Global Shipping Markets
Capital Link Greek Shipping Forum
February 8, 2017

Gautam Khurana
Director, Drewry Maritime Financial Research
khurana@drewry.co.uk
Welcome to Drewry

Drewry is a leading provider of research and consulting services to the maritime and shipping industry. The company has unrivalled experience and expertise across all market sectors from containers and ports to tankers and dry bulk.

From our origins in 1970 in London to a 21st century maritime and shipping consultancy, Drewry has established itself as one of the most widely used and respected sources of impartial market insight and industry analysis. This in-depth understanding and objectivity provides our clients with actionable advice and recommendations they need to achieve their ambitions and stay ahead of the market.

We provide our services through four business units: Drewry Maritime Advisors supports the needs of shipping and financial institutions; Drewry Supply Chain Advisors provides sea freight procurement support to retailers and manufacturers; Drewry Maritime Research publishes market-leading research on every key maritime sector; and Drewry Maritime Financial Research delivers investment research services on listed companies operating in the industry.
Our research provides robust analysis and balanced opinion for those within shipping, finance and logistics who need to make informed business decisions. The range of titles and reports we publish keeps our clients up to date on every key maritime sector, from dry bulk to chemicals and from LPG to ferries, with detailed analysis and insightful commentaries on past, present and future sector performance.

Our Maritime Advisors offer a wealth of experience across maritime sectors and lead the industry in their respective areas of specialisation. Our sector expertise covers ports, bulk shipping, liner shipping, shipyards, ferry and RoRo, and technical ship management. Our combination of deep sector understanding, technical expertise and market-leading insight increases our confidence in our actions and ability to deliver the right results for our clients.

We focus on advising users of international multi-modal transport services, taking our extensive understanding of the industry and applying it to all stages of the supply chain. Through our supply chain research catalogue and industry knowledge, we offer a range of procurement support services that empower importers and exporters. Our services provide them with the tools, resources and tailored advice they need to more effectively manage their transport service provider and international supply chains.

Combining our market-leading resources with seasoned sector expertise and commercial awareness, we are now able to offer highly differentiated and comprehensive investment research service to prospective investors in publicly listed maritime and shipping companies. Our services cover a range of report formats, supporting resources and sector-orientated webinars aimed at providing our clients with a complete picture of the organisations under our coverage.
Cyclicality in shipping sectors
Recovery in LPG, Dry Bulk to continue

Source: Drewry research
Dry bulk shipping

Container shipping

Crude tankers

Product tankers

LPG shipping

LNG shipping
Dry bulk shipping
Fragile recovery

Baltic dry Index (BDI)

- Bottomed out in February 2016 - BDI 290. Rates below opex
- Rebound as Chinese demand crept up
- Correction after a strong rally
- Rally got strong in the second half of 2017 on firm iron ore imports by China amid seasonal strength
- Market should rebound after 1Q weakness

Source: Bloomberg, Drewry research. Based on monthly average

- Strong recovery following the dip in 2016
- Recovery sputters as China cuts steel production in winter
- Demand expected to pickup after the 1st quarter
Dry bulk shipping
Benign fleet growth in 2018 and 2019

Dry bulk fleet growth

- Dry bulk fleet growth of 1% compared to 3.7% in 2017
- We forecast 23m dwt actual fleet growth in 2018 (adjusting for slippage)
- Orderbook stands at 9.9% of the current fleet

Source: Bloomberg, Drewry research
Dry bulk shipping
Drybulk shipping demand – iron ore remains the mainstay

Dry bulk tonne-mile demand by commodity

- Iron ore main tonne mile demand driver with share increasing to 49%
- Coal share declined to 24%
- Minor bulk and grain trade steady
Dry bulk shipping
China’s iron-ore imports to moderate

Chinese steel production and iron-ore imports to be lower in 2018

- 28 cities accounting for 30% of China’s steel production offline from November’17 to March’18.
- This reduction is likely to result in 3-4% iron ore import growth in 2018, down from 6% import growth in 2017.
- China iron ore imports flatten

Source: Bloomberg, Drewry research
Dry bulk shipping
Grain trade growth expected to slow in 2018

Higher grain exports to support smaller vessels

- Over the last two years, Asia and the Middle East drove strong growth in grain trade
- Grain trade growth expected to moderate in 2018

Source: Bloomberg, Drewry research
Dry bulk shipping
Minor bulk trade to remain firm in 2018/19

Growth in minor bulk trade to be steady

- Growth in Soybean, Bauxite, Nickel etc trade to support small bulk segment
- Increased long haul trades for minor bulk commodities such as US/ China, Brazil/ China, Guinea/ China

Source: Bloomberg, Drewry research
Dry bulk shipping
Spodumene trade

Australia’s spodumene exports

Share of vessel (in dwt) in port headland’s spodumene export

- Sixfold increase in Australian Spodumene exports
- Spodumene used for producing Lithium batteries
- China aims to manufacture 2 million electrical vehicles by 2020

Source: GTIS, Drewry research
Dry bulk shipping
Coal trade to moderate on lower import growth by Asian countries

Global coal imports

- Thermal coal imports trade expected to moderate
- Switch to renewables and LNG
- Increased domestic production in India

Source: Bloomberg, Drewry research
Dry bulk shipping

Industry profitability to increase

Revenue to increase but at lower pace than in 2017

Profitability to enhance further in 2018

- Industry EBITDA expected to increase from 30% in 2017 to 35% in 2018
- Smaller vessels to benefit from higher utilization

Source: Bloomberg, Drewry research
Dry bulk shipping

Container shipping

Crude tankers

Product tankers

LPG shipping

LNG shipping
Container shipping
Orderbook to fleet ratio at historical low

Supply-demand gap has narrowed

Order book-to-fleet at historical lows

- Supply to marginally exceed demand growth
- Orderbook at a record low of 13.4%
- Front-loaded delivery schedule to dampen near term rate increases

Source: Drewry research
Container shipping
Capacity growth skewed to larger vessel sizes

- 5.6% fleet growth in 2018
- Capacity skewed to >10k TEU
- Number of vessels greatest in <5k TEU

### Containership deliveries by size (‘000 teu)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5,000 teu</td>
<td>475</td>
<td>40</td>
<td>458</td>
<td>527</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-18,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;18,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Containership deliveries by no of vessels

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-14,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-18,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;18,000 teu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Drewry research, Data as of 1 Jan, 2018
Container shipping
Carriers make significant investments in newbuildings

Recent orders by vessel size (’000 teu)

Industry investment in new builds (USD million)

Source: Drewry research, Various  
* 2017 data to Nov 2017

• 3rd quarter 2017 most profitable for the liner industry in the past seven years. All major carriers barring HMM posted a profit.

• Profits ploughed back into new vessel orders

• Orders predominantly in the ultra large vessel segment

• Most recent orders are from carriers rather than independent owners
Container shipping
Load factors and port throughput should remain healthy

Port throughput growth is expected to be positive on all trade lanes

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2017e</th>
<th>2018e</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>76%</td>
<td>80%</td>
<td>84%</td>
</tr>
<tr>
<td>Europe</td>
<td>80%</td>
<td>88%</td>
<td>92%</td>
</tr>
<tr>
<td>Asia</td>
<td>84%</td>
<td>88%</td>
<td>92%</td>
</tr>
<tr>
<td>Mid-East</td>
<td>88%</td>
<td>92%</td>
<td>96%</td>
</tr>
<tr>
<td>Latin America</td>
<td>90%</td>
<td>94%</td>
<td>98%</td>
</tr>
<tr>
<td>Africa</td>
<td>92%</td>
<td>96%</td>
<td>100%</td>
</tr>
<tr>
<td>Oceania</td>
<td>96%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Load factor on East-West trade remains at comfortable level

- Port throughput grew 6% or 42m TEU in 2017
- Growth expected to moderate in 2018
- East-West head-haul ship utilization continuing upward trend

Source: Drewry research
Container shipping
Fewer idle vessels indicate buoyancy in demand

Lower than average idle fleet

- Idle fleet down from 1.4m TEU after Hanjin to 500,000 TEU today
- 54 idle ships reactivated from September to December 2017
- Reactivated ships mainly deployed on short term charter and so could find their way back to the idle vessel list if demand growth stagnates

Source: Drewry research
Container shipping
However, the risk of another price war remains…

- Revenue increases may lag bunker price increases
- World Container Index (WCI) below 5 year average despite high utilization
- More consolidation needed

Estimated industry freight rates, unit costs (USD)

WCI spot rates assessed by Drewry (USD / 40ft container)

Source: Drewry research

Source: WCI spot rates (assessed by Drewry), Drewry research
Dry bulk shipping
Container shipping
Crude tankers
Product tankers
LPG shipping
LNG shipping
Crude Tankers
Asian countries to drive global crude oil demand

Global crude oil demand (mbpd)

- Consumption expected to grow 1.3 mbpd in 2018
- Upcoming Asian refineries expected to drive tonne mile demand growth
- Contango and resumption of stocking activity can boost vessel demand

Source: Bloomberg, Drewry research
Increased ordering activity could prolong an already weak tanker market

- Elevated ordering accompanied strong market in 2015
- Reduced stocking and OPEC production cuts hurt demand
- Ordering in 2017 will prolong current slump

Source: Drewry research
Crude Tankers
Fleet expansion continues

Spate of newbuilding deliveries to outpace the demand growth

- 4.8% fleet expansion - 49 VLCCs, 50 Suezmaxes and 31 Aframaxes delivered in 2017

- 35 VLCCs, 16 Suezmaxes and 40 Aframaxes to be delivered in 2018. Tonne mile demand to grow 1.8% against 2.7% tonne mile supply growth.

- 242 vessels comprising 12.5% of the current fleet on the orderbook
Crude Tankers
Rise in demolition could accelerate recovery

Demolitions to increase in weak tanker market

- 58 crude tankers of 8.9mdwt demolished in 2017
- We project 9mdwt to be scrapped annually in 2018 and 2019
- Scrapping expected to accelerate to 12mdwt in 2020

Source: Drewry research
Dry bulk shipping
Container shipping
Crude tankers
Product tankers
LPG shipping
LNG shipping
### Product Tankers

#### Structural changes on the horizon

- Increased vehicle efficiency, adoption of electrical vehicles and the switch from diesel to natural gas for power generation to dampen growth
- 1-1.5% annual product demand growth
- Asian refineries to boost MRs
- Mid-east refineries to boost LRs

![Global oil product demand chart](chart.png)

**Planned refining capacity 2015-22 (mbpd)**

- Americas
- Middle East
- Europe
- Latin America
- Asia
- Africa

![OECD commercial stocks chart](chart2.png)

**OECD commercial stocks (million barrels)**

- Crude
- Gasoline
- Middle distillates
- Heavy fuel oil
- Total products

Source: IEA, Drewry research
Product Tankers

Electrical vehicles to rule the road

• Electric vehicles usage expected to grow exponentially over the next decade.
• Cost of EVs expected to be competitive by the mid 2020s
• Usage of the internal combustion engine under threat

Growth in electric car

Total no. of cars in 2016: ~1 billion
% of electric cars in 2016: 0.2%

Expected market share of electric vehicles: 2040s

Fall in battery cost

Source: IEA, DNVGL
Product Tankers
Tonnage overhang to continue till 2019

- 55 vessels delivered in 2017
- 81 vessels of about 5.5mdwt expected to be delivered this year
- Tonnage supply likely to keep rates suppressed
- 30% increase in Chinese product export quote positive for MR demand
- Increased Latin American and African demand

Product tanker overbook delivery schedule

Table: Product tanker fleet and orderbook (at end-4Q17)

<table>
<thead>
<tr>
<th>Size (dwt)</th>
<th>Clean Products</th>
<th>Dirty Products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fleet</td>
<td>Orderbook</td>
</tr>
<tr>
<td></td>
<td>No. mdwt</td>
<td>No. mdwt</td>
</tr>
<tr>
<td>10-25,000</td>
<td>228 3.3</td>
<td>16 0.3</td>
</tr>
<tr>
<td>25-40,000</td>
<td>150 5.1</td>
<td>6 0.2</td>
</tr>
<tr>
<td>40-55,000</td>
<td>453 21.1</td>
<td>44 2.1</td>
</tr>
<tr>
<td>55-80,000</td>
<td>326 23.9</td>
<td>29 2.1</td>
</tr>
<tr>
<td>80-120,000</td>
<td>296 32.4</td>
<td>44 5.0</td>
</tr>
<tr>
<td>120,000+</td>
<td>3 0.5</td>
<td>3 0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,533 91.7</td>
<td>147 10.6</td>
</tr>
</tbody>
</table>

Source: Drewry research, **Includes only non-IMO class coated tankers
Product Tankers
Charter rates under pressure

- Tonne mile demand growth of 2.3% vs tonne mile supply growth of 2.9%
- Utilization expected to decline

TCE rate for MR2 and LR1

Weak charter rates in 2016 due to oversupply
Steep rise due to hurricane Harvey and Gasoline import to US

Source: Baltic Index, Drewry research

Overall product tanker fleet by trading status (mdwt)

Source: Drewry research

Product Tanker Utilisation

Source: Drewry research
Dry bulk shipping
Container shipping
Crude tankers
Product tankers
LPG shipping
LNG shipping
LPG shipping
Fleet growth moderates in 2018/2019

LPG fleet growth forecast

- Delivery pace expected to decline to 5% in 2018 after peaking at 17% in 2016
LPG shipping
US exports and Asian imports are the key demand drivers

- US LPG exports increased 39% per year from 2012 to 2017
- Firm demand from India and China
- Arbitrage trades resuming

Source: Drewry research
LPG shipping
Lower tonnage growth and improving demand prospects

LPG vessel supply and demand growth

Source: Drewry research

- Vessel demand expected to increase 8.5% in 2018 against supply growth of 4.6%
- Industry profitability should gradually improve
LPG shipping
Outlook improving though varies across sub-segments

Orderbook has declined sharply since 2015

Fleet growth to moderate in 2018

- VLGC rates expected to gradually recover as supply challenges wane
- Handysize rates expected to be bogged down by supply and muted petrochemical trade growth
- Coasters expected to outperform given strong demand supply fundamentals

Source: Drewry research
LPG shipping
Profitability expected to improve

Higher rates to expand industry revenues in 2018

Profitability to improve over last year

- Industry profitability expected to improve in 2018, albeit but still lower than 2016
- Average industry EBITDA margin expected to rise from 30% in 2017 to 35% in 2018

Source: Drewry research
Dry bulk shipping
Container shipping
Crude tankers
Product tankers
LPG shipping
LNG shipping
LNG shipping
Deliveries to keep market in balance

LNG fleet deliveries and New orders

LNG fleet development

Source: Drewry research, Note – Average new orders represents average of new orders between 2010 and 2017

• Highest percentage fleet growth since 2010.
• Fleet growth expected to moderate from 2019.
LNG shipping
Brisk growth in LNG trade expected to continue

Global LNG trade (million tonnes)

- 9% growth in seaborne trade for 2018
- Total seaborne trade to reach 310 million tonnes
LNG shipping
Chinese coal to LNG switch to be a key driver

China LNG import

- Government push to switch from coal to LNG
- China expected to become leading importer in five years
**LNG shipping**

USA and Australia main drivers of export growth

Global liquefaction capacity

- 16.8m tonnes of new liquefaction capacity to be added in Australia from the Ichthys LNG project and Wheatstone LNG projects.
- 17 MT of new liquefaction capacity to be added in the US from Freeport LNG, Cove Point LNG and Cameron LNG.

Source: Drewry research
LNG shipping
Weak freight rate outlook in the short term, though bullish in the long term

Freight rates

Source: Drewry research

- 2018 spot rates expected to follow a similar profile to 2017
- Spot rates should pickup in 2019 as supply pressures ease
The primary source of market insight, analysis and advice trusted by the global shipping industry.

**Maritime Research**
Robust, objective market analysis and forecasts to inform business decisions

**Market Sectors**
- Container Shipping
- Ports and Terminals
- Dry Bulk
- Gas Shipping
- Tanker Shipping
- Specialised Shipping
- Ship Management
- Logistics Management
- Intermodal Transport

**Maritime Advisors**
Bringing together the expertise, insight and resources clients need to achieve their commercial ambitions

**Advisory Expertise**
- Market Analysis
- Strategy and Planning
- Market Entry Analysis
- Operational Due Diligence
- Technical Due Diligence
- IPO Support

**Supply Chain Advisors**
Tools, resources and tailored advice to support every stage of the ocean freight procurement process

**Advisory Expertise**
- Ocean Freight Cost Benchmarking
- Ocean Freight Procurement Support
- Network Design and Optimisation
- Commercial Due Diligence
- Hinterland Logistics Analysis

**Maritime Financial Research**
A truly independent investment research and advisory service on companies operating within the maritime industry

**Market Sectors**
- Container Shipping
- Container Manufacturing
- Ports and Terminals
- Dry Bulk
- Gas Shipping
- Tanker Shipping

**Advisory Expertise**
- Credit Analysis
- Bond Analysis

**UNITED KINGDOM**
15-17 Christopher Street
London
EC2A 2BS
United Kingdom
T +44 20 7538 0191

**INDIA**
4th Floor, Tower C
Pioneer Urban Square
Sector 62, Gurugram
122101 India
T +91 124 497 4979

**CHINA**
Unit D01, Level 10, Shinmay Union Square
Tower 2, 506 Shangcheng Rd
Pudong District, Shanghai
China, 200120
T +86 21 5081 0508

**SINGAPORE**
#13-02 Tower Fifteen
15 Hoe Chiang Road
Singapore 089316
T +65 6220 9890

www.drewry.co.uk