Post-panamax ships - an alternate view

Theodore Prince, Senior Vice President - Operations, "K" Line America, Inc.

Between 1991 and 1995, world container trade grew at an annual rate of 9.5%. In 1995, it is estimated that international liner shipping exceeded 134 million teu. Along with this growth, the development of super-Panamax vessels (too large to transit the Panama Canal) has been one of the most dramatic changes to the shipping industry in recent years. The investment in such vessels is staggering. Vessels alone cost in excess of US$100 million each and these investment decisions frequently involve more than one vessel, as well as costly other factors.

Lines need to buy vessel lots sufficient to support fixed-day-of-the-week sailings. This could be a purchase of five to 12 vessels. Lines need to acquire more containers and chassis to support the increased carrying capacity. Terminal expansion is necessary to accommodate these vessels. All told, a decision to deploy such a string could easily exceed one billion dollars.

The rationale for acquiring such vessels is unclear. Drewry Shipping Consultants recently completed a study which arrived at the conclusion that these large container ships achieved cost savings of US$27 per teu per leg. When all other factors for service and overall expenses are included, such an acquisition seems ill-advised.

SERVICE ISSUES

Not a single customer has requested these large ships. The lines are introducing them strictly for apparent operational cost reductions. The service implications are severe. Without service, there exist no customers. And without customers (and fully loaded vessels) there are no cost savings.

Degraded terminal service
No matter what the technology, when vessels are discharged, only a certain number of containers can be first and an equal number must be last. On a 6,000 teu vessel with approximately 3,500 moves it may take almost two days just to discharge the vessel. A similar time period would be necessary to reload. This is a much larger time window than exists for port calls today.

It is unlikely that customers will accept having to wait two days for their load to be discharged. In addition, the peak demand placed upon the terminal would most likely cause increased congestion. Even with on-dock rail handling intermodal cargo, the peak demand on a terminal's gate and intermodal facilities would be horrific. Ease of service to the customer would be non-existent.

Reduced scope of service
Steamship lines are asset-based, network-operating carriers. In addition to economies of scale, lines need to be equally aware of economies of scope. The recent trend is for steamship lines to be global carriers - offering service to and from most trade lanes. However, once again post-Panamax vessels seem to work against this critical customer requirement.

Based on the huge vessel investment, it is unlikely that significant intercoastal steaming would be planned. Most likely, these vessels would be limited to single port calls. Super load centres would require increased transshipment.

Ironically, the recent trend in the steamship industry has been the opposite. Ports traditionally served only by feeder are increasingly being called directly by Trans-Pacific main line vessels (i.e., Laem Chabang, Port Kelang, Yantian). This is because customers want the simplicity of a single vessel shipment, eliminating the uncertainty of trans-ship and feeder operations. With these large vessels, trans-shipment would be increased - not reduced. Customers may not have reason to ship on a large vessel, but they may well have reason not to.

Other partners
Most steamship lines deploying these large vessels have an interim plan,
whereby they will not be using all of the space. They will be seeking vessel-sharing or slot-charter partners. This causes additional issues because the partner may require port calls or rotation changes not necessarily conduite to that of the controlling line.

**Network disruption**
By decreasing voyages and increasing vessel size, arrival of a ship at a terminal becomes a much more disruptive force. I think it is fairly clear that customers want reliable service, not necessarily the largest vessels.

**COST ISSUES**

Apparent expense reductions are even more questionable. Savings of US$27 per teu for a fully loaded ship could very quickly disappear. Ironically, as vessels get larger and the slot costs decrease, the vessel slot expense becomes a smaller overall percentage of the total cost structure. Although equipment may remain unaffected and inland transportation may not necessarily increase, certainly terminal costs would most likely increase. In fact, the combined loading and unloading of the container may now exceed the cost of the vessel slot.

**Terminal costs**
Terminal costs need to be examined much more closely than vessel slots. Economies of scale may become superseded by diseconomies of scale. Several items can be identified as impacting on the cost.

Cranes to support post-Panamax vessels cost upwards of US$10 million each, plus maintenance and operation. Retro-fitting of existing cranes is an expensive proposition. Not only must cranes be expanded, the wharf load-bearing capacity needs to be enhanced.

It is doubtful whether most terminals could handle a vessel of this size. (Certainly, none in operation in the United States today).

**Port costs**
Redesigning terminals is very expensive. Given the limited amount of real estate in port areas it may not be feasible. Environmental (and now political) obstacles to acquiring additional land are expensive, time-consuming and increasingly problematic. Port costs will also be increased because of the need for dredging in order to accommodate the larger draft of these vessels.

These costs ultimately need to be recovered by the port either through contractual leases or user fees, such as wharfare. However, the impact on ports may become even more severe. Given recent trends in the industry, it is not unreasonable to expect withdrawal of certain carriers from the trade. This could leave them in a financially vulnerable position making further expansion very difficult.

**Labour costs**
Current labour practices on the US west coast are not conducive to large vessels. Day and night shifts are the norm, but the 'hoot owl' (03.00 to 08.00) is very expensive. It may be necessary to use very expensive labour in order to turnaround the (even more) expensive vessel. It is fairly clear that the additional cost will be much more than the US$27 per teu. In addition, increased weekend operating costs are to be expected.

**Inland costs**
The final expense issue is inland connections. In addition to local cargo, there will undoubtedly be a significant amount of intermodal cargo, especially with load port consolidation. Steamship lines will be faced with the dilemma of quick throughput (i.e., exit) of import loads in order to rapidly clear terminal space versus the desire to avoid inland trans-shipping (e.g., cross-towning), whereby lines seek to load more directly.

Cargo destined for points in the Northeast can be loaded directly to that point, or it can be loaded to an intermediate point (i.e., Chicago) and rehandled to its final destination. This intermediate rehandling is expensive and fraught with service uncertainty, however, it may be necessary in order to alleviate terminal congestion.

**CONCLUSION**
It would appear that whatever illusory savings are theoretically available from the vessel operation are more than consumed elsewhere. Why then the rush into these post-Panamax vessels when there doesn’t appear to be any saving or customer benefit? Ironically, the ocean shipping industry seems to have been induced into a collective amnesia, forgetting that the last time such a quantum leap in vessel size was introduced was the US Lines Econo-ships. Not too long after their introduction they were acquired through the second-hand bankruptcy market for less than 20 cents on the dollar. It would appear that those steamship lines brave enough to withstand this torrent of accepted wisdom will be well-positioned for the future.