MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY

Public Port Revenue Bonds

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Summary

This rating methodology explains Moody's approach to assessing credit risk for global public ports and is intended to provide general guidance that helps ports, investors, and other interested market participants understand how qualitative and quantitative risk characteristics are likely to affect rating outcomes for public ports. This document does not include an exhaustive treatment of all factors that are reflected in Moody's ratings but should enable the reader to understand the qualitative considerations and financial information and ratios that are usually most important for ratings in this sector.

This rating methodology replaces[1] the Rating Methodology for US Ports published in February 2005. While reflecting many of the same core principles as the 2005 methodology, this updated document provides a more transparent presentation of the rating considerations that are usually most important for issuers in this sector and incorporates refinements in our analysis that better reflect credit fundamentals of the industry. No rating changes will result from the publication of this methodology.

[1] This update may not be effective in some jurisdictions until certain requirements are met.

This report includes a detailed rating grid and illustrative examples that compare the mapping of rated issuers against the factors in the grid. The grids a reference tool that can be used to approximate credit profiles within the public ports sector in most cases. The grid provides summarized guidance for the factors that are generally most important in assigning ratings to public ports. However, the grid is a summary that does not include every rating consideration. The weights shown for each factor in the grid represent an approximation of their importance for rating decisions but actual importance may vary substantially. In addition, the illustrative mapping examples in this document use historical results while ratings are based on our forward-looking expectations. As a result, the grid-indicated rating is not expected to match the actual rating of each port.

The grid contains four key factors that are important in our assessment for ratings in the ports sector:

1. Market Position
2. Diversity and Volatility
3. Capital Program
4. Key Credit Metrics

Some of these factors also encompass a number of sub-factors. Since an issuer's scoring on a particular grid factor or sub-factor often will not match its overall rating, in Appendix B we include a discussion of some of the grid "outliers" – ports whose grid-indicated rating for a specific sub-factor differs significantly from the actual rating – in order to provide additional insights.

This rating methodology is not intended to be an exhaustive discussion of all factors that our analysts consider in assigning ratings in this sector. We note that our analysis for ratings in this sector covers factors that are common across all industries such as ownership, management, liquidity, corporate legal structure, governance and country related risks which are not explained in detail in this document as well as factors that can be meaningful on a port-specific basis. Our ratings consider these and other qualitative considerations that do not lend themselves to a transparent presentation in a grid format. The grid used for this methodology reflects a decision to favor a relatively simple and transparent presentation rather than a more complex grid that would map grid-indicated ratings more closely to actual ratings.

Highlights of this report include:

» An overview of the rated universe

» A summary of the rating methodology

» A description of factors that drive rating quality

» Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the grid

The Appendices show the full grid in Appendix A, and a table that illustrates the application of the grid to the covered issuers in Appendix B.

This methodology describes the analytical framework used in determining credit ratings. In some instances our analysis is also guided by additional publications which describe our approach for analytical considerations that are not specific to any single sector. Examples of such considerations include but are not limited to: the assignment of short-term ratings, the relative ranking of different classes of debt and hybrid securities, how sovereign credit quality affects non-sovereign issuers, and the

assessment of credit support from other entities. Documents that describe our approach to such cross-sector methodological considerations can be found here.

About the Rated Universe

This methodology is intended to be applied to ports which are owned and/or operated by a government, municipal or other public entity, and which have issued or are intending to issue revenue debt through the government or public entity. Issuers covered under this global methodology include a wide variety of port issuers owned and financed by different levels of governments and governmental entities. Moody's rates 27 ports covered by this methodology with aggregate rated debt of approximately $15 billion. Currently, all ports covered by this methodology are US-based, but this methodology is intended to be applied not only to US, but also to public ports world-wide.

This methodology does not apply to ports owned by corporate entities or public ports supported by general tax revenues. Corporate entities that own or operate ports or port assets are rated under the Privately Managed Port Companies methodology published in May 2013. That methodology also includes port owning and/or operating companies that are government owned or have protected status, are regulated, or receive either explicit (e.g. financial) or implicit (e.g. construction of related infrastructure) government support, but the debt has been issued by a private or corporate entity seeking a profit. Many of the industry revenue drivers for that methodology are similar to the Public Ports Revenue methodology and in those aspects the methodologies have similar rating factors and weightings. However, there are also several key differences in this methodology, reflecting the purpose of Public Ports (which are not profit-maximizing entities), as well as differences in their operational landscape and typical bond structure.

US public port debt that is directly supported with tax revenues to pay principal and interest is rated under our General Obligation Bonds Issued by US Local Governments methodology published in April 2013.

Public port revenue ratings (senior lien) range from Aa2 to B2. The wide range of ratings is indicative of the range of size, structure, and competitive positions of these ports. However, 77% of this group ranges from A1 to Baa1 indicating the commonalities and the generally strong credit characteristics shared by many ports in this sector.

EXHIBIT 1

Public Ports Revenue Bonds

Name	Senior Lien Rating	Outlook
Broward County Seaport, FL	A2	Stable
Galveston Wharves Board of Trustees, TX	Baa1	Negative
Jacksonville Port Authority, FL	A2	Stable
Lake Charles Harbor & Terminal Dist., LA	A3	Stable
Los Angeles Harbor Department, CA	Aa2	Stable
Miami-Dade Port Facility, FL	A3	Stable
North Carolina State Ports Authority, NC	A3	Stable
Palm Beach Port District, FL	Ba1	Stable
Port of Anacortes, WA	Baa1	No Outlook
Port of Beaumont, WA	A2	Stable
Port of Bellingham, WA	A2	No Outlook
Port of Canaveral, FL	A3	Positive
Port of Everett, WA	A1	No Outlook
Port of Grays Harbor, WA	A3	No Outlook
Port of Hawaii, HI	A2	Stable
Port of Long Beach, CA	Aa2	Stable
Port of Longview, WA	Baa1	No Outlook
Port of New Orleans, LA	Baa1	Positive
Port of Port Townsend, WA	Baa1	No Outlook
Port of Tacoma, WA	Aa3	Stable
Sacramento-Yolo Port District, CA	B2	Negative
San Diego Unified Port District, CA	A2	No Outlook
San Francisco Port Commission, CA	A1	No Outlook
South Carolina Port, SC	A1	Stable
Stockton Port District, CA	Baa1	Stable
Tampa Port Authority, FL	A2	Stable
Virginia Port Authority, VA	Aa3	Stable

About this Rating Methodology

This report explains the rating methodology for public ports in seven sections, which are summarized below.

1. Identification and Discussion of the Grid Factors

The grid in this rating methodology focuses on four rating factors. The four factors are comprised of sub-factors that provide further detail.

EXHIBIT 2

Rating Factors, Subfactors, and Weighting

Factors		Subfactors	Weight
1. Market Position	40%	a) Operating Revenue	25%
		b) Competition and Service Area	7.5%
		c) Operational restrictions	7.5%
2. Diversity and Volatility	15%	a) Operating Revenue & Volatility (5 year CAGR)	10%
		b) Customer Diversity	5%
3. Capital Program	5%	a) Capital Needs Requiring Leverage	5%
4. Key Credit Metrics	40%	a) Net Revenues DSCR (3 year avg)[2]	20%
		b) Debt to Operating Revenue (3 year avg)	20%
Total	100%	Total	100%

2. Measurement or Estimation of the Key Grid Factors

We explain our general approach for scoring each grid factor and show the weights used in the grid. We also provide a rationale for why each of these grid components is meaningful as a credit indicator. The information used in assessing the sub-factors is generally found in or calculated from information in financial statements of the issuer, derived from other observations or estimated by Moody's analysts.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of a company's performance as well as for peer comparisons. We utilize historical data (in most cases, the last three years of reported results) in this document to illustrate the application of the rating grid. All of the quantitative credit metrics incorporate Moody's standard adjustments to the income statement, cash flow statement and balance sheet amounts for restructuring, impairment, off-balance sheet accounts, receivable securitization programs, under-funded pension obligations, and recurring operating leases.

For definitions of Moody's most common ratio terms please see Moody's Basic Definitions for Credit Statistics, User's Guide (June 2011, document #78480). For a description of Moody's standard adjustments, please see Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations (December 2010, document #128137). These documents can be found at www.moodys.com under the Research and Ratings directory.

In most cases, the illustrative examples in this document use average historic financial data from a recent three year period. However, the factors in the grid can be assessed using various time periods. For example, rating committees may find it analytically useful to examine twelve month periods, or both historic and expected future performance for several years or more.

3. Mapping Grid Factors to the Rating Categories

After estimating or calculating each sub-factor, the outcomes for each are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa, or Ca).

[2] Net Revenues Debt Service Coverage Ratio (DSCR) is defined as Gross Revenues and Income less operating and maintenance expenses net of depreciation divided by principal and interest requirements for an entity's senior and subordinate debt for the fiscal year. This ratio measures the margin the port has to meet principal and interest requirements according to GAAP-based accounting.

4. Mapping Issuers to the Grid and Discussion of Grid Outliers

In Appendix B, we provide a table showing how each public port maps to grid-indicated ratings for each rating sub-factor and factor. We highlight issuers whose grid-indicated performance on a specific sub-factor is two or more broad rating categories higher or lower than its actual rating and discuss the general reasons for such positive and negative outliers for a particular sub-factor.

5. Assumptions and Limitations and Rating Considerations Not Included in the Grid

This section discusses limitations in the use of the grid to map against actual ratings, some of the additional factors that are not included in the grid but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

6. Determining the Overall Grid-Indicated Rating

To determine the overall grid-indicated rating, we convert each of the sub-factor ratings into a numeric value based upon the scale below.

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

The numerical score for each sub-factor is multiplied by the weight for that sub-factor with the results then summed to produce a composite weighted-factor score. The composite weighted factor score is then mapped back to an alphanumeric rating based on the ranges in the table below.

Grid-Indicated Rating	Aggregate Weighted Total Factor Score
Aaa	$x < 1.5$
Aa1	$1.5 \le x < 2.5$
Aa2	$2.5 \le x < 3.5$
Aa3	$3.5 \le x < 4.5$
A1	$4.5 \le x < 5.5$
A2	$5.5 \le x < 6.5$
A3	$6.5 \le x < 7.5$
Baa1	$7.5 \le x < 8.5$
Baa2	$8.5 \le x < 9.5$
Baa3	$9.5 \le x < 10.5$
Ba1	$10.5 \le x < 11.5$
Ba2	$11.5 \le x < 12.5$
Ba3	$12.5 \le x < 13.5$
B1	$13.5 \le x < 14.5$
B2	$14.5 \le x < 15.5$
B3	$15.5 \le x < 16.5$
Caa1	$16.5 \le x < 17.5$
Caa2	$17.5 \le x < 18.5$
Caa3	$18.5 \le x < 19.5$
Ca	$x \ge 19.5$

7. Appendices

The Appendices provide illustrative examples of grid-indicated ratings based on historical financial information and also provide additional commentary and insights on our view of credit risks in this industry.

Discussion of the Key Grid Factors

Moody's analysis of public ports focuses on four broad factors:

» Market Position

» Diversity and Volatility

» Capital Program

» Key Credit Metrics

» Notching Considerations

Factor 1: Market Position

Market Position - Why it Matters

Market position is important as it describes a port's competitive strength in attracting and maintaining demand and thus creating and maintaining revenues. This factor also describes the size of the facility, the attributes of its market area, and any operational restrictions that may limit its ability to attract demand.

Market Position - How We Assess It For The Grid

We use three sub-factors to assess a port's market position: size, competition and service area, and operational strengths and/or restrictions. Size is assessed based on the amount of the port's operating revenue. Size is a key component primarily as an indicator of strength of market position and the benefits of economies of scale. Those ports that have grown larger than most have done so due to their geographic location and market position as trade has evolved, in addition to their operational capacity. These ports have benefitted from their deep harbors, proximity to major shipping lanes, and the presence of a large local population base.

As a complement to port size, competition and service area is a qualitative assessment of the strength of the port's role in facilitating essential trade to support the regional, local, and national economies. This is primarily influenced by the size and economic strength of the port's service area, the port's intermodal connections to rail and highway assets for regional and or national distribution, and the competitive landscape for providing port services in the area.

Operational restrictions indicate limitations to the services provided by the port and the ability of the port to achieve future revenue growth. For example, a small port may be unable to handle the largest container ships because it does not possesses the appropriate cranes, and because its channel is not deep enough to accommodate them.

1. Market Position

	Aaa	Aa	A	Baa	Ba	B	Caa
a) Port size (Operating Revenues)	Greater than $300 million	$200 million or greater but less than $300 million	$75 million or greater but less than $200 million	$50 million or greater but less than $75 million	$30 million or greater but less than $50 million	$15 million or greater but less than $30 million	less than $5 million
b) Quality of Service Area and Competition	Port has an effective monopoly on port services for a large population base (>10 million) or is a key national port asset with little competition.	Port forms an essential part of the economy for a large, multi-state or province region (population >5 million). Competitive position in the region is dominant.	Port serves as a major regional port and is the largest in its state or province. Faces some competition but has a competitive advantage.	Port primarily serves a mid-sized to small city or region (population 1-3 million) with limited economic growth. Strengths equal to peers in its competitive environment and is expected to maintain its current activity levels or competitive position.	Port primarily serves a small city with limited expected economic growth. Limited connections, or lacking good proximity to major centers. Operates at a competitive disadvantage which is expected to cause throughput to stagnate or decline.	Port located away from any significant population centers. Operates at a significant competitive disadvantage to other ports, or expected to have a highly volatile demand pattern	Competitive position is not established, is speculative, or expected to show a steep decline.
c) Operational Restrictions	No physical limitations to operations	Port able to handle all cargo types, but some physical limitations may limit long-term growth	Ability to handle container throughput is small; some physical limitations are expected to limit long-term growth; port may primarily be for cruise passengers but able to handle several large vessels	Port unable to routinely handle containers; long-term growth of bulk cargo is not limited by physical restrictions; port may primarily be for cruise passengers but able to handle a single large vessel	Port can only handle bulk cargo, but handles a wide variety of cargo types; mid-term growth may be limited by channel depth, physical land area, or other; primarily cruise port that handle several small vessels	Port can only handle certain types of bulk cargo; mid-term growth severely limited by channel depth, physical land area, or other; primarily cruise port that handle vessels of very limited number and size	Port has limited ability to handle new cargo types or additional volume; Port capabilities are in decline

Factor 2: Diversity and Volatility

Diversity and Volatility – Why it Matters

A port's performance in this factor is measured primarily on the expected volatility of its revenues. We look at past volatility of revenues as an indicator of how sensitive the port's future revenues are likely to be to underlying economic conditions and other factors. Diversity of the port's customer base is important as it indicates a port's exposure to rapid changes in future revenues from the loss of one or more customers. High diversity also indicates the port's success in attracting and providing trade services to successful business enterprises.

Diversity and Volatility - How We Assess It for the Grid

We assess this factor based on both total historical five-year revenue growth and the level of diversity of major customers. The five-year compound annual growth rate (CAGR) of revenues provides a quantitative indication of revenue stability over the medium-term. Where growth is lower it is expected that the port's fundamental ability to sustain revenue growth is a factor and signals a relative weakness for future cash flow. Ports are able to stabilize revenues through long-term leases, minimum

guarantees, and other income that is not dependent on throughput levels. Ports also have, to varying degrees, the ability to adjust rates to manage revenues when throughput is volatile. The degree to which ports are able to stabilize revenues by these methods indicates the reliability of revenues to support debt service and ultimate bond repayment.

Customer diversity also provides a quantitative measure for revenue volatility risk by looking at the percentage of revenue concentrated in the port's largest customers. Ports with lower customer diversity are more exposed to the business risk of those particular companies and would be less likely to find replacement revenues in the event of business failure or the loss of one of its customers.

2. Diversity and Volatility

	Aaa	Aa	A	Baa	Ba	B	Caa
a) Financial Revenue Variation (5-year operating revenue CAGR)	5% or greater	3% or greater but less than 5%	1% or greater but less than 3%	0% or greater but less than 1%	-1% or better but less than 0%	-3% or better but not more than -1%	less than -3%
b) Customer Diversity	Operating revenue from diverse array of customers; top 10 account for no more than 25% and no one customer accounts for more than 5%	Operating revenue from diverse array of customers; top 10 account for no more than 30% and no one customer accounts for more than 10%	Operating revenue from diverse array of customers; top 10 do not account for more than 50%; no single customer accounts for more than 20%	Operating revenue has some concentration in customers or industries; top 10 account for more than 50% but not more than 70%	More pronounced concentration in customers or industries; top five customers may account for more than 50% of revenue	Very high concentration in customers or industries; top 3 customers may account for more than 50% of revenues	Extreme sector concentration or dependence on a few customers; top 3 customers may account for more than 75% of operating revenues; or one commercial customer may account for 50% or more of operating revenues

Factor 3: Capital Program

Capital Program - Why It Matters

This factor assesses a port's ability to fund future capital needs relative to its current revenue and debt position. The size of the capital program is an important gauge of the extent to which financial metrics may change based on the port's need to raise additional debt to maintain the assets in good working order and to fund capital projects that enhance capacity and revenue generation.

Capital Program – How We Assess It For The Grid

Moody's considers the size and scope of a port's annual and multi-year capital improvement program(CIP) needs relative to asset condition, financing plans and the impact these will have on future debt levels. We also assess the strategic and economic rationale for the capital expenditures and whether the projects will address deferred asset maintenance and maintain asset condition, alleviate congestion, or expand capacity. We also evaluate the implications that the capital program will have on future traffic demand and revenue generation.

Ports with low capital needs, whose assets are maintained in very good condition, will have higher credit scores for this factor. If, on the other hand, future capital needs are close to or in excess of outstanding debt, then the score will be at the lower end of the rating scale, unless the new facilities are reasonably expected to generate excess cash flow or contribute significant new revenue.

Increased leverage may not always have a negative effect on credit quality. Debt-financed projects that improve a port's capacity, or enhance access to the facility, are likely to result in an improved market position. They are also less likely to have a negative credit impact provided the port is able to comfortably manage the increased debt service costs. However, rating pressure can arise if the cushion provided by financial resources relative to the amount of debt outstanding is no longer consistent with the risk profile at a particular rating level. Moody's notes that long-term financial flexibility will be reduced with increased fixed debt service costs.

Ports that are capacity constrained and need large capital investments to grow also will have a weaker credit profile, particularly if the capital investments are debt- financed, or if liquidity is depleted to finance such projects.

3. Capital Program

	Aaa	Aa	A	Baa	Ba	B	Caa
a) Capital Needs Requiring Leverage	Little to no capital needs are required in the medium term; while no additional debt planned, growth is unconstrained.	Medium term capital needs are easily handled through annual cash flow; some limited additional debt is or may be required	Medium term capital needs will require additional debt of less than 20% of current debt	Medium term capital needs will require additional debt of 20% to 33% of current debt	Medium term capital needs will require additional debt of 34% to 50% of current debt	Medium term capital needs will require additional debt of 51% to 100% of current debt	Medium term capital needs will require additional debt more than current debt outstanding

Factor 4: Key Credit Metrics

Key Credit Metrics-Why It Matters

A port's financial metrics are key indicators of credit quality that reflect its ability to generate cash flow, maintain its assets and meet debt obligations over the short and long term.

The net revenues debt service coverage ratio (DSCR) measures a port's annual net margin before depreciation expense in relation to its annual debt service expense. A port that maintains a comfortable excess margin above required debt service is better equipped to withstand cyclical traffic declines or short term cash flow disruptions. The Moody's net revenue DSCR provides a standardized ratio permitting peer comparison across ports. While not part of the grid, we also examine each port's covenanted debt service ratio (which may be calculated in a different manner from issuer to issuer) in relation to the minimum required level.

Debt to operating revenues is a leverage ratio that indicates the degree to which a port has borrowed against future revenues. A lower level of debt to operating revenue is indicative of a stronger balance sheet that can enhance credit quality. High leverage constrains a port's ability to fund investments or projects that would allow it to maintain and improve its competitive position through reinvestment and asset maintenance, improving its capacity to generate greater cash flow and meet debt service obligations.

Key Credit Metrics- How We Assess It For The Grid

The net revenue DSCR is defined as Gross Revenues and Income less operating and maintenance expenses net of depreciation, divided by annual principal and interest requirements for an entity's senior and subordinate debt for the same fiscal year. This ratio measures the margin the port has to meet principal and interest requirements according to GAAP-based accounting. Most public ports have amortizing debt that includes annual payment of both interest and principal. Due to

predominantly amortizing debt structures, Moody's does not apply standard adjustments to accreting debt or debt that is deferred or back-loaded. However, we may adjust debt service requirements to approximate the amount that would be required under a typical amortizing structure.

The debt to operating revenues ratio is calculated by dividing total outstanding debt by total annual operating revenues.

4. Financial Metrics

	Aaa	Aa	A	Baa	Ba	B	Caa
a) Net Revenues DSCR (3 year average)	5.0x or greater	2.00 x or greater but less than 5.0x	1.30x or greater but less than 2.00x	1.10x or greater but less than 1.30x	1.0 x or greater but less than 1.10x	Below 1.0 x but greater than 0.85x	Below 0.85
b) Debt to Operating Revenue (3 year average)	Below 1.0x	1.0x or greater but less than 2.0x	2.0x or greater but less than 3.5x	3.5x or greater but less than 5.0x	5.0x or greater but less than 7.0x	7.0x or greater but less than 10.0x	10.0 x or greater

Notching Considerations

While the factors and sub-factors within the grid are designed to incorporate the key ratings drivers reflecting the fundamental business risk of ports, the grid alone cannot capture some of the wide ranging variances incorporated into bond structures.

The notching factors are designed to adjust, either upwards or downwards, a port's rating as indicated by the four grid factors based upon two of the more typical structural considerations. For public ports these include support from tax revenues that offset operating and maintenance expenses and an assessment of financial liquidity relative to debt outstanding.

Tax Support

Public ports enjoy support from their local area governments because of the important role they play in the local economy. While this support can take many forms, in some cases the port benefits from the ability to levy a tax on the property located within its boundaries. Ports that levy this tax to pay debt service are rated under Moody's General Obligation Bonds Issued by U.S. Local Governments methodology published in April 2013. Ports that have the ability to levy a tax to significantly offset only operating and maintenance expenses are rated under this methodology. For those ports that levy and collect these revenues, the scoring grid outcome is increased by one notch to account for this additional revenue. The scoring grid outcome is increased by one half notch for those ports that have the ability to levy these taxes but do not currently collect it.

Liquidity

Financial liquidity for public ports, as for most enterprises, is an important credit consideration. High liquidity provides the issuer flexibility in managing its operating expenses and paying debt service requirements if required. It also provides flexibility in accessing the capital markets or in how it manages its capital plan to attract and retain customers. Low liquidity limits these abilities and how the issuer is able to manage unexpected changes in operating finances.

We use cash to debt as a measure of how much liquidity the port maintains relative to its overall debt requirements. Given the wide variance in operating profiles and asset accounting, we believe this is the best liquidity metric when comparing the liquidity position of one port to another. We will increase the scorecard grid outcome by one notch up if the issuer has cash to debt above 100% and by one half notch if it is below 100% but above 70%. We will decrease the scorecard grid by one full notch or

sometimes more if cash to debt is below 10%. We will also look at the time series changes of a port's days cash on hand to evaluate how its liquidity compares to its own operating expenses over time.

Assumptions and Limitations, and Rating Considerations That Are Not Covered in the Grid

The rating methodology grid represents a decision to favor simplicity that enhances transparency and to avoid greater complexity that would enable the grid to map more closely to actual ratings. Accordingly, the four rating factors in the grid do not constitute an exhaustive treatment of all the considerations that are important for ratings of entities in the public ports sector. In addition, our ratings incorporate expectations for future performance, while the financial information that is used to illustrate the mapping in the grid is mainly historical. In some cases, our expectations for future performance may be informed by confidential information that we cannot publish or otherwise disclose. In other cases, we estimate future results based upon past performance, industry trends or other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

Assumptions that may cause our forward-looking expectations to be incorrect include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, sector trends, new technology, regulatory and legal actions, as well as management's appetite for additional debt to finance capital expenditures, or unexpected external transfers to affiliated governments or enterprises.

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt, sufficiently to generally warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

In choosing metrics for this rating methodology grid, we did not explicitly include certain important factors that are common to all companies in any industry such as the quality and experience of management, assessments of corporate governance and the quality of financial reporting and information disclosure. Therefore ranking these factors by rating category in a grid would in some cases suggest too much precision in the relative ranking of particular issuers against all other issuers that are rated in various industry sectors.

Ratings may include additional factors that are difficult to quantify or that have a meaningful effect in differentiating credit quality only in some cases, but not all. Such factors include financial controls, exposure to uncertain licensing regimes and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings. While these are important considerations, it is not possible to precisely express these in the rating methodology grid without making the grid excessively complex and significantly less transparent. Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the grid.

This variation in weighting rating considerations can also apply to factors that we choose not to represent in the grid. For example, liquidity is a consideration frequently critical to ratings and which may not, in other circumstances, have a substantial impact in discriminating between two issuers with a similar credit profile. As an example of the limitations, ratings can be heavily affected by extremely weak liquidity that magnifies default risk. However, two identical ports might be rated the same if their only differentiating feature is that one has a good liquidity position while the other has an extremely good liquidity position.

Other Rating Considerations

Moody's considers other factors in addition to those discussed in this report, but in most cases understanding the framework presented herein will enable a good approximation of our view on the credit quality of issuers in the ports sector. Moody's considers additional factors, including future operating and financial performance that may deviate from historic performance, the quality of management, governance, financial controls, event risk and seasonality. The analysis of these factors remains an integral part of our rating process.

Management Quality

The quality of management is an important factor supporting the credit strength of a port enterprise. Moody's normally meets with senior executives to assess management's business strategies, policies, and philosophies, and evaluates management performance relative to performance of competitors and our projections as well as changes in technology and patterns of usage.

An established managerial record provides Moody's with insight into management's likely future performance in stressed situations. This can be an indicator of management's tendency to stray significantly from what may be an effective business philosophy, or conversely, to adopt changes where they are warranted by new sets of circumstances.

Debt Structure

The structure of a port's debt is also an important consideration. This includes lien structuring, the use of variable rate debt and interest rate swaps, the availability and funding level of a debt service reserve fund (DSRF), whether the flow of funds is open and allows external transfers, as well as other financial or debt covenants that may strengthen or weaken credit quality. The structuring of debt service requirements, such as front-loaded or back-loaded debt and accelerated amortization could also impact the strength of the port's credit.

Moody's assesses the exposure to variable rate demand debt and interest rate swaps, particularly for lower-rated ports, with a focus on exposure relative to available internal and external liquidity, immediate termination events, cross-default provisions, and situations in which a port would be required to post collateral. We assess each port's exposure to variable rate debt, interest rate swaps, or debt structure on a case-by-case basis.

Financial Controls

Moody's relies on the accuracy of audited financial statements to assign and monitor ratings. Such accuracy is only possible when companies have sufficient internal controls, including centralized operations, and consistency in accounting policies and procedures.

Weaknesses in the overall financial reporting processes, financial statement restatements or delays in producing audited financial statements can be indications of a potential breakdown in internal controls.

Liquidity Management

As noted above in the discussion of the assumptions and limitations, liquidity is a critical rating factor for all ports. Liquidity can be particularly important for lower rated issuers as these typically have more ramp-up risk and less operating and financial flexibility. Moody's forms an opinion on likely near-term liquidity requirements from both a cash source and cash use aspect. We may also monitor legal covenants and compliance cushion to assess whether the port is likely to require covenant relief in the event of even a modest usage downturn or an issuer-specific decline in performance.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness. Typical special events include weather events, geo-political events, and change in governing legislation law.

Conclusion: Summary of the Grid-Indicated Rating Outcomes

The grid-indicated ratings included in this publication are based on historical financial data to illustrate application of the grid. The grid-indicated ratings for the 27 ports map to current assigned ratings as follows (see Appendix B for details):

» 9 ports map to their actual rating;

» 11 ports have a grid-indicated rating that is one alpha-numeric notch from their actual rating;

» 7 ports have a grid-indicated rating that is two alpha-numeric notches from their actual rating.

There are no outliers that are more than two alpha-numeric notches from their actual rating.

Appendix A: Public Ports Factor Grid

Port Methodology Scorecard Definitions

	Aaa	Aa	A	Baa	Ba	B	Caa
1. Market Position							
a) Port size (Operating Revenues)	Greater than $300 million	$200 million or greater but less than $300 million	$75 million or greater but less than $200 million	$50 million or greater but less than $75 million	$30 million or greater but less than $50 million	$15 million or greater but less than $30 million	less than $5 million
b) Quality of Service Area and Competition	Port has an effective monopoly on port services for a large population base (>10 million) or is a key national port asset with little competition.	Port forms an essential part of the economy for a large, multi-state or province region (population >5 million). Competitive position in the region is dominant.	Port serves as a major regional port and is the largest in its state or province. Faces some competition but has a competitive advantage.	Port primarily serves a mid-sized to small city or region (population 1-3 million) with limited economic growth. Strengths equal to peers in its competitive environment and is expected to maintain its current activity levels or competitive position.	Port primarily serves a small city with limited expected economic growth. Limited connections, or lacking good proximity to major centers. Operates at a competitive disadvantage which is expected to cause throughput to stagnate or decline.	Port located away from any significant population centers. Operates at a significant competitive disadvantage to other ports, or expected to have a highly volatile demand pattern	Competitive position is not established, is speculative, or expected to show a steep decline.
c) Operational Restrictions	No physical limitations to operations	Port able to handle all cargo types, but some physical limitations may limit long-term growth	Ability to handle container throughput is small; some physical limitations are expected to limit long-term growth; port may primarily be for cruise passengers but able to handle several large vessels	Port unable to routinely handle containers; long-term growth of bulk cargo is not limited by physical restrictions; port may primarily be for cruise passengers but able to handle a single large vessel	Port can only handle bulk cargo, but handles a wide variety of cargo types; mid-term growth may be limited by channel depth, physical land area, or other; primarily cruise port that handle several small vessels	Port can only handle certain types of bulk cargo; mid-term growth severely limited by channel depth, physical land area, or other; primarily cruise port that handle vessels of very limited number and size	Port has limited ability to handle new cargo types or additional volume; Port capabilities are in decline
2. Diversity and Volatility							
a) Financial Revenue Variation (5-year operating revenue CAGR)	5% or greater	3% or greater but less than 5%	1% or greater but less than 3%	0% or greater but less than 1%	-1% or better but less than 0%	-3% or better but not more than -1%	less than -3%
b) Customer Diversity	Operating revenue from diverse array of customers; top 10 account for no more than 25% and no one customer accounts for more than 5%	Operating revenue from diverse array of customers; top 10 account for no more than 30% and no one customer accounts for more than 10%	Operating revenue from diverse array of customers; top 10 do not account for more than 50%; no single customer accounts for more than 20%	Operating revenue has some concentration in customers or industries; top 10 account for more than 50% but not more than 70%	More pronounced concentration in customers or industries; top five customers may account for more than 50% of revenue	Very high concentration in customers or industries; top 3 customers may account for more than 50% of revenues	Extreme sector concentration or dependence on a few customers; top 3 customers may account for more than 75% of operating revenues; or one commercial customer may account for 50% or more of operating revenues

Port Methodology Scorecard Definitions

	Aaa	Aa	A	Baa	Ba	B	Caa
3. Capital Program							
a) Capital Needs Requiring Leverage	Little to no capital needs are required in the medium term; while no additional debt planned, growth is unconstrained.	Medium term capital needs are easily handled through annual cash flow; some limited additional debt is or may be required	Medium term capital needs will require additional debt of less than 20% of current debt	Medium term capital needs will require additional debt of 20% to 33% of current debt	Medium term capital needs will require additional debt of 34% to 50% of current debt	Medium term capital needs will require additional debt of 51% to 100% of current debt	Medium term capital needs will require additional debt more than current debt outstanding
4. Financial Metrics							
a) Net Revenues DSCR (3 year avg)	5.0x or greater	2.00 x or greater but less than 5.0x	1.30x or greater but less than 2.00x	1.10x or greater but less than 1.30x	1.0 x or greater but less than 1.10x	Below 1.0 x but greater than 0.85x	Below 0.85
b) Debt to Operating Revenue (3 year avg)	Below 1.0x	1.0x or greater but less than 2.0x	2.0x or greater but less than 3.5x	3.5x or greater but less than 5.0x	5.0x or greater but less than 7.0x	7.0x or greater but less than 10.0x	10.0 x or greater
TOTAL WEIGHT							
Notching Factors							
	+1.0	+0.5	0	-0.5	-1.0 (or more)		
1. Tax Support for Operations	Current tax revenues support O&M and/or debt service	Ability to levy O&M tax, but not implemented	No impact	N/A	N/A		
2. Liquidity	Cash to debt is 100% or greater	Cash to debt is at least 70% but less than 100%	Cash to debt is at least 30% but less than 70%	Cash to debt is at least 10% but less than 30%	Cash to debt is less than 10%		

Appendix B: Outcomes and Outliers

In the table below positive or negative "outliers" for a given sub-factor are defined as issuers whose grid sub-factor score is at least two broad rating categories higher or lower than a company's rating (e.g. a B-rated company whose rating on a specific sub-factor is in the Baa-rating category is flagged as a positive outlier for that sub-factor). Green is used to denote a positive outlier, whose grid-indicated performance for a sub-factor is two or more broad rating categories higher than Moody's rating. Red is used to denote a negative outlier, whose grid-indicated performance for a sub-factor is two or more broad rating categories lower than Moody's rating.

Name	Rating	Outlook	Grid Indicated Rating	Port Size	Service Area and Competition	Operational Restrictions	Revenue Variation	Customer Diversity	Capital Program	Debt Service Coverage	Debt to Operating Revenue	Tax Support	Liquidity
Los Angeles Harbor Department, CA	Aa2	Stable	Aa3	Aaa	Aa	Aa	A	Ba	A	Aa	A	0	0
Port of Long Beach, CA	Aa2	Stable	Aa2	Aaa	Aa	Aa	Ba	A	Aa	Aa	A	0	1
Virginia Port Authority, VA	Aa3	Stable	Aa3	Aa	A	Aa	Aa	Baa	Aa	A	Aa	1	-0.5
Broward County Seaport, FL	A2	Stable	A1	A	A	A	Aa	Aa	A	A	A	0	0.5
Miami-Dade Port Facility, FL	A3	Stable	Baa2	A	Aa	Aa	Aa	A	B	Baa	Ba	0	-1
Port of Hawaii, HI	A2	Stable	A2	A	Aaa	Aa	Ba	A	Aa	A	Baa	0	0
Port of Tacoma, WA	Aa3	Stable	A2	A	A	Aaa	Aa	A	Aa	Aa	Ba	0.5	-0.5
San Diego Unified Port District, CA	A2	No Outlook	Aa3	A	Baa	Baa	A	Baa	Aa	Aa	Aaa	0	1
South Carolina State Ports Auth., SC	A1	Stable	A1	A	A	Aa	Caa	Baa	A	Aaa	Aa	0	1
Jacksonville Port Auth., FL	A2	Stable	Baa1	Baa	Aa	A	Baa	A	Aa	Baa	Baa	1	-1
Port of Canaveral, FL	A3	Positive	A2	Baa	A	A	A	Baa	Aa	Aa	Aa	0.5	-0.5
San Francisco Port Commission, CA	A1	No Outlook	Aa3	Baa	Baa	Baa	Aa	Aa	A	Aa	Aaa	0	1
North Carolina State Ports Authority, NC	A3	Stable	Baa2	Ba	A	A	B	Baa	Aa	A	A	0	-0.5
Port of New Orleans, LA	Baa1	Positive	A3	Ba	A	A	Aa	Aa	Aa	A	A	0	0
Stockton Port District, CA	Baa1	Stable	A3	Ba	Ba	Baa	A	A	Aa	Aa	Aa	0	-0.5
Tampa Port Authority, FL	A2	Stable	A2	Ba	A	A	A	Baa	A	Aa	A	1	0
Galveston Wharves Board of Trustees, TX	Baa1	Negative	Baa1	B	Baa	Baa	A	Baa	A	Aa	A	0	0
Port of Beaumont, TX	A2	Stable	A3	B	Baa	Baa	A	A	Aa	Aa	A	1	0
Port of Bellingham, WA	A2	No Outlook	A2	B	Baa	Baa	Aaa	Aa	Aa	Aa	A	1	0
Port of Everett, WA	A1	No Outlook	A2	B	A	Baa	A	A	Aa	Aaa	Aa	1	0
Port of Grays Harbor, WA	A3	No Outlook	A3	B	Ba	Baa	A	Aa	Aa	Aaa	Aaa	0.5	-0.5
Port of Longview, WA	Baa1	No Outlook	Baa1	B	Ba	Baa	Aa	Baa	Aa	A	Aa	1	-0.5
Palm Beach Port District, FL	Ba1	Stable	Ba3	Caa	Baa	A	Ba	B	B	Ba	Baa	0.5	-0.5
Port of Anacortes, WA	Baa1	No Outlook	A3	Caa	Ba	Baa	Aa	Aa	Aa	Aa	Aa	0.5	0
Port of Port Townsend, WA	Baa1	No Outlook	Baa3	Caa	Ba	Baa	B	Aa	Aa	Aa	A	0.5	-0.5
Sacramento-Yolo Port District, CA	B2	Negative	B1	Caa	Ba	Ba	Caa	A	Aa	Caa	A	0	-0.5
Lake Charles Harbor & Terminal Dist., LA	A3	Stable	A3	Ba	A	A	Baa	Baa	Baa	Aa	A	1	0

Outlier Discussion

The small Washington state ports of Port of Everett, Port of Longview, and Port of Bellingham are outliers for size because their rating is enhanced by significant non-operating revenues that increase total income and reduce relative leverage needs.

The ports of Hawaii, Sacramento-Yolo Port District, and South Carolina Port Authority are outliers for revenue variation because their near-term recovery has not been strong enough to fully regain the sharp declines experienced in the economic downturn, but the revenue trend has been improving.

Los Angeles Harbor Department and Virginia Port Authority are negative outliers for customer diversity because their customer concentration, while high, is not critical enough to overcome the market position and financial strengths of those ports. Conversely, Port of Anacortes and Port Townsend are positive outliers because their strong customer diversity is not important enough to overcome the very small size of these ports.

The Port of Miami and Los Angeles are outliers for capital program because both have significant capital needs that may impact their risk level in the future depending on financing structures, but will likely allow them to improve or maintain their market position.

The ports of Anacortes and Greys Harbor, which are small and have limited service areas, are outliers for debt service coverage as these entities have low debt service requirements due to limited capital investment needs based on the types of services they provide and also from tax support that helps offset debt requirements.

The San Diego Port District and the San Francisco Port Commission are both outliers for debt to operating revenue as both of these entities receive most of their revenues from real estate leases rather than maritime operations. As a result overall debt requirements are lower relative to revenues, but their ratings reflect other issuer-specific risks related to non-seaport activities.

Moody's Related Research

The credit ratings assigned in this sector are primarily determined by this credit rating methodology. Certain broad methodological considerations (described in one or more secondary or cross-sector credit rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments in this sector. Potentially related secondary and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings assigned using this credit rating methodology, see link.

Rating Methodologies:

» Privately Managed Port Companies, May 2013 (149365)

» Global Shipping Industry, December 2009 (121410)

» General Obligation Bonds Issued by US Local Governments, April 2013 (151690)

Outlook:

» Global Shipping Industry Sector Outlook, June 2013 (154515)

Special Comments:

» Infrastructure Companies Well Insulated from Fiscal Cliff Risks, December 2012 (148299)

» US Public Infrastructure: Slow Economic Recovery Tests Willingness to Manage Rates and Costs, October 2012 (146421)

» Rating Factor Trends for U.S. Ports, May 2010 (125338)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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