



## Facts About Serving U.S. Export Commerce

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Recently, there have been some public statements by shipper representatives expressing concern about adequate vessel capacity and about adequate container availability for export shipments in 2010. Vessel capacity and container availability are two different issues. The following provides a brief discussion of these issues and the market dynamics that apply to international container transportation.

**VESSEL CAPACITY:** The amount of vessel capacity available for any particular service is defined by the size of the vessels deployed in that service. A service generally involves a string of 4 to 10 vessels, depending on the trade, that is scheduled to provide regular weekly service between defined ports. In general, average weekly capacity can only be increased by adding a new service (4-10 more ships) or increasing the size of the ships that are deployed on an existing service.

“Slow-steaming” (i.e. sailing the ships at reduced speeds), which has been increasingly used to reduce fuel consumption, lower operating costs, and reduce greenhouse gas emissions, generally does not affect average weekly vessel capacity available, because a ship or ships are added to the service when needed to maintain weekly service.

How do ocean carriers determine what size vessels, and thus how much vessel capacity, should be deployed in a particular service? The expected average weekly container cargo volume (demand) between origin and destination ports determines the average weekly capacity to be deployed and made available between those ports.

For the U.S. market, approximately 60% of current international container cargo demand is between ports in the U.S. and ports in Asia – referred to as the Trans-Pacific trade. Another 20% of international container cargo demand is between ports in the U.S. and ports in Europe – referred to as the Trans-Atlantic trade. The remaining 20% is comprised of demand for cargo movement between ports in the U.S. and all other ports in the world.

Most U.S. trades are not “balanced”, meaning there is a greater amount of cargo and therefore demand for vessel space in one direction than for the return voyage. For the Trans-Pacific

trade, the greatest demand for vessel capacity is for imports into ports in the U.S. Total import container shipments (measured in twenty foot equivalents or TEUs) to the U.S. are about 1.5 times the number of export TEUs. In the Trans-Pacific trade, however, import TEUs are about twice the number of export TEUs. In the Trans-Atlantic trade, the ratio is smaller; with import TEUs about 1.1 times the number of export TEUs. These ratios are projected to remain relatively the same through 2014 because even a strong growth in U.S. exports is expected to be accompanied by modest growth in the much higher volume import trades.

Not all of the physical space on a ship (the “nominal capacity”) will be usable space (“effective capacity”). Factors that contribute to this difference include the number of each size and type of container equipment (e.g., “high cube” containers will take up more space), the type and weight of cargo, and the destination of the cargo – all of which can impact where and how the containers can be stowed on the ship.

The single largest factor that affects the difference between the nominal and effective capacity of ships on any particular service or voyage is the weight of the cargo. Ships, like trucks and trains and planes, have a maximum cargo weight that cannot be exceeded. On average, U.S. exports, which are primarily raw materials, are considerably heavier than U.S. imports, which are primarily finished goods. In the Trans-Pacific trade in 2008, export TEUs weighed on average 12 tons and import TEUs weighed on average 9 tons. This means that a ship that is able to carry 4,000 import TEUs might only be able to carry 3,000 export TEUs because the ship would actually be “full” from a weight perspective.

The growth in U.S. exports has certainly created more balance in vessel capacity utilization, but it has not reached a point where there is a systemic shortage of vessel capacity to serve export commerce. In other words, although the loadable vessel capacity in TEUs available for export is less than that which is available for import, the total available vessel capacity is still sufficient to handle the average weekly export TEU cargo demand. Shortages can occur, however, from a specific port on a specific service in a particular week. Generally, when that happens, there is actually excess capacity available from another port on the same service in the same week. As exports grow, however, better advance notice, planning, and accurate cargo demand information will be vital to effectively managing these issues.

**CONTAINER EQUIPMENT:** So long as the total number of imported TEUs into the U.S. exceeds the total number of exported TEUs, there should be not be a general shortage of containers for export cargo. Containers are fungible assets. When a container that has arrived in the U.S. with goods from Asia has been emptied, it can easily be re-loaded with cargo destined back to Asia or for Europe or South America, if doing so represents the most efficient management of that container for the carrier.

There are plenty of containers. In mid-2008, the world container fleet was more than 17.8 million units, representing 27.3 million TEU of capacity, which cost the industry \$81 billion to purchase. The container fleet is projected to continue to grow steadily and reach 34.5 million TEU in 2012.<sup>1</sup>

While there may be plenty of containers, and plenty of containers in the U.S., there are situations where an exporter may encounter a shortage of a specific container type or in a specific location or geographic region. This is due to equipment imbalances that result from differences in where goods are transported to and from. While there may be a surplus of empty containers in Los Angeles or New York, there may not be a surplus near a farmer in Kansas. Addressing these kinds of situations requires advance planning, commitments to ship defined volumes in return for commitments to provide the necessary equipment, and the exporter being willing to pay the cost of repositioning the empty container to where it is needed.

Locations or regions that have a high volume of both imports and exports generally do not experience equipment shortages even when the ratio of export volume to import volume increases above historic levels. Examples of these locations or regions include areas in and around most major ports, as well as some other major metropolitan areas like Chicago, Dallas and Atlanta.

An exporter, which is seeking to send cargo from an area that has limited import volume, and therefore limited empty containers available, may have to pay extra for movement of empty containers into that area for loading. If an exporter commits to a carrier to ship defined quantities and pay for the repositioning of empty equipment to its facility, an adequate supply of container equipment can generally be obtained. An exporter that is unable or unwilling to make such commitments may encounter container equipment shortages in some geographic regions.

**REVENUE and COST:** Since 2008 with the arrival of the global economic recession, the international liner shipping industry has been in economic duress, losing many billions of dollars. The rate per TEU for U.S. international container movements dropped significantly from Q3 2008 to Q3 2009.<sup>2</sup>

- i. Rate for Imports from Asia to the U.S. down 36%
- ii. Rate for Exports to Asia from the U.S. down 30%
- iii. Rate for Imports from Europe to the U.S. down 29%
- iv. Rate for Exports to Europe from the U.S. down 13%.

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<sup>1</sup> Containerisation International Market Analysis: World Container Census 2009

<sup>2</sup> Containerisation International Freight Rate Data.

During the same period, operating costs continued to rise, including bunker fuel prices. Rates haven't covered costs.

Carriers have responded by:

- Trying to raise rates, although it could take several years for the average rates to return to 2008 levels;
- Reducing costs where possible, including idling excess capacity, "slow steaming" which also has environmental benefits, and requiring shippers to pay for the cost of repositioning empty equipment to their cargo loading facilities;
- Reducing investment in their operating networks, from reducing head-count to cancelling orders for new ships

**OPERATIONAL PLANNING in 2010:** The industry expects and is planning for modest volume increases in both U.S. imports and exports. Recent statements by an exporter representative that ocean carriers are forecasting and planning reduced U.S. export shipments in 2010 are simply false. The further implication, that carriers are not putting enough export capacity in the trans-Pacific market because they are basing their individual capacity allocations on faulty export forecast data, is simply wrong. Carriers make fleet decisions based on internal as well as third party research. They focus on the round trip, typically assuming imports as the dominant direction (referred to as the head-haul) for the foreseeable future because a) it moves twice as many containers; b) has more demanding service requirements; and c) commands higher rates. That situation is unlikely to change anytime soon.

Given the market conditions and operating environment expected in 2010, challenges will continue to exist for carriers, and may arise for some export shippers for the reasons noted above. There are steps, however, that can be taken to reduce or eliminate the impact of those challenges to U.S. exports.

Accurate advance planning is important. This is especially true for ensuring available equipment and vessel space.

Exporters should reserve vessel space and equipment, a practice referred to as booking, well in advance of the scheduled shipment date.

Exporters should not reserve vessel space and equipment that they may not use, a practice referred to as "phantom booking." Phantom bookings generally occur when an exporter reserves vessel space and equipment with more than one carrier for the same shipment and/or books more containers than are actually needed for a particular shipment. Phantom booking is a practice costly to carriers and one that reduces available equipment and vessel space for all exporters.

The cost of positioning empty equipment for an export container load must be paid for by the revenue for that container load. Carriers may not accept a booking if the rate does not cover the cost of providing the empty container. A carrier may also insist on a specific volume commitment from an exporter if the carrier is going to reposition the necessary empty equipment to that exporter's premises.

Alternate and innovative routing options may be appropriate to consider. Exporters and carriers should jointly review and implement alternative inland routing options for movement of cargo from locations or regions where empty equipment is not readily available. For some movements, it may be more expensive to pay to position empty containers than to move the goods by truck, rail or barge to locations where empty containers are more readily available, and where the cargo can be trans-loaded from the domestic equipment to the international marine container.

In short, better forecasting, planning and mutual commitment will help ensure predictable service for all.