



# THE INTERNATIONAL CONTAINERSHIP INDUSTRY

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Shipping is one of the truly global industries and its prospects are closely tied to the level of economic activity in the world. In some cases though even the opposite is true; world economic growth depends on shipping.

The maritime shipping industry is fundamental to international trade because it is the only practicable and cost effective means of transporting large volumes of many essential commodities and finished goods. It is also characterized by fierce competition at all levels with few exceptions to this rule. Hire rates are very sensitive to changes in demand for and supply of transportation capacity, and are consequently volatile. This volatility spills over to the asset base of the industry making the price of vessels swing sometimes violently, depending on the views of the markets for future economic activity. In all, shipping is an industry that reacts to expectations almost as fast as capital markets do yet; it deploys very real assets of substantial magnitude while at the same time it is almost as liquid and surely as global as the world money market.

There are four major segments in the shipping industry: tankers, which carry such cargo as crude oil, petroleum products, etc.; gas tankers, which carry mostly LPG and LNG; bulk carriers, which carry coal, grain, etc; and containerships, which carry only containers.

The world deep sea ship fleet comprises approximately 24,000 ships with a total capacity of approximately 940 million DWT. Out of this asset base, 3,800 ships with a total carrying capacity of about 120 million DWT are containerships. Indeed containerships still represent a fairly small part of the world fleet but the specific technology, speed and operational specs these vessels are built to, as well as the fact that they represent a fairly young asset class in shipping make them a significant value contributor to the overall asset base. The international standard measure for containers and containership capacity is expressed in Twenty-Foot Equivalent Units (TEU). The world containership fleet has a carrying capacity of 8.7 million TEU.

In 1956 the shipping industry was left almost indifferent to a humble innovation, which was to shape its future and also have an even greater impact on the world economies. Fifty eight aluminum truck body boxes were carried onboard an old tanker from Newark to Houston where an equal number of trucks were waiting to carry them to their final inland destination.

Cargo movement up to that point would be accommodated en bulk which led to significant transportation costs and time lost, burdening the cost of the transported commodity and rendering the finished product trade literally uneconomical. The containerized movement of goods crept into the world markets at steady growth rates but with a lot of government pushback as this new method of transportation was already threatening the old order, structures and the labor force at every harbor. It had to be for a war so that this innovation could really prove itself to a broader clientele and crack government reluctance to embrace the change. The United States used the container to accommodate their transportation needs of the campaign in Vietnam.

The containerized trade boom was evident as the world transcended to a more open and international trade arena from the 70s onward. Actually, the containerized trade probably helped the old economy structures to disintegrate, making it possible for the true globalization to become the way forward both for the developed, but more importantly, for the developing economies around the world. Just after the Second World War the economic landscape of consumer goods was characterized by a tremendous fragmentation whereby production was located as close as possible to the markets. By the end of the twentieth century this was

hardly ever true. In almost every trade involving consumer goods nowadays, the distance between the production line and the end client can be measured by the distance between continents. The classic economic theory of the "competitive advantage" articulated by the 19th century economist David Ricardo assumed a world of insignificant transportation costs. While this would certainly not be true for the following 150 years, it has come to a point through technology, innovation and the containerized trade, that the world is experiencing this reality for a vast array of commodities and finished goods. The containerized trade is certainly the innovation that allows the classic economic theory to be put to the test. So far it seems quite evident that production is shifting to places of greater competitive advantage of some sort while the general arbitrage principles have allowed the fast economic development of areas that could not possibly expect to base their growth on local demand. Millions have benefited by free world trade and to the extent that further deregulation will continue diminishing those remaining trade barriers, the containership industry should be expected to crowd out many of the old fashioned transportation means. In any case all great innovations had to go through a certain period before the world economy could fully embrace them. Steaming in shipping was first used in the second half of the 18th century



but put to regular use a generation later. About a hundred years later the same was true with the light bulb and the telephone and their eventual widespread use by the consumers one generation after their invention.

Today the container shipping is responsible for the movement of a wide range of goods from one part of the world to another in a unitized form. Participants in the container shipping industry include the liner companies, who operate container shipping services, the containership owners, often known as charter owners, who own containerships and charter them out to the liners, and the shippers who ultimately use the services of the industry to move goods.

Container shipping represents an increasingly significant part of the global seaborne movement of goods. Global annual container trade stands close to an estimated 105 million TEU. The global containership fleet contains about 3,800 fully cellular containerships, with a total nominal capacity of over 8.7 million TEU, while the total container capable fleet capacity stands approximately at 10.7 million TEU.

The range of containership owners is diverse, including liner companies, which are often trade and transport conglomerates, and charter owners, who are either pure ship owning companies or shipping funds that have allowed retail investors to privately finance the growth of this industry.

Ship owning requires a high capital investment. Ownership of the large sized containership vessels above 3,000 TEU is less fragmented than the ownership of smaller vessels. There are a large number of charter owners who own a small number of containerships mostly of smaller sizes. Over 200 own just one or two containerships, while the capacity measured average age of the worldwide containership fleet is about 10 years. The economic life of these vessels extends for more than 30 years while the combination of regular maintenance with a relatively lower wear makes it possible for such vessels to efficiently run for more than their economic life. During 2004 only six containerships were scrapped. These vessels had an average age of 30.4 years which proves the fact. No containerships were scrapped in 2005. For 2006 the data are still preliminary but show a forecasted end number of approximately 20,000 TEU that should be scrapped. Again the average age of this capacity is beyond the 30 year mark. In comparison, vessels in the wet and bulk sectors are within scrapping age past their 25th year.

Growth in the container shipping market has been more rapid in comparison with other major shipping sectors. Indeed this market has been growing on an approximate 10% compound average annual growth rate for the last ten years, while similar macro trends are expected for the future. Global container trade is spread over a range of long-haul, regional, and intra-regional routes. The main container trades on the major East-West routes are the world's largest in terms of volume, with the Transpacific forming the world's largest container trade, with about 17% of the total volume, closely followed by the Far East-Europe trade and the Transatlantic. In addition to these trades, there are shorter line trades still however on the main East-West corridor which serve the Middle East and the Indian Sub-Continent. North-South trades form the second layer of the global liner network, connecting the Northern hemisphere with South America, Africa and Australasia. Additionally, there are also important intra-regional container trades such as intra-Asia or intra-Europe. It is important to acknowledge that containership borne trade has been growing across the board, and not just on the main haul routes. Evidently the continued strong growth of the sector can not be blindfoldedly attributed only to the extraordinary "Chindia" syndrome. Chinese trade however remains the key factor behind expanding container trade in the Transpacific and the Far East-Europe East West routes.

The demand for containership capacity depends on the volume of traffic on the world's container trades. Effective demand is also dependent on trade distance, with longer distance trades generating greater demand for capacity in terms of 'TEU-miles', absorbing a greater level of dynamic capacity to move each unit of containerized cargo. Container trade is also seasonal, with the peak season running from the late summer through autumn in the build up to the western world's peak consumption period coinciding with the holidays and the New Year. The containerships though don't experience such a strong seasonal market. The reason is that these large assets are employed on long term charters by the liner companies in

order to provide the available transportation capacity. Especially on the East West long haul routes these charters can run over ten years which reflects the fierce competition between liners to acquire market share and crowd out their competitors in the long term.

Charter rates however do vary through time as new ships come to play mostly as a result of redeliveries due to re-chartering activity and new charters established for newly ordered vessels. The degree of charter rate volatility has varied among different sizes of containerships with periods of relative over-supply of capacity alternating with periods when demand grew more rapidly than available capacity. During each of these periods, the charter market has remained competitive, with charterers seeking competitive rates from a range of owners.

The container carrying fleet has responded to rapid demand growth. The fully cellular containership fleet is made up of a wide range of ships from below 500 TEU in capacity to 10,000 TEU and above. At the top end of the scale are the "Deep Sea" containerships of 3,000 TEU and above, which are generally responsible for servicing the mainline East-West trade routes. These ships are designated as Panamax or Post-Panamax according to their ability to transit the Panama Canal based on their physical dimensions. "Intermediate" containerships are between 1,000 TEU and 2,999 TEU in capacity, and generally serve intermediate, North-South, and in some cases intra-regional, trade routes. Ships below 1,000

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TEU in capacity are the "Feeder" containerships generally operated on an intra-regional basis, often relaying or "feeding" cargo within a region from or to main port hubs served by mainline trade routes. A large proportion of the growth in containership capacity in recent years has been in the Panamax and Post-Panamax "Deep Sea" segments.

The containership order-book represents approximately 48% of the existing fleet in terms of capacity with a delivery horizon of 3.5 years approximately. There is competition in the containership charter market between a number of classes of industry participants satisfying the demand for containership capacity. Charter owners compete against liner companies themselves, who own container carrying vessels, for the services that they provide. This differs somewhat from the traditional tanker and bulk carrier shipping sectors where owners provide tonnage to charterers who are mainly cargo interests or operators, less inclined to take part in ownership.

Historically, a significant share of the world's containership capacity had been owned by the liner companies operating container shipping services. More recently, these operators have chosen to charter-in a larger proportion of the capacity that they operate. This remaining containership capacity is controlled by ship owning companies, which use the "charter market" to charter their vessels out to the liner companies.

Charter owners have increased their share of the fleet in recent years, and have been responsible for a substantial share of investment in containerships and contracted containership capacity.

Within the charter owner grouping, there is a range of types of shipowners. The largest share of the charter owner containership fleet is owned by German shipowners. A large number of the ships owned by these companies have been financed by the German Kommanditgesellschaft (KG) system. German owners in total accounted for approximately 60% of the fully cellular containerships in the worldwide charter owner fleet as well as about 75% of the containerships on order attributed to charter owners. Other identifiable charter owner groupings include a few Greek owners, and also include companies using other financing schemes such as Scandinavian KS financing.

Container shipping demand growth in the future will require the liner shipping companies to further grow their containership capacity. As a result the provision of containerships to the market by charter owners maintains the potential for further expansion in the future.