

The Legacy of Containerization



■ Trade and Transportation

By Thomas O'Brien

The recent decision by the ocean carrier Maersk to launch a national chassis pool is a significant step in the evolution of intermodal goods movement in the U.S. Unlike in the rest of the world, where truckers usually own and maintain the chassis on which containers are transported, in this country, ocean carriers own this critical link in the supply chain. This has allowed carriers to guarantee the integrity of the chassis and to make sure they are available when demand is greatest. With the U.S. model, however, truckers are required to make a number of non-revenue generating trips returning chassis to their owners, usually at the ports, before picking up or dropping off another container. A chassis pool theoretically allows the driver to make a number of trips using the same piece of equipment as long as it involves a container owned by another member of the pool.

Maersk controls 90,000 chassis, so its decision may start a trend that others will follow. Clearly, the recent slowdown in international trade means that Maersk has chassis sitting idle. A chassis pool should make equipment management more productive for all parties.

Carrier-owned chassis are a legacy of containerization, which allowed for the development of a true intermodal system in this country. By controlling the chassis, ocean carriers had access to other portions of the U.S. domestic market. The fact that this is still the way business is done is more proof that containerization was the most dramatic innovation in world trade in the 20th century, and one that has had the greatest impact.

Developed in the 1950s and 1960s, containerization allows for goods to be transported in a single standardized container on

the ocean carriage, truck, and rail portions of a trip. Prior to the use of these steel “boxes,” goods were transported in crates and then unloaded onto pallets, requiring additional time and human labor, both of which equal additional costs. As a result, containerization helped to reduce those costs. It has facilitated coordination among various transport sectors and has given rise to the intermodal carrier.

Standardization has also facilitated the use of larger ships, designed to take advantage of economies of scale by carrying the greatest number of containers possible. These ships have given a comparative advantage to the ports that can accommodate them. The largest of the ships are post-Panamax vessels; i.e. vessels that are too large to pass through the Panama Canal and that therefore depend upon a vast network of roads, railways, warehouses, distribution centers and transfer facilities to get the goods across entire continents. As a result, mega-ships encourage the growth of mega-ports, which not only receive goods for local markets but have become global gateways and transshipment centers for goods destined for markets all over the world.

Containerization therefore set the stage for a more efficient transport system. When transportation becomes more efficient, its cost, relative to the total cost of a finished good, is reduced. This was true both in the past, as in the case of the development of the Erie Canal in the 19th century, as well as today. Today, lower transport costs allow major transporters and retailers to take advantage of more affordable labor in overseas production centers. This increases the distances over which trade occurs.

With greater distance come new opportunities for the development of expert skills that manage the movement of goods across international boundaries. Third party logistics coordinators (3PLs) handle a host of activities, including storage and returns, which allow other actors to focus on their core competencies. There are also niche markets for those who coordinate and process the increased flow of information. These niche markets include such trade-related services as finance, insurance, R&D, and international maritime law. Growth in

these services has paralleled the growth in manufactured goods in recent years, and trade-related services are increasing as a percentage of GDP, even in developing countries.

Malcolm McLean, the trucker behind the innovation of containerization, could not have imagined 3PLs, or the role they would play in international trade, when he modified a few oil tankers by placing platforms on the deck so that they could carry 35-foot trailers between Houston and New York. He would also be astonished by trade volumes that would result in a single company owning 90,000 chassis. But the need for both 3PLs and chassis pools is a result of those efforts.

Containerization was the killer app of its day, and one whose impact continues to be felt.