TRANSPORT TRACKERS

INDEPENDENT TRANSPORT RESEARCH

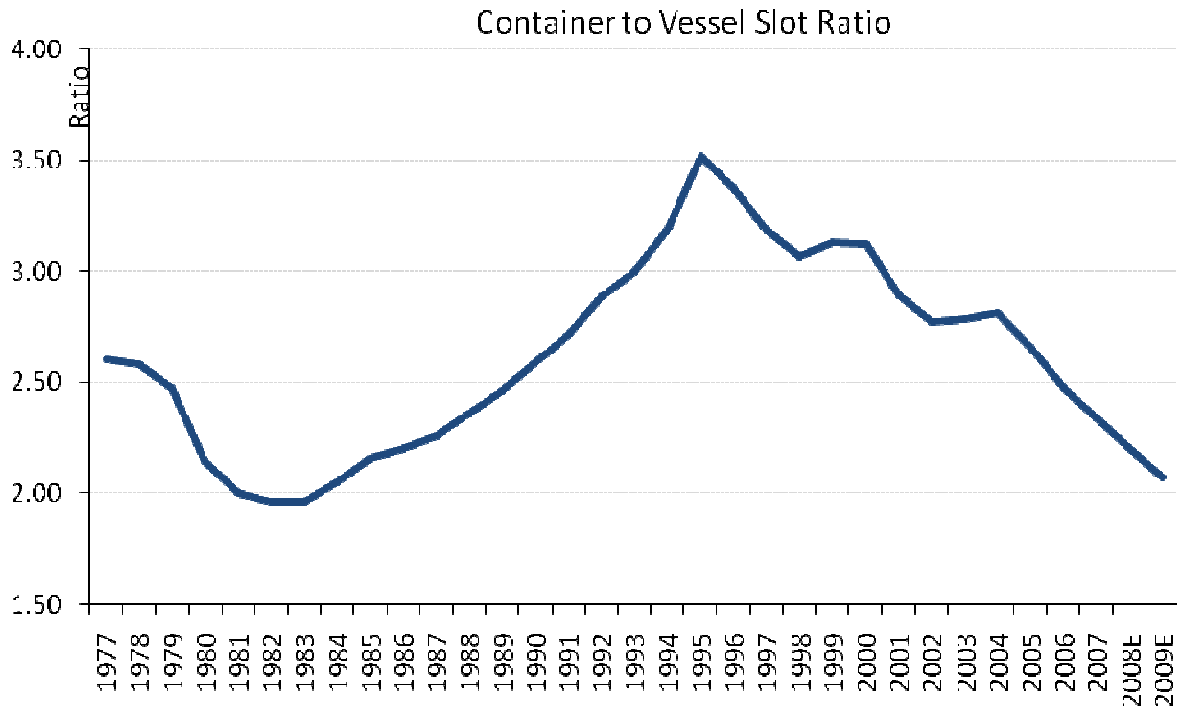
Is There a Global Shortage of Containers? 25 April 2008

Transport Trackers and GaveKal asked industry expert Henry Boyd to look at changes in transport equipment balances in the face of the recent rebound in US exports and declining Asia export growth:

By the end of 2008, the world container population is expected to stand at approximately 27m TEU. The interesting question is whether this fleet is actually large enough to support the influx of new container ships that have been built and will be built in the coming years. After all, since 1997, the container fleet (expressed in TEU) has grown at an average annual rate of 7.6%, much slower than the growth of TEU slot capacity on container ships which grew at a rate of 11.6%. Moreover, paid-up container transport has grown at about 10%. The result is a big drop-off in the ratio of containers to container slots on ship — to 2.3 containers per available slot from a 3.19:1 ratio in 1997. At the present rate, the ratio will fall below 2:1 by the end of 2008.

Why are ships coming on stream faster than the containers they are designed to carry (obviously, even after considering the longer lead times to build ships)? The last time the container-to-slot ratio fell below 2 was in the early 1980s, when APL began introducing the first Panamax container ships, and the United States Lines introduced the 4,000 TEU capacity New York class ships.

Less and Less Containers to Container Vessels from Mid-90's Peak



Source: Transport Trackers

During a period of vessel expansion, carriers choose to buy the minimum number of containers needed for the new ships to ensure that they do not spend a penny more than necessary. After all, the lead time on ordering ships is obviously longer than the lead time on ordering containers. The rationale is that the true container requirements will become known as the new ships enter service.

Year Ending	2.84:1 – Average 1997 to 2007	2.64:1 – Average 1977-2007
2007	5.4 Million TEU	3.4 Million TEU
2008	7.8 Million TEU	5.5 Million TEU
2009	10.9 Million TEU	8.0 Million TEU

How long can the container fleet operate at a 2.0:1 ratio?

The container manufacturing industry is operating at near capacity, having produced a record 3.5m TEU in 2007. CIMC and Singamas are the two main container manufactures. Both are China based and both have seen record container selling prices and record raw material (ie, steel) cost increases. Clearly, amid uncertainty about the economic situation in both the US and Europe, ship operators do not want to continue to build up inventory at a time when containers are selling at premium prices. Moreover, if they do end up short on containers, they can always turn to the leasing companies. The leasing companies usually dispose of containers after 12 years, but in tough times it is always possible to squeeze more life out of existing containers, as happened when demand growth in dry bulk shipping began outpacing container supply. So this trend will lower the TEU-to-slot ratio marginally. But only marginally. The question going forward — is whether shipping companies (and global transport in general) is going to be in short supply of containers.

Another question is whether the leasing companies (which own up to 30% to 40%) of the world's container fleet, will then turn around and squeeze the shipping lines? So far, this has not been the case. Even though box costs are rising, leasing returns are declining. This is partly because shipping lines are no longer willing to pay for "extras" - such as the master leases which offered a number of special features (such as hauling back empty boxes from ports with more imports than exoprts). Instead, they are opting for more straightforward leasing deals, whether short-term or long term. As a result, some of the companies that have specialized in short-term rentals and added-value master leases are finding their business models are not as successful as the traditional leasers such as GE Capital, Bank of America Leasing and AIG Equipment Finance.

On the other hand, by extending the life of the containers they lease, the leasing industry is responding to pricing pressure by increasing efficiency.

What shipping and leasing companies have in common

One strategy that shipping and leasing companies have in common is: they are both limiting new purchases of containers. As a result, vessel capacity and cargo flows have grown without a corresponding growth in the container fleets.

Even assuming the container-to-slot ratio improves (to the levels in the table below), the industry will still find itself without enough containers to fill ships designed to carry them:

These are the implications for each of the players in this market:

Shipping lines: Will face a shortage of containers and will have to do more of their own repositioning.

Container lease management companies: Face a double dilmenna. Do they buy containers now with the price of steel as it is? Also, the end of the master lease and demand for longer leasing terms will put pressure on their revenues.

Container asset owners (finance institutions): Will generally enjoy more depreciation opportunities, but containers have to compete with other asset classes.

Container makers: Will need to have a strategy on pricing and whether to invest in more capacity.

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In the short term, relief will come from the container leasing industry and the operated fleet getting older and older – this is the same trend we have seen in dry bulk shipping given high growth and slower delivery growth in the first phases of the bulk boom.

Carriers operate containers literally from cradle to grave (15-20 years). Leasing companies on the other hand operate using a disposal model that is designed to keep their fleets young (a sales requirement) and optimize gain on sale of assets. As a result, they start selling off boxes at about year 12 and end up with a 13-14 year service life.

What we are seeing is older leasing company equipment going into term leases that will carry the container life more into the carrier region. This in turn creates a reduction in the number of 'replacements' needed and making a larger portion of the annual production 'growth'. This trend will only mitigate the problem slightly. The container leasing industry currently only represents 30-40% of the world fleet and retirements by all owners during the period of 2007 through 2009 are only predicted to be in the order of 3.6m TEU. Essentially the "hand-me downs" that the carriers can typically get from the leasing companies will be structurally reduced.

Will growth of US exports help or hurt?

Growth of exports helps carriers in one aspect in that it begins to provide revenue to offset the present cost of empty backhaul. While it is often assumed the cost of backhauls is one of allocation on the P&L because the ship will make the voyage with or without empties, there are actual out of pocket expenses for lifts and handling charges associated with re-positioning empties. In a freight move these costs are absorbed by the freight tariff.

Growth in exports from the US and Europe may have little impact on the under-population issue as there has been a balanced flow of containers for the past several years when the number of empty containers are taken into account. In fact, in 2007-08 there have been more containers exported from the US than imported, as the carriers intentionally returned idle inventory from the US to Asia for re-deployment and as trade flows have shifted.

Box costs are rising with steel, but leasing returns still declining

This is the major point (leasing rate part first) in the world container fleet makeup. First, we have to make the distinction between leasing and rental. Let us define leasing as being a financing construct to tailor financial impact of the asset acquisition process. These are in essence 'money over money' transactions. The financial institutions such as GE Capital must make a specific return to finance the assets and won't necessarily carry on with lower pricing to keep their position in the industry.

Then let's define the business as conducted by the 'container leasing industry' as rental or the provision of assets to deal with operational demand/capacity issues, or as a mechanism for users with less than acceptable credit to obtain assets. This business model, while still within the realm of financial services tends more towards being an equipment supply service business in its focus.

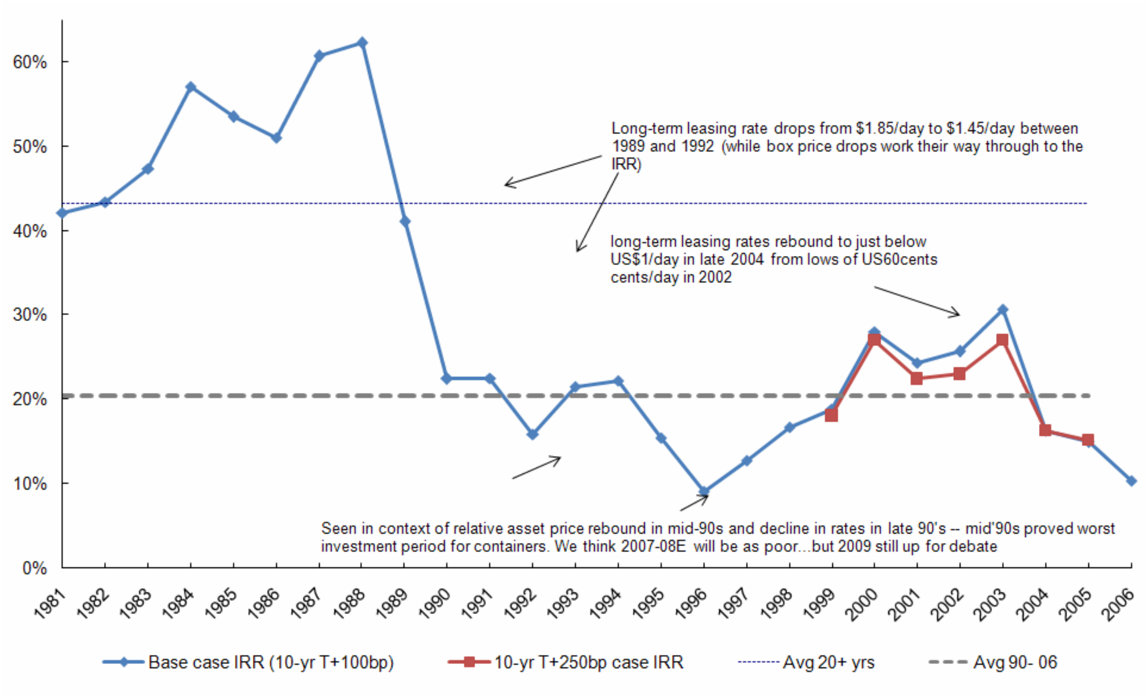
These are simplistic definitions, but highlight the distinction between the two vastly different business models: Asset finance versus active management.

Shifting business models

The 'leasing returns' that are spoken about are actually the returns from rental rates. When one looks at the rates that companies in the general equipment leasing industry (e.g., GE Capital, Bank of America Leasing, AIG Equipment Finance, etc) are getting on container assets, one finds that there has not been any real deterioration. Because there is competition for capital from different product lines, the general equipment leasing industry typically does not cut rates to stay within a given industry segment. They just stop and move on to a more profitable industry. The one trend observed over the few years is the shift in the cost and availability of capital, which is another discussion which we are only touching on here. This is merely an opportunity cost question.

A decline in rental rates is another thing, as the participants view themselves as being a part of the industry they service. As such, container leasing companies have little alternative but to either lower their rates, or stop investing and tread water until better circumstances arise. We have included here a graphical representation of box IRRs for long-term leases based on data collected from Containerisation International and combined with our own assumptions on box finance.

Profitability Per Box Declined Long Term Late-80s to Mid-90s, and Again 2003+



Source: Transport Trackers

Currently – and over recent years - container rental rates on the short end of the have been down to flat (or short-term business) despite box prices rising to as high as $2400/TEU recently on the back of higher steel costs. This appears be the result of two things. First, it is possible that the carriers recognize that the container fleet is facing a long-term decline in demand for certain leases, and that there is no need to add rental (short-term) equipment. Basically, why should one pay a premium for the flexibility of being able to return equipment that won't be returned in the short to near term? This is supported by the fact that the rental rates are at a 14 % revenue metric ($ per day x 365)/asset cost. This is down from 15-16% seen in 2004/5. However, a 14% revenue metric is in line for an 8 to 10 year capital, or finance, lease rate. Carriers know that with a shortage of containers, they are very unlikely to return the container so there is no point in paying short-term rates.

The long-term story here is that vessel capacity and cargo flows have grown without a corresponding growth in the container fleet.

Good-bye master lease

The other interesting point is the decline in the use of the master-lease. The master-lease is more of a service arrangement than a lease where the customer can pick and drop containers according to agreed limits without regard for how long the specific asset has been in his control. Functionally, master leases were 're-positioning insurance' with the idea that the leasing company could turn around and lease the box to somebody else. With consolidation, re-leasing a returned master-lease box in a low demand port became harder. This lead to the leasing companies re-positioning empties, and then amortizing that in their rate structure. As consolidation intensified[1], so did the level of re-positioning. Eventually the premium for master-leases + the costs to the lessees associated with returning boxes to the leasing companies began to exceed the cost of hauling them back. But, as long as there were limitations on vessel space, the carriers still needed the leasing company master-lease. Now add an influx of newer and larger containerships, and self-return of empties becomes economically viable, and the master lease is over priced.

With the decline of the master-lease, the leasing industries bill of fair has become limited to short/medium/long fixed term deals on specific assets. This type of leasing is very basic and requires substantially less overhead than master-lease. The carriers also understand that the master-lease premium rates were the result of a higher cost structure. There is no doubt the container leasing industry's transition to more term lease business offerings has given rise to pressure for rate reductions on new business that reflect a lower cost structure.

As for the cost of rising steel, it is what it is. The position of the leasing companies is that they are not purchasing new containers for fear of being stuck with over priced boxes in the event of falling container prices. There are other issues at hand as well.

For the past several years, the container leasing industry has utilized non-traditional funding sources as a means of acquiring assets. The main tool has been the use of management arrangements. These are situations where an owner/investor provides containers to a container leasing company who then acts as a manager (for a fee). The manager/lessor operates the containers, deducting its fee and operating expenses from the revenue stream and forwarding the net result to the owner. The theory is that the manager lessor ends up with the same level of net profit as if the equipment had been financed under a debt, or lease financing. The owner gets the economic benefits of asset ownership in addition to a cash return on investment.

[1] Note also, related to consolidation, the trend of providing older containers for term leases in lieu of purchasing new (see related discussions), suggests a new discipline within the container leasing industry. Reading between the lines suggests that the owners, who are supposed to be passive investors, may be taking a more active role in the management of their assets, or at the least, withholding capital for new investment while existing assets are under-utilized. While we have no data to support this idea, we can point to the recent transfers of the Gateway International, and Capital Lease fleets to Textainer Equipment Management that were reported in the trade press as being at least partly influenced by the respective owner/investors.

Conclusions

As the economies of Europe and the US begin to perk up, the shortfall in boxes is going to need to be corrected. At present, the container industry is at capacity on a two shift manufacturing basis. A population shortfall could be corrected through a wider implementation of third shift manufacturing. This alternative is not the first choice for container buyers given the historical quality problems associated with third shift production.

With the reduction in new investment by the container leasing industry, and resulting placement of older containers on term leases, the level of available inventory from leasing stocks is negligible. (The traditional hand-me-downs are not coming from the leasing industry to the carriers.)

This all seems to suggest the price of new containers is not going down for the foreseeable future. Given the high cost structures associated with master-lease oriented container leasing companies, new entrants in the container leasing field that are not burdened with master-lease sales and operations expenses may be better suited to meet the demand.

There is a structural shift in which the logic of supply and demand has shifted because the investment decisions and costs structures are in flux. This is fertile ground for investors and industry participants to consider their strategic outlook.

In a nutshell:

1) Container supply will remain tight
2) Prices rise/ stay high;
3) Back hauling empties will become mandatory;
4) Pressure will be on to curtail inland delivery/ door-to-door shipments;
5) Established lessors will have to downsize to match the new business model;

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Transport Trackers is a HK based independent transport advisory formed by Charles de Trenck and Matt Flynn and specializing in cargo flows, shipping and related macro trends. Transport Trackers will engage in client specific projects as well as providing regular updates. Charles de Trenck is the former head of Asia Pacific Regional Transport at Citigroup Investment Research. Matt Flynn is a founder of Worldyards and a former Lloyds List and Dow Jones journalist.

Mr. Boyd is a founder and principal of L.H. Boyd & Company, a consulting firm specializing in transportation equipment management and engineering, and the former head of the technical services group at XTRA Corporation, a NYSE transportation equipment leasing company. At XTRA, he was responsible for all technical and operational issues involved in the management of the company's equipment, including marine cargo containers, container chassis (US and foreign), domestic piggyback trailers European road trailers of all types, railcars and rail locomotives. Mr. Boyd is a member of the Society of Naval Architects and Marine Engineers, and the American Society of Mechanical Engineers. He holds a Master of Science in Mechanical Engineering and Bachelor of Science in Mechanical Engineering.