be decreased with the help of vertical integration. For example communication, which can be referred to as a transaction cost, can become much lower because of vertical integration. Contracts are less necessary in case of an integrated firm so leads to decreasing transaction costs, furthermore less port agencies may be needed in case of an integrated carrier.

Besides, in the case of meetings and co-opetition with another firm it might be very hard to cooperate and at the same time keep the firm strategy hidden. For an integrated carrier this problem does not exist.

Periodic maintenance does not change because of vertical integration and therefore does not need further clarification. The volumes may change, without changing fixed costs, reducing average costs. In the case of a door-to-door transport it might be possible that, because of a better connection between the different transport modes, the entire voyage costs decrease. This might be because less different links are found, improving communication and decreasing chances of wrong misunderstandings. Also transaction costs are decreased as explained earlier.

In case of cargo handling costs, it might be possible that a dedicated terminal lowers its margins for its own carrier. This is a cost factor that decreases because of vertical integration.

Freight rates and revenues

Freight rates may vary daily. Carriers have little if any control on freight rates. Nonetheless, they can influence ship revenues for example by increasing capacity or ship productivity. (Stopford 2007) Cargo capacity depends on the size of the vessels used and the amount of bunkers and stores used.

The productivity of a vessel depends on the operational planning, most notably, routing. In addition, productivity depends on operating speed, off hire time, deadweight tonnage utilization and port time. Clearly higher speed increases productivity, but it also increases costs since it leads to an increase in water resistance, and in turn higher fuel consumption.

Routing is essential since the way vessels are sailing, a high efficiency in the number of port calls in combination with an efficient order of port calls and a reliable planning are important. This efficiency is vital for the trust of the customers, for the length in time of the roundtrip and also for the cargo handling costs, which will be discussed later in this chapter.

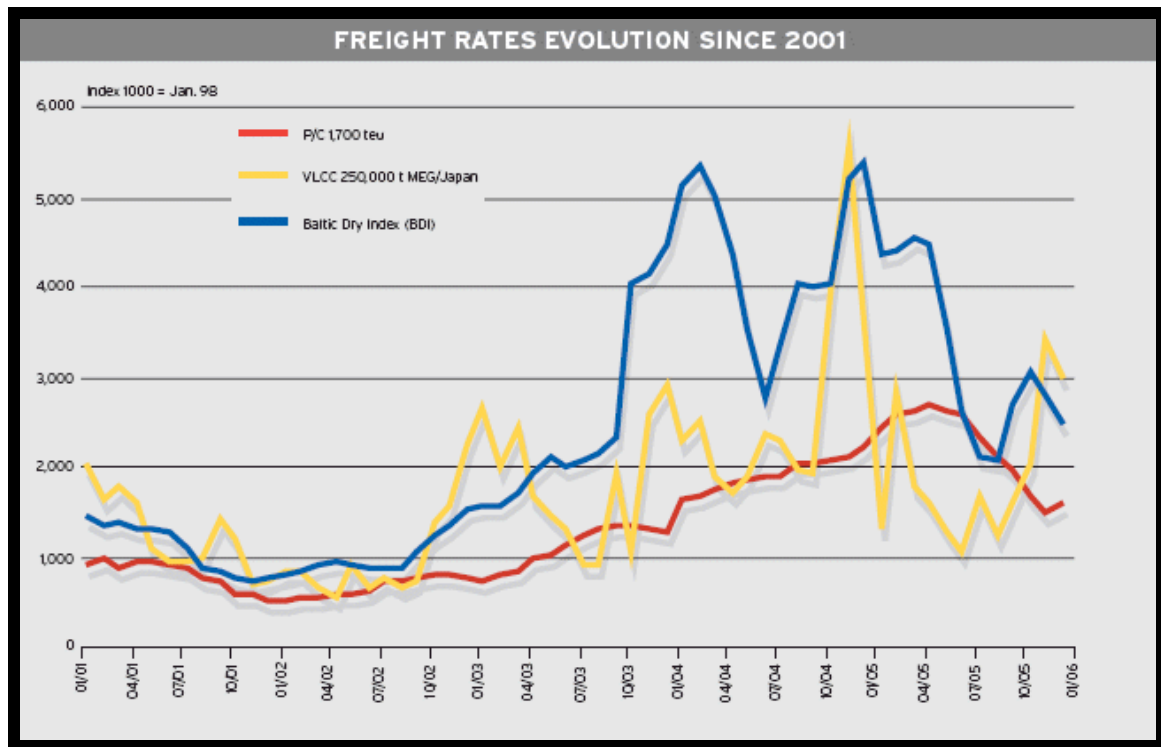
The off hire time and capacity utilization affect revenues earned since a vessel makes money when sailing full. Therefore the higher the capacity utilization on board the higher are the revenues, but consequently the higher are the handling and operational costs. Handling and unloading operations also have an impact on port times, that in turn affect revenues since the ship loses carrying capacity when not sailing. Carriers therefore try to minimise the time spent in port, demanding high efficiency from terminal operators.

Revenues might increase because of vertical integration, for example by demand complementarity. If this complementarity leads to more demand for the carrier, a higher capacity utilization might be reached. Still the average capacity utilization should stay under 100% because of the reason explained earlier. Demand complementarity also might work the other way around where the carrier offers its customers logistic services as well, meaning that the customer of the carrier also becomes a customer of the logistics department.

In addition better communication and planning increase reliability, that might be highly valued by shippers. Looking not only at the vessel, but at the supply chain in total might reduce the overall costs of the entire door-to-door trip because of better coordination among different modes of transport, and increased capacity utilisation. This in turn generates higher revenues.

Freight rate variability

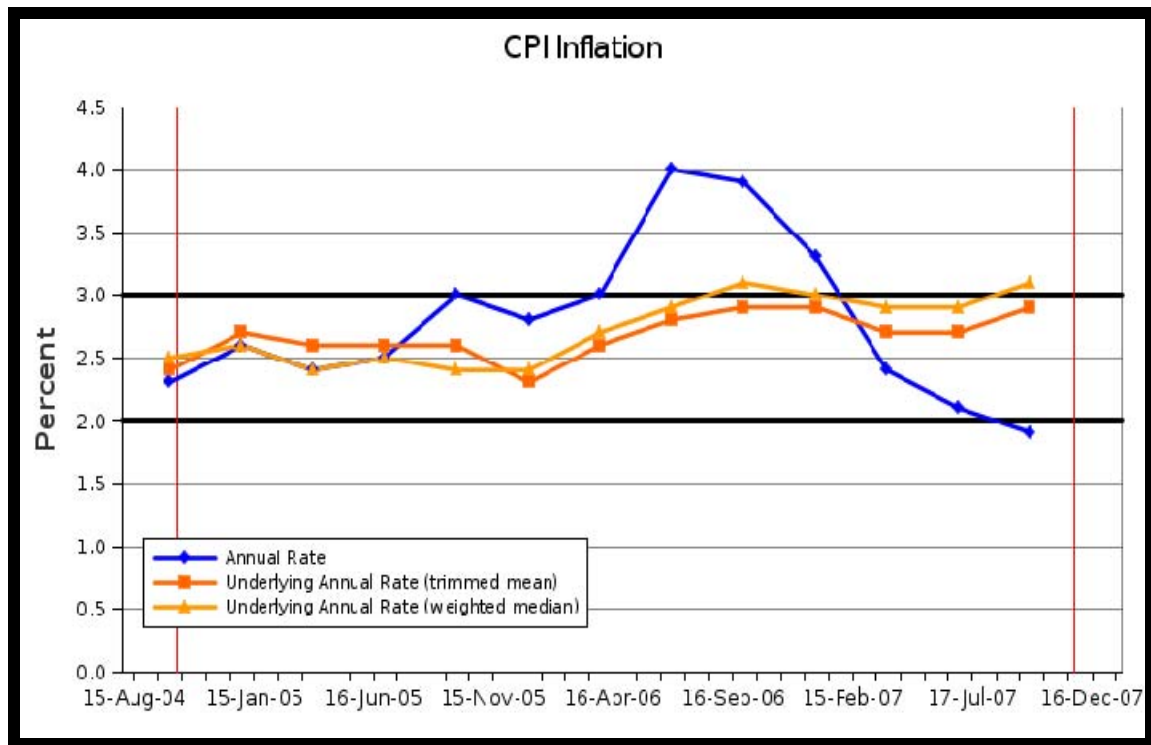
In the previous discussions it is stated that freight rates are variable. But variability requires a rigorous definition in this context. Although there is general accordance on the reasons for high freight rate variability in liner shipping (see for example Haralambides, et al. 2003), I believe that it might be useful to compare, at least graphically, freight rates with other industry prices to further confirm this statement.



www.informare.it

Looking at the graph above, a couple of observations can be made. It can be seen that within 2004 freight rates for a 1700 TEU vessel almost doubled, this means a change of almost 100%. In 2005 freight rates first increased strongly, about 20%, after which they collapsed in April 2005 and declined 60%. Variability for very large carriers is even higher as it appears clearly from the yellow line in the graph. The changes in freight rates are sometimes even 200%.

The degree of variability is crucial for this thesis since the goal of this research is finding out whether it is possible to offer a less variable price to shippers by offering a door-to-door service with a bundle price.

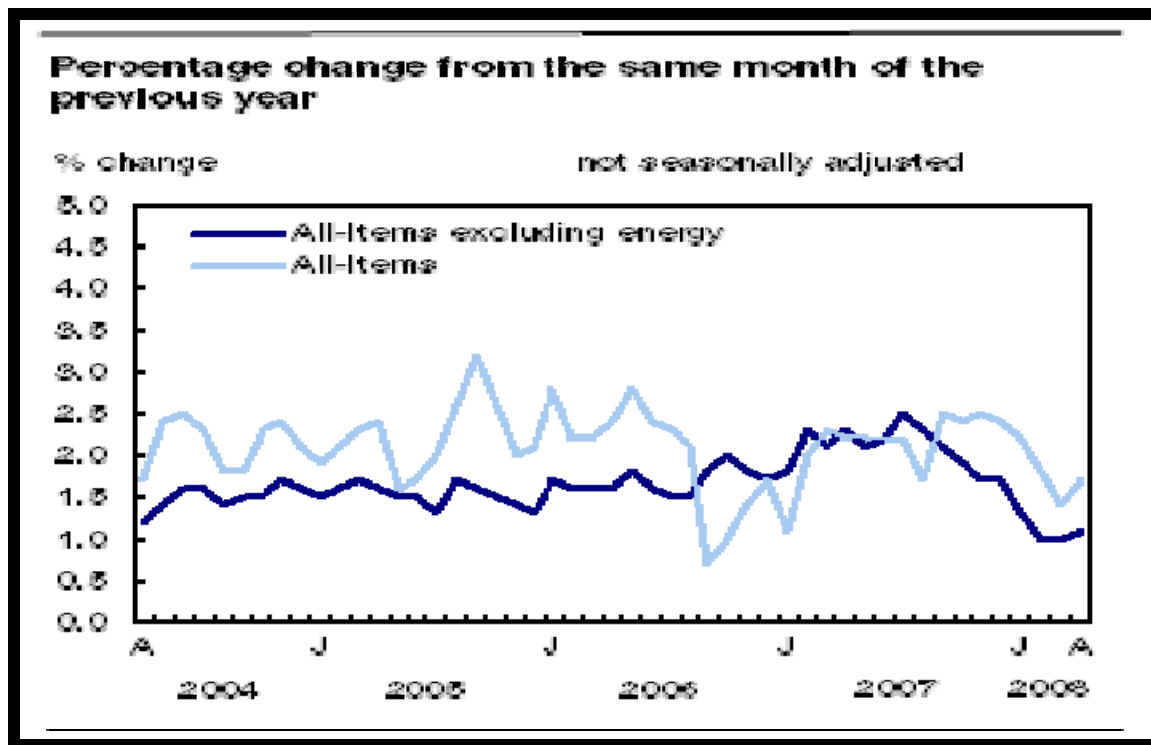


Ozpolitics Day 10 report, elections 2007

Comparing the earlier mentioned changes in freight rates of 20 to even 200% with changes in a general customer price index (CPI), differences in variability become clearer. The CPI in fact shows changes between 2% and 5, and although the CPI is a composite index, the differences with the variations in freight rates is substantial.

When comparing the percentage change of freight rates with the percentage change in CPI from the same month of the previous year, it becomes clear that freight rates are much more variable than prices in general.

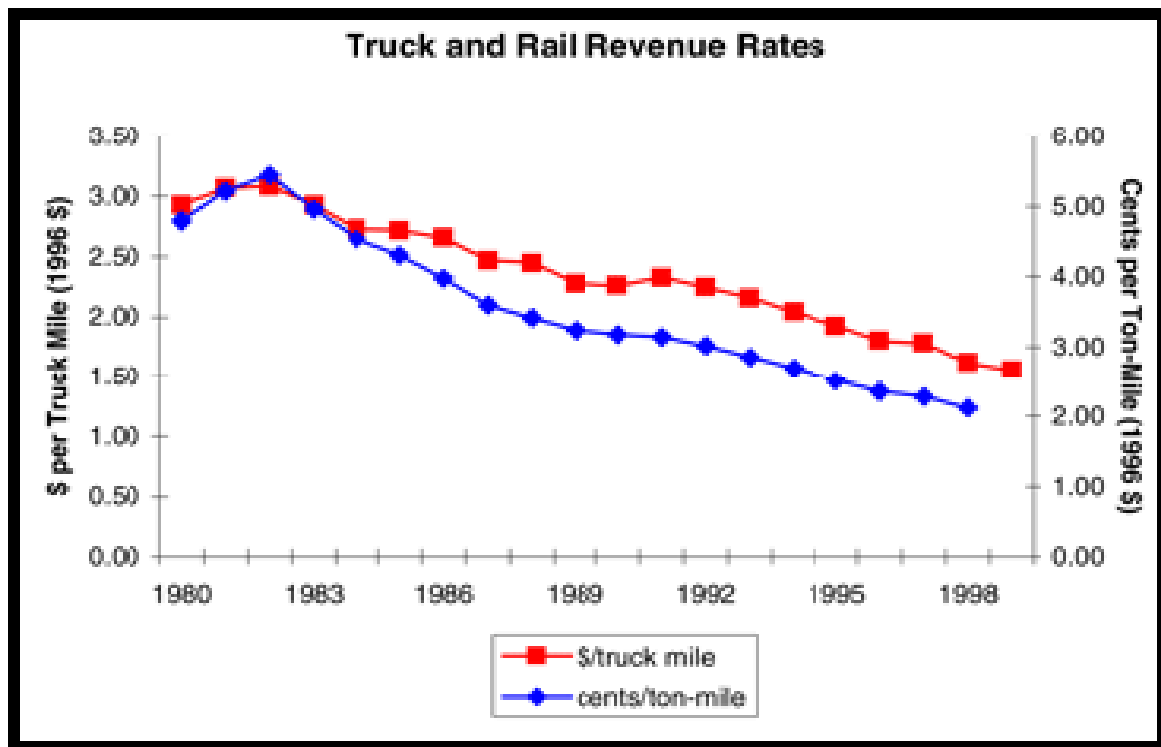
Variability decreases when summing the prices of products together. This can also be observed in the stock market. In the stock market, the variability of individual stocks is much stronger than the variability of the stock market in total, where on average the change is four percent per year. So adding prices together does normally reduce variability. Reduction in variability by adding different products together is also what is expected in this thesis. Variability of total transport prices should be lower than variability of shipping freight rates alone.



Consumer Price Index, *The Daily*, 21 May 2008

When comparing shipping freight rates to costs of rail and trucking in the figure below, it can be observed that trucking and train costs from 1980 to 1998 decreased relatively constant with the only exception of 1981 where a small increase can be seen.

The trucking and train rates are much less volatile than shipping freight rates. So adding them together to a single rate would reduce variability on average with respect to shipping freight rates.



Source: US Department of transportation



From the comparison of the third and the fourth graph we can observe that the economic crisis had a much stronger effect on freight rates for shipping than on prices in general. This is probably caused by the fact that demand and supply in other markets adjust more easily, and by the derived nature of demand for shipping.

Freight rate variability also depends on the route. For example, research shows that at least until 2002 the westbound trans-Atlantic route was known for its least variable freight rates. The East-bound Asia route on the other hand showed the highest freight rate variations (Haralambides, et. Al. 2003).

One of the reasons of these differences has been identified in excess capacity and cargo imbalances between East-bound and Westbound route legs(Haralambides, et al. 2003). The Asia-Europe route has substantial imbalances. This results in less excess capacity and smaller freight rate variability on the Westbound leg, where ships tend to sail with higher loads, and higher variability with lower freight rates on the East-bound leg, traditionally characterised by excess capacity (Haralambides, et al. 2003).

On the long run excess capacity might lead to more cooperation and consolidations among carriers, increasing market concentration. Market concentration will decrease freight rate variability. This because shippers have less negotiating power and excess capacity is reduced (Haralambides, et al. 2003).

Chapter 3 Vertical integration

Vertical integration is related to service bundling. So researching this might give a better overview of factors influencing service bundling. Furthermore it might help understanding the concept of price bundling better. It has to become clear what vertical integration really is, why a development from carriers to integrated transport providers can be seen and what the advantages and disadvantages of vertical integration are, for both shippers and carriers.

The way to vertical integration

A firm that expands its services upstream, downstream or in both direction is said to be integrated vertically in the supply chain (Vidal 2009) People speak of vertical integration when a firm takes over the value chain of a supplier and/or a distribution channel selling its own services directly to the end customer. In general this happens with mergers or acquisitions of suppliers or distributors (Vidal, 2009).

In the nineteenth century vertical integration was used for reaching economies of scale. This was because low costs and low prices were the main aim. In the second half of the twenties century it was used to increase reliability in supply of necessary shipments of parts and goods. Also in the twentieth century the theory of transaction costs was indicated as a reason for vertical integration (Vidal, 2009).

According to the transaction cost theory it is sometimes cheaper to invest upstream or downstream in the supply chain than putting effort in negotiations (Vidal, 2009).

There are some general advantages and disadvantages of vertical integration. Firstly, vertical integration favours, economies of scale that can be realized because the firm expands and fixed costs do not necessarily change, which decreases average product cost. Secondly economies of scope occur as a consequence of vertical integration when a firm might have knowledge of the firms that it is taking over and interaction between the consolidated firms may be realized.

More market control can also result from vertical integration, since the firm grows and becomes more independent with respect to suppliers. This reduces dependence on large

suppliers and consequently their influence on the firm. Furthermore, vertical integration may reduce costs as already explained above (Vidal, 2009).

The general disadvantages of vertical integration are: the degree of vertical integration is hard to determine, so it is hard to decide how strong management should integrate the different parts of the supply chain into one firm. Furthermore, consolidating the management of different companies may be very difficult to manage and the different structures and ways of working may be very hard to mould to each other. Final, the main aim of the integrated firm is hard to choose, because all the firms had their own core business, when integrated there is no clear core business anymore (Vidal 2009).

Vertical integration in liner shipping markets

In the case of a carrier, the merger with a terminal handler or a trucking company can be considered vertical integration within the supply chain. The integration between ocean carriers with inland services is reached by shipping lines buying inland transport firms. This is done through cooperation and mergers.

With respect to trucking, ocean carriers in general only own a small amount of trucks, essentially to avoid capacity shortages during peak times (Heaver 2001).

There are several reasons discussed in the literature as an explanation for the decision taken by many carriers to invest in order to become integrated global carriers. According to Notteboom (2006), the existence of high fixed costs and the problems of product differentiation are positive factors with respect to the opportunity for cooperation. The high fixed costs may be hard to bear for one firm, so cooperation may be a good solution to share the fixed costs. But operational cooperation is hard to achieve in the container handling business. This is because firms are reluctant to share their strategies when they cooperate with potential competitors. A carrier may decide to integrate logistics services after a period of cooperation with a logistics provider, when having enough information about the logistics market. This means that a carrier might be a potential competitor for a logistics firm. The same is the other way around. That is one of the reasons why operational cooperation often leads to mergers or acquisitions (Notteboom 2002, Musso 2001, Slack & Fremont 2004, in Notteboom 2004).

So, a reason for vertical integration is the problem of reaching efficient cooperation in the container handling business. In a cooperation you should not think about alliances, but about cooperation between different links in the transport supply chain.

Furthermore, ocean carriers aim at differentiating their service, as competition for homogeneous services such as ocean transportation can become stifling, and providing integrated logistics services is a good way of doing so. (Acciaro, & Haralambides, 2007).

Differentiation of products for ocean carriers is hard to achieve because of the following, among other reasons. If you want to go by train from Amsterdam to Rotterdam, you probably do not mind about the outside of the train. The time spend on travelling will not differ greatly, except when using a high-speed train. So product differentiation will be very hard in offering a train service from Amsterdam to Rotterdam. But if one of the train lines also owns a taxi firm and a station, product differentiation will become easier. Now a door-to-door price and service could be offered, creating time and cost differences between the different persons transport lines. The same reasoning applies to ocean carriers having the possibility of offering an integrated price and door-to-door services.

Ocean carriers could also try to gain greater control of the market through vertical integration and try to stabilize their income by compensating the cyclicity found in the market for ocean transportation (Acciaro, & Haralambides, 2007).

Also, the potential to cut costs in ocean transportation has decreased very strongly with respect to the past. This is because of the development of very large vessels already utilizing the main part of the existing economies of scale. Economies of scale are exhausted relatively quickly in ocean transportation (Haralambides, 2008). Integrating ocean transportation and logistics therefore is one of the strategies, where potential cost savings are still available to carriers (Notteboom 2004).

For potential cost savings, a door-to-door service becomes more important, especially in a time where frequency and reliability gain the upper hand in the supply chain. Cost savings are still significant, but especially in the earlier days they were crucial. Nowadays a lot of supply chains shifted to just-in-time production processes where stocks are tried to be held to the maximum efficiency level. In a lot of cases this means low stocks, meaning that deliveries have to be reliable and on time to keep stock outs to the minimum.

Another point mentioned by Notteboom (2004) is that the demand-pull force of the market is important for integrated ocean carriers. Demand pull force is defined as the influence of change of demand that results in a shift from pure ocean transportation to a more reliable integrated service. So shippers are not looking for pure liner services

anymore, but for the capability of ocean carriers to provide integrated services (Notteboom 2004). Meaning that demand changed and for that reason supply adjusts

Moreover in periods of peak a crucial reason for integrating services is the limited availability of container terminals. In periods of peak demand limited berth availability is considered to be among the most important reason for schedule unreliability in the liner shipping service (Notteboom & Rodrigue 2008).

Owning a dedicated terminal leads to better communication and to better planning. Dedicated terminals know that one of the company vessels wants to make berth in a certain amount of time, so it can adjust its schedules in case of conjunction.

Advantages and disadvantages for ocean carriers.

A very important advantage for ocean carriers offering logistics services, is that logistics provide an extra source of revenue. The income gained through the provision of logistics services does not depend on freight rates, as the other revenues do, and also shows less variability. Logistic services offer a reliable source of extra revenues when, for example, freight rates are low, and in addition decrease variability in the total revenue of the integrated carrier (Acciaro, & Haralambides, 2007).

It is possible for integrated carriers to bundle their services under a single price. Service bundling in the maritime sector means that all services like terminal handling, feeder and inland transportation are jointly priced as a package. In the current economic situation characterised for example by just-in-time production, this kind of bundling activities become more and more important.

Heaver (2001) summarised the advantages of vertical integration in three categories. The first one is demand complementarity (Heaver 2001). Complementarity means that the value a consumer obtains from a good or service increases when its consumption is associated with another good or service, or in other words, that the purchase of a good or service requires or results in the purchase of another good or service, for example, demand complementarity exists between a coffee machine and coffee. In shipping this means that a shipper wants to move cargo between two locations. If the logistics firm he contacts belongs to an integrated carrier, it can arrange that the customer also makes use of the shipping line, then there is a case of demand complementarity

The second category is connected to lowering transaction costs and achieving potential cost savings because of shared knowledge and resources. The lower transaction cost may

be a consequence of the simplification of communication. The sharing of resources and knowledge can lead to lower research costs in total, synergy in service provision and other forms of economies of scope (Acciaro 2009) .

The third category refers to increased visibility and market power, which for a significant part is the direct result of product diversification (Heaver 2001). Increased visibility is to be explained by two facts. Firstly, when a firm owns more businesses, consumers will come in contact with it more often. Secondly the more often something is rehearsed the better people remember it. Another advantage is the occurrence of product diversification.

In offering ocean transportation it is hard to diversify as container movements are a relatively homogeneous product. In the case of offering a door-to-door service this is easier to do (Acciaro, & Haralambides, 2007).

In addition to all the advantages discussed there are also several disadvantages for ocean carriers in integrating ocean transportation and other logistics services. Firstly, the managerial skills required for operating a shipping company may be very different than the managerial skills necessary for operating a logistics company. Especially because the former aims at very tight cost control while the latter aims at offering very high quality.

Another disadvantage is that shippers in general are familiar with the market. They might feel rejection when they have the feeling that a logistics service provider does not exist for offering them the best service, but for feeding the related ocean carrier (Heaver 2001). So the logistics department tries to draw the attention, but gives all its customers to the related carrier, not searching for the best alternatives in interest of the shipper.

In addition, freight forwarders may be reluctant to work with a shipping line, which also owns a firm that is a direct competitor. The smaller the distance, in terms of being one firm, between these firms, the stronger the negative side effect of vertical integration can be. In essence, the main disadvantages for carriers arise because of customer relations.

Advantages and disadvantages for shippers.

The advantages of vertical integration for shippers are partially dependent on the willingness of carriers to pass on some of their cost reductions. By doing so, carriers may gain another advantage, namely a stronger market position, since they become more attractive for the shippers. If, for example, vertical integration lowers transaction costs, it may become possible for carriers to lower freight rates, while maintaining the same total

margin on the overall chain. The lower freight rates make the services of the carrier more attractive to the shippers. However, in practice this does not seem to happen. A reason for this not happening is given in the part about disadvantages. Another example might be that revenues are less variable because of integration leading to the offering of less variable freight rates. This becomes possible if integrated carriers focus on the total revenues of the entire transport chain, instead of focussing at shipping revenues alone when determining the freight rates.

Stable prices are an advantage for shippers because it makes them able to better predict their costs. Moreover integrated services may offer higher reliability to shippers in terms of transit times, since it becomes possible for the integrated service provider to control the entire supply chain and problems or disruptions can be noticed faster and solutions found sooner.

A potential advantage of vertical integration for shippers may also be lower prices, although this might not always be the case. Lower prices might occur because of a decrease in cost for carriers, which can be translated into lower freight rates. This happens when the costs of the bundles of services will be lower than the sum of the costs of all the services individually, as a consequence of the ability of integrated carriers to decrease total cost within the supply chain (Acciaro, & Haralambides, 2007). Two examples of cutting cost have been mentioned earlier, namely the decrease in transaction costs and the decrease in cost by means of economies of scope.

The costs of an integrated transport service may be lower as discussed above, but the resulting price might be higher simply because an integrated service is seen as a better proposition to the customers. A better proposition logically can mean that a higher price has to be paid. Even though it can also happen that costs of offering an integrated service are higher (Acciaro, & Haralambides, 2007). For example when another logistics firm works more efficient or another carrier has larger economies of scale. Outsourcing in these two cases would have been cheaper.

When a product is purchased, it can be cheaper to buy several parts and do the assembly yourself than in the case of buying an end product. For example when buying a computer it is cheaper to buy the parts and do the assembly yourself. This can be subscribed to the fact that coordination of the various components of the supply chain adds value to the product.

Chapter 4 questions answered in practice

In this chapter the questions which this paper wanted to answer are tested in practice. This is important, because eventually the relevance of the outcome of this paper partially depends on the usability in practice. This is tested by the vision of several peoples, with practical experience in the shipping and logistics markets. To us it seems important to research if there would be a demand for and supply of bundled prices. An introduction of the people spoken to can be found in the appendix.

From an interview with the director of Ge-ex logistics, it became clear that within a door-to-door service from Italy to London almost eighty supply chain components are actively involved within the entire process. This of course means a lot of costs since none of the eighty links works for free.

Ge-ex managed to get the number of components back to eight, leading to a much more transparent supply chain with less costs and a higher form of reliability. Reliability is important for almost every cargo owner. But in some cases it is crucially, depending on the type of load. This also became clear from an interview with Hans Borgers, owner of Borgers Bananas.

Perishable goods in general should arrive on time. Otherwise they may deteriorate and become valueless. So reliability for a perishable good traders is one of the main considerations when looking for a carrier. When a single price is offered, the entire process of transport is arranged with agreements between different transport companies. This probably increases the reliability of the service.

A bundled price probably has several advantages, both for shippers as for carriers. For shippers it becomes easier to estimate what the costs for transport will be. And of course the ease of talking to just one person is a very big advantage. The logistics manager of Nutricia said they do not want to work with a different carrier for every leg of the journey.

In addition, bundle prices may fluctuate less, because prices may be agreed on for a longer period of time. Sometimes for even more than a year. The manager of Ge-ex mentioned that for a client they even managed to set prices for three years.

The pricing mechanisms allows for limited fluctuations of prices, similarly to an inflation-adjusted loan. where the interest rate is fixed, but is corrected for sizable inflation fluctuations.

The same happens for door-to-door freight rates in the case of Ge-ex discussed above. When for example oil prices or bunkers are at variance with expectations, rates are adjusted. Otherwise the freight rates set will be maintained both by the carrier and the shipper.

Seatrade mentioned that bundled prices in offering a door-to-door service absolutely do reduce variability in freight rates. This also is because revenues become less variable. In order to maintain flexibility, Seatrade is adding a price list with additional services for their customers.

Another cause of less variability in freight rates according to Seatrade is that intermodal systems are more adaptable to fixed pricing, leading to transparency, which is ultimately what customers prefer. This adaptability to fixed pricing may be caused because of less variability in intermodal costs. One of the reasons for this already is explained by several examples. One example is that the stock market in total generally varies less than one stock individually.

Another advantage of a bundled price for shippers is that it becomes easier to compare transport costs of one year with transport costs of earlier years, since only one price has to be compared.

Also the cost comparison among firms offering door-to-door services becomes easier when prices are bundled. Shippers just have to compare the price they are offered for the entire transport process.

As mentioned before, it happens that pricing agreements for a longer period of time are made. This means that firms build up relationships with each other. This might lead to firm specific investments and trust. Trust and longer terms of cooperation lowers transaction costs, since less contracts and meetings may be necessary.

From our interviews it is clear that demand for bundled prices exists. Borgers Bananas as well as Nutricia would accept a bundled price for door-to-door transportation. where the person spoken to of Nutricia even said it would be brilliant. This attitude was confirmed by the manager of Ge-ex logistics, who said that in general they work with offering a bundled price to their customers. So demand and acceptance of a single price absolutely do exist.

However creating demand also caused some problems according to the general manager of Feeder NV Seatrade, who said that adjusting the company's strategy to an integrated firm with bundled prices was not that hard. Convincing their customers that the way the customer operated until now is inefficient, because a bundled transport service worked more efficient, was the hardest part of the way to implementing a bundled service.

It should be mentioned however that if there are strong monthly price variations they would need to be explained, in the opinion of the logistics manager of Nutricia. This explanation may be easy when the variability is caused by the changing oil prices and bunkers. In that case it may be even so that this is agreed upon when discussing the longer term freight rates.

From the interview with Mr. De Groot of Ge-ex it emerged that within Europe door-to-door bundled prices are a common practice. In his view, one-stop-shopping at a bundled price within Europe is possible because the cultures do not differ very much, the distances are short, the borders are open and the short sea market is transparent.

This also explains why bundled prices are rare in the case of deep-sea shipping. Cultures differ much more, borders are less open, distances may be very large, so the deep-sea market is less transparent than the short-sea market.

The main question of this paper is if the variability of freight rates can be reduced by offering bundled prices in door-to-door services, and if so in whose interest.

As mentioned before, during the interview with Ge-ex it became clear that in the case of bundle contracts for door-to-door transport, prices are often set for a longer period of time. This means that variability is substantially reduced through bundling.

It can be argued that this is in the interest of both carriers and cargo owners, since the latter are able to estimate their costs more precisely, while the former reduce revenue variability. This was confirmed by the manager of Ge-ex logistics.

Furthermore, the longer term cooperation leading to the earlier mentioned decrease in transaction cost and negotiation time is in the interest of both parties. Lower costs for the cargo owner of course is a direct advantage. For the carrier it might mean a stronger competitive position. This already is explained earlier. The capability of offering lower freight rates as a result of lower costs makes the competitive position of the carrier stronger with respect to its competitors who may offer higher prices as a result of higher costs. Especially when firm specific investments are made, like for fruit special containers

or handling systems may be bought where customization and differentiation become better possible.

What became clear out of the interview with the manager of Ge-ex is that price variability differs strongly when comparing deep-sea and short-sea shipping. Freight rates in general do vary more compared to prices in general, but in the case of short-sea shipping this variability is less than in the case of deep-sea shipping. This is because of several reasons.

One reason is that the deep-sea markets are less transparent than the short-sea markets because cultures differ, borders are less open, distances are larger and so on. Besides, in the short-sea shipping market price bundling in door-to-door services for a longer term is more widely used than in the case of deep-sea shipping. This became clear because of the interview with the manager of Ge-ex Logistics.

The last point discussed in the interviews referred to which type of firms engage in providing door-to-door services as a bundle. From the interviews it appears that the firms offering door-to-door services under a bundled price are generally logistics providers. Mr De Groot in addition mentioned that shipping firms prefer to focus on what they perceive to be their core business, i.e. seaborne transportation.

He explained that in shipping economies of scale and focus on the core business are very important. Logistics, in his view, requires a different strategic focus, and therefore, it may be hard to combine the two types of businesses together.

Mister Pronk retired CEO of Samskip mentioned that the difference between the deep-sea shipping and inter Europe shipping was the focus on the core business. And that the big Global and European integrators have adjusted more to the demand of shippers for a single source transport operation other than the major inter-continental deep-sea lines. Their mono cultural approach has lead to bigger ships aiming at maximizing economies of scale, rather than clever and efficient logistic solutions and products which shippers demand.

So an intermodal system offering bundled prices and one-stop-shopping is what a lot of customers are more interested in nowadays. This statement was also supported by Mr. Buitenwerf from Seatrade, when he listed the key drivers behind offering an integrated service.

According to Mr. Buitenwerf: *"the main drivers are the demand in the market for a one-stop logistic solution whereby the connectivity of the various intermodal service providers*

is handled in the most effective way at a fair price, avoiding multiples handling but still flexible to adjust to the customers' need."

Conclusion and Recommendations

Freight rates are more variable than prices in general. Freight rate fluctuations up to 200 percent in the same year can be observed in shipping. In comparison to other transport modes such as rail or trucking, shipping rates are relatively more variable.

Market concentration, which may be caused by excess capacity found in shipping may reduce this freight rate variability. In the case of excess capacity it is hard for new firms to enter the market because current carriers can easily sell their excess capacity for a lower price and have enough capacity to serve all their customers. When less new firms enter the market gets more concentrated with bigger players.

In the nineteenth century vertical integration was used for reaching economies of scale because the emphasis was on cost reductions. In the second half of the twentieth century it was used to increase reliability of supply of necessary shipments of parts and goods because supply chains began to implement just-in-time production processes and lower inventories.

The general advantages of vertical integration are: economies of scale, economies of scope, more market control, reduced power and reduced dependence of big suppliers and potential cost reductions.

The general disadvantages are: the degree of vertical integration is hard to determine so it is hard to decide how strong management should integrate the different parts of the supply chain into one firm. Furthermore it is hard to combine management and not to lose sight of the core business.

Logistics as a form of vertical integration offers an extra source of revenues for shipping lines. The main disadvantage arises from the feeling of the customers. Customers should not have the feeling that one of the firms is used as a feeder for a related firm. The advantages of vertical integration for cargo owners depend upon the willingness of carriers to give up some of their gained advantages to their customers. Intermodal transport is better adaptable to fixed pricing so decreases freight rate variability.

Price bundling leads to less variable transport prices. This is an advantage for both shippers as carriers. The main disadvantage for shippers is a potential increase in freight rates as a result of higher costs or because a bundled service is seen as a better offer for shippers, resulting in a higher price. Bundled prices lead to more transparency, increased predictability, clearer comparisons and longer-term relationships.

The importance that shippers assign to characteristics, such as reliability or cost leadership of the chosen shipping service, depends on the type of load. For perishable goods reliability is crucial, where overtime deliveries might result in invaluable cargo. In case of cheap pieces of toys, cost leadership might be more important because large inventories make overtime deliveries less troubling.

Demand for bundled prices in door-to-door services unquestionably exists. However, some shippers seem hard to be convinced that the traditional way of working is inefficient. They may have to let go some control and also it may be hard for people to admit that their own way of working was not the most efficient.

The success of door-to-door services with bundled prices within Europe depends on several factors. Some reasons include: similar cultural backgrounds, short distances, open borders and transparency in short-sea markets. In the deep-sea market the mono cultural approach of global carriers has lead to bigger ships aiming at maximizing economies of scale, rather than clever and efficient logistic solutions and products demanded by shippers.

Bundled prices are in the interest of both carriers and cargo owners. Cargo owners enjoy more predictable costs, while carriers become able to estimate their revenues, freight-rate variability is reduced, the transparency of the supply chain is increased, long term relationships can be established and the shipping market becomes less vulnerable to economic fluctuations.

Further research on the topic of bundled prices in the deep-sea market could bring more clarity on the topic. In particular interviews with global carriers and cargo owners could contribute explaining the different business practices used in intra Europe door-to-door transport with respect to global port-to-port transport. Moreover, research should be down to answer the question if the strategy of global carriers investing in ever growing vessels instead of in logistics should is efficient. Furthermore it should be researched why global door-to-door transport with bundled prices is much rarer than in Europe.

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Appendix

Interview questions shipping firms

- What are the main drivers behind offering an integrated door-to-door service? Why did your company choose for this strategy?
- If not mentioned, does offering an integrated service reduces variability in revenues? And if so, why do you think this is the case?
- Is the company able to really compete with third party logistics or is it hard to offer services other than the core business? Do freight forwarders still ask for services since you are also a competitor in offering logistics?
- Do you think offering a single price leads to less variability in the transport prices you offer? With a single price I mean one price for the entire transport from door to door
- What do you think creates variability in shipping prices, why is this less in feeder shipping in comparison to ocean transport?
- In your opinion, what is the reason behind the shift from demand for shipping to the demand of a one-stop-shop and fully integrated services? Was it hard to adjust the company strategy to that?
- What do you think is the reason for which some firms succeed in integration and some firms do not? Should the main aim be on cutting cost as you see in shipping or should it be on offering a high quality as you see in logistics? Are these two objectives hard to combine?
- Do you think a strong form of complementarities exist between shipping and logistics services, like for example the planning of the transport process? Or do you think customers see the first as a feeder for the latter, making demand complementarity less strong?

Interview questions Shippers

- What does your company think is the most important when buying a logistics service? Cost, Time, Reliability, One-stop-shop?
- Does the company prefer a one-stop-shop integrated service for a single, less variable, but higher price or do you rather find out the routing yourself dealing with more variable, but sometimes lower prices?
- How relevant is just-in-time for your logistics strategies? Do delays often occur?
- Is it an improvement, shipping lines offering integrated services, from the point of view of your firm, with respect to reliability, price, easiness, etcetera?
- Would you be willing to accept a single price from a shipping line, without them explaining every part of the transport price?
- What services would you like to see combined in a single price?

Answers:

The experts talked to for the interviews about shipping firms and logistics are: G. de Groot, managing Director of Ge-ex; W. Pronk, retired CEO Samskip; T. Tammes, retired manager Seatrade (also did research about price bundling); Y. Buitenwerf General Manager Feeder NV. Seatrade.

The experts interviewed looking from the point of view of cargo owners are: H. Borgers, Director-owner of Borgers Bananas; F. Engels, Logistics manager Nutricia

Some of the persons spoken to are spoken to in person or by phone, that is why their answers and feedback are not in the appendix.

Mr. De Groot is the co-founder and manager of Ge-ex Logistics. Ge-ex is based on a customer oriented approach, offering customized services. It aims for multi modal transport services within Europe with a door-to-door view.

Mr. W Pronk is retired general manager of Geest North Sea Line and Samskip multi-modal Container logistics who has a lot of experience in the development of multi-modal intra European door-to-door transport.

Mr. T. Tammes is retired manager of Seatrade and also did research about price bundling. Seatrade is a shipmanager for refrigerated vessels. Throughout the years the Seatrade fleet has been expanded with various other types of ships. Presently the Netherlands-based company has more than 115 vessels in full management.

Mr. Y. Buitenwerf is the general manager of Feeder NV. Seatrade. This is the same firm where Mr. Tammes was active.

H. Borgers is the co-founder and manager of Borgers Bananas. It delivers up to 80.000 bananas per week. And make sure the bananas from abroad are delivered in good conditions to their customers by keeping them in their warehouse and fridges for the necessary amount of time.

F. Engels is Logistics manager at Nutricia. Nutricia is a leading firm in food products in the Netherlands. It is a firm with very diverse customers and a large market, so the company makes use of a lot of transportation.

Borgers Bananas

1. What does your company think is the most important when buying a logistics service?
Cost, Time, Reliability, One-stop-shop?

Cost and reliability. Especially in the current market it is important to offer at competing prices. If transport costs are too high, the company is less able to make a competitive offer. If transportation is not reliable due to own negligence they will receive claims which cuts their price.

2. Does the company prefer a one-stop-shop integrated service for a single, less variable, but higher price or do you rather find out the routing yourself dealing with more variable, but sometimes lower prices?

It all depends on the volumes, routes and work pressure. Some loads or locations are more difficult, than a specialist or one-stop-shop might be preferred. Most companies (like ours) make use of own transportation and outsource part of it. This keeps their capacity degree of transportation high.

3. How relevant is just-in-time for your logistics strategies? Do delays often occur?

Our deliveries should occur before a certain hour. The time span in which we can dock is approximately 4-6 hours. In the Netherlands this is not a big problem. However on international routes this might be more difficult. Delays in road transportation do not occur that often thanks to good planning tools these days. Transportation over water might cause some delays, this mainly has to do with bad weather or problems unloading in the port.

4. Is it an improvement, shipping lines offering integrated services, from the point of view of your firm, with respect to reliability, price, easiness, etcetera?

As long as they can offer at a lower price and still be flexible our firm is interested. However our firm also needs trucks to deliver the products, therefore it is sometimes better to use our own trucks in order to keep the utilization rate high, which will save cost.

5. Would you be willing to accept a single price from a shipping line, without them explaining every part of the transport price?

I think I might accept one single transportation price. However if this also includes transportation or storage in the port and custom clearance than it becomes less interesting.

6. What services would you like to see combined in a single price?

I suppose this is a delivery at the door. In that case I would like to know the ETA and track and trace, I need to know all information who will bring it and at what time (vessel truck ID). Also I need to know the storage temperatures.

Nutricia

1. What does your company think is the most important when buying a logistics service? Cost, Time, Reliability, One-stop-shop?

We only select what we deem to be reliable carriers to participate in our tender. Within the tender we base our decisions on cost. Current partners do have an advantage, as we always take cost of change into account.

2. Does the company prefer a one-stop-shop integrated service for a single, less variable, but higher price or do you rather find out the routing yourself dealing with more variable, but sometimes lower prices?

Our routings are very much set in stone (as we only supply intra company), therefore we are able to cover our needs with a tender. Tender requirements are a set price level for a certain amount of time (1 year). We do prefer that, as it makes the cost predictable. Sometimes this is beneficial for us, sometimes for the carrier (Depending on the market.). We do, however, use only one carrier for the entire journey.

3. How relevant is just-in-time for your logistics strategies? Do delays often occur?

Not very relevant, as we do carry quite a large safety stock. This doesn't mean that speed isn't important by the way, as we constantly face possible "out of stocks". Significant delays don't occur very often.

4. Is it an improvement, shipping lines offering integrated services, from the point of view of your firm, with respect to reliability, price, easiness, etcetera?

Integrated services, as in; transport to and from port, is essential. We do not want to use separate companies for separate legs of the journey.

5. Would you be willing to accept a single price from a shipping line, without them explaining every part of the transport price?

That would be absolutely brilliant. I never understood why it doesn't work like that for deep-sea transport. They will have to maintain a certain price level however; Prices can't vary from month to month without explanation.

6. What services would you like to see combined in a single price? Transport from-to. Just like it works in short sea, or land based transport.

Seatrade

1. What are the main drivers behind offering an integrated door-to-door service?

The main drivers are the demand in the market for a one-stop logistic solution whereby the connectivity of the various intermodal service providers is handled in the most effective way at a fair price, avoiding multiples handling but still flexible to adjust to the customers' need.

2. Why did your company choose for this strategy?

Our company has chosen to adopt this strategy selective when cargo is fragmented distributed to a multiple of customers when the supply is often limited to a small group of larger exporters. It has been our observation that markets which are both fragmented on the supply as demand side are less interested and adjustable to an intermodal system organized by the main player within the integrated chain, being the shipping line.

3. If not mentioned, does offering an integrated service reduces variability in revenues? And if so, why do you think this is the case?

Yes, it does as the usual pickings which are part of fragmented intermodal systems, caused by unorganized individual service suppliers are now orchestrated through one logistic management body whom will be shared between the client and the logistic manager. Intermodal systems are more adaptable to fixed pricing, leading to transparency, which is ultimately what customers prefer.

4. Is the company able to really compete with third party logistics or is it hard to offer services other than the core business? Do freight forwarders still ask for services since you are also a competitor in offering logistics?

Freight forwarders don't like the initiatives taken by shipping lines for two main reasons. a) It's their livelihood b) the transparency/fixed price arrangements reveal their questionable behavior (read pickings). Freight forwarders are in turn trying to control substantial volumes forcing shipping lines to use their services. In today's market this is very much fought and large shipping lines, particular in the container segment, have started to refuse freight forwarders and other consolidators.

5. Do you think offering a single price leads to less variability in the transport prices you offer? With a single price I mean one price for the entire transport from door to door.

Absolutely, see also (3), what is important though is that fixed pricing should not dominate the services offered. It remains important (particular in the food sector where Seatrade is active) to keep the overall service package flexible where customers can add/remove part of the integrated package in a transparent way. A simply price list for additional services is often an adequate tool to comply with this requirement.

6. What do you think creates variability in shipping prices, why is this less in feeder shipping in comparison to ocean transport?

Feeder services are like a bus service and far more competitive to survive in a market with multiple service suppliers offering a similar package. Furthermore Feeder services are largely depending on the ocean-carriers whom will dictate the price. Ocean-carriers are often offering quite a different service package like transit times, regularity, transshipment hubs which are ultimately leading factor for pricing. This is based on a perfect market with a steady demand. This isn't the case in today's container environment which leads to a total different pricing structure based on load-factors and survival – so called revenue management. (similar to what low-cost airlines do)

7. In your opinion, what is the reason behind the shift from demand for shipping to the demand of a one-stop-shop and fully integrated services? Was it hard to adjust the company strategy to that?

Its wasn't hard to adjust the company strategy but to get customers to understand that they have been acting inefficient so far. As mentioned before not all markets are suitable to intermodal integrated services.

8. What do you think is the reason for which some firms succeed in integration and some firms do not? Should the main aim be on cutting cost as you see in shipping or should it be on offering a high quality as you see in logistics? Are these two objectives hard to combine?

This is quite complex, its not just pricing and logistics ... there is a lot in market psychology to change patterns which have lasted for many years and decision takers have often benefitted one way or the other from the relationship with freight forwarders, consolidators, customer clearance agencies, brokers and NVOCCers. This is often a tougher nut to crack than explaining the benefits of an integrated service which inevitable has to be price competitive and high quality.

9. Do you think a strong form of complementarities exist between shipping and logistics services, like for example the planning of the transport process? Or do you think customers see the first as a feeder for the latter, making demand complementarity less strong?

Yes, both services are complementary but without streamlining the supply chain, by having too many cooks in the intermodal kitchen will only lead to higher costs. This is for instance also seen in the world of transport related insurances where commodities are often more than double insured for during the total supply chain whereas a small add-on on the ocean transport insurance is often sufficient to have a full coverage throughout the supply chain. This requires a rejection of standard operating conditions such as

- forwarding conditions (like Fenex)
- storage conditions (like Nekrovi in the coldstore world)
- stevedoring conditions (like f.i. Rotterdam stevedoring conditions)
- Landtransportation
- Etc

Mr. Pronk

1. What are the main drivers behind offering an integrated door-to-door service?

Shippers are looking for ever increasing efficiency in their overall internal and logistic costs. Offering integrated door-to-door services reduce the number of suppliers they need to engage and control. Using end2end services transfer responsibility for overall transport performance to the door-to-door supplier. The gravity of the major cost drivers in the overall door-to-door structure determines the level of specialism required for the various elements in the total transport chain. It is obvious that Intra European door-to-door services differ from Intra Continental services. For specific Intra European door-to-door transport between mainland Europe and the U.K. and Ireland the major cost drivers as a percentage of overall costs are as follows; overland transport 60 %, ships 10%, terminal handlings 18%, equipment (containers) 4%, organization and overhead 8%. Utilizing overland transport in the most optimal way is the key to success in Intra European door-to-door operations. Shippers also value asset based operators in order to reduce dependency on operators just purchasing on an "if and required" basis. Asset based in our case means owning the equipment (containers and chassis) and having long term charter agreements for ships.

1a. Why did your company choose for this strategy?

Our company choose this strategy to create a captive relationship with its customers. The company started its development in the early days of Intermodal transport (early sixties) and took full benefit of the single supplier approach by shippers.

2. If not mentioned, does offering an integrated service reduces variability in revenues? And if so, why do you think this is the case?

Integrated services reduce variability in revenues. The various components of the total door-to-door rate consists of A. Pre-carriage, B. Quay to quay transport (terminal handlings and sea transport) C. onward carriage, D. Equipment, E. organization and overheads. The total composition of these cost elements result in market rate levels on an area to area basis. The success of a fully integrated door-to-door operation is determined by the in and out going traffic flows in these areas. Operators with high imbalances in historical balanced areas are non-competitive and therefore less attractive to shippers.

3. Is the company able to really compete with third party logistics or is it hard to offer services other than the core business? Do freight forwarders still ask for services since you are also a competitor in offering logistics?

Our company is specifically specialized in main liner haul transport. Offering the overall services of third party LSP's, including fine line, parcel and city distribution is not part of our activities. Third party LSP's do render, however the services of our company where we act as their supplier in their overall business concept. In reverse we do render their services to offer total logistic solutions and transport management packages to our customers. Our customer base includes freight forwarding companies.

4. Do you think offering a single price leads to less variability in the transport prices you offer? With a single price I mean one price for the entire transport from door to door

See also my remarks under item 2. Variances are also determined by the specific demands of shippers. Time of collection and delivery and the ability of round tripping in order to reduce empty running are of utmost importance to run an efficient operation. The most efficient operation is created on the basis of a tip and reload principle. Individual agreements with customers operating all in and out of the same area on the principal of a jig-saw puzzle determines the competitiveness and success of a door-to-door operator.

5. What do you think creates variability in shipping prices, why is this less in feeder shipping in comparison to ocean transport?

In door-to-door operations prices are determined by specific conditions in area to area balances. (Berlin to London differs from Berlin to Manchester although the distances might be the same, but Westbound and Eastbound flows are out of balance and therefore create a higher cost impact on the flow which needs to bear the biggest part of the empty running). Feeder and ocean transport are mainly port-to-port operations whereby economies of scale and size of vessel determine freight rates. Irrespective of a laden or empty container, the movement needs to be paid on a port-to-port basis. Port-to-port operations are mostly offered to and by shipping lines whereas door-to-door services are offered to end users. (shippers and consignees) The development of door-to-door transport by ocean carriers has also been restricted by the rules of the various liner conferences, now these have diminished and/or gone it is to expected that the proportion of Inter-continental door-to-door transport offered by these carriers is going to increase. Until now the big global integrators have taken up that role with ocean carriers as their major suppliers.

6. In your opinion, what is the reason behind the shift from demand for shipping to the demand of a one-stop-shop and fully integrated services? Was it hard to adjust the company strategy to that?

The reason as mentioned under 1. Reducing the number of suppliers and transfer of responsibility for overall service performance. Our company was one of the front runners to create this within Intra European transport.

7. What do you think is the reason for which some firms succeed in integration and some firms do not? Should the main aim be on cutting cost as you see in shipping or should it be on offering a high quality as you see in logistics? Are these two objectives hard to combine?

The success of some operators is based on a multi disciplinary approach rather than a mono cultural approach. The big Global and European integrators have adjusted more to the demand of shippers for a single source transport operation other than the major inter-continental deep-sea lines. Their mono cultural approach has lead to bigger and bigger and even bigger ships with maximum economies of scale, rather than clever and efficient logistic solutions and products which shippers demand. In my opinion they are not difficult to combine unless you acknowledge the importance of the role of each individual element in the overall transport chain. None of the various elements can be overriding and or dominant.

8. Do you think a strong form of complementarities exist between shipping and logistics services, like for example the planning of the transport process? Or do you think customers see the first as a feeder for the latter, making demand complementarity less strong?

For door-to-door transport it is absolutely essential that all competences required to perform door-to-door transport on an efficient basis are contained in "one hand" . Transport operations and planning, terminal activities and ships operations combined with efficient equipment utilization, organized by a lean and mean organization is a strong set of complementary services and activities enabling door-to-door transport to be executed on an efficient and reliable basis and seen as a single source of logistic supply by shippers. Any fragmentation in control over the total transport chain is sub-optimal.

The successful combination and management of these key drivers in door-to-door transport, either through own activities or purchased on a contractual basis from specialists has been the major reason for a successful development of Intra European door-to-door transport of Geest North Sea Line/Samskip Multi-modal Container Logistics.

Ge-ex

From Italy to Londen almost eighty links are actively involved within the entire process. Ge-ex managed to get the number of links back to eight, leading to a much more transparent supply chain with less costs and a higher form of reliability.

Single prices fluctuate less than general freight rates, because prices can be agreed on for a longer period of time. Sometimes for even more than a year. Ge-ex is working on a project where prices are set for even three years. Variability is reduced by the bundling of prices and these kind of agreements.

Single prices discussed for longer periods of time according to the manager of Ge-ex can be compared to loans. In the case of loans interest rate is adjusted when inflation differs from the predicted inflation rate. In case of transport prices, changes can be found in case of fluctuations other than predicted, in oil prices and in bunkers.

Longer time pricing agreements may lower transaction costs since relationships and trust are developed. This may lead to less contracts because as well as Ge-ex also the customer like to keep doing business. Meaning that customers also stick to their agreements.

Demand and acceptance of a single price absolutely do exist. Within Europe a lot of single door-to-door prices are offered. This one-stop-shop within Europe is possible because the cultures do not differ very much, the distances are relatively small, the borders are relatively open and the short sea market is relatively transparent.

Price variability differs strongly when comparing deep sea and short sea shipping. Freight rates in general do vary more compared to prices in general, but in the case of short sea shipping this variability in general is less than in the case of deep sea shipping. This is because of several reasons.

One reason is that the deep sea market is less transparent than the short sea market. Besides in the short sea shipping market longer term price bundling in door-to-door services is more often used than in deep sea shipping.

Firms offering door-to-door services by a single price, very often are logistics providers. Because shipping firms like to stick to their core business and want to aim for their own market, the shipping market. In shipping lines economies of scale and focus are very important. Logistics really is a different market, so for a management this may be hard to combine.

Seatrade

Mr. Tammes confirmed a lot of statements and ideas. He confirmed that within Europe a lot of door-to-door services are offered. He also confirmed that a lot of carriers do like to stick to their core business instead of vertically integrates. This partly because freight forwarders can feel reluctant to work with a competitor. So an integrated carrier might gain extra revenues because of logistics, but also might lose revenues because less freight forwarders want to work with them.

Mr. Tammes also agreed that freight rate variability might decrease because of price bundling. Because Seatrade is a carrier with reefer vessels, Mr. Tammes also confirmed the answers of Mr. Borgers about perishable goods. Meaning that reliability is very important when transporting perishable goods because of possible loss in value when shipments are to late.

To conclude, from the interview it became clear that within Europe a lot of door-to-door price bundled services are offered, but global carriers rather stick to their core business. Furthermore the idea about price bundling reducing freight rate fluctuations was confirmed.