



Pre-announcements of price increase intentions in liner shipping spot markets



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ABSTRACT

Carriers in liner shipping markets frequently make public announcements of general rate increase (GRI) intentions, based on which EU authorities have concerns as to whether this harms market competition. This paper aims to empirically investigate how well the GRI system works from an industrial competition perspective, which will indirectly indicate whether carriers are able to manipulate spot rates following GRI announcements. Taking the Far East–North Europe trade between 2009 and 2013 as an example, the paper first reveals the gradual increase of GRI frequency and size, which reflects carriers' attempts to restore profitability against overcapacity. However, out of all the GRI events only 28.6% were observed to be successful. Since these GRI successes must be the results of either price collusion (if any) and/or normal rate change by carriers in response to fundamental market developments, the effective collusion, if it exists, is actually lower than 28.6%. Next, we identify eight factors influencing GRI successes. To further assess their impact, we applied an ordered logit regression analysis, which, based on four of the factors involved, yields good predictability for GRI success. The four factors, in sequence of explanation power, are the total capacity of GRI carriers, the idling fleet size, the spot rate level, and the average ship-loading factor. Clearly the latter three factors are market fundamentals, which are unlikely to be influenced by an individual carrier in the short term. In actual fact, the conclusion reached is that there is little evidence that carriers can manipulate and distort spot rates through GRIs.

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1. Introduction

Liner shipping serves international trade by transporting containerized goods overseas via regular liner services. A liner service is a fleet of container vessels providing transportation between seaports under a fixed schedule, regardless of whether the containers are filled or not (Stopford, 2009). In 2015, the three largest liner shipping companies had a share of almost 35 percent of the world's total ocean shipping capacity, with around 20 other companies sharing most of the remaining capacity (UNCTAD, 2015). The global containerized trade had by then reached 171 million TEUs per year (a TEU is a standard container of twenty-foot equivalent unit), with volumes dominated by the three major routes that link the Far East, North America and Europe. The whole industry is now characterized by increasing concentration, with some trade lanes being characterized as a loose oligopoly, and others as a tight oligopoly (Sys, 2009). There are two types of

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markets in this industry: (i) spot market, which typically opens a few weeks before the shipping date; and (ii) contract business, which is generally for large customers who negotiate a long-term rate (e.g. 1 year) in advance (Lee et al., 2015). In the spot markets, the industry is prone to sharp swings in rates (Reinhardt et al., 2012), and the price fluctuations for each trade lane are quite unique. There is also strong competition among carriers, because container transportation services can be considered homogenous in most cases, and many shippers in the spot markets are price-takers.

For most of its history, the liner shipping industry has enjoyed an antitrust exemption, which has permitted ocean carriers to collectively set freight rates and manage trade-wide capacity through a type of organization called a conference.¹ In the past, conference members usually discussed rates on a quarterly basis (U.S. Federal Maritime Commission, 2012), and if they for various reasons agreed to increase rates they would jointly make a 'General Rate Increase' (GRI) announcement, and would use public information channels to notify both shippers and competitors (i.e., any non-conference members).² When the conference dominated a certain trade, no one questioned whether or not GRIs were effective, which indicates a support to carriers in coordinating and influencing market rates.³ Fig. 1(a) illustrates a joint GRI announcement by a conference, assuming that there were three conference members A, B and C. Such a GRI announcement contains the amount of intended price increase (called GRI size hereafter) and the date of implementation for particular cargo types and sizes, being valid for a clearly defined effective scope. The scope is often a specific trade-lane, and is sometimes detailed down to origin and destination at the country or port level. Please note that in Fig. 1 we ignore the normal dynamics of rate level, in order to better emphasize the rate change in relation to the GRI. In reality, freight rates do fluctuate, as shown in Fig. 6.

In recent years, such antitrust exemption has been whittled down by deregulatory efforts, and most of the conferences have been disbanded.⁴ As a consequence, liner companies have been forced to price their transportation services independently, and have meanwhile proceeded to announce GRIs on an individual basis. Fig. 1(b) illustrates a GRI event consisting of individual announcements, with similar implementation dates for the same or similar scope; a real example of such a GRI can be found in Appendix A. In an individual GRI event, a liner company may announce a different sized GRI earlier or later than competitors, or even choose to announce nothing. When this GRI is implemented, the rate may jump up; soon afterwards, the rate typically gradually drops back, so the impact of an individual GRI event often does not last very long. It is also worth noting that in practice we do not see any announcement of a rate decrease, as carriers just lower rates whenever necessary.

Because of the nature of a price change pre-announcement, a GRI can be used for two reasons: (a) To inform customers of a potential rate increase caused by normal supply and demand dynamics, this usually being arrived at by the individual carrier's best estimate of what the market will bear, plus an added margin for negotiation flexibility; and (b) signaling competitors to push the rate level beyond what the market will normally bear as a result of collective/parallel pricing. Obviously, the first type is a normal and legal use of GRIs by individual carriers. For example, when demand level improves, carriers would expect a higher rate if all other factors remain the same; in such a case it would be completely normal to announce a GRI to its customers. On the other hand, the second type works as an indirect form of collective price setting, by deliberately signaling competitors regarding price intentions. In practice, these two functions may overlap with each other, and data on the 'normal' rate level is unavailable, making it difficult to quantify the split. However, by analyzing their total success statistics in a combined way we can obtain a maximum estimation of the likelihood of effective price collusion, and this is the approach we use in this study.

There are, of course, concerns as to whether such price pre-announcements could be used indirectly to reach a consensus among firms on future higher prices, and thereby increase their profits at the expense of customer welfare (Posner, 1969).⁵ This led the European Commission to launch an antitrust probe into 14 liner companies, so as to clarify whether their GRI behaviors amount to a concerted practice to push price over the normal level even without formal agreement (European Commission, 2013).⁶ From a general anti-trust perspective, it is critical to judge whether each communication instrument can create coordinated collusive outcomes (Harrington et al., 2013). Extensive literature and theory is available within law, economics and industry organization research on various industry cases (see for instance, Carlton et al., 1997; Corona and Nan, 2013; Fonseca and Normann, 2012; Marshall et al., 2008; Moore and Taylor, 2008; Davis et al., 2010). The research indicates that the collusive effect very often depends on the specifics of the market, e.g. demand elasticity and volatility, the number of firms, symmetry between firms, and cost of communication, rather than solely on the presence of certain ways of commu-

¹ Conferences were allowed in antitrust regulation based on the common belief that it can resolve problems of cost and capacity inherent in the trade and benefit a sustainable and reliable service (Sagers, 2006).

² In a broader industry perspective, liner shipping is not the only industry operating with price preannouncements in an effort to influence the market price. Other industries have also been observed doing this, including the construction materials industry (Blair and Romano, 2002), passenger airline transport (Borenstein, 2004), vitamins (Marshall et al., 2008), and chemical substances (such as sorbates and organic peroxides). The most comparable industry would be the airline transport industry. In the U.S., major airlines announced future prices through a platform called the Airline Tariff Publishing Company (ATPCO), which is owned by the airlines and disseminates price change information to airline and travel agent computer systems on a daily basis (Borenstein, 2004).

³ However, this does not mean that conferences were perfect cartels, because actually they did not manage to maximize the joint profits of their members. For a detailed discussion of this, please see Clyde and Reitzes (1998).

⁴ Such efforts include the Ocean Shipping Reform Act of 1998 in the U.S., the repeal of the Liner Conference Exemption from EU competition law in 2008, and subsequent similar efforts by Australia, Canada, Japan, and South Korea (Fusillo, 2013).

⁵ Relevant industry studies also highlight other types of public announcements having a potential impact on market competition, such as announcing pricing strategies and structures (Harrington et al., 2013) and capacity expansion plans (Corona and Nan, 2013). In the liner shipping industry, the communication of general strategies and plans relating to prices and capacity can also be seen.

⁶ This investigation was closed in July 2016, with no conclusion on the matter. The full ruling can be found at: http://ec.europa.eu/competition/antitrust/cases/dec_docs/39850/39850_3377_3.pdf.

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