A STUDY OF MARKET STRUCTURE FOR FAR EAST – EUROPE LINER TRADE AFTER THE ABOLISHMENT OF FAR EAST FREIGHT CONFERENCE

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Liner conferences operating in both the Transpacific and Transatlantic trades have been enjoying full exemption from anti-trust or anti-competition regulations since the early 1950s. The closure of the Asia North America East Bound Rate Agreement (ANERA) and the Transpacific Westbound Rate Agreement (TWRA) under the Ocean Shipping Reform Act ("OSRA") in 1998 allowed liner operators to provide full liner services without the involvement of any Liner Conferences. Subsequently, the European Union (EU) followed the same example as their USA counterparts and abolished the Far East Freight Conference ("FEFC") in 2008. However, unlike that of the USA, the rate structure in the Asia-Europe trade lacks a similar Government Agency that can ensure transparency in the process of freight rate setting. Therefore, it is important to examine whether the abolishment of FEFC can reduce the freight rate similarly.

INTRODUCTION

The demise of Liner Conference in Transpacific trade after the implementation of OSRA in 1998 created a tremendous ripple affect on the Far East-Europe trade. It eventually engendered the closure of FEFC on October 18, 2008. A majority of studies of liner conference regulations are driven by its exemption from antitrust regulation. Many governments seek to control existing of market power by introducing antitrust legislation. On the other hand, a number of countries provide liner shipping conferences with immunity from antitrust legislation.

The very nature of liner operations that required liner companies to provide fixed schedule, published tariff and regular sailing forces liner companies to form trade groups to fulfil such requirements in the trade route that they are serving. Such trade groups created outside speculation that they will possess cartel power in their aggregated supply volume. However, if trade groups are forbidden to operate alongside the liner trade then the supply of tonnage will fluctuate greatly depending on the capabilities of individual operators, as it is fairly easy for liner company to switch from one trade route to another. Various legal ramifications were carried out in the USA (US Merchant Shipping Act 1984), the UK (Rochdale Report 1970) and even the United Nations (UNCTAD Code of Conduct for Liner conference 1964) and they all concluded Liner Conferences are trade organisations that can facilitate the operations of liner trade.

The capital intensive nature in Liner shipping operations gradually forced the industry to evolve into the market structure of an oligopoly. The oligopolistic market structure of liner shipping is characterized by the existence of a few sellers and inter-firm rivalry. Other characteristics of an oligopolistic industry include:

1. High entry barriers to new-comers due to huge capital investment.
2. Little difference in service.
3. A few carriers that account for the majority of total supply.

The abolition of liner conferences literally reset the liner market structure back to 1875 when the first UK-Calcutta conference was formed. At that time, the inter-carrier agreement (i.e., the conference), was formed to end price wars and, as a result, excessive shipping capacity was built up. Carriers developed a multilateral conference system under which participating carriers operating in specific trades cooperated to reduce price competition.

The practice of liner conferences has long dominated liner trade routes. There was a general political agreement to adopt published price-fixing within the Organisation for Economic Co-operation and Development ("OECD") which lent some measures of long-term stability to the liner shipping industry. Liner shipping conferences can be a measure that traders seek in order to engage in long-term transport supply relationships at known prices. While most OECD countries provided conferences in the liner shipping industry with antitrust immunity, within the OECD these policies have not been harmonized in spite of considerable effort to do so. Strict harmonization, which requires governments to legislate identical regimes, seems an unrealistic expectation in an international environment where some countries seek improved consumer welfare (e.g. the US) while other seek multilateral integration (e.g. Europe).

Open Conference

A conference that merely sets freight rates without restricting membership is called an open conference. In the USA, membership of liner conferences is open but monitored closely by a government agency. The control started in the early 1900s through the Alexander Committee Report and was enforced by the 1916 Shipping Act. They legalized an American version of liner conferences by exempting them from antitrust legislation and putting them directly under the watchful eyes of a government agency. The 1916 Act created an independent agency, the US Shipping Board (later known as the Federal Maritime Board), to oversee the industry. The 1916 regime was overhauled with the passage of the Shipping Act of 1984 which introduced the concepts of independent action and service contracts as the means to limit the market power of the conferences, and was received favorably by the Federal Maritime Commission ("FMC").

The more liberal 1984 Act led to another round of overcapacity and hyper-competitive. These trends prompted Congress to enact OSRA in 1998. ORSA introduced a new type of agreement - i.e. the confidential service contract. OSRA represents a logical continuation of the trade toward deregulation established by the Shipping Act of 1984. The Act is designed to remove some of the immunity of antitrust laws given to carriers by creating confidential contracts. It laid a solid legal framework for market competition in the liner shipping industry. In the US, a conference is defined by Section 3 (7) of OSRA as 'an association of ocean common carriers permitted, pursuant to an approved or effective agreement, to engage in concerted activity and to utilize a common tariff; but the term does not include a joint service, consortium, pooling, sailing, or transshipment arrangement'.

The FMC has gone through more changes within the past decade than it has in its 46-year history. OSRA started the FMC's transition from traffic cop to market monitor. OSRA marked a major change in the way liner carriers approached the market. The liner market will continue to change along with customer requirements, economic conditions, and trade flows. The presence or absence of a conference or discussion agreement appears to make little difference in freight rates. Supply and demand still rule. Shippers and freight forwarders for years have been trying to get carriers to give a detailed accounting of charges they levy on containerized shipments. However, negotiations between exporters and shipping lines over terminal handling charges on key Trans-Pacific and Intra-Asia routes collapsed. Members of the Transpacific Stabilisation Agreement (TSA) even pulled out a meeting with the Federation of Asian Shipping Council.

Closed conference

Contrast to that in the USA, the liner conference in Europe is described as closed conference with limits on membership and capacity provision. The objective of the conference system found in the 1870s was to counter destructive price competition through capacity regulation. Member States in the EU are to a large extent free to follow their own national shipping policies and create the economic and fiscal framework that they consider most appropriate for the development of shipping activities.

Regulation 4056/86 which came into force on July 1, 1987, marked the first step in imposing effective regulatory constraints on a sector that had previously been largely self-regulated. It is grounded on the acceptance of liner conferences as legitimate, and indeed the most common form of organization of liner shipping. On being adopted, Regulation 4056/86 was intended to supplement the rules of the United Nations Conference on Trade and Development (UNCTAD) Code of Conduct for Liner Conferences, to which the EU Member States were signatories. Since the adoption of Regulation 4056/86, containerization has led to an increase in number and size of full cellular container ships and growth in global operations. This has contributed to the emerging of consortia and alliances as a means of sharing costs and reducing risks. The growth of these operational arrangements has been accompanied by a decline in the significance of conferences.

On the other hand, the conference system also tipped the balance of power in the buyer-supplier relationship in favor of the buyer in the 1980s and 1990s. Today, more and more shippers fail to see differences between conference and non-conference arrangements. As a result, the role of the liner conference has diminished. Shippers expected greater transparency and understanding of the operational features of the liner shipping industry and better awareness of their business by the carriers. Shippers expected more cooperation from the carriers to overcome difficulties in the supply chain, find longer-term solutions, and cooperation to seek reductions in costs.

In 2005, the European Commission (EC) proposed to repeal the block exemption of liner conference established by Council Regulation 4056/86. The Commission proposed to establish an alternative regime that allows other forms of cooperation between carriers. In 2006, the EU Competitiveness Council granted liner carriers a two-year grace period before fully repealing their block exemption from the antitrust regulations that allow the conferences to exist. This decision by the Council allowed liner conferences to continue operating on routes to and from Europe until October 2008. After that, conference activities in particular price fixing and capacity regulation were no longer permitted. The European Liner Affairs Association, which represents most of the major carriers that serve Europe, had already agreed to give up the antitrust exemption in the hope that the EC would adopt its compromise proposal to allow carriers to share information on rates and capacity. From the carriers' perspective, sharing information was necessary to justify the large investments they make in new ships. The Council's action could trigger the abolishment of conference systems worldwide, even in Asia where they have been supported by the governments of China and Japan.

THEORETICAL APPROACH

Coase (1937) assumed that resources are allocated by means of price mechanisms and that this allocation is depended on entrepreneur co-ordination. Obviously, Coase (1937) suggest firms are the only available connection between these two assumptions. The survival and the size of the firm largely depend on the costs saving through price mechanisms and the tradeoffs between transaction costs and management cost.

Since no liner carrier is able to provide an exclusive liner service between any two ports, the performance of the industry should take a more macro view to understand how the market structure and players' conduct will affect the market performance.

In its simplest form, structure-conduct-performance (SCP) as:

"The observable structure characteristics of a market determine the behaviour of firms within the market, and that the behaviour of firms within a market, given structural characteristics, determines measurable aspects of market performance."

According to various schools of thoughts of microeconomic, market structure can be polarized from perfect competition to the monopoly market structure.

Perfect competition

Samuleson and Nordhaus (2001) defined prefect competition as:

1. Product homogeneity, meaning that the product supplied by different firms is the same;
2. Information freely available, meaning that firms and consumers alike know the prices set by all firms;
3. Equal access to the market, meaning that all firms have access to the same production technologies;
4. Price taking, meaning that firms and consumers take the price as given; and
5. Free entry and exit (i.e., no barriers to entry and exit), meaning that any firm may enter or exit the market as it wishes.
6. Huge market so that no single player or buyer can manipulate the price of product by selling or buying

In the shipping industry, tramp shipping operates under perfect competition. While liner shipping operates under the oligopoly market structure, as there are :

1. few sellers (players) in the market

2. differentiated product
3. loyalty attached to some buyers
4. price agreed by players which is relatively stable over a long period of time

Under long term agreements between shippers and carriers in the liner industry, the formation of an oligopoly market structure is adopted by both parties and embraced by the authority to recognise the legitimacy of the activities of Liner Conferences. The abolishment of liner conferences will destroy the market structure in the liner shipping industry.

The Structure Conduct Performance model

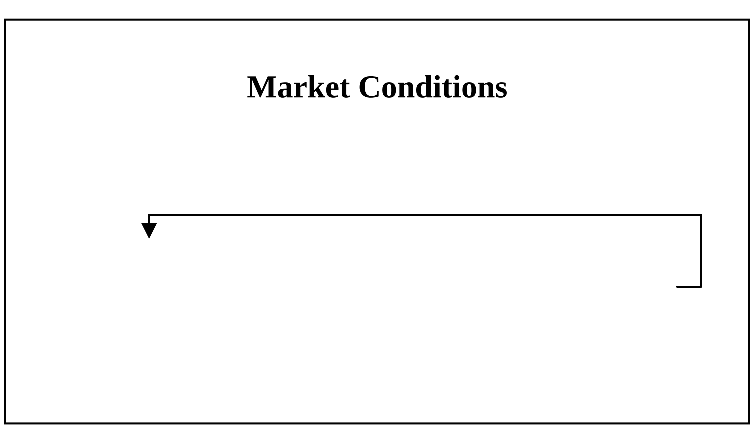
Structure-conduct-performance (SCP) model postulates the performance of an industry as determined by the conduct of suppliers and consumers which, in turn, is determined by market structure. The model discussed the relationship between market concentration and the firm's profitability. There will be a systematic difference in average excess profit rates on sales between highly concentrated oligopolies and other industries. The average profit rate of firms in oligopolistic industries of a high concentration will tend to be higher than that of firms in less concentrated oligopolies or industries of atomistic structure. The SCP hypothesizes that:

(1) The exercise of monopoly power should increase as concentration (i.e., the degree of disproportionate allocation of market share) increases and
(2) The greater the barriers to entry, the greater the exercise of market power.

In short, barriers to entry facilitate market power, which increases with concentration. Thus, when market concentration is growing some firms are perceived to be building monopoly power (i.e., the market deviates from the perfect competition structure), which results in positive profits (i.e., these firms charge above marginal cost and behave as monopolists).

The SCP model serves as a conceptual framework by many studies to describe industries. Basic conditions, market structure, conduct, and performance characterize an industry. The relationship of these elements is indicated in Figure 1:

- the basic conditions are the primary determinants of the market or the industry structure
- the structure of the industry is the primary cause of the conduct by the participants in the industry
- conduct explains or accounts for market performance



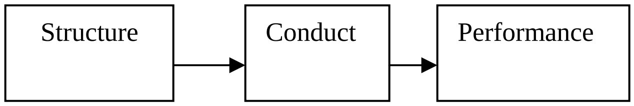


Figure 1. Industrial Organization Paradigm *(source: Giles 1989)*

- Market conditions include many factors, which shape the market or the industry, such as consumer demand, market supply, political environment and policy change. In some cases, the effects of policies are direct. Like antitrust laws are intended to halt the spread of monopoly, the result is less mergers behaviors in that industry.

- Market structure means a set of characteristics which give definition to the supply-side of the market, such as the nature of the firms which produce a product the production cost and entry, the relative size and number of producers. Analysis in industrial organization intends to predict and explain behaviors. The structure attributes are:

  - economies of scale
  - barriers to entry
  - industry concentration
  - product differentiation

  Having the different levels of the structure attributes make the industries fall somewhere in or between the market structures, perfect competition, monopolistic competition, oligopoly, and monopoly.

- Market conduct is the actual behaviors of firms in a market and how the firms react to the conditions imposed by the market structure and interacts with rivals. One of the significant aspects of market conduct is pricing behavior.

- Market performance is the description and a judgment about the results of market behavior. The most important characteristics include profitability, efficient resource allocation, equity (generally viewed as low consumer prices), employment, technical progress, a generally higher standard of living, and some special social goals.

METHODOLOGY

Based on the SCP model mentioned above and to study the impact of the abolishment of FEFC on freight rates, the liner market will shift from an oligopoly to a nearly perfect competition market structure. Weekly sea freight rate for Europe between June 29, 2007 and April 24, 2009 are collected from the China (Export) Containerized Freight Index (CCFI). Since China has gradually dominated the trade between Asia and European Union, it is reasonable to use the freight index published and sponsored by the Chinese government as official. CCFI is sponsored by the Ministry of Communications of PRC and formulated by the Shanghai Shipping Exchange Autoregressive Integrated Moving Average (ARIMA)-intervention analysis model is adopted to capture the dynamics of both the intervention and variance. The data collected consists of 69 weeks prior to the abolishment and 23 weeks following the abolishment.

Looking at the parameter estimates table for Europe freight rate in Fig. 2, the coefficient for the dummy variable step64 is -23.448 ($p<0.05$). This means that the Europe freight rate decreased by approximately 24% after the abolishment of FEFC. More importantly, it aligned with the prediction that Europe freight rate will continue the downward trend in the next 5 weeks after April 24, 2009 as in Fig. 3.

Figure 2. Parameter estimates table for Europe freight rate

ARIMA Model Parameters

					Estimate	SE	t	Sig.
Europe-Model_1	Europe	No Transformation	0	Constant	-.079	4.167	-.019	.985
			AR	Lag 1	.063	.108	.588	.558
			Difference		1			
	step64	No Transformation	Numerator	Lag 0	-23.448	7.554	-3.104	.003

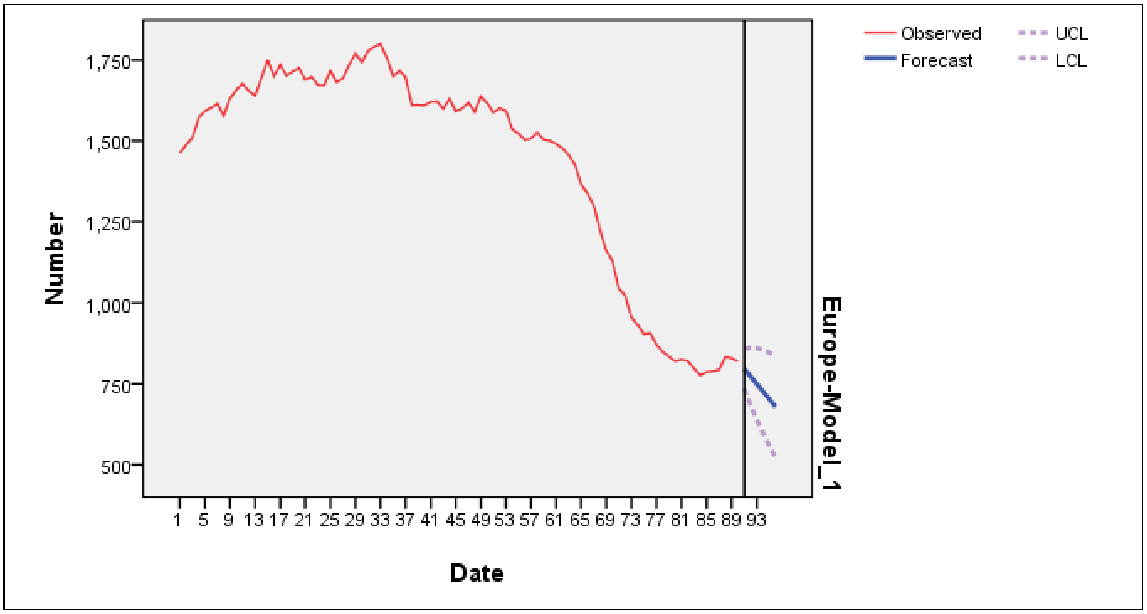


Figure 3. Forecast trend for Europe freight rate

Based on the results and impose it on the SCP model, the structure of any market is mainly driven by the resultant forces of all external conditions. These are forces created from changes such as new government regulation / deregulation; inter-firm agreements and technology supremacy among competitors. The ultimate resultant equilibrium will be achieved irrespective of these changes may only last for a short interlude or be permanently imposed. Under the new equilibrium state, the structure of the market will greatly influence the conduct of all the players in the market.

1 CONCLUSION

The paper proposes that market conduct changes under a new scenario on the market structure in the Asia-Europe trade after the abolition of FEFC. This paper observed that market structure changed from oligopoly into a perfect competition (chaotic) situation. Impacted by the recent financial crisis, the volume available for the trade dropped drastically which might mask the actual behaviour of the market.

Therefore, a transition period is expected for the coming months to stabilise the liner market. There is no evidence able to predict the duration of such transition period in the Asia-Europe trade. The time span will depend on how long it takes for the trade to digest all the tonnages in surplus as well as to produce enough volume of cargo to trigger the cargo flow again. Once the market available tonnages stabilised again, the liner operators will focus on their own niche areas for long term competitiveness. At that stage, the market structure will switch back to monopolistic or oligopoly structure without any interference from the governments.