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Valuation Methodology Considerations for Internationally-flagged and Jones Act Marine Assets

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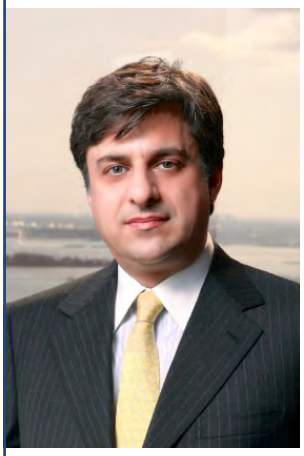

Introduction

Appraisal of commercial marine assets can, on occasion, be a challenging assignment: the list of commercial marine assets can include drillships (with top-tier 8th generation drillships having up to $900 mil replacement cost, new) to lowly inland barges that can be valued as low as a few hundred thousand dollars each; in-between these two extremes, there are big and small crude oil and chemical tankers and gas tankers, big and small dry bulk vessels, big and small containerships, offshore platforms and supply vessels, construction vessels, dredgers, pipe-laying vessels, etc The types and technologies of each type of these vessels can vary widely (thus, replacement cost can vary widely, as well), but also market drivers and profitability (affecting Fair Market Value (FMV) and values based on the income approach) vary widely among these types of vessels.

For an appraiser of marine assets, expertise and track-record in all these types of assets is a mandatory requirement in order to be able to provide accurate and reliable appraisals, and also being able to provide in-depth expertise to their clients in each of these niche markets that sometimes may only be connected by the fact that the surface of the water keeps afloat all these marine assets.

While one could elaborate extensively on appraisals by type of marine assets, we would like to focus in this article on valuation concepts and methodology having to do with the "flag" and registry of the marine asset rather than the type of the vessel itself, and specifically for vessels flying the flag of the United States. Generally speaking, there are two types of "flags" and registries for ships, the country where a vessel is registered and the flag which the vessel flies (which incidentally, is also that country's law and jurisdiction that applies onboard of the ship and permeates all its operations and management):

a) international registries or "open registries" (also known as "Flags of Convenience" (FOC)), such as Panama, Liberia, Bahamas, etc, which are based offshore, are open to any nationality shipowner and usually require minimal taxation and documentation, and allow for such vessels to trade internationally - but not to engage in intra-trade in national territorial waters of other countries; and,

b) the national flags (such as the United States, the United Kingdom, the Norwegian flag, etc) that allow for international trade but also provide for exclusive trading rights within national waters of their perspective country (also known as cabotage trade).

In practical terms, an open registry vessel can trade internationally, and let's say it can bring a container from Shanghai in China to Miami in the United States, but for that container to be shipped via waterway transport from Miami to New York, it will have to be on a vessel flying the national flag of the US flag. In other words, any shipowner can try their business acumen on the Shanghai to Miami trade, but the Miami to New York trade (and any trade between US ports) is the privilege of only qualified US citizens and US companies. Conceptually, to some shipowners (mostly foreign shipowners), the international flag is the "real world" market of the open competition while the cabotage trade is the "protected from competition" business, but, as with anything else, reality is more complicated and elaborate than that (and beyond the scope of this article). And, whether a vessel – any type of vessel - flies an international flag or a national flag, it does have material impact on the value of the asset.

The flag and registry of a vessel can affect value and price, especially when one has to consider between international and national registries.

Spot the price difference! The Jones Act tanker MT "Overseas Martinez" on the left is $100 million more valuable than the tanker on the right MT "TORM Carina"

The Jones Act Market

Vessels having the right to trade within US territorial waters operate under the authority of the Merchant Marine Act of 1920, more widely known as the "Jones Act". There are three basic requirements for a vessel to qualify as a Jones Act vessel:

a) it must be built in the United States,

b) it must be owned at least by 75% by US citizens, and

c) it must be registered in the US, fly the American flag and be crewed by US citizens.

There are a few nuisances about the qualification, but, in general, the standard to qualify for the US cabotage trade under the Jones Act is high with minimal loopholes or exemptions. And, as mentioned earlier, these vessels have the exclusive privilege to transport cargoes from and to US ports of the continental US, Hawaii, Alaska and Puerto Rico.

Types of vessels in the Jones Act can range from ocean-going crude oil tankers (carrying crude oil from Alaska to mainland) and ocean-going product tankers (carrying gasoline and similar fuels along the coasts, including to the West Coast, which it lacks refineries, via the Panama Canal from the Gulf Coast) and containerships (transporting containers to Hawaii, Alaska and Puerto Rico from the mainland); there are also more customized assets in the Jones Act market such as ATBs (Articulated Tank Barges) and tugs and push-boats (uniquely shaped tugs that push loaded tank and hopper barges in riverways and inland waters. Ocean-going Jones Act vessels are usually based on international ship design and plans, with small modifications, and thus, they are fairly comparable to open registry similarly-typed vessels. Several of the inland marine assets are usually unique to the US market as push-boats and inland tugs are designed to meet unique US rivers and harbors and trading patterns.

Panama is the world's largest (open) registry with approximately 7,800 registered in there; there are almost 3,800 self-propelled commercial vessels in the US registry, so, in absolute numbers, the US flag is not negligible. However, only approximately 440 of these vessels can trade internationally, while the majority of the Jones Act tonnage is geographically limited to US waters (harbors, continental shell, rivers, etc) But, as another interesting factoid, when the Jones Act fleet is expanded to include non self-propelled assets (such as barges, etc), then there are more than 35,000 shipping assets registered in the US. By many standards, such a multitude of shipping assets is a tremendous number for such a niche industry like shipping (there are more than two million tractor trailers in the US, for comparison); accordingly, the topic of marine asset valuations takes special focus and importance. All these 35,000 Jones Act shipping assets are the exclusive realm of US shipowners, US equity investors, US lenders, US lessors, and US commercial equipment financiers.

Valuation Methodology for International Flag Vessel

The international shipping market is distinguished by its volatility as international shipping freight rates, at the mercy of macro-economic and geo-political factors, can fluctuate widely; for instance, rates for 300,000 dwt supertankers have ranged from $2,000 pd to $230,000 pd (with appr, $8,000 pd as vessel daily operating expenses, plus the financing cost, bringing a supertanker's cash breakeven to appr. $30,000 pd). Based on a standard 25-year design vessel for a supertanker, the Income

Approach Valuation is not very useful given that predicting volatile freight rates in the future can become pure speculation; similarly, estimating cost of capital, technological obsolesce and depreciation schedule over long periods of time can be very challenging. Replacement Cost Mrhod in the international shipping market is a legitimate approach of valuation, but again, one has to be very vigilant on quality of shipbuilders, updated new vessel designs, subsidized newbuilding contract pricing, and, of course, the standard critique of the replacement cost method, its historical bias. The Market Comparable Approach Method is the one mostly utilized for appraising international shipping assets, and, in general, there is enough transparency and liquidity to collect data-points for comparison purposes, in most types of shipping assets and difference phases of the business cycle. And, Fair Market Values (FMV) can vary widely in the international market based on the comparable approach method given the many variables and inputs, cardinal among them being

a) the strength of the freight market (new supertankers were valued at $180 mil when the freight market was $230,000 pd and $80 mil when the freight market was at $2,000 pd – marginally below replacement cost new) and

b) credit availability (at $180 mil, shipping banks were providing as high as 90% leverage but only 60% leverage when the value was at $80 mil).

Thus, while the Replacement Cost and the Income Approach methods can be applied in international shipping as additional references for value (sort of a "sanity check") or for niche shipping markets and unique assets, the Market Comparable Approach has been reigning supreme in the international shipping market. Probably such a current approach has its utility, but on the other hand, for financing based on ship mortgages (asset backed financing), volatility in shipping asset prices can be a regulatory, financial and economic headache just by reason that shipping asset prices seesawing widely (imagine, if you please, the bank that has provided the mortgage on the $180 mil supertanker which was valued at $80 mil a couple of year later; even if the borrower was able to keep up with loan payments, the loan was in default by virtue of breaching Loan-to-Value covenants, in a big way).

Valuation Considerations in the Jones Act Market

In the Jones Act market, appraisal methodology can be more elaborate given that certain aspects of the domestic market are materially different than in the foreign market. The freight market for Jones Act assets is a) less volatile than that internationally, b) the secondary market is less active and more opaque, and often the Replacement Cost Method takes priority over the Market Comparable Approach, while the Income Approach enjoys higher validity than in the international shipping market.

Also, shipping asset values in the Jones Act market are generally much higher priced than those for international shipping assets, reflecting several variables and inputs that are unique to the US market. For instance, for shipping assets that exist in both the US and internationally, such as a modern Medium Ranger Type 2 Product tanker (MR2 tanker IMO II), it costs on average appr. $35 mil to have such vessel built at a top tier shipyard in South Korea; a same design tanker – with small modifications, costs appr. $140 mil to have it built in the US as a Jones Act vessel.

In trying to explain the difference in valuation approach and also values between the Jones Act and international flag market, we focus on several parameters, which, in our opinion, are critical in justifying the necessity of different approach:

Total Economic Life

International shipping assets have a twenty-five (25) year design life, but their economic life is often determined by the state of the freight markets; there had been cases, at the top of the market, when a few international vessels were sold for scrap as old at thirty (30) years of age, but there have been even more cases whereby international vessels were scrapped as young as eight (8) years of age, when the freight market was abysmal. In general, in today's world, international shipping assets are expected to have an economic life shorter than their design life, and for accounting purposes, twenty (20) or twenty-two (22) are used as cut-off, while some bean counters question whether such an assumptions may be too generous, when all things considered in today's world.

On the other hand, Jones Act assets easily exceed thirty (30) years for economic life, and vessels in the 40+ (forty) year range are not unheard of; recently, a Jones Act owner re-activated temporarily a 50-yr old vessel; the average age of the Jones Act

self-propelled vessels is just over 31 (thirty-one) years old at present (with the oldest asset, tug "John M. Selvick" in the Great Lakes being the oldest - having been built in 1898). In short, Jones Act assets have materially longer economic life than international shipping assets, and for accounting and depreciation purposes, the economic life typically is estimated in the 30-35 year range.

Incidentally, Jones Act assets enjoy longer economic lives than international vessels for several direct factors: inland assets navigate in closed waterways and on fresh water with much lower salt content which is a corrosive agent; Jones Act assets also navigate along the coastline where weather and waves are milder and have less of a bending impact on the hull structure and cause less of a hull fatigue; and, last, Jones Act assets are under the constant supervision of the US Coast Guard and the classification society (most likely the American Bureau of Shipping) vs international flag vessels that can bypass intensive inspection regimes by avoiding selected trading areas (and allowing their maintenance standards and vessel daily operating expenses to decline).

Replacement Cost

As briefly mentioned earlier, the construction of Jones Act assets is much higher than that of shipping assets overseas. For vessel designs that are directly comparable between the international and the Jones Act markets, there is a factor of three (3x) to five (5x) times multiple for newbuilding cost, such as for the MR2 tankers mentioned earlier, and also $210 mil for 3,600-teu containerships (vs $45 mil in the international market) and $180 mil for Jones Act aframax tanker (vs. $55 mil in the international market). For smaller shipping assets, where there are international market comparables, such as harbor tugs, the replacement cost in the US is higher by a similar multiple.

Thus, Jones Act assets have a very high replacement cost, which often leads the shipowners to keep maintaining existing Jones Act shipping assets as much as possible rather than undertake major corporate decisions to renew their fleets (and having to seek massive amounts of capital, etc) Accordingly, high replacement cost affects directly residual values for Jones Act shipping assets from day one, and indirectly via extending economic life, which affects depreciation schedule and residual values.

Salvage and Scrap Value

International shipping assets would typically be sold to shipbreakers at the end of their economic life, usually to countries of the sub-continent, which, due to operational and regulatory "arbitrage" (euphemism for child labor, poor safety conditions, etc) would fetch as much as $700 per ton, or several million dollars, in absolute terms, for a medium-sized vessel. Regulatory conditions are catching up fast internationally, and hopefully will soon resemble US standards whereby Jones Act vessels have to be demolished in environmentally responsible ways and with proper disposal of contaminants, allowing for minimal net scrap value, similarly for the Jones Act market. Lower salvage and scrap values in the Jones Act market could lead to steeper depreciation curves in many asset classes, but it's partially compensated by the higher replacement cost and longer economic life for Jones Act assets.

Market Volatility

We mentioned that the international shipping market is notorious for its volatility in terms of freight rates and asset pricing; several analysts have claimed that one can make more money in the international shipping market by timing the market and flipping shipping assets rather than making an operating profit consistently throughout a full business cycle. (For more detail on this, the reader is referred to our previous article in the MTS "Ten Years After a Crash, the International Shipping Industry Still Looking for Balance" 4Q2018.) For instance, between 2005 and 2019, newbuilding prices for MR2 tankers in the international market have ranged throughout the cycle from $28 mil to $55 mil, clearly allowing for asset appreciation profits for prescient shipowners, while, in the same interval and for the same asset class, Jones Act MR2 newbuilding prices increased from $95 mil to appr $130 mil (for comparable design), almost keeping up with the rate of inflation in the same period of time. And, as a reminder, the Jones Act MR2 tanker market has been the shipping market segment most affected (and most volatile) by the game-changer of the shale oil discoveries; other segments of the Jones Act market (i.e. inland transportation, etc) has seen

only minimal volatility in terms of freight revenues, earnings and asset pricing.

Low market volatility (lower beta (β)) in the Jones Act leads to lower cost of capital and, by result, to higher valuations and asset prices.

Legal Risk & Jurisdiction

Jones Act assets, and their holding companies, are, by default, are under US jurisdiction almost all of the time; even when marine assets are outside US territorial waters temporarily, it will soon be expected back to their US homeports. International vessels trade worldwide, and, on occasion, in distant or adverse jurisdictions that offer precious few creditor protections. Accordingly, strictly from a legal and jurisdiction risk assessment point of view, US financiers for Jones Act assets can expect minimal operational surprises and a predictable legal system in the US where they could pursue their legal claims against their counterparty. Vessels trading in international waters still can be brought to court for creditors to pursue their claims, but borrowers can have opportunities to play "nasty" and make creditors' lives more complicated and expensive. In any event, legal and jurisdiction risk is lower in the Jones Act market, and accordingly, it calls for lower volatility and thus higher valuation multiples.

Valuation Methodology in the Jones Act Market

Market Comparable Approach

Jones Act assets are typically ordered at a US shipyard to a shipowner's exact specification and generally are held in the shipowner's "stable" of ships for many years, if not till the end of the assets' economic life. In general, the secondary market for the sale and purchase of Jones Act assets is naturally illiquid, and accordingly, there is a dearth of data-points. Jones Act assets are sold on rare occasions, often associated with the shipowners change of corporate strategy (i.e. last time that ocean going Jones Act tankers were sold was when SeaRiver, an ExxonMobil wholly-owned subsidiary, decided to completely divest of their marine assets). There are more frequent "sales" when such vessels are re-financed via a lease structure whereby a lessor is acquiring the asset, but here the pricing – ensuing the change of ownership - is not necessarily at a market level since the asset pricing may be contingent on the rent rate agreed upon in the lease agreement. Also, there are several more limitations to getting access to actual asset prices: there is an oligopsony of buyers in the market who prefer to keep info proprietary, and thus few accurate data-points are disseminated to the market. The Jones Act market, despite its domestic nature, is geographically fragmented which affects pricing: for instance, a tug or barge available for sale in the Pacific Coast or in the Northwest of the US is not necessarily representative for national price as the cost of repositioning the asset to the Gulf or East Coast of the US can be material (having the asset to cross the Panama Canal), thus, a price achieved in the Pacific Coast is not the same price level in the US Gulf.

Nevertheless, the Market Comparable Approach is still very valid and pertinent, and, in general, in our experience as ship brokers, Jones Act assets achieve superior pricing relative to their "book value", the accounting value that shipowners keep them on their books.

Income Approach Method

As hinted earlier, it can be challenging to obtain the FMV of shipping assets with thirty (30) years of economic life and income potential, as even minimal changes in inputs can have material impact on valuations. On the other hand, since Jones Act assets trade in a relatively low volatility environment, future freight rates and cost of capital (discount rate and Weighted Average Cost of Capital) can be estimated with more precision than those in the international shipping market. We have worked on Jones Act marine asset valuations based on the income approach for selective projects, and, in general, values obtained by the Income Approach are tantamount to the values obtained by the Market Comparable Approach and, often, higher than the values achieved by the Replacement Cost Method.

Replacement Cost Method

Either due to public filing requirements or due to bragging rights, newbuilding contracts and prices in the Jones Act market are more easier to be obtained than data under the Market Comparable Approach. Also, for established vessel designs, the

newbuilding contracts tend to remain stable over time, often only adjusted to reflect the inflation rate. Given the relatively low volatility in the Jones Act market, quite often the Replacement Cost Method becomes the golden rule of valuation in this market segment, as economic life is relatively well known, as well other parameters such as estimates of scrap value.

Conclusion

Jones Act assets are valued, in general, at a multiple of similar assets in the international market, reflecting higher original replacement cost, but also variables such as longer economic life and lower volatility. There are also additional inherent factors for which vessels flying the US flag are more valuable emanating from the low risk in reference to legal considerations and higher easiness of arrest and the bankruptcy process in the US; for someone who wishes to delve more into detail, we estimate that there are additional factors associated with the hands-on approach of the US government when it comes to shipping and geo-political events: a case in point is that of piracy as international vessels several years ago were at the mercy of pirates at the Eastern Horn of the African continent and no country took any active effort to face to support merchant vessels flying their flags (besides sending a limited number of coast guard vessels for nominal patrol of pirate infested waters); when the containership MV "Maersk Alabama", a US flagged vessel was highjacked by pirates, US Navy SEALS actually shot down the pirates in military action, securing the vessel and its American crew members; it's hard to place a direct "value" for a ship flying the US flag, but nevertheless, there is no other case of another state taking actively military action to protect their maritime interests and citizen.

While the Market Comparable Approach is the golden standard of valuation methodology for international marine assets, the Replacement Cost Method is more widely applicable for Jones Act assets, while both the Income Approach and the Market Comparable Approach are still relevant and well applicable.

Many countries worldwide have established cabotage laws to offer preferential treatment to vessels flying their national flag, but always with much fewer standards and requirements. In our valuation practice, we have studied and valued marine assets flying several national flags, but no vessels in any jurisdiction are as highly valued as vessels flying the US flag, all things being equal.

About the Author

Basil M Karatzas, ASA, is the Founder and CEO of Karatzas Marine Advisors & Co. (www.karatzas.com), a ship-brokerage and shipping finance advisory firm based in New York.

Basil, a native of Greece and resident of the United States, holds a college degree in chemistry and biology, an MBA in International Business and Finance from Rice University in Houston, and he is also a graduate of the Owner President Program from Harvard Business School (HBS) and an alumnus of the school. Basil is an Accredited Senior Appraiser (ASA) in Machinery and Technical Specialties by the American Society of Appraisers, a Fellow of the Institute of Chartered Shipbrokers in the UK, member of the Baltic Exchange in the UK, and member of several professional associations and societies.

Along with the professional team of Karatzas Marine Advisors & Co., Basil serves both the US and the international maritime community as a ship broker, a shipping finance advisor and vessel appraiser. Clients include both operational and financial shipowners seeking ship brokerage and shipping industry expertise worldwide in the segments of dry bulk, tanker, containership, offshore, brown water and Jones Act assets. In a financially challenging market, Basil and his team have also placed transactions and sourced capital on behalf of international shipowners. In his capacity as a vessel appraiser, valuations prepared by Basil and the firm have been utilized for SEC filings and IPO offerings, as well as for loan documentation and litigation.