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Global Shipping Industry

Summary

This rating methodology provides detailed guidance on the analytical approach behind Moody's assigning of credit ratings to shipping companies globally. For the purposes of this rating methodology, we have defined shipping companies as companies that derive the majority of their revenues from transporting goods from one port to another with either owned or hired vessels across oceans. This methodology does not cover cruise shipping operators, passenger ferry or inland barge companies.

Moody's publicly rates 19 shipping companies globally, including 5 that are headquartered in Asia, 8 in the Americas and 6 in Europe.[1] While most of these issuers are in the speculative grade rating category with a concentration of the corporate family rating in the Ba rating category, Moody's to date has assigned five investment grade ratings, two for Japanese shipping companies, one for a Taiwanese, and one for a state-owned Malaysian and Russian shipping company respectively.

These 19 issuers cover a range of different shipping activities, from ***container lines*** (CMA CGM, CP Ships, Horizon Lines, Wan Hai Lines, ***oil / product tankers*** (Teekay, Ship Finance, OMI, OSG, General Maritime, Ultrapetrol, Sovcomflot, MISC, Titan), ***bulk and cargo carriers*** (International Shipholding, Gearbulk) to ***diversified shipping groups*** (NYK, Mitsui O.S.K., Stena). While some of the factors discussed below may also be applicable to inland barge companies such as American Commercial Lines or Kirby Corporation, the primary focus of this rating methodology is on the ocean-going shipping industry as defined above.

While the operating fundamentals of these various segments may differ in some aspects, Moody's believes that these shipping companies nevertheless share several relevant business characteristics and common credit considerations, and this Rating Methodology explores how these factors drive and influence the rating.

There are 6 broad factors which we use to examine credit risk and assign ratings for shipping companies globally. Each of these rating factors also encompasses a number of sub-factors and specific metrics, which we discuss in detail throughout this report.

The six rating factors are as follows:

1. **Size and Diversification**
2. **Revenue Characteristics**
3. **Operating Efficiency and Flexibility**
4. **Cash Flow Variability**
5. **Financial Strategy and Capital Structure**
6. **Credit Metrics**

1. *Office headquarters in many cases are not identical with the country of registration for many shipping companies.*

There are certain other factors that are generic (for example management strength, corporate governance, event risk) which remain important inputs into our ratings for shipping companies and other factors relate to some segments only. These factors have therefore not been covered in this global industry rating methodology, but they may nevertheless have an impact on the rating of an individual company.

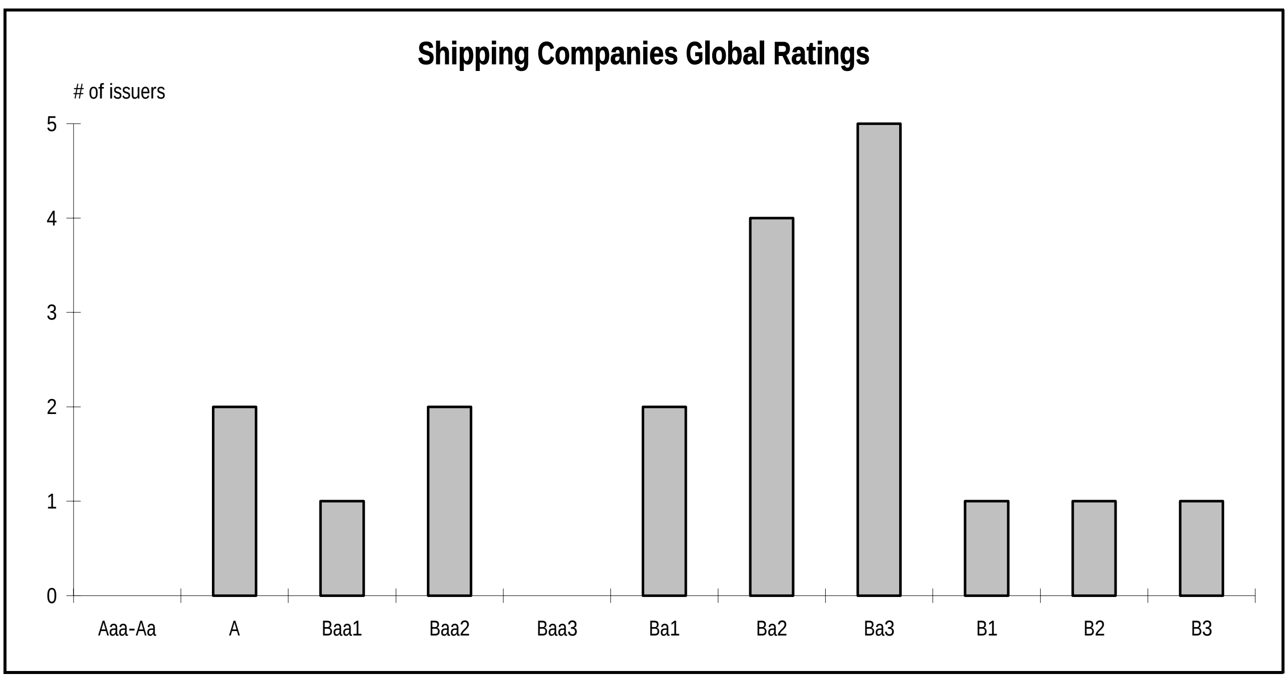
With an aim to increase transparency of our rating process, we have included a detailed rating grid in the appendix which maps each key rating factor, including sub-factors and financial metrics, to specific letter-ratings. However, we want to point out and caution that no company will exactly match each dimension of the analytical approach; the rating output of the grid will therefore be a balance of the factors we have identified. The purpose of this rating grid is to provide investors, issuers and intermediaries with a reference tool when comparing credit profiles within the shipping industry.

Industry Definition

Shipping companies for the purpose of this rating methodology are companies in the transportation sector that operate a shipping transport service for various kinds of cargo over ocean waterways between ports, with the use of vessels that they either own or hire as a time- or bareboat charter.[2] We only include those companies where more than 50% of revenue comes from above defined activities.[3]

Overview of the Global Shipping Industry Rated Universe

Moody's monitors ratings for more than US$ 9.8 billion of public debt and preferred stock instruments issued by 19 companies in the shipping industry (long-term rating only) in the US, Canada, Argentina, Japan, Taiwan, Malaysia, Norway, the UK, France, Russia and Sweden. North and South America account for 43% of all debt and related securities in this sector worldwide, Japan for 10% and Europe and Asia (excluding Japan) account for 29% and 19% respectively.



The average rating for the industry worldwide is in the Ba1 category, and the global median rating for shipping companies is currently Ba2. Five companies have an investment-grade rating, two of which are based in Japan. Two companies - one each in Russia (Sovcomflot) and Malaysia (MISC) - are Government-Related Issuers and benefit from state support. [4]

2. *For a glossary of industry terminology please refer to Appendix 4*
3. *Titan has been included on the basis of its operating profit which is predominantly stemming from its shipping activities, whereas shipping revenues account for significantly less then 50%.*

Industry Characteristics

The shipping companies that fall within the definition of this rating methodology operate in a range of different segments, often displaying fairly homogeneous characteristics within a segment, for example within the container shipping segment, but with a range of different factors impacting their credit profile. Overall, shipping companies share a number of similar characteristics as detailed below:

- ***High cyclicality of the industry***, as expressed in volatile freight and charter rates: The shipping industry is generally characterized by an imbalance between demand and supply for shipping services.
  - *Demand development* for transported goods depends on factors such as (i) globalization with its impact on shifting global trade patterns (for example impacting the container and bulk carrier industry), (ii) regional disparities, (iii) oil price developments for tankers, or iv) regulatory interventions and others.
  - *Supply development* invariably follows demand development, with growing demand positively impacting freight rates and opening new revenue opportunities. The stock of vessels can be influenced by changes in scrapping of old vessels or changes in the stream of new builds. The delivery of new vessels can be one or several years after the order and as such time-lags in vessel deliveries influence market dynamics. In a scenario of depressed freight rates, the lower vessel revenues can lead to the elimination of marginal players as well as influence the scrapping of old ships.

The impact of cyclicality within the industry is reflected primarily in the first two rating factors, "Size and Diversification" and "Revenue Characteristics" in this methodology. Volatility of earnings and impact on cash flows are captured in rating factor #4 "Cash Flow Variability".

- ***Commodity product***: The shipping industry generally offers a highly commoditised product with little pricing power for an individual company, as evidenced for example by the significant role of brokers in the contract negotiation process between shipping companies, their customers and ship owners. Several factors (client demands, stevedoring/port terminal requirements, insurance clauses etc.) further favour a high degree of standardization of ships, thereby lowering switching costs for customers and barriers to entry for competitors. Operating efficiency in such an environment is therefore a key determinant of profitability and performance; this aspect is captured in rating factor #3 "Operating Efficiency", including an assessment of the company's fleet age and profitability.
- ***Fragmentation of the industry***: Despite a number of large players in certain segments (e.g. the container or tanker segment), typically no one company has a dominating market position to allow it to exert significant pricing power. An ability to generate economies through scale and standardisation (e.g. improved or lower-fee port access, discounts on ship orders, and a higher frequency of some services) however has underpinned recent mergers and acquisitions. A noticeable trend towards industry consolidation is likely, over time, to moderate the industry's inherent volatility. The importance of size and diversification is also captured in ratings factor #1.
- ***Competition and Cooperation***: Certain segments of the shipping industry are unique in so far as general competition does not prevent companies entering specific alliances and vessel sharing agreements. The container segment is a good example whereby shipping companies often purchase slots on competing companies' vessels or an agreement is reached to combine vessels to establish a new profitable route. Such alliances are currently exempt from anti-cartel laws in most countries. The terms of the collaboration can impact overall credit metrics as captured in rating factor #6 "Credit Metrics".
- ***Capital Intensity:*** The shipping industry is very capital intensive. The industry continues to drive for efficiency and increased capacity. New investment is focused primarily on improving speed, fuel efficiency, capacity utilization as well as meeting new regulatory changes. Expansion in fleet size is invariably a secondary consideration.
- ***Different vessel funding structures:*** A shipping company has a variety of funding options for its vessels, ranging from outright ownership to leasing (finance/operating leases). To charter a vessel also entails choosing between bareboat or time charters. While outright ownership – and to a lesser extent long-term charters - give the company longer-term planning and cost security, ownership or long-term charters can affect flexibility to adapt to changing market conditions. Conversely short-term (<1 year) to medium-term (<3 years) time charters can provide asset flexibility, but costs can be potentially more volatile. Invariably shipping company's have a fleet mix of ownership and leasing. The economics of capital expenditures and chartering are highly dependent upon current and future freight rates and utilization. Ownership versus leasing influences cash flows and profitability in different ways. Moody's seeks to provide comparability between the two by making certain adjustments.

4. See Moody's Rating Methodology: "The Application of Joint Default Analysis to Government Related Issuers", April 2005. See also Moody's Rating Methodology: "The Incorporation of Joint-Default Analysis into Moody's Corporate, Financial and Government Rating Methodologies", February 2005;

- ***Cost management:*** Assuring cash break-even in times of depressed freight rates requires low operating expenses. There are ***vessel-related expenses*** (crewing, repairs and maintenance costs, dry-docking, insurance costs etc.) which are largely affected by the age of the fleet, by regulations (for example nationality of crew, minimum security standards etc.) and by the technical competencies of management. These costs may be borne by the shipping company or a third party. Additionally there are ***voyage-related costs*** (bunker fuel expenses, port and canal fees, brokerage commissions). Volatility in any of these costs components can represent a significant risk to performance and profitability.
- ***Fleet management:*** Optimizing vessel utilization is a key challenge for most shipping companies in view of the potential route imbalances. This is particularly the case for "pure" tankers, specialized product carriers and container vessels. Container companies have opted for a different technique to maximize utilization, e.g. "Hub and Spoke" systems which can maximize utilization of different sized-vessels, whereas others specialize in vessels that can be employed more flexibly (lower draught for shallower ports, gantry cranes for ports without stevedoring terminals, ice-breaking capacity etc.). Increasingly, a sophisticated IT structure and controlling department is seen as a pre-requisite for fleet optimization.
- ***Highly volatile financials:*** In view of the volatility of the industry, the financial performance of shipping companies can display significant swings. In cyclical upswings with healthy freight rates operating profitability and cash flow should be boosted, especially benefiting those companies that have secured low operating costs. During such phases earnings and leverage metrics will strengthen and financial flexibility will improve. The rating methodology has focused on an average of 5 years' financial statements (3 year historicals + 2 year forecasts) to evaluate each company's credit profile during a particular cycle.

About this Rating Methodology

Moody's approach to the shipping industry, as outlined in this global rating methodology, incorporates the following steps:

1. Identifying Key Rating Factors

Moody's rating committees for shipping companies focus on a number of key rating factors, which we aim to identify and quantify in this report to the extent possible. Any change in one or more of these factors, depending upon the factor weighting, is likely to influence the overall business and financial risk assessment incorporated in a rating. For each factor, two types of assessments can be made:

- Quantitative: An assessment that can be measured by publicly available data (such as EBIT margin or revenue size).
- Qualitative: An assessment based on rankings estimated by Moody's, or broader quantitative measures defined by Moody's in this methodology (e.g. geographical diversification).

We have identified the following six key rating factors which determine our ratings for issuers in the global shipping industry:

1. Size and Diversification
2. Revenue Characteristics
3. Operating Efficiency and Flexibility
4. Cash Flow Variability
5. Financial Strategy and Capital Structure
6. Credit Metrics

Each of the first five categories contains between two and five sub-factors. The sixth rating factor includes our assessment of an issuer's financial risk profile, measured by four key credit metrics that we use to assess shipping companies.

In total, the rating methodology incorporates the six key rating factors, which include 17 sub-factors as well as the 4 additional key credit metrics. As a result, we have identified 21 distinct criteria that we consider in the rating of shipping companies.

2. Mapping to the Rating Categories

For each of these 21 sub-factors including the credit metrics we have determined what we consider appropriate ranges for broad rating categories, i.e. Aaa/Aa, A, Baa, Ba, B and Caa. These ranges represent in average what are our expectations for each rating category.

Please refer to "Reconciling Rating Factors and the Rating Scale" later in this report for further detail.

3. Illustrating the Rating Methodology and Outlier Discussion

To illustrate the global rating methodology, we have shown the rated shipping credits and have mapped the companies' performance for each factor to their associated ratings, with indicators of how the indicated rating for each element compares to the company's actual rating. The factors are shown as an outlier if they are more than one rating category above or below the company's public rating or, in the case of the two government-related issuers, above or below the companies' baseline credit assessment.

THE SIX KEY RATING FACTORS

Rating Factor #1: Size and Diversification

WHY IT MATTERS

Size and diversification are positively linked to each other; however, individually each can have a different impact on the credit profile of a shipping company.

- ***Size*:** Given the fragmented and commoditized character of most shipping segments, absolute size does not translate into market or pricing power. Size, however, can provide economies of scale (e.g. lower port operating / stevedoring / insurance costs, discounts on newbuilds or dry-docking expenses, funding costs) to drive higher levels of operating profit and cost efficiency. A certain size should also allow a company to offer more frequent and reliable services. For example, large container shipping companies can offer global customers a global service whilst optimizing trade lanes and capacity utilization. A larger fleet should also increase flexibility to react to shifts in geographical trade and transportation patterns. Smaller companies are arguably more susceptible to spikes in costs, changes to regulations as well as to other vagaries of the shipping industry.
- ***Diversification*** is viewed positively as having three principal dimensions, by (i) segment, (ii) geography and (iii) by clients. Diversification is viewed as an offset to changes in demand and supply in a given segment, region or industry or among its customer base.
  - i) *Segment diversification* measures the degree to which a shipping company operates in different shipping segments, for example in crude, container, bulk shipping etc. Operating in different segments is viewed as (i) mitigating structural shifts in any one segment, such as the trend to containerization for bulk freight, (ii) providing a hedge against event risk and (iii) offsetting the highly volatile nature of certain segments (e.g. oil). The container industry in itself is more diversified than other shipping segments, a factor that should positively influence other metrics.
  - ii) *Geographic diversification* should (i) mitigate revenue volatility from cyclical and structural changes in regional demand patterns (ii) balance revenues across trade lanes; (iii) enable reallocation of vessels to maximize utilization and (iv) mitigate country-or region-specific regulatory changes or (v) geo-political event risks.
  - iii) *Customer structure* examines the dependence on specific customers. Some shipping companies are highly exposed to a few customers (e.g. oil producing companies or some global freight forwarders), others are spread very broadly. Relationships can be very stable and long-term; others can be infrequent with low switching costs.

HOW DO WE MEASURE IT?

For the purpose of this rating factor:

a) We measure ***size*** both by absolute *revenue* and by the *number of vessels*.

b) We measure *segment diversification* by broad categorization of revenues (> 15% from the following segments: (i) crude oil tankers, (ii) product tankers (LNG etc.), (iii) dry bulk carriers, (iv) specialised carriers (cars, paper, OHGC etc.), (v) container carriers, (vi) ferries (RoRo and RoPax), and (vii) others. Companies with the highest rating mappings operate in a variety of segments versus single segment companies which would score lower.

c) We measure *geographical diversification* by the separation into 7 ocean-borne trade routes, namely (i) Intra-Americas, (ii) Intra-Asia, (iii) Intra-Europe as well as (iv) Transpacific, (v) Transatlantic as well as (vi) Asia-Europe and (vii) the rest of the world.

d) We measure *customer structure* broadly by client structure (diversification of clients by number, by size, by industry) and switching costs. For example, shipping companies operating in the LNG market may only deal with a small number of customers (mostly LNG exploration / production consortia), thereby exposing it to concentration and counterparty risk. However, this may be partially mitigated by long-term contracts that are common for LNG-vessels which represent high switching costs (see Rating Factor #2 "Revenue Characteristics"). More generally, the more specialised the cargo specification of a vessel, the more concentrated the customer structure is likely to be, and the higher the switching costs.

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
1 - SIZE AND DIVERSIFICATION	**a) Size** (by revenue)	> 20 bn	7-20 bn	3-7 bn	1-3bn	0.5-1 bn	< 0.5 bn
	b) Size of fleet (number of ships)	> 300	200-300	100-200	50-100	15-50	< 15
	c) Segment Diversification	5 and more segments	4 segments	3 segments	2 segments	1 segment	
	d) Geographic Diversification (see "How we measure it" for definition of geographic areas)	Revenue from at least 5 of these geographic areas > 15% each	Revenue from at least 4 of these geographic areas > 15% each	Revenue from at least 3 of these geographic areas > 15% each, rest well balanced	Revenue from at least 3 of these geographic areas > 15% each, with some concentration	Revenue from at least 2 of these geographic areas > 15% each, with significant concentration	Only in one geographic area
	e) Customer Structure	Diversified customer base and high switching costs		Diversified customer base and low switching costs	Concentrated customer base and high switching costs	Concentrated customer base and low switching costs	Dependence on one or two customers

Rating Mapping

	Current Rating	a) Size by revenue	b) Size of Fleet	c) Segment Diversification	d) Geographic Diversification	e) Customer Structure
CP Ships	***Ba2***	Baa	Ba	B	Ba	Baa
CMA CGM	***Ba2***	Baa	Baa	B	Ba	Baa
Gearbulk	***Ba2***	B	Ba	Ba	Ba	Baa
Ship Finance International	***Ba3***	Caa	B	B	Baa	B
Stena AB	***Ba2***	Baa	Ba	Aa	Baa	Baa
Sovcomflot	***Baa2****	Caa	B	Ba	Ba	Baa
Teekay Shipping Corp.	***Ba1***	Ba	Baa	Baa	Ba	Baa
Overseas Shipholding Group	***Ba1***	Ba	Baa	Baa	Ba	Baa
General Maritime Corp.	***B1***	B	B	Caa	B	B
OMI Corp	***Ba3***	B	B	B	Ba	B
Ultrapetrol (Bahamas) Ltd.	***B3***	Caa	B	Baa	B	B
Horizon Lines, LLC	***B2***	B	B	Caa	B	Baa
International Shipholding Corp	***B1***	Caa	B	A	Ba	Baa
U.S. Shipping Partners LP	***Ba3***	Caa	Caa	B	Caa	Ba
MOL (Mitsui O.S.K. Lines)	***Baa1***	A	Aaa	A	Baa	A
NYK (Nippon Yusen K. K.)	***A3***	A	Aaa	A	A	A
MISC Berhad	***A2****	Ba	Baa	Baa	Baa	A
Titan Petrochemicals Group Ltd	***Ba3***	Caa	B	Ba	Ba	Baa
Wan Hai Lines Ltd	***Baa2***	Ba	Ba	B	Ba	Baa

= negative outlier

= positive outlier

* = Government-related issuer

OBSERVATIONS

Some of the negative outliers in this rating factor (mostly by revenue and in the case of U.S. Shipping also by small fleet size and geographic diversification) have in some instances been compensated by other factors which have neutralized these more negative factors. Among the rated companies, such factors most often have been the contractual stability of cash generation, as is the case for Ship Finance International which is akin to a structured finance entity owning tanker vessels which receives contractual income from another shipping company, but also for US Shipping Partners, benefiting from its US flag carrier status and regulatory market protection. Despite a lack of contracted cash flow stability, Titan's outlier can be explained by the more recent history of this company with significant growth rates over the past, also resulting in greater cash flow generation which mainly supports the higher ratings.

Some of the positive outliers are mainly in the segmental diversification, e.g. for Stena which operates in many segments (tankers, ferries, oil rigs as well as in mostly Swedish real estate); and Ultrapetrol, a tanker and dry-bulk company with a strong subsidiary operating in the South American river and barge segment; and in the customer structure category for Horizon Lines or International Shipholding, which both benefit from their US-flag status, ensuring access to long-term contracts with large commercial and military organizations. In all cases these positive effects have been offset by other factors, for example by either a very competitive market, an aggressive funding strategy etc.

Rating Factor #2: Revenue Characteristics

WHY IT MATTERS

Revenue characteristics within the global shipping industry can vary significantly.[5] This methodology focuses on 2 key sub-factors pertinent to debt service; *revenue volatility* and *contract structure*.

- ***Revenue Volatility*** through changes in price and volume are considered to impact (i) the predictability of the company's financials, (ii) capacity for investments, leverage and debt service.
- ***Contract structure*** can provide revenue stability through price and volume agreements versus spot markets exposure and short-term contracts. Long-term charters can mitigate investment risk, notably in certain specialized vessel industries, such as LNG vessels where contracts often extend to 15- 20 years.

HOW DO WE MEASURE IT?

We use the following two dimensions:

a) *Volatility of revenues:* measured by the average change in the growth rate of revenue over a 3-year history and 2 year forecast expectation.

b) *Contract structure* is measured by broad assessment of the make-up of each shipping company's contracts, i.e. spot and short-term (typically less than one year) versus medium- (< 3 years) or long-term contracts (> 3 years).

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
2 – REVENUE CHARACTER-ISTICS	**a) Revenue volatility** (average change in growth rate year on year over last 3 years and 2 year forecast)	< 2%	2% - 5%	5% - 10%	10% - 20%	20% - 30%	> 30%
	b) Contract Structure (ST <1yr LT >1yr)	Most contracts are long-term, some spot exposure (< 25%)		More than half of revenues are locked in long-term contracts	Majority of revenue from ST/ spot contracts, with long-term contracts > 25%	Mostly spot/ST contracts with some long-term contracts > 10%	Only spot exposure/ST contracts

5. For example, charter rates for VLCC's reached spot rates of above USD 200,000 per day in Q4 2004, from about USD 50-60,000 a couple of months before

Rating Mapping

	Current Rating	a) Revenue Volatility	b) Contract Structure
CP Ships	***Ba2***	Ba	B
CMA CGM	***Ba2***	Ba	B
Gearbulk	***Ba2***	Ba	A
Ship Finance International	***Ba3***	Baa	Aa
Stena AB	***Ba2***	Baa	Baa
Sovcomflot	***Baa2****	Baa	Baa
Teekay Shipping Corp.	***Ba1***	B	Ba
Overseas Shipholding Group	***Ba1***	Ba	Ba
General Maritime Corp.	***B1***	Caa	B
OMI Corp	***Ba3***	B	B
Ultrapetrol (Bahamas) Ltd.	***B3***	B	Ba
Horizon Lines, LLC	***B2***	Baa	B
International Shipholding Corp	***B1***	Ba	Ba
U.S. Shipping Partners LP	***Ba3***	B	A
MOL (Mitsui O.S.K. Lines)	***Baa1***	Baa	Baa
NYK (Nippon Yusen K. K.)	***A3***	Baa	Baa
MISC Berhad	***A2****	Ba	A
Titan Petrochemicals Group Ltd	***Ba3***	Caa	B
Wan Hai Lines Ltd	***Baa2***	Baa	B

= negative outlier

= positive outlier

OBSERVATIONS

Some of the positive outliers in this rating factor mirror negative outliers in the first rating factor, as small size or limited diversification is often compensated by greater revenue stability, as caused largely by either structural support in the case of Ship Finance or by the benefits from US flag carrier status and regulatory protection of the domestic US shipping market.

The negative outliers largely reflect the dynamic growth of Titan and the short-term contract structure of the container shipping industry.

Rating Factor #3: Operating Efficiency and Flexibility

WHY IT MATTERS

A high degree of operating efficiency and flexibility should moderate the impact of revenue volatility on profitability and cash flow, particularly during extended periods at the low point of a cycle. We assess the operating efficiency and flexibility along two different dimensions, (i) the average fleet age and (ii) profitability as measured by EBIT.

- ***Fleet Age:*** While accounting standards usually allow depreciation of vessels over a period of 25 years, the rating grid categorises average fleet age by rating category. The age of a fleet largely determines (i) the efficiency of the fleet, notably speed, fuel consumption, automation and staff requirements; (ii) the extent of other cost factors, such as insurance costs and the cost and frequency of dry-docking[6]; (iii) re-investment risk particularly for old fleets affected by regulatory or environmental changes. A younger fleet can also provide additional funding flexibility for management as its collateral value tends to be both higher and more transparent.
- ***Profitability*** is the key dimension for measuring operating efficiency and flexibility: As noted above, the cost structure of a shipping company can be divided into two broad categories, (i) voyage expenses (such as fuel costs, commissions, and port or canal fees), and (ii) vessel operating expenses (mostly crewing, depreciation and maintenance). Funding costs are additional.[7] While some costs can be passed through to the customers - for example, where a vessel is time chartered, the charterer bears all voyage costs, including fuel costs, while the vessel operator bears only vessel expenses - the key determinants of a company's profitability result from the efficiency of its vessel management, quality of maintenance as well as the overall cost of funding.

6. *Dry docking normally begins four to five years into the life of a vessel. The cost of dry-docking for an ageing fleet can sizably impact liquidity in each fiscal period.*
7. *Moody's also adjusts Financial Statements for capitalised dry-docking costs, which it views as an operating expense and as an operating cash flow item (for details please refer to Appendix 3)*

HOW DO WE MEASURE IT

a) *Fleet age* is measured as the (non-weighted) average age of a shipping company's owned and time-/ bareboat chartered fleet.

b) *Profitability* is measured as the Adjusted EBIT margin (average over last 3 years plus 2 years forecast).

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
3 - OPERATING EFFICIENCY AND FLEXIBILITY	**a) Fleet Age** (Average age of total fleet)	< 4 years	< 6 years	< 8 years	< 10 years	< 15 years	> 15 years
	b) Profitability (EBIT/ Revenue, 3 year historicals and 2 year forecast)	>20%	15-20%	10-15%	7-10%	5-7%	< 5%

Rating Mapping

	Current Rating	a) Fleet Age	b) Profitability
CP Ships	***Ba2***	Baa	B
CMA CGM	***Ba2***	A	Ba
Gearbulk	***Ba2***	Caa	A
Ship Finance International	***Ba3***	Ba	Aaa
Stena AB	***Ba2***	Baa	A
Sovcomflot	***Baa2****	A	Aaa
Teekay Shipping Corp.	***Ba1***	Baa	Aa
Overseas Shipholding Group	***Ba1***	Baa	Aa
General Maritime Corp.	***B1***	B	Aa
OMI Corp	***Ba3***	Aa	Aa
Ultrapetrol (Bahamas) Ltd.	***B3***	Caa	Aa
Horizon Lines, LLC	***B2***	Caa	Ba
International Shipholding Corp	***B1***	Caa	Ba
U.S. Shipping Partners LP	***Ba3***	Caa	Baa
MOL (Mitsui O.S.K. Lines)	***Baa1***	Ba	Baa
NYK (Nippon Yusen K. K.)	***A3***	Ba	Ba
MISC Berhad	***A2****	Ba	Aaa
Titan Petrochemicals Group Ltd	***Ba3***	Caa	B
Wan Hai Lines Ltd	***Baa2***	Baa	Baa

= negative outlier

= positive outlier

OBSERVATIONS

The positive outliers both of fleet age and profitability are mostly a reflection of the cyclicality of the industry and the strong performance of most shipping markets over the last several years, having caused record profit levels which in turn have allowed companies to invest significantly into the renewal and growth of their fleet. At the same time, the strong market has allowed smaller companies with older vessels to access the capital markets in a move to diversify their funding sources, which explains some of the negative outliers.

Rating Factor #4: Cash Flow Variability

WHY IT MATTERS

We measure cash flow variability with two factors, (i) free cash flow generation and (ii) adequacy of reinvestments.

- ***Free cash flow through the business cycle:*** A shipping company's cash generation is significantly impacted by the inherent volatility of freight and charter rates, resulting in a highly volatile operating cash flow. Given the capital intensity of the industry, most shipping companies have significant cash needs to re-invest into the existing fleet. A stable and sufficiently strong free cash flow helps assure a company's primary liquidity and provides flexibility to invest into new capacity. Positive free cash flow is an indicator of an issuer's ability to repay indebtedness from internal sources. It is also an indicator of how long it would take an issuer to repay its debt from this source. The ratio of *free cash flow to adjusted gross debt* is also captured in Rating Factor # 6.

- ***The sufficiency of reinvestment*** in a vessel fleet is a central tenet for long term competitiveness. We regard reinvestment as a useful indicator of future cost competitiveness and operating efficiency (assuming utilisation etc remains a constant).

HOW DO WE MEASURE IT?

a) Free Cash Flow Generation through the business cycle: We measure this ratio as the absolute level of free cash flow over the last five years. Highly rated shipping companies, primarily those rated investment grade, should have generated positive free cash flow in the majority of the last three years as well as be forecasting positive free cash flow in the next two years, including down-cycles (whilst broadly maintaining the structure and age of their fleet). Evidencing financial self-sufficiency provides greater cash flow comfort to service existing indebtedness. A more volatile profile or the protracted weakness will warrant a lower rating. Moreover, an issuer's ability to generate cash flow from positive movements in working capital, asset sales or significant increases in debt is perceived as unsustainable over any extended period.

b) Sufficiency of reinvestment is measured with two complementary criteria:

i) *Change in the average fleet age*: It is expected that an investment-grade shipping company should at least maintain the average age of its owned and chartered fleet each year over a timeframe of 5 years, including the 3 most recent historical years as well as 2 years' forecast. This measure also captures those companies that predominantly lease their vessels and therefore have a lower capital expenditure.

ii) *Balanced investment strategy/Capital expenditure:* As an alternative measure of a shipping company's investment strategy, we examine capital spending in relation to depreciation over time. Moody's would expect to see an investment-grade shipping company to be investing at least the level of depreciation over time. Where investment in new vessels is primarily via operating leases this measure is less useful. In this scenario, calibration to other measures such as profitability and adjusted indebtedness, as well as average fleet age are likely to be more meaningful.

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
4 - CASH FLOW VARIABILITY	**a) Ability to generate Free Cash Flow through the shipping cycle** (average of last 3 years and 2 years forecast)	Consistent positive Free Cash Flow generation over last years. Paced Capital investment over time with no spikes and no deferred vessel investment	Assuming average capital investment, companies should typically generate free cash flow except in those years during which there is extraordinary capital investment for fleet growth	Volatile Free Cash Flow, Capital Investments not evenly peaked over time so that spikes and peaks occur in investment levels	Negative Free Cash Flow generation in most years apart from cyclical peaks. Companies may delay capital investments	Negative free cash flows in the last years. Companies may lack the size necessary to make ongoing investments into fleet and recoup costs. Fleet renewal may be delayed or insufficiently invested in with deteriorating market position and/or efficiency	
	b) Change in Fleet Age (average of last 3 years and 2 years forecast)	Fleet Age improving by >10%	Fleet Age improving by >5%	Fleet Age remaining constant or improving less than 5%	Fleet age is increasing < 5%	Fleet age is increasing >5% and < 10%	Fleet age is increasing > 10%
	c) Balanced Investment Strategy (Capex/Depreciation over average of last 3 years and 2 years forecast)	>1.2x	1.1-1.2x	1.0-1.1x	0.9-1.0x	0.8-0.9x	<0.8x

Rating Mapping

	Current Rating	a) Ability to generate Sustainable Free Cash Flow	b) Change in Fleet Age	c) Balanced Investment Strategy
CP Ships	***Ba2***	Ba	A	Aa
CMA CGM	***Ba2***	A	Aa	Aa
Gearbulk	***Ba2***	Aa	Ba	Ba
Ship Finance International	***Ba3***	A	Ba	Caa
Stena AB	***Ba2***	Ba	Baa	Aa
Sovcomflot	***Baa2****	B	A	Aa
Teekay Shipping Corp.	***Ba1***	A	Aa	Aa
Overseas Shipholding Group	***Ba1***	Baa	Baa	Aa
General Maritime Corp.	***B1***	Ba	Baa	Aa
OMI Corp	***Ba3***	Ba	Baa	Aa
Ultrapetrol (Bahamas) Ltd.	***B3***	B	Baa	Aa
Horizon Lines, LLC	***B2***	Baa	Ba	Caa
International Shipholding Corp	***B1***	Ba	Ba	Caa
U.S. Shipping Partners LP	***Ba3***	Baa	Baa	Baa
MOL (Mitsui O.S.K. Lines)	***Baa1***	A	A	Aa
NYK (Nippon Yusen K. K.)	***A3***	A	A	Aa
MISC Berhad	***A2****	Ba	Baa	Aa
Titan Petrochemicals Group Ltd	***Ba3***	Ba	Baa	Aa
Wan Hai Lines Ltd	***Baa2***	Baa	Aa	Aa

= negative outlier

= positive outlier

OBSERVATIONS

As for the previous rating factor, the significant amount of positive outliers in this factor can be largely attributed to the strength of the current cycle, allowing shipping companies to generate strong operating cash flows that have also in most instances been sufficient to fund the fleet expansion programme while maintaining a positive free cash flow. However, the various funding alternatives and chartering possibilities for vessels are not always reflected in capital expenditure measures, thereby reducing the impact on the companies' free cash flow metric. The significant investment into the fleet has consequently also resulted in most companies upgrading and renewing their fleet, which explains the positive outliers in the last two subfactors, "change in fleet age" and "balanced investment strategy".

The single negative outlier is a consequence of the structured character of Ship Finance, with no additional capital expenditure into the fleet owned by Ship Finance resulting in the low metrics in this rating factor for Ship Finance.

Rating Factor # 5: Financial Policy and Capital Structure

WHY IT MATTERS

The financial policies of a shipping company with respect to balancing the interests of debt holders versus shareholders are central to any rating outcome. In particular, analytical focus will be placed on (i) a company's financial strategy including the targeted capital structure and debt levels, dividend policy including share repurchases, capital expenditure parameters and (ii) its tolerance within a band of financial metrics.

- ***Financial Strategy:*** A debt rating is focused on the ability of an issuer to service its debt obligations in a timely manner and therefore, any cash outflow e.g. for share repurchases, additional dividends etc. that would otherwise have been designated to repaying debt or strengthening the future credit profile of the business tends to be viewed as negative or at best as neutral especially for issuers with weaker financial flexibility. The conservativeness of the capital structure will also provide flexibility to absorb shocks or credit events, such as M&A activity.
- ***Debt Maturities/Structure:*** Having a well-balanced debt maturity profile and demonstrating an ability to meet maturing debt obligations over a 12-month period from existing liquidity without reliance on market access can be a distinguishing factor between investment-grade and speculative-grade ratings.
- ***Liquidity and Funding Flexibility:*** Given the potential volatility associated with operating cash flow, it is imperative for a shipping company to evidence sufficient liquidity to support the business and cover pending debt maturities. The availability of liquidity can be critical to the viability of an issuer over time particularly at the lower end of the rating scale. The overall flexibility of an issuer to absorb credit shocks is measured in the ratings grid.

With respect to other cash calls, working capital needs are generally modest in the shipping industry relative to other industries (i.e. voyage-related expenses are normally paid prior to departure), but heavy periodic re-fleeting can be burdensome on cash flows. The expense of dry-docking vessels can also create a need for additional liquidity. The ability to monetize non-core assets or unencumbered assets over time is, however, considered a secondary source of funding. Moreover given the market value of vessels can vary significantly during a cycle this source of funding is considered less reliable until contracted.

HOW DO WE MEASURE IT?

a) *Financial Strategy:* Management's appetite for risk is evaluated based on historical track record and the expected future strategy. Key criteria to support a higher rating category would include a balanced approach to the interests of shareholders and creditors, predictability of financial strategy and results over time, limited appetite for debt-funded acquisitions allied with management commitment to managing credit metrics within a certain target range. In contrast, substantial distributions to shareholders, including large dividend payments or share buybacks are likely to be viewed as at best neutral to the credit profile. Similarly, a financial policy to increase the debt leverage in favour of bolstering shareholder returns is likely to lead to negative consequences for a rating, as detailed in the rating grid in the financial metrics section.

b) *Debt Maturities / Structure:* The structure of debt maturities and concentration of debt maturities can be a key ratings differentiator between investment-grade and speculative-grade issuers. A high proportion of maturing indebtedness relative to cash flow in any one period heightens refunding risks. Moody's would expect an investment-grade issuer to have a relatively smooth debt maturity schedule posing limited refunding risks in any one year. Moreover, existing sources of liquidity should be sufficient to cover all current obligations. In contrast, a speculative-grade issuer may have high debt maturity concentrations, which would rely more heavily on time refinancing and market access.

c) *Liquidity and Funding Flexibility* is measured along three criteria which distinguishes investment-grade companies, which typically show consistent strong liquidity management and contingency planning from non-investment-grade, which are more likely to rely more heavily on a narrower set of conditional sources of liquidity.

   i) *Cash and cash equivalents to total assets:* A snap-shot measure of immediate cash availability.

   ii) *Committed funding sources*: To complement the assessment of cash[8].

   iii) *Unencumbered vessels:* The availability of unencumbered vessels for collateral provides additional funding flexibility.

8. *The rating grid outlines a continuum for cash & cash equivalents to total assets. It is also noted by Moody's that certain issuers do not carry sizeable cash balances but have agreed committed credit facilities. An assessment of these credit lines includes a review of documentation to ascertain conditionality, most notably financial covenants and repeating representations, such as Material Adverse Change clauses.*

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
5 – FINANCIAL POLICY AND CAPITAL STRUCTURE	**a) Financial strategy** (Dividend policy, share buy backs etc.)	Very conservative policy. Stable metrics, no "one-off" movements. Public commitment to Aaa/ Aa rating. Track record of stable metrics.	Predictable financial policy, balance between shareholder and creditor, no big shifts in metrics, possible event risk through debt-financed acquisitions. Strong commitment to investment grade.	Financial policy favour shareholder returns. Possible track-record of rating migration following acquisitions. Commitment to investment grade.	Strategy prioritizes shareholder value and acquisitions.	History of debt-funded returns to shareholders and paying out financial cushion.	Unmanageable debt burden, restructuring likely.
	b) Debt Maturities/ Debt Structure	Very balanced debt maturity profile and excellent variety of debt instruments		Balanced debt maturity profile and solid variety of debt instruments	Significant proportion of current debt maturities (>30% due within 1 year). Limited variety of debt instruments	Very high proportion of short-term debt maturities (>50% due within 1 year). Very limited variety in debt instruments	
	c) Cash Reserves (Cash & Cash equivalents/ Total Assets)	> 15%	10-15%	7-10%	5-7%	3-5%	<3%
	d) Availability of Credit Lines	Excellent liquidity profile with sufficient liquidity to grow and defend market position as well as to reinvest through the cycle	Consistently strong liquidity management and contingency planning		Liquidity reliant on highly-conditional sources of funds or asset sales; little or no access to public capital markets		
	e) Unencumbered Core Assets (/book value of all vessels)	Encumbered vessels are immaterial (less than 5% of book value of all vessels)	> 75%	> 50%	> 25%	> 10%	< 10%

Rating Mapping

	Current Rating	a) Financial Strategy	b) Debt Maturities/ Debt Structure	c) Cash Reserves	d) Availability of Credit Lines	e) Unencumbered Core Assets
CP Ships	***Ba2***	Ba	A	Ba	A	Baa
CMA CGM	***Ba2***	Ba	Baa	A	A	Baa
Gearbulk	***Ba2***	Ba	Baa	A	A	B
Ship Finance International	***Ba3***	Ba	A	Caa	Baa	Aa
Stena AB	***Ba2***	Ba	Baa	Ba	Baa	Ba
Sovcomflot	***Baa2****	Baa	Baa	A	A	Baa
Teekay Shipping Corp.	***Ba1***	Ba	Baa	Ba	Baa	Caa
Overseas Shipholding Group	***Ba1***	Baa	Baa	B	Baa	Aa
General Maritime Corp.	***B1***	B	Ba	B	Baa	Caa
OMI Corp	***Ba3***	Ba	Ba	B	Baa	Caa
Ultrapetrol (Bahamas) Ltd.	***B3***	B	Ba	Baa	Caa	B
Horizon Lines, LLC	***B2***	B	Ba	Ba	B	Caa
International Shipholding Corp	***B1***	Ba	Ba	Caa	Ba	B
U.S. Shipping Partners LP	***Ba3***	B	Ba	A	Ba	Caa
MOL (Mitsui O.S.K. Lines)	***Baa1***	A	A	B	Aa	Baa
NYK (Nippon Yusen K. K.)	***A3***	A	A	B	Aa	A
MISC Berhad	***A2****	Baa	A	Aaa	Aa	Baa
Titan Petrochemicals Group Ltd	***Ba3***	B	Ba	A	Ba	B
Wan Hai Lines Ltd	***Baa2***	A	A	Aaa	Baa	Ba

= negative outlier

= positive outlier

OBSERVATIONS

Favourable outliers of all subfactors reflect the positive development of the industry which has enabled companies to increase their cash reserve on their balance sheet, with many companies having also benefited and have refinanced their credit facilities. The negative outliers – apart from Ship Finance which has been discussed further above – largely reflect the chosen primary funding structure of some companies with most bank facilities secured by collateral of the vessels that have been funded.

Rating Factor #6: Financial Credit Metrics

The rating grid can be applied to both historical and projected financials. In addition to the financial credit metrics used in certain rating factors above, there are 4 credit metrics considered appropriate for the shipping industry.[9]

a) *Adjusted Retained Cash Flow/ Net Adjusted Debt:* Adjusted Retained Cash Flow is after working capital changes and dividend payments, and includes the capital component of operating lease expenses. The higher this measure, the more indicative it is of the cash generation ability of the business on the one hand and the availability of cash - after interests of shareholders have been taken into consideration - to ensure debt payment or undertake capital investments.

b) *Gross Adjusted Debt/ EBITDAR:* is a slightly different alternative to the previous measure, but reflects operating cash flow available (before consideration of bondholders and shareholders interests) for debt service before interest costs including the interest element of rent expenses. This ratio remains a key ratio utilized by speculative-grade investors, and we use it as a complementary ratio.

c) *The Total Coverage Ratio* measures a company's ability to pay interest and other fixed charges such as operating leases from their operating performance, which is particularly relevant in the shipping industry, with many banks having waived debt repayments in cyclical troughs as long as fixed charges could be served. Therefore a strong coverage is a crucial measure of a company's financial robustness.

d) *Free Cash Flow / Gross Adjusted Debt* measures the company's ability to maintain its financial flexibility throughout a cycle. While the degree of capital expenditure into fleet renewal is discretionary and can therefore distort comparability of this ratio, we also assess the extent to which a company has a modern fleet in one of the above key rating factors. Typically, we would expect an investment-grade rated company to be able to repay its debt from a positive free cash flow within a reasonable time frame of around 10 years.

Rating Grid

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
6 – CREDIT METRICS	**a) Adj. RCF/ Net Adj. Debt**	>50%	35-50%	25-35%	15-25%	5-15%	<5%
	b) Gross Adj. Debt / EBITDAR	<1.5x	<1.5-2.5x	<2.5-3.5x	<3.5-4.5x	4.5-6x	>6x
	c) Total Coverage Ratio	>6x	5-6x	4-5x	3-4x	2-3x	<2x
	d) Free Cash Flow/ Gross Adjusted Debt (last 5 year average)	>25%	15-25%	5-15%	5% > x> -5%	-5 >x> -10%	<-10%

9. *Although other credit metrics may also be used in the rating analysis, we primarily consider the four metrics in determining ratings. See Appendix 3 "Key Ratio Definitions" for details*

Rating Mapping

	Current Rating	a) Adj. RCF / Net Adj. Debt	b) Gross Adj. Debt / EBITDAR	c) Total Coverage Ratio	d) Free Cash Flow / Gross Adjusted Debt
CP Ships	***Ba2***	B	Caa	Caa	Caa
CMA CGM	***Ba2***	B	Caa	B	B
Gearbulk	***Ba2***	A	Ba	Ba	Baa
Ship Finance International	***Ba3***	B	Ba	Ba	B
Stena AB	***Ba2***	B	Caa	B	B
Sovcomflot	***Baa2****	Ba	B	Ba	Caa
Teekay Shipping Corp.	***Ba1***	Baa	Ba	B	B
Overseas Shipholding Group	***Ba1***	Ba	B	Ba	Ba
General Maritime Corp.	***B1***	A	Baa	Ba	Caa
OMI Corp	***Ba3***	Ba	Ba	Ba	Caa
Ultrapetrol (Bahamas) Ltd.	***B3***	B	B	Caa	B
Horizon Lines, LLC	***B2***	Ba	Caa	Caa	Ba
International Shipholding Corp	***B1***	B	B	Caa	Caa
U.S. Shipping Partners LP	***Ba3***	B	Baa	B	Caa
MOL (Mitsui O.S.K. Lines)	***Baa1***	Ba	Ba	Baa	Ba
NYK (Nippon Yusen K. K.)	***A3***	Ba	Ba	Baa	Ba
MISC Berhad	***A2****	Baa	Ba	Baa	B
Titan Petrochemicals Group Ltd	***Ba3***	Ba	B	A	Caa
Wan Hai Lines Ltd	***Baa2***	Ba	B	Baa	Caa

= negative outlier

= positive outlier

OBSERVATIONS

The unfavourable outliers are mainly due to the high leverage within the industry, which has been spurred by the upturn in shipping markets encouraging large investments in fleet expansion, accompanied by an increasing tolerance for high leverage among investors. In addition, some companies have decided to return significant part of the cash generated to shareholders, thus negatively impacting post dividend cash measures such as retained and free cash flow.

Favourable outliers mostly reflect companies that have either focused on de-leveraging such as Gearbulk or which have historically had lower level of leverage such as General Maritime.

OTHER RISK FACTORS

The rating assessment also typically considers other risks that cannot be readily captured in the grid because they are specific to certain companies. Other factors reflected in Moody's ratings include:

- Quality of management
- Corporate governance
- The extent, quality, comparability and frequency of financial disclosure

These rating considerations are common to all corporate finance issuers and are therefore not specifically or extensively captured in our shipping rating methodology. However, the analysis of these factors remains an integral part of our rating process and is described in a number of separate reports published by Moody's.

Reconciling Rating Factors and the Rating Scale

The objective of the rating grid is to enable investors, issuers and intermediaries to determine the approximate positioning of an alphanumerical rating (e.g. A1, A2, A3) with a limited margin for error, although some qualitative factors may prove at times somewhat difficult to position in the grid without an in-depth knowledge of the company.

The grid presents the typical characteristics presented by an issuer within each rating range (defined as Aaa-Aa, A and so on). However, when using the grid, the user should determine which category an issuer would fall into for each sub-factor. For example, a Baa-rated issuer will not fall in the Baa category for all of the six rating factors; it may well be in other categories for all sub-factors, but the average position will be equivalent to a Baa.

In averaging up the scores to arrive at an overall rating approximation, not all factors weigh equally. We have applied the following weightings to the rating factors:

- #1: Size and Diversification: 25%
- #2: Revenue Characteristics: 10%
- #3: Operating Efficiency and Flexibility: 15%
- #4: Cash Flow Variability: 10%
- #5: Financial Policy and Capital Structure: 15%
- #6: Credit Metrics: 25%

It has to be noted that a significant weakness in one factor or sub-factor often cannot be completely compensated by strength in another one.

For the purpose of the methodology grid, the ranges indicated for each rating category have been defined, and generally we would expect companies to fall within the ranges indicated. However, they are not normative. This means that companies with a given overall rating may have a weaker score on some debt metrics than the prescribed range, but that the other factors – both quantitative and qualitative – may compensate for one or more weaknesses.

Furthermore, relevant model target ratios and actual ratios for a given rating category may sometimes vary, in particular in the Baa and Ba categories. For example, we have observed empirically that some ratios – in particular the free cash flow to adjusted gross debt ratio – can be comparable for Ba and Baa ratings or even slightly better for Ba. As noted above, this is first because speculative-grade issuers are often smaller, more fragile companies in less attractive sectors which experience greater cash flow volatility and carry significantly higher debt. As a consequence, lenders generally give them less flexibility for paying dividends or investing in additional capital expenditures, thus leaving them with more free cash-flow. The grid smoothes out these discrepancies and aims to avoid overlaps in the ratio ranges. As a result, we may find that FCF / adjusted gross debt for Ba rated issuers may be higher than suggested in the grid in certain cases and lower for investment grades. Nevertheless, taking into account that the FCF may be a primary focus for high yield and RCF for investment grade, the ranges for the adjusted FCF / adjusted gross debt are positioned primarily based on expectations for high yield and the RCF primarily based on expectations for investment grade. As a consequence, for a given rating range, the difference between FCF and RCF ratios will appear as smaller than usually observed. Conversely, coverage ratios are much weaker in the Ba range than in the Baa range due to a higher cost of debt and a higher level of absolute leverage.

Other Considerations

NET DEBT VERSUS GROSS DEBT

A number of the ratios used in this methodology are presented on a gross debt basis and some others on a net debt basis (i.e. gross debt minus cash and cash equivalents). In fact, Moody's takes both into consideration:

- Cash balances are partly working cash which needs to remain in the business. In the US in particular, cash balances are modest and are generally only working cash. In this case, it may make sense to consider only gross debt.
- Moreover, cash may be in subsidiaries or jurisdictions in which friction costs (e.g. income taxes, withholding taxes) may make it inappropriate to use net debt. Plus, there could be covenant restrictions limiting the ability of cash to go upstream into holding companies.
- In Europe, a number of companies prefer to centralize cash balances on the books of the holding company, while maintaining debt at the subsidiary level. We also generally observe a higher willingness of European companies to maintain higher cash balances, which may sometimes be linked to tax considerations, or more broadly the consequence of a higher level of caution on the availability of funding in the bank or bond markets. Considering only

gross debt may not reflect the real financial strength of these companies and Moody's may prefer in this case to focus on net debt. However, in this case we assess the expectation that these cash balances can be liquidated at least at book value and without tax costs.

Metrics Are Evolving

The exact metrics used in credit analysis and to form rating opinions will evolve over time. This can be for several reasons. For example, it could be due to changing business practices and behaviours at issuers where, over time, different ratios become more informative than others in helping to measure certain elements of profitability, financial flexibility, or leverage. Such changes may also become necessary due to changes in accounting practices in various geographic regions.

Changes in metrics and ratios are also certain to come about as Moody's rating methodologies and procedures evolve. For example, the publication of this Rating Methodology for shipping companies and the dissemination of specific ratio ranges consistent with certain rating categories mark another step in the continuous evolution of Moody's ratings theory and practices.

With this in mind, we would expect that, over time, the exact ratios and metrics used to perform credit analysis will change and may be assigned different weightings. Some changes to metrics outlined in this methodology, as well as the permissible ranges appropriate to rating categories, will likely come about over the near-to-intermediate term. While some changes will occur, we fully expect that any revised ratios or metrics – as well as ratio ranges by rating category and their respective weighting – will be consistent in theory and practice with those outlined in this methodology. Moody's will also make every effort to ensure that any changes to ratio definitions or ratio ranges are clearly disseminated in a timely manner.

Do We Look at Financial Metrics Differently in Speculative Grade?

We use the same credit metrics across the entire rating scale. However, we place additional emphasis on the following:

- *Access to liquidity is a key rating differentiator*. In our analysis, we focus on external committed facilities, covenant cushion as well as the access to capital markets.
- *An ability to de-leverage the business*. As a result, we would look at existing credit metrics, and take a stance on where the metrics are likely to be over the medium term, and how likely the issuer is to achieve these metrics. If we are very comfortable that the fundamental operations of an issuer will allow a material improvement in metrics over the next 12 to 18 months, this will be factored into our assessment of the rating's grid.
- *A prospective view on metrics can also be more critical in speculative grade*, because historical financial statements may be unrepresentative of current and expected financial performance due to growth, a series of acquisitions, or deterioration in the current operating environment. In such cases, we focus on pro-forma financials as a starting point for our assessment. Projections are critical in our analysis because they are based on the more recent and likely future performance. Projections incorporate considerable assumptions. By starting with a pro forma, we can identify positive gaps in assumptions.
- *Cash-flow variations are much more critical for speculative-grade issuers* than for their investment-grade counterparts. As a result, we may choose to focus more on cyclical and seasonal cash flow variations and on the absolute level of free cash flows than would be the case for investment-grade issuers.
- *As a company's rating approaches investment grade, we assign a higher weighting to qualitative factors*, particularly its overall risk appetite and the quality of its business model as an indicator for revenue sustainability. Companies that lack scale or diversification, have a weak market position or operate in unattractive categories may never reach investment grade, however strong their credit metrics may be at any point in time. If a company's operating performance is moderately weak in one of these respects or if a management team has historically displayed a high tolerance for risk through acquisition activity or financial policy, we may require stronger credit metrics for an upgrade into investment grade than might otherwise be the case. As a result, some Ba rated companies have stronger credit metrics than Baa-rated companies with a more robust business model and a lower risk appetite.

Appendix 1: Rating Grid for Shipping Companies

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
1 - SIZE AND DIVERSIFICATION	**a) Size** (by revenue)	> 20 bn	7-20 bn	3-7 bn	1-3bn	0.5-1 bn	< 0.5 bn
	b) Size of Fleet (number of ships)	> 300	200-300	100-200	50-100	15-50	< 15
	c) Segment Diversification (# of segments contributing < 15% of revenue); Segments are 1) Oil tanker, 2) Product tanker, 3) Dry Bulk carrier, 4) Specialised carrier (Cars, paper, OHGC etc.), 5) Container, 6) Ferries (RoRo, RoPax), 7) other	5 and more segments	4 segments	3 segments	2 segments	1 segment	
	d) Geographic Diversification (Intra-Americas, Intra-Europe, Intra-Asia, Transpacific, Transatlantic, Asia-Europe, Rest of World)	Revenue from at least 5 of these geographic areas > 15% each	Revenue from at least 4 of these geographic areas > 15% each	Revenue from at least 3 of these geographic areas > 15% each, rest well balanced	Revenue from at least 3 of these geographic areas > 15% each, with some concentration	Revenue from at least 2 of these geographic areas > 15% each, with significant concentration	Only in one geographic area
	e) Customer Structure	Diversified customer base and high switching cost		Diversified customer base with low switching cost	Concentrated customer base with high switching costs	Concentrated customer base with low switching cost	Dependence on one or two customers
2 - REVENUE CHARACTERISTICS	**a) Revenue Volatility** (average change in growth rate yoy over the last 3 years + 2 year forecasts)	< 2%	2% - 5%	5% - 10%	10% - 20%	20% - 30%	> 30%
	b) Contract Structure (ST <1yr, LT > 1 yr)	Most contracts are long-term, some spot exposure (< 25%)		More than half of revenues are locked in long-term contracts	Majority of revenue from ST/spot contracts, with long-term contracts > 25%	Mostly spot/ST contracts with some long-term contracts > 10%	Only spot exposure/ST contracts
3 - OPERATING EFFICIENCY AND FLEXIBILITY	**a) Fleet Age** (Average age of total fleet)	< 4 years	< 6 years	< 8 years	< 10 years	< 15 years	> 15 years
	b) Profitability (EBIT/Revenue 3 year historicals + 2 year forecasts)	>20%	15-20%	10-15%	7-10%	5-7%	< 5%

Rating Category		Aaa-Aa	A	Baa	Ba	B	Caa
4 - CASH FLOW VARIABILITY	**a) Ability to generate Free Cash Flow through the Shipping Cycle** (average of last 3 years and 2 years forecast)	Consistent positive Free Cash Flow generation over last years. Paced Capital investment over time with no spikes and no deferred vessel investment	Assuming average capital investment, companies should typically generate free cash flow except in those years during which there is extraordinary capital investment for fleet growth	Volatile Free Cash Flow, Capital Investments not evenly peaked over time so that spikes and peaks occur in investment levels	Negative Free Cash Flow generation in most years apart from cyclical peaks. Companies may delay capital investments	Negative free cashflows in the last years. Companies may lack the size necessary to make ongoing investments into fleet and recoup costs. Fleet renewal may be delayed or insufficiently invested in with deteriorating market position and/or efficiency	
	b) Change in Fleet Age (average of last 3 years and 2 years forecast)	Fleet Age improving by >10%	Fleet Age improving by> 5%	Fleet Age remaining constant or improving less than 5%	Fleet age is increasing < 5%	Fleet age is increasing >5% and < 10%	Fleet age is increasing > 10%
	c) Balanced Investment Strategy (Capex/ Depreciation over average of last 3 years and 2 years forecast)	>1.2x	1.1-1.2x	1.0-1.1x	0.9-1.0x	0.8-0.9x	<0.8x
5 - FINANCIAL POLICY AND CAPITAL STRUCTURE	**a) Financial strategy** (Dividend policy, share buy backs etc.)	Very conservative policy. Stable metrics, no "one-off" movements. Public commitment to Aaa/Aa rating. Track record of stable metrics.	Predictable financial policy, balance between shareholder and creditor, no big shifts in metrics, possible event risk through debt-financed acquisitions. Strong commitment to investment grade.	Financial policy favour shareholder returns. Possible track-record of rating migration following acquisitions. Commitment to investment grade.	Strategy prioritises shareholder value and acquisitions.	History of debt-funded returns to shareholders and paying out financial cushion.	Unmanageable debt burden, restructuring likely.
	b) Debt Maturities/ Debt Structure	Very balanced debt maturity profile and excellent variety of debt instruments		Balanced debt maturity profile and solid variety of debt instruments	Significant proportion of current debt maturities (>30% due within 1 year). Limited variety of debt instruments	Very high proportion of short-term debt maturities (>50% due within 1 year). Very limited variety in debt instruments	
	c) Cash Reserves (Cash & Cash equivalents/ Total Assets)	> 15%	10-15%	7-10%	5-7%	3-5%	<3%
	d) Availability of Credit Lines	Excellent liquidity profile with sufficient liquidity to grow and defend market position as well as to reinvest through the cycle	Consistently strong liquidity management and contingency planning		Liquidity reliant on highly-conditional sources of funds or asset sales; little of not access to public capital markets		
	e) Unencumbered Core Assets “ (/ book value of all vessels)	Encumbered vessels are immaterial (less than 5% of book value of all vessels)	> 75%	> 50%	> 25%	> 10%	< 10%
Rating Category		**Aaa-Aa**	**A**	**Baa**	**Ba**	**B**	**Caa**
6 - CREDIT METRICS	**a) Adj. RCF/Net Adj. Debt**	>50%	35-50%	25-35%	15-25%	5-15%	<5%
	b) Gross Adj. Debt / EBITDAR	<1.5x	1.5-2.5x	2.5-3.5x	3.5-4.5x	4.5-6x	>6x
	c) Total Coverage Ratio	>6x	5-6x	4-5x	3-4x	2-3x	<2x
	d) Free Cash Flow/ Gross Adjusted Debt (last 5 year average)	>25%	15 - 25%	5-15%	5% > x> -5%	-5 >x> -10%	<-10%

Appendix 2: Industry Rated Issuers

Moody's-Rated Shipping Company Ratings (as of October 31, 2005)

Company	Senior Unsecured or Corporate Family Rating	Outlook	Head Office Country	Rated Debt (million USD)
Asia (excl. Japan)				
MISC Berhad.	A2	STA	Malaysia	1,100
Wan Hai Lines Ltd	Baa2	STA	Taiwan	325
Titan Petrochemicals Group Ltd	Ba3	STA	Hong Kong	400
Japan				
Nippon Yusen Kabushiki Kaisha	A3	STA	Japan	504
Mitsui O.S.K. Lines	Baa1	STA	Japan	568
Europe				
Sovcomflot	Baa2	STA	Russia	-
CMA CGM SA	Ba2	STA	France	117
Stena AB	Ba2	STA	Sweden	625
Gearbulk Holding Ltd	Ba2	STA	UK	-
CP Ships	Ba2	STA	UK	400
Ship Finance International Ltd.	Ba3	STA	Norway	1,628
North America				
Teekay Shipping Corporation	Ba1	STA	Canada	1,934
Overseas Shipholding	Ba1	NEG	US	435
U.S. Shipping Partners LP	Ba3	STA	US	-
OMI Corporation	Ba3	STA	US	725
General Maritime Corporation	Ba3	STA	US	250
International Shipholding Corp	B1	STA	US	125
Horizon Lines	B2	STA	US	525
South America				
Ultrapetrol (Bahamas) Ltd.	B3	STA	Argentina	180

Appendix 3: Key Ratio Definitions

The financial metrics that Moody's explains below have been based on adjusted financial statements in accordance with Moody's methodologies. In addition, Moody's also makes certain company-specific adjustments if warranted, for example for capitalized dry-docking costs or finance lease if lease expenses are amortised.[10]

REVENUE VOLATILITY = Average Change in Revenue Growth Rate over last five years and over the two forecasted periods.

EBIT MARGIN = (Pre tax income +/- exceptional charges/revenues - Interest expense + Amortisation of goodwill) / Revenue

ADJUSTED RCF / NET ADJUSTED DEBT = Cash flow from Operations (CFO) = cash flow from operating activities from the Consolidated Statement of Cash Flow in addition to company-specific adjustments in accordance with Moody's methodologies.

Adjusted Retained Cash Flow (RCF) = CFO – Preferred Dividends – Common Dividends + capital component of rent expenses + pension contribution above service costs

Adjusted Gross Debt = gross debt + Modified PV Lease Valuation[11] + underfunded and unfunded pension liabilities + "basket adjusted" hybrids + accounts receivable securitisation outstanding + guarantees of debt obligations + off-balance sheet debt-like obligations + other debt like items

Net Adjusted Debt = adj. gross debt – cash & marketable securities (no haircut on cash)

GROSS ADJUSTED DEBT / EBITDAR = (gross debt + Modified PV Lease Valuation + underfunded pension liabilities + "basket adjusted" hybrids + accounts receivable securitisation outstanding + guarantees of debt obligations + off-balance sheet debt-like obligations + other debt like items) / (Pre tax income +/- exceptional charges/revenues - Interest expense (including interest component of rent expense) + Depreciation + Amortisation of goodwill)

TOTAL COVERAGE RATIO = (Pre tax income +/- exceptional charges/revenues - Interest expense) / (Interest expense)

FREE CASH FLOW / GROSS ADJUSTED DEBT = (CFO before working capital +/- changes in Working Capital – Preferred Dividends – Common Dividends – Gross Capex (PP&E Capital Expenditure)) / (gross debt + Modified PV Lease Valuation + underfunded pension liabilities + "basket adjusted" hybrids + accounts receivable securitisation outstanding + guarantees of debt obligations + off-balance sheet debt-like obligations + other debt like items)

10. *Moody's adjusts the Balance Sheet to reduce intangible assets by the cumulative amount of dry-docking costs capitalised, adjusts deferred taxes accordingly and reduces retained earnings by the cumulative amount of dry-docking costs capitalised, net of tax. The income statement is adjusted to increase operating expenses by the amount of dry-docking costs for the period, while the amortization charge related to the dry-docking costs is removed and applicable taxes are adjusted accordingly. In those instances where shipping companies report dry-docking costs as an investing cash outflow (CFI), this is adjusted in the cash flow statement to reclassify dry-docking costs to an operating cash outflow (CFO).*

11. *For calculation purposes, we have assumed an average original useful life of assets of 25 years, and core (non-core) assets to amount to 80% (20%) of total leased assets.*

Appendix 4: Glossary of Shipping Terms

Sources:
U.S. Department of Transportation - Maritime Administration

The Baltic Exchange
Various Rated Company Web-sites[12]:

Agent
A person authorized to transact business for and in the name of another person or company. Types of agent are:

(1) brokers,

(2) commission merchants,

(3) resident buyers,

(4) sales agents,

5) manufacturer's representatives.

Bulk
Cargo shipped in loose condition and of a homogeneous nature. Cargoes that are shipped unpackaged either dry, such as grain and ore, or liquid, such as petroleum products. Bulk service generally is not provided on a regularly scheduled basis, but rather as needed, on specialized ships, transporting a specific commodity.

Bulk Carrier
Ship specifically designed to transport vast amounts of cargoes such as sugar, grain, wine, ore, chemicals, liquefied natural gas; coal and oil.

Bunkers
Fuel consumed by the engines of a ship; compartments or tanks in a ship for fuel storage.

Bunker Adjustment Factor (BAF)
Adjustment to freight rates to compensate for fluctuations in the market price for fuel.

Bunker Charge
An extra charge sometimes added to steamship freight rates; justified by higher fuel costs.

Capesize
Vessel too large to fit through the Suez (or Panama) Canal.

Cargo
Freight loaded into a ship.

CHARTER

Bareboat
The hiring or leasing of a vessel from one company to another (the charterer), which in turn provides crew, bunkers, stores etc. and pays all operating costs.

Time Charter
A contract whereby a ship owner places a crewed ship at a charterer's disposal for a certain period. The charterer also pays for bunker charges, port duties, etc.

Voyage Charter
A contract whereby a ship owner places a crewed ship at a charterer's disposal for a one or more voyages. The charterer also pays for bunker charges, port duties, etc.

Charter Rates
The tariff applied for chartering tonnage in a particular trade.

Charterer
The party paying for the transportation. This may be the cargo owner, supplier or the receiver of the cargo.

12. *Including: Frontline, Gearbulk and others*

Conference
An affiliation of ship owners operating over the same route(s) who agree to charge uniform rates and other terms of carriage. A conference is "closed" if one can enter only by the consent of existing members of the conference. It is "open" if anyone can enter by meeting certain technical and financial standards. Conference members are common carriers.

Container
A large rectangular or square steel container/box into which cargo is loaded and transported. It opens from one side to allow cargo to be stacked and stowed into it. Containers may be ventilated, insulated, refrigerated, flat rack, vehicle rack, open top, bulk liquid or equipped with interior devices.

Contract of Affreightment (COA)
An agreement between an owner and a charterer to transport a given quantity of cargo or quantity as required by the charterer during a given period of time. The owner is free to decide which vessel he will use.

Cost and Freight (CFR)
The seller prepays the cost of carriage to the named port of destination, and clears the goods for export. Risk of cargo loss or damage transfers to the buyer when the goods pass the ship's rail at the port of shipment.

Cost, Insurance and Freight (CIF)
The seller has the same obligations as under the CFR but also has to procure marine insurance against the buyer's risk of loss or damage to the goods during the carriage. The seller contracts insurance and pays the insurance premium.

Currency Adjustment Factor (CAF)
A charge which is applied to compensate the owner for currency fluctuations.

Deadweight (dwt)
The number of metric tons of cargo, stores and bunker fuel that a vessel can transport. It is the difference between the number of tons of water a vessel displaces "light" and the number of tons it displaces when submerged to the "load line."

Demurrage
An agreed amount payable to the owner in respect of delay to the vessel beyond laytime for which the owner is not responsible.

Double hull
The ship has an inner and an outer hull. This construction increases strength and safety.

Dry docking
To put a vessel into a dry dock for inspection, repair and maintenance. This is done on a regular basis.

Freight
Refers to the cargo carried.

Freight Rate
The tariff applied for the transportation of freight and calculated by metric tons of cargo or deadweight ton per month

Intermodal
Used to denote movements of cargo containers interchangeably between transport modes, i.e., motor, water, and air carriers, and where the equipment is compatible within the multiple systems.

IMO
International Maritime Organisation, United Nations supported agency for international maritime matters.

Newbuilding
A new vessel under construction or contracted to be built.

OBO
Ore Bulk Oil Carrier, combination dry/wet cargo ship.

Open Hatch
Vessel in which the hatches extend the full reach of the holds (no overhang).

Panamax/Suezmax
Vessel of maximum dimensions to transit the Panama/Suez Canal.

Reefer
Refrigerated container or Refrigerated ship, designed to carry goods requiring refrigeration, such as meat and fruit.

"Ro/Ro"
A shortening of the term, "Roll On/Roll Off." A method of ocean cargo service using a vessel with ramps which allows wheeled vehicles to be loaded and discharged without cranes.

SHIPS

Bulk Carriers
All vessels designed to carry bulk cargo such as grain, fertilizers, ore, and oil.

Freighters
Breakbulk vessels both refrigerated and unrefrigerated, containerships, partial containerships, roll on/roll off vessels, and barge carriers.

Liner
A vessel sailing between specified ports on a regular basis.

Roll-on/Roll-off vessels
Ships specially designed to carry wheeled containers or trailers using interior ramps.

RoPax vessels
Ships specifically designed to carry wheeled containers or trailers as well as passengers

Tankers
Ships fitted with tanks to carry liquid cargo such as: crude petroleum and petroleum products; chemicals, Liquefied gasses LNG and LPG), wine, molasses, and similar product tankers. Oil tankers vary in size from small coastal vessels of 1,500 tons deadweight, through medium-sized ship of 60,000 tons, to the giant VLCCs (very large crude carriers).

Feeder Vessel
A short-sea vessel which transfers cargo between a central "hub" port and smaller ports.

Stevedore
Individual or firm that employs longshoremen and who contracts to load or unload the ship.

Spot rate
Freight rate for a voyage or cargo based on the current market level.

Terminal
An assigned area in which containers are prepared for loading into a vessel, train, truck, or airplane or are stacked immediately after discharge from the vessel, train, truck, or airplane.

TEU
Abbreviation for "Twenty foot Equivalent Unit.", the standard measure for containers.

Tonnage
Generally refers to freight handled.

Related Research

Announcement:

Moody's Requests Comment on Standardisation of Accounting Adjustments to Financial Statements Prepared in Accordance with IFRS

Analyses:

Sovcomflot JSC, October 2005 (94601)

Ship Finance International Limited, December 2004 (90533)

Titan Petrochemicals Group Ltd, March 2005 (91750)

Wan Hai Lines Ltd (Wan Hai), June 2005 (92634)

Leveraged Credit Analysis:

Teekay Shipping Corporation, December 2004 (90678)

Rating Methodology:

Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations - Part I, July 2005 (91878)

Industry Outlook

Japan's Shipping Companies, December 2004 (90503)

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