Student Section

Understanding Basics Of Shipping Market Supply & Demand Model

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Part 1

WHY SHIPS?

The demand for ships is derived from the demand for the goods that they carry; that is why economists refer to merchant shipping as a derived demand. The customer, who is usually but not always, in a different country from the producer of the goods, wants those goods to be delivered to him safely and at minimum cost. Note that the word 'quickly' was not included with the other two requirements i.e. safely and at minimum cost. Speed is certainly important for some commodities and for these there are other forms of transport such as air freight which is ideal for small but highly valuable items of cargo. But air freight is very costly so that it would be ridiculously expensive to transport, say, coal or iron ore by air even if it were possible.

Sea transport may be considered a relatively slow but inexpensive form of transport and because modern ships are capable of carrying hundreds of thousands of tonnes, the cost per tonne/ kilometre adds only a small amount to the cost of the commodity being carried. This enables bulk materials to be moved half way around the world and still arrive at an economic price. That is why by far the greatest volume of goods involved in international trade is carried by sea.

AN INTRODUCTION TO THE THEORY OF TRADE

The movement of cargo by sea comes about as a result of one party - the exporter - selling a commodity to another party - the importer - this sale from one to another is, of course, referred to as trade. You will often hear the exporter referred to as the consignor or shipper. The importer may also be referred to as the consignee or as the receiver.

The first obvious question is why should "A" buy goods from "B"? The immediate and equally obvious answer is that "A" needs or wants what "B" produces. This comes about due to the uneven distribution of resources throughout the world. Note that the reference was to distribution of resources not simply the distribution of commodities. For example, Great Britain, once a major exporter of coal still has substantial reserves but only a very small annual production because extraction is uneconomic. Australia also has coal and although the two countries are more than 10,000 nautical miles apart, Australia is able to sell coal to Britain.

Before dealing with this apparent paradox, let us concentrate first upon the implications of 'resources', there are two more expressions commonly used by economists that need to be mastered when considering the theory of trade. The first is absolute advantage, which refers to a commodity that one country has in exportable quantities but which another country has none. Examples could be bananas or coffee, these cannot be produced in Northern Europe whilst they are in abundance in the West Indies and Brazil. Such an absolute advantage is the result of climate. Absolute advantage may also come about through geology and a good example is copper that is mined in several parts of Southern Africa whereas many countries that need it to produce goods have no such mineral deposits of their own.

Thus, in the case of absolute advantage, the resource is simply the physical availability of the commodity. Other factors are, however, involved which lead to comparative advantage. In simplistic terms this means where one country produces a commodity more cheaply or in a more desirable form than another.

In addition to climate and geology there are other factors of production that create a comparative advantage. These factors tend to fall into four categories namely Land, Labour, Capital and Enterprise. No two countries have exactly the same resources and few, if any, countries can be considered as being self-sufficient. For example, even with the wide-ranging natural resources that are present in a country like South Africa, the lack of appreciable quantities of oil prevents the country being self-sufficient.

Over a period of time, countries have specialized in those products where they have a comparative advantage. This specialization is reflected in the trend in international trade.

In recent years, growth in demand has been strongly supported by a substantial shift in global production capacity to Asia, in particular China. Consequently, China today, with its voracious appetite for iron ore to fuel its steel production, is the single most important factor that is driving the freight markets to heights never seen before[1].

ECONOMIC MODELS OF TRADE FLOWS

There are two 'traditional explanations' of trade flows, both concentrating on the

Editor's Note:

" There has always been a shortcoming pointed out against the engineers at sea that their training does not provide them with the knowledge of the commercial aspects of shipping. To overcome this, we are starting a new series of articles on the Commercial Aspects of Shipping targeting the engineers at sea. "

supply side of the economy. They essentially argue that trade flows are driven by relative costs only. The models try to explain why one country exports certain commodities and imports other, different commodities in exchange. It implies that one country has a cost advantage relative to the other country, for one industry. Thus Saudi Arabia is abundant in oil, which can be extracted cheaply because its fields are on land, easily drilled and extracted, and moved to the coast for export. It has a cost advantage in oil production. On the other hand, Japan has a cost advantage in car production, so both can trade. Note that this is Inter-industry trade, not intra-industry trade.

ABSOLUTE ADVANTAGE

This is sometimes called Ricardian Trade, after David Ricardo, the first economist to develop the theory. The theory basically argues that a country will export those commodities which it produces more cheaply than any other country, and in exchange, import those products which it produces less cheaply than elsewhere. The obvious examples of 'absolute advantage' would be a country's natural endowments of raw materials and natural resources. In Saudi Arabia's case, as mentioned above, an absolute advantage exists in oil production, as it does in other Middle East economies which are similarly blessed. Brazil and Australia are endowed with iron ore, Japan has none. A natural trade is for Japan to import these essential manufacturing raw materials as it has no such materials itself.

One question that arises in this theory is this. Suppose an economy say economy A, was absolutely more efficient in production in all goods, compared to another economy (B). If Ricardo's doctrine is correct, it would appear that economy A should never trade with B, since it is capable of producing both products more cheaply than B. Since, in real life, it is often argued that Japan, say, or the US, is capable of producing all goods more cheaply than the UK say, then why should these two economies trade?

It turns out that Ricardo's theory is flawed. Absolute advantage is not required to generate trading opportunities. The major traditional theory of international trade is known as the theory of comparative advantage, which is discussed in detail below.

COMPARATIVE ADVANTAGE

The doctrine of comparative advantage is the most widely known theory of trade flows. The idea behind it is best understood with the aid of an example. Suppose that you are a computer whiz, and also good at decorating and painting. In fact, you are better at these two activities than your neighbour, Fred. Fred is not too good at computing, but very good at decorating and painting, though not as good as you.

Initially, both you and Fred spend equal amounts of time in both activities. But if you trade, both can gain. This is because Fred is comparatively good at painting and decorating; if he concentrates on that activity, while you concentrate on computing, you can trade the service to each other and both would be better off. This gain arises from the fact that resources have been reallocated towards their most efficient uses; as a result, more total output (computer services and paint/decorating) is produced, to be reallocated between the two people. In reality, comparative advantage is nothing more than the extension of Adam Smith's principle of the division of labour to trade between countries. Each country will tend to specialise in producing those products which it is relatively good at producing, and trade some of the increased output from the expanded sector for imports which replace the output lost from the shrinking, less productive sector.

TRADE GROWTH AND THE DEMAND FOR SHIPPING SERVICES

"Over the years, the world seaborne trade and the supply of the ships have grown to cater for the increased movement of the finished, unfinished products and raw materials across the globe. In very simple terms, this increased trade is based on the comparative advantage theory. Going by the cause and effect relationship, an increase in trade, which increases at a faster rate than the GDP, helps a country's GDP to increase. The direct impact is then on the seaborne trade that accounts for two thirds of this total trade.

The focus on the core competencies by the businesses and procurement of raw materials cost effectively from all over the world, cause the movement of goods. Reduction in trade barriers, thanks to the role of the WTO, has further helped. Global supply chains have evolved through fading away of the geographical and ideological barriers. In the economic context, if the differential between the prices of merchandise in two countries is larger than the total transaction cost, trade will take place. Shipping, as an important part of the supply chain, is one of the major components of this transaction and a cornerstone of globalization, playing an important role in maintaining the competitiveness of the firms in the business"[1]. This spectacular growth in world trade has generated a corresponding growth in the demand for transportation services, particularly shipping. The volume of cargoes moved, both in tonne mile and tons of cargo generated per year, has grown in line with the growth in world trade volumes.

References:

[1] Globalisation and the shipping business – a shipowner's perspective (BIMCO REVIEW 2004) – By Sham Chellaram, Chairman KC Maritime Ltd. Text adapted from the Tutorship Material with kind permission from Director General, ICS, UK for Marine Engineer's Review (India)