

# SHIP FINANCE PRACTICES IN MAJOR SHIPBUILDING ECONOMIES

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## *Ship Finance Practices in Major Shipbuilding Economies*

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### **Abstract**

*This report presents an overview and trends of the ship finance practices in major shipbuilding economies. Ship finance is a broad term that involves corporate financial management of shipping companies and shipyards as well as new-building finance. Shipping companies need funds in order to refinance their debts, to sustain their working capital and to acquire vessels. Shipyards also need to finance their working capital before delivering orders and receiving full payments. There are two main sources of capital allowing shipping companies to finance their businesses; raising money through equity financing (sales of shares) or debt (loans and bonds). In the case of shipbuilding, debt financing includes using leasing schemes. Given the fact that the maritime industry is highly capital intensive, and with the 2008 Global Financial Crisis' depressing effects on global economy and international trade, its financing has become critical for the shipbuilding sector and shipping companies around the world.*

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## *Executive Summary*

Shipping has been at the forefront of international trade, from the first cargoes transported by sea approximately 5 000 years ago. Ocean going vessels transport around 90% of the global commodities in tonnage including among others, crude oil, refined petroleum products, liquid natural gas, iron ore, grain, steel products and finished goods. The dominance of shipping is a reflection of the lower cost relative to other transportation modes. Given the fact that the maritime industry is highly capital intensive, and with the 2008 Global Financial Crisis' depressing effects on global economy and international trade, its financing has become critical for the shipbuilding sector and shipping companies around the world.

As of September 2017, 3 140 vessels were on order requiring USD 236.2 billion in financing. In 2017, financing requirements amounted to USD 71 billion. In 2018 and 2019, financing requirements are expected to reach USD 85 billion and USD 81 billion, respectively. The global vessel orderbook-to-fleet ratio is currently below 10%, which represents a 30-year record low level.

This reduction in vessel ordering has been driven by overcapacity and losses in the shipping industry. Excess capacity in the shipping industry leads to an increase in risks linked to low and volatile residual values of ships. As a consequence, shipping companies lean more on the chartering market. Moreover, due to the volatility of vessel prices in the resale market, the financing risk for newbuilding remains high. Weaknesses of shipping lines' balance sheets and profitability lead shipping companies (notably in the container shipping industry) to further depend on chartering market. This trend seems to continue as 55% of the global current containership fleet are chartered (Marine Money, 2017<sup>[1]</sup>).

While the market value of the global fleet increased by about 16% from 2006 to the third quarter of 2017, the syndicated marine finance loans decreased by almost 60 percent in the same period (Pareto Securities, 2018<sup>[2]</sup>). Non-performing shipping loans have caused large international banks to consider carefully any shipping refinancing or extending new lines of credit to ship owners. Even when a deal is made, it is in general made at a relatively high price, with often restrictive operational and financial covenants. In the context of a private credit crunch, Export Credit Agencies (ECAs) have taken a more prominent role in supplying credit to the shipping industry (Bashir, 2018<sup>[3]</sup>). Beside, Chinese leasing companies increasingly support the activity in domestic yards by placing orders at shipyards and by leasing these newly built ships to foreign and domestic companies (IHS Fairplay, 2017<sup>[4]</sup>).

Additional frictions in international trade could bring further uncertainty to the global shipping industry. Changes in tariffs not only affect the volume of total transported goods globally, but also the traditional shipping routes notably for goods transported by containerships which are directly affected by trade measures. Moreover, since March 2018, dry bulkers have already been affected by tariffs. VLCC<sup>1</sup> market could be also affected over the long-run as the People's Republic of China (hereafter 'China') looks for alternative sources of crude oil. These developments which would contribute negatively to vessel utilisation rates are also expected to affect freight rates which are already at low level because of overcapacity in the shipping industry (Sea Trade Maritime News, 2018<sup>[5]</sup>) (Opensea, 2018<sup>[6]</sup>).

## 1. Introduction

Shipping companies and ship-owners<sup>2</sup> are expected to order vessels from shipyards, if they foresee that operating this ship is going to be profitable. As a consequence, global GDP and trade growth are the main long-term drivers for ship demand.

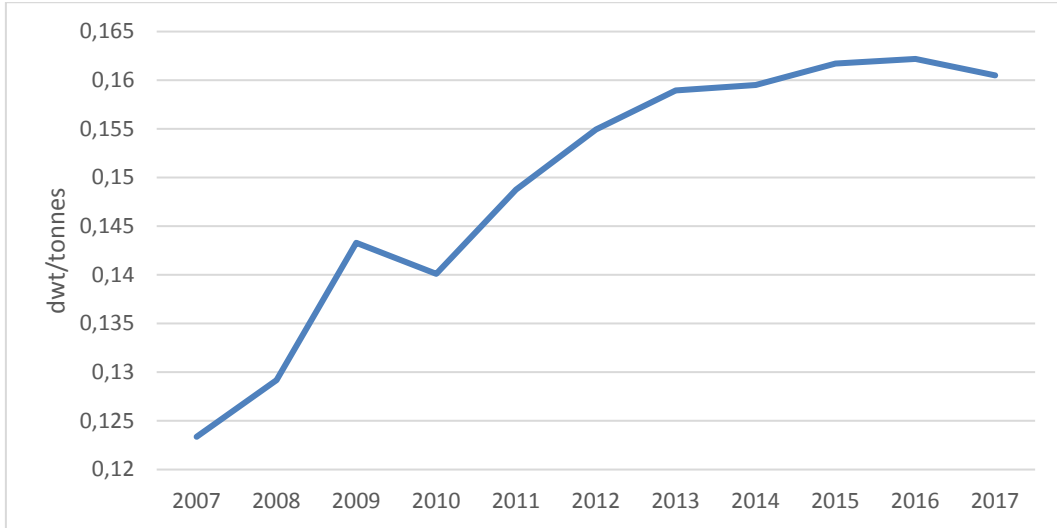
Ship finance is a broad term that involves corporate financial management of shipping companies and shipyards as well as new-building finance. As the customers of shipyards, shipping companies need funds in order to refinance their debts, to sustain their working capital and to acquire new or second-hand vessels. Shipyards also need to finance their working capital before delivering orders and receiving full payments. Hence, it is inevitable to review the shipping and shipbuilding industries in tandem when dealing with ship finance.

The decrease in world trade volume following the 2008 Global Financial Crisis led to a reduction in freight rates, a decline in vessel valuations and a ship finance market crash in 2010. These severe conditions for shipping companies have further worsened because of the contraction of commercial banks' shipping credits (especially for European banks) causing a vicious circle on debts both for commercial banks and shipping firms. In other words, commercial banks were reluctant to lend money to shipping companies. Without enough liquidity, it became harder for shipping companies to stay profitable, and to repay their debt to banks (The Maritime Executive, 2018<sup>[7]</sup>).

In parallel with this negative developments, total volume of syndicated loans declined by almost 50 % from 2007 (USD 92 billion) to 2017 (USD 45 billion). On the other hand, total capital raised by the shipping, offshore and shore-side infrastructure industries, without syndicated loans, reached USD 19.09 billion in 2017, after USD 24.25 billion in 2016. This 21% decrease was driven by developments in offshore and infrastructure projects while the shipping industry experienced an increase from USD 13.51 billion in 2016 to USD 14.24 billion in 2017 (Marine Money, 2018<sup>[8]</sup>).

### *Trends in shipping and shipyard finance*

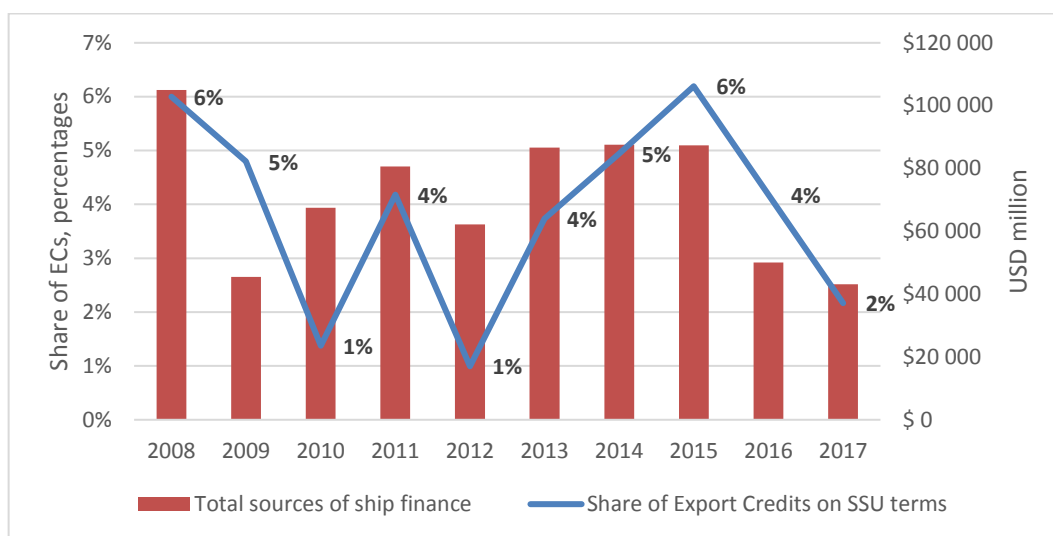
According to Marine Money, over 2007-2016, the share of debt over total sources of ship finance [excluding export credits(ECs)] has been 87% on average, with a maximum in 2008 at 94% and a minimum in 2013 at 79%. As of September 2018, according to Clarkson, over 2007-2017, shipyards around the world raised USD 4.48 billion in yearly average from capital markets using various<sup>3</sup> financial instruments.

*The role of public institutions***Figure 1.1. Fleet to trade ratio, 2007-2017**

*Note:* Fleet to trade ratio is calculated by dividing “total fleet in dwt in millions” series by “world seaborne trade in millions” series.

*Source:* OECD calculation using UNCTAD (2018) data.

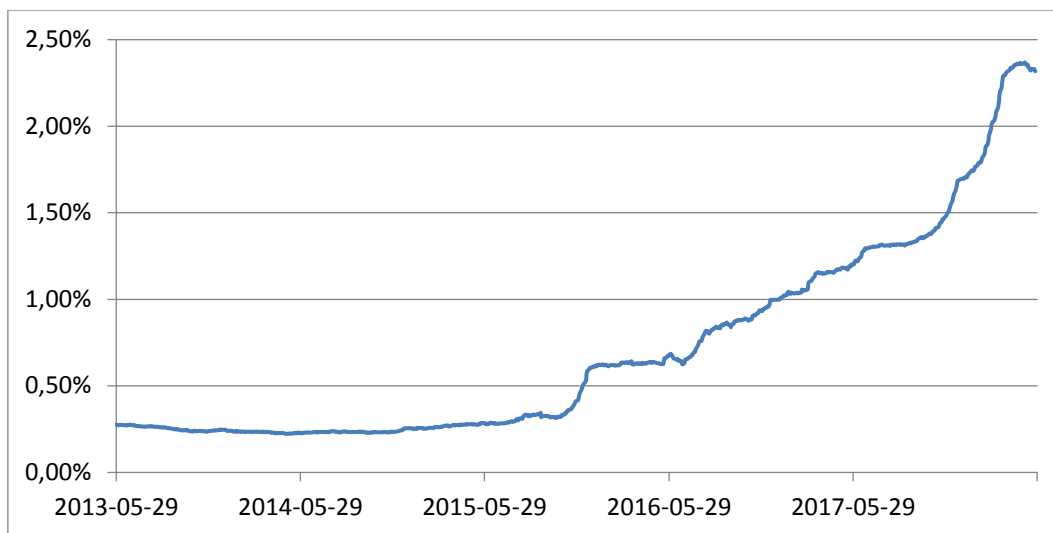
Over 2008-2017, yearly funding used for new ships following the terms of the Sector Understanding on Export Credits for Ships (SSU) averaged USD 10.67 billion, reaching its largest value in 2014 at USD 18.11 billion. In 2007, while fleet to trade ratio was relatively low, ECs took 6 % of the all financing. When fleet to trade ratio was closer to its highest point in 2017 (Figure 1.1.), the share of ECs for cargo vessels and tankers in total ship finance increased to 6 %, however it decline to 2 % in 2017 while fleet to trade ratio was still above 0.16 (Figure 1.2.).

**Figure 1.2. Total sources of ship finance and share of ECs under SSU terms**

*Note:* For the calculation of total sources of ship finance, amounts for bonds, public equity, private equity, syndicated shipping loans, and leasing deals for shipping sector (from Marine Money) are summed with ECs under the SSU. The data of leasing deals in 2017 were absent. For the ECs data, only total amount for cargo vessels and tankers are included.

*Source:* OECD calculation using, Marine Money (2017) and OECD (2018) data.

### **Libor rates**

**Figure 1.3. Three-Month London Interbank Offered Rate (based on USD)**

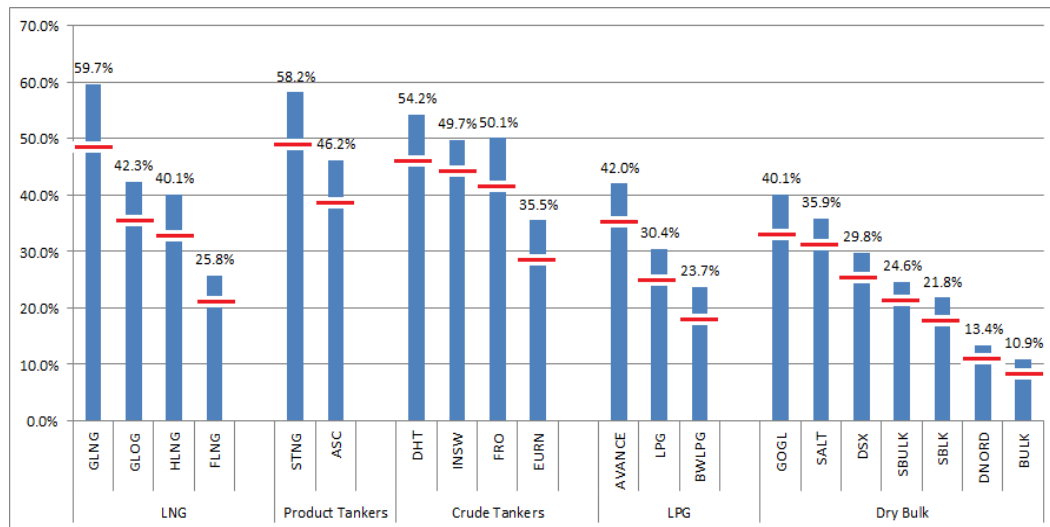
*Note:* Reached on 06 June 2018

*Source:* (Economic Research, 2018<sup>[9]</sup>)

Recent increases in interest rates by the U.S. Federal Reserve, which started in the first quarter of 2017, contributed to the increase in shipping loans' rates which are arranged according to London Inter-bank Offered Rate (LIBOR) plus a premium. 3-month LIBOR reached 2.3% in April 2018, the highest level since November 2008 (Figure 1.3.). Interest rate increases are expected to affect balance sheets of shipping companies especially those

which are heavily indebted. The comparison of median leverage ratios across industries illustrates the high debt level for the maritime industry. While the median net debt to EBITDA<sup>4</sup> for S&P 500 firms is 1.5x, the median rate for shipping firms is around 8.0x (The Barrel, 2018<sub>[10]</sub>). An additional increase by 100 basis points of 3-month LIBOR would lead to a 10 percentage point increase of the ratio of interest over EBITDA for shipping companies (Figure 1.4.).

**Figure 1.4. Interest/EBITDA for shipping companies**



*Note:* Red lines show the effect of an additional +100 bps increase in 3-month LIBOR, all other things being equal.

*Source:* (Pareto Securities, 2018<sub>[11]</sub>)

### *Bunker costs*

The increase in fuel prices (price for Brent oil futures has increased to 83 USD/barrel in September 2018 from 36 USD/barrel in March 2016) and the implementation of the International Maritime Organization's (IMO) sulphur (SO<sub>x</sub>) rules in 2020 would also weigh on the financial health of shipping companies. The new legislation is expected to cost approximately USD 50 billion according to some estimates (Lloyd's List, 2018<sub>[12]</sub>).

### *New banking regulations*

Both Basel-3 rules (will be fully active after January, 2019), and International Financial Reporting Standard-9 (IFRS) (entered into force in January 2018), require that banks stock larger reserves before lending which is also expected to weigh on the distribution of shipping loans. Additionally, IFRS-16 Leases regulation, which will be effective from the end of 2018, requires larger debt leverage ratios for shipping companies (Lloyd's List, 2018<sub>[12]</sub>).

### *Chinese ship leasing*

While commercial banks and private equity funds reduced dramatically their exposure to the maritime industry, finance leasing has been developing fast in recent years especially in China, which enabled the construction of vessels both in China and in foreign shipyards notably in Korea. Chinese ship leasing practices provided by Chinese leasing subsidiaries of shipyard groups or leasing institutions owned by Chinese banks, have been increasing

faster than the volume of ECs provided by Chinese Export Credit Agencies (ECAs), as leasing finance is seen as a win-win deal for the owner and the lessor. The lessor provides finance on a long-term charter basis, with purchase options at a later stage or on expiry of bareboat charter. The lessee takes a share of the vessel earnings as a contribution to loans with some tax exemption (Tanker Shipping&Trade, 2017<sup>[13]</sup>).

## 2. Trends in Ship Finance

### 2.1. Sources of Capital

There are two main sources of capital allowing shipping companies to finance their businesses; raising money through equity financing (the sale of shares), or debt (loans, bonds). Equity financing that can take various forms such as initial public offering (IPO), follow-on<sup>5</sup> (FPO), private placement and equity-preferred. In the case of shipbuilding, debt financing includes using leasing schemes, in addition to loans and bonds. Marine Money, Dialogic and Clarkson collect aggregated financial data according to sources of finance for the shipping and offshore industries.

**Figure 2.1. Total capital raised thanks to bond and equity issuances / Ship completions 2007-2017 - USD in million / millions of cgt**



Note: Syndicated loans excluded.

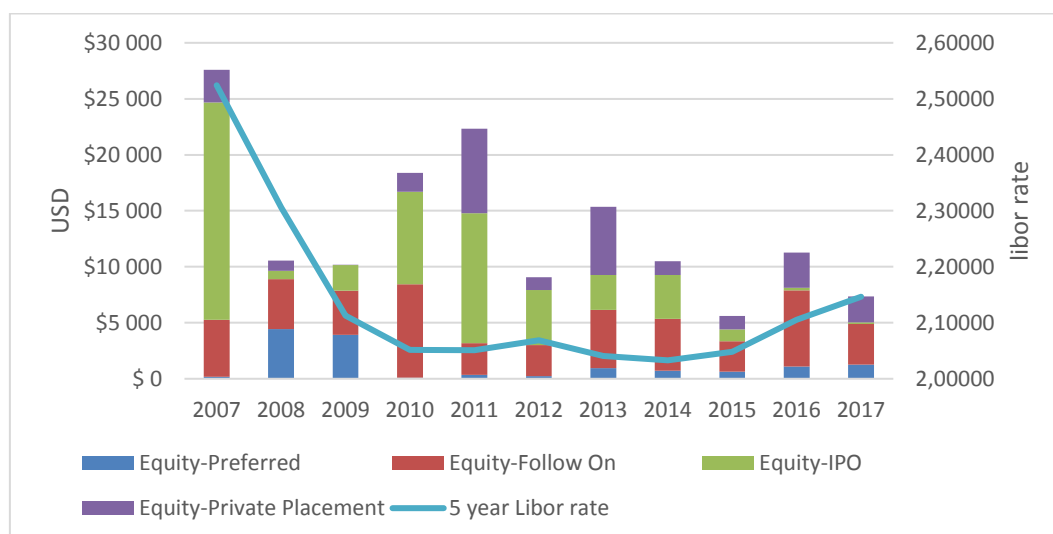
Source: Marine Money, January 2018 and Clarkson 2018.

Total capital raised by the shipping industry through equity and bond issuances amounted to USD 31.5 billion in 2007. After experiencing sharp decreases in 2008 and 2009, it peaked at almost USD 33 billion in 2010. In 2012, capital raised for the offshore industry (USD 28.5 billion) surpassed the capital raised by the shipping industry (USD 19 billion). Over 2013-2015 total funding raised thanks to bond and equity issuance decreased steadily, especially for the shipping industry and reached in 2015 a level approximatively as low as in the 2009 crisis period (USD 10 billion). Over 2016-2017 total capital raised by the shipping industry remained below USD 15 billion per year (Figure 2.1.).

#### 2.1.1. Equity

The public and private equity markets provide various sources of ship financing together with commercial bank credits and other debt types. Although a less traditional source of ship finance, equity markets and private investors offer a large variety of opportunities for both public and private shipping companies (Kavussanos and Visvikis, 2016<sup>[14]</sup>).

Figure 2.2. Equity financing by types, 2007-2017 - USD in million



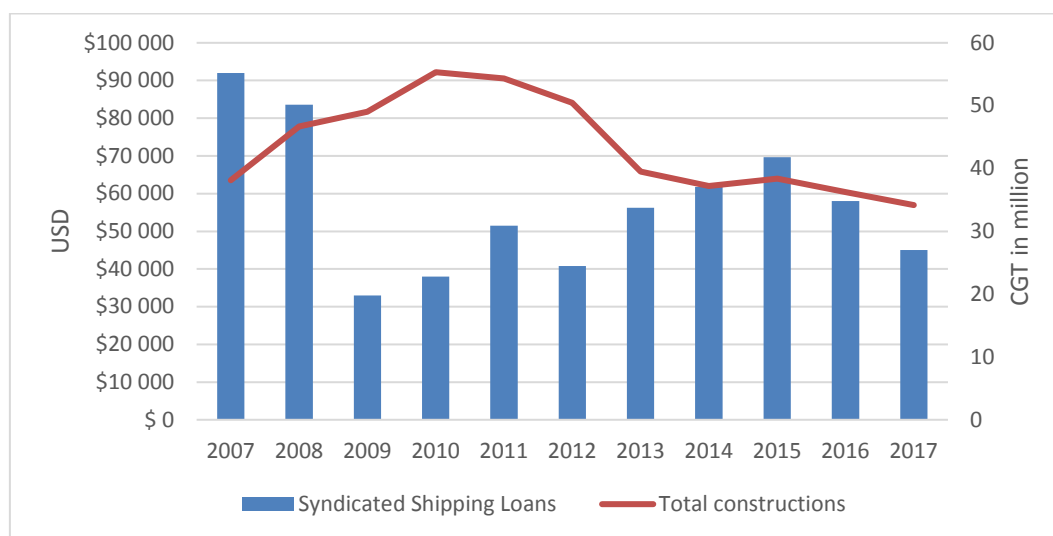
Source: Marine Money, January 2018.

In 2007, shipping companies raised USD 25.5 billion using equity issuances and USD 19.3 billion using IPOs. During the crisis, average total capital raised using equity remained low at about USD 10 billion. In 2011, it reached its second peak at USD 22.3 billion and then followed a volatile downward trend reaching a lowest level of USD 5.6 billion in 2015 (Figure 2.2.) (Marine Money, 2018<sup>[8]</sup>).

### 2.1.2. Debt

Bank credits are frequently used for refinancing existing liabilities by the shipping companies. For new building financing commercial loans offered by commercial banks (in some cases facilitated by ECAs), can be used for the construction of ships and/or for their permanent “take out” financing. These loans are organized both on a syndicated<sup>6</sup> basis or a bilateral<sup>7</sup> basis comprising a base rate usually in the forms of LIBOR plus a margin. The interest rates may be fixed or floating.

Total syndicated shipping loans reached USD 92 billion in 2007, and USD 83.6 billion in 2008. For the years of 2009 and 2010, however, it shrunk to USD 33 billion in 2009. Over 2009-2015 syndicated loans recovered (except in 2012) and reached USD 70 billion in 2015. After that period there were gradual decreases to reach USD 58 billion in 2016 and at USD 45 billion in 2017 (Figure 2.3.).

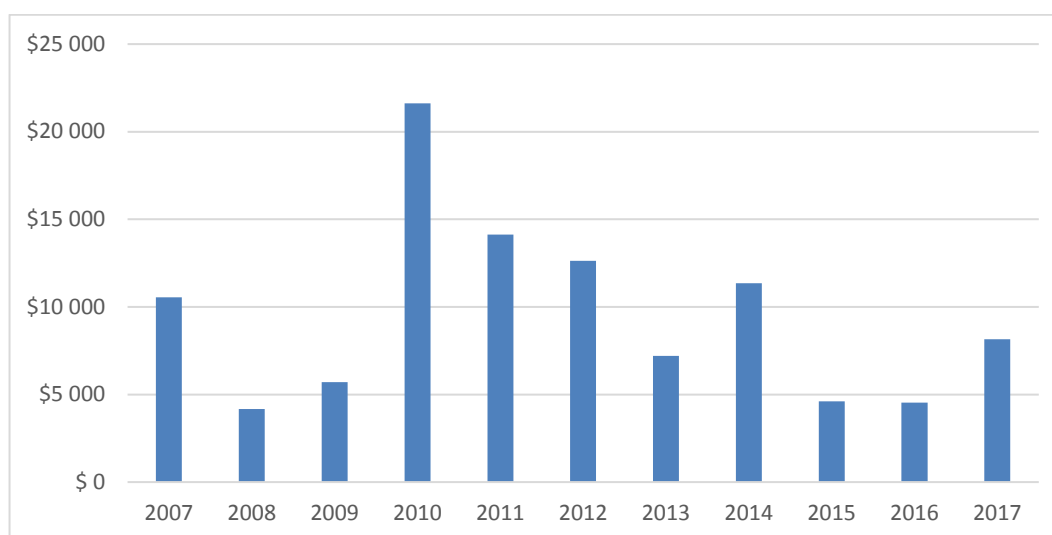
**Figure 2.3. Syndicated shipping loans, 2007-2017 - USD in million**

Note: 2016 and 2017 data are overall.

Source: Marine Money and Dialogic, January 2017, Marine Money and Dialogic, January 2018.

### Bonds

Bonds can be raised for a rather large period (usually five to ten years) with a fixed rate and no partial repayment before redemption, granting high levels of flexibility to manage volatile cash-flows. However, as most shipping companies have below investment grade ratings, they issue high-yield (HY) bonds with high margins (up to 6% or 7% over reference rates). They are also in most cases asked to comply with strict disclosure obligations.

**Figure 2.4. Bond proceeds, 2007-2017 - USD in million**

Source: (Marine Money, 2018<sup>[15]</sup>)

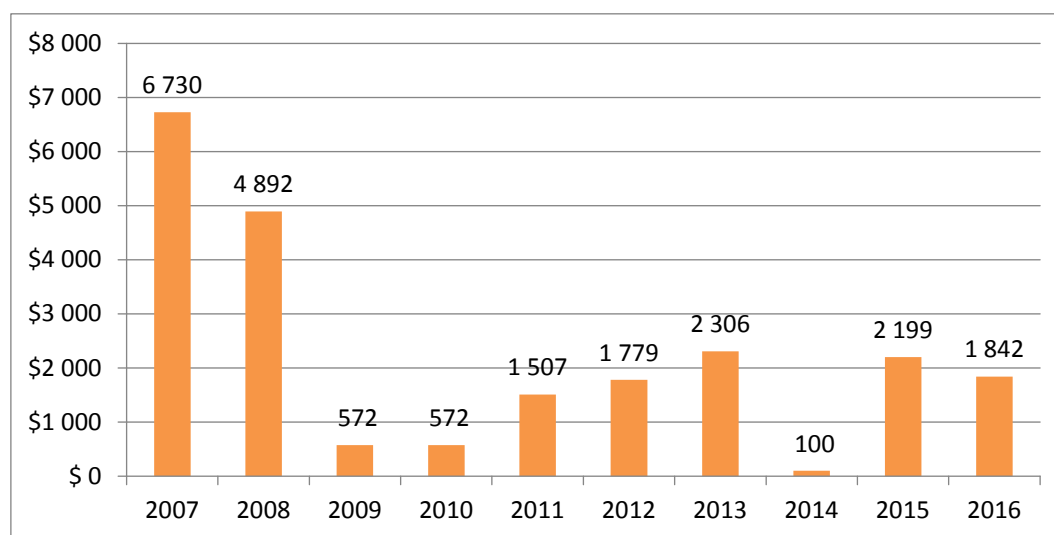
The largest volume of bond issuance was reached in 2010 at USD 21.6 billion (when the syndicated loans were relatively low), almost quadrupling the volume of 2009. Specifically, there were 29 shipping bond issuances accounting for USD 6.4 billion and additionally USD 1.6 billion of Term Loan B<sup>8</sup> (TLB) issuance and USD 130 million in retained placed “baby bonds”<sup>9</sup> in 2017. In 2016, bonds with a total value of USD 4.342 million were issued showing a decline by 38% compared to 2015 (Figure 2.3) (Marine Money, 2017<sup>[16]</sup>).

### Leasing

The two most common types of leasing structures in shipping are operating lease and finance lease. Operating lease is used for hiring ships in the form of a short or mid-term bareboat or time charter. At the end of the term of agreement the lessee returns the ship to the lessor. For a ship operator, the two main advantages of an operating lease are: first, the impact on its balance sheet that can be limited to “an off-balance sheet” commitment; and, second, financial costs can be limited, if, for any reason, the lessee charges a low price for its cost of equity (Stopford, 2009<sup>[17]</sup>) (Koukoutsis, 2015<sup>[18]</sup>).

The finance lease is used for long-term ship finance, covers a substantial part of the ship’s economic life and is usually fully amortized. The lessor, whose main role is as a financier, has little involvement with the asset beyond owning it, and all operating responsibilities fall on the lessee who, in the event of early termination, must fully compensate the lessor. The finance lease generally appears on the lessee’s balance sheet, however, it brings a tax benefit to the companies by depreciating the ship’s value against profits. (Stopford, 2009<sup>[17]</sup>) (Koukoutsis, 2015<sup>[18]</sup>).

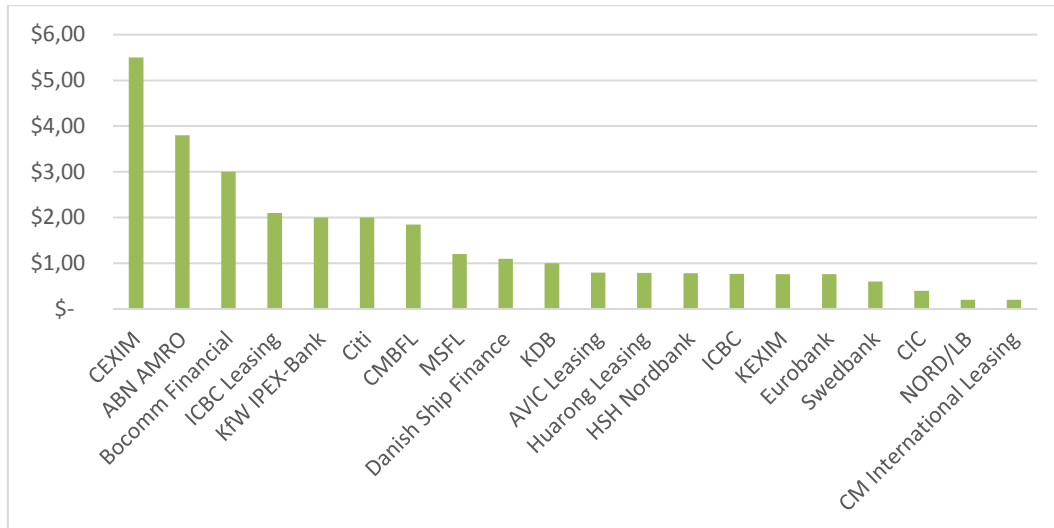
Figure 2.5. Leasing Deals, 2007-2016 - USD in million



Note: Data are not available for 2017.

Source: Marine Money, January 2017.

The value of total leasing deals were USD 6.7 billion and USD 4.8 billion respectively in 2007 and in 2008, when the European lenders were active. After that period total leasing volume shrunk to USD 572 million in 2009 and remained the same in 2010. Excluding 2014, over 2011-2016, average volume accounted for USD 1.9 billion (Figure 2.5).

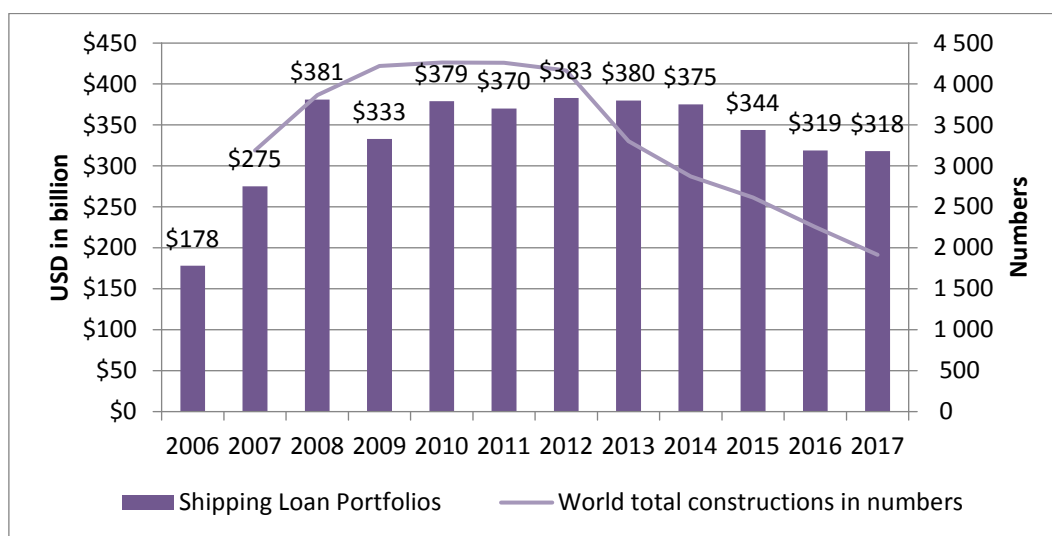
*Shipping portfolios***Figure 2.6. Selected Banks' New Business Volume, 2017- USD in billion**

*Note:* It is a small sampling of selected banks who reported to Marine Money, so caution is needed for drawing major conclusions from it.

*Source:* (Marine Money, 2018<sub>[19]</sub>).

The total shipping portfolio of Chinese financial institutions increased from USD 30.4 billion (2011) to USD 71.8 billion in 2017, and accounted for 29 % of the world's total (USD 318.12 billion). In 2007, Europe, Asia and the United States accounted for USD 186.6 million, USD 111.1 million and USD 17.6 million. Japanese portfolio was USD 24.1 million and Korea portfolio was USD 15.2 million. CEXIM, ABN AMRO, BoComm Financial Leasing and ICBC Leasing, reported new business volumes of USD 5.5 billion, USD 3.8 billion, USD 3.1 billion and USD 2.1 billion respectively (Figure 2.6) (Marine Money, 2018<sub>[19]</sub>)

Figure 2.7. Global shipping lending portfolios, 2006 - 2017



Source: (Marine Money, 2018<sup>[19]</sup>).

There was a dramatic increase in cumulative lending to shipping industry from 2006 (USD 178 billion) to 2008 (USD 381 billion) which coincided with the increase in vessel construction figures from 2007 (3 189 vessels) to 2009 (4 219 vessels). On the contrary, total shipping lending portfolio has not improved since 2012 which also overlapped with the decline in vessel construction numbers in the same period (Figure 2.7.).

## 2.2. The Roles of Public Intuitions and Export Credits

### 2.2.1. Export Credit Agencies

ECAs provide a range of different products and services, including guaranteeing repayment of a loan by a financial institution to an overseas buyer, insuring against non-payment of a credit extended by an exporter to an overseas buyer and providing direct loans or credits to overseas.

Table 2.1. ECs for ships under Arrangement and SSU terms (USD in millions), 2008-2017.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
new ship(s)	13 877	4 926	6 110	10 331	3 133	15 011	19 642	17 562	13 331	12 501	116 422
used/refurbished ship(s)	0	0	1	0	14	0	0	0	0	0	15
ship equipment	1 270	1 825	4 850	2 262	528	228	93	52	450	94	11 653
ship services	527	120	209	0	902	7	36	540	0	0	2 340
<b>Total</b>	<b>15 674</b>	<b>6 871</b>	<b>11 170</b>	<b>12 592</b>	<b>4 577</b>	<b>15 247</b>	<b>19 770</b>	<b>18 154</b>	<b>13 781</b>	<b>12 594</b>	<b>130 431</b>

Source: OECD (2018)

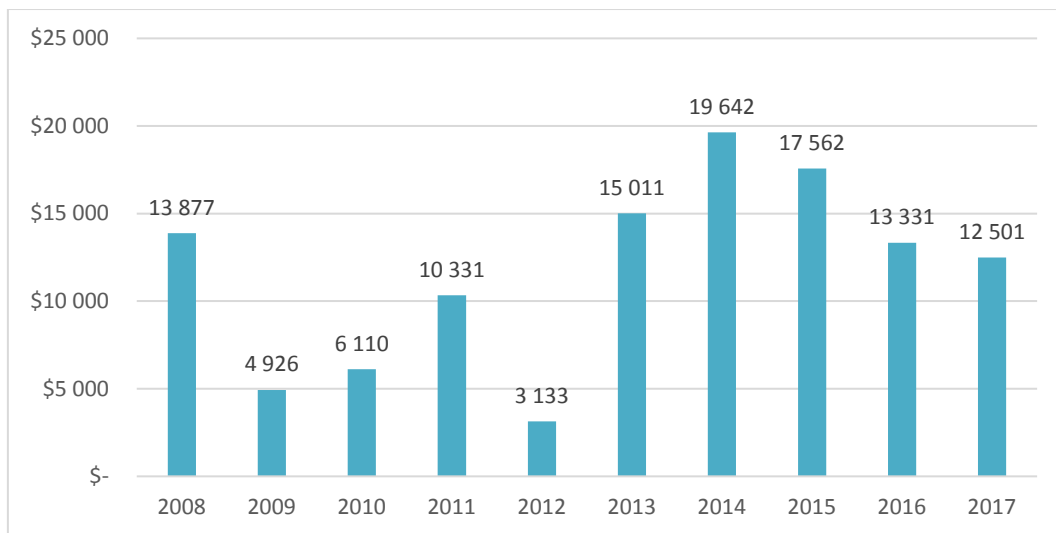
The combination of uncertainty in the maritime market and changes in the financial sector means that ECAs are now viewed by many banks as an indispensable funding prerequisite in the shipping industry (Marine Money, 2018<sup>[20]</sup>).

ECAs intervene within the framework of the OECD Arrangement on Officially Supported Export Credits (“Arrangement”) and its Sector Understanding on Export Credits for Ships

(SSU) for the Participants to these two agreements. The Participants to the Arrangement currently are Australia, Canada, the European Union, Japan, Korea, New Zealand, Norway, Switzerland and the United States. All the participants to the Arrangement are also participants to the SSU except Canada, Switzerland and the United States and none of the agreements include China. The support granted by the ECAs in compliance with the OECD disciplines on ECs is not considered as a prohibited subsidy by the World Trade Organization (WTO). The Arrangement is a "Gentlemen's Agreement" which specifies the framework applying to Officially Supported Export Credits.

Over the period 2008-2017, the largest amount of funding provided under Arrangement and SSU terms was in 2014 and reached USD 19.64 billion, while the smallest funding was in 2012 at USD 3.13 billion. In 2017, total ECA financing under Arrangement and SSU terms for new buildings reached USD 12.5 billion (Figure 2.8).

**Figure 2.8. ECs for ships under Arrangement and SSU terms for new buildings, 2008-2017, USD in millions**



Source: OECD (2018)

Depending on the goods exported and the country of destination, the Arrangement defines among other points the maximum eligible financing (in general 85% of the contract value), minimum insurance premiums, maximum duration of loans (from 2 up to 5 or 10 years of repayment) and the access to fixed rates through the Commercial Interest Reference Rates (CIRR) system. ECAs from OECD countries supporting ship exports are also subject to the 2006 Council Recommendation on Bribery and Officially Supported Export Credits and to the 2012 Council Recommendation on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence ("Common Approaches"), albeit that ship exports may not be subject to environmental and social due diligence as they are moveable assets rather than based at an identified, *i.e.* fixed, location.

The SSU, which was agreed by OECD countries before the general Arrangement and is now annexed to the Arrangement defines a more limited set of rules which include:

- Minimum cash payment of 20%, which means a maximum eligible financing of 80%.
- Maximum repayment term of 12 years after delivery.

- Equal instalments at regular intervals of normally six months and a maximum of 12 months.
- No benchmark for minimum premiums.
- The access to fixed rates through the CIRR system.

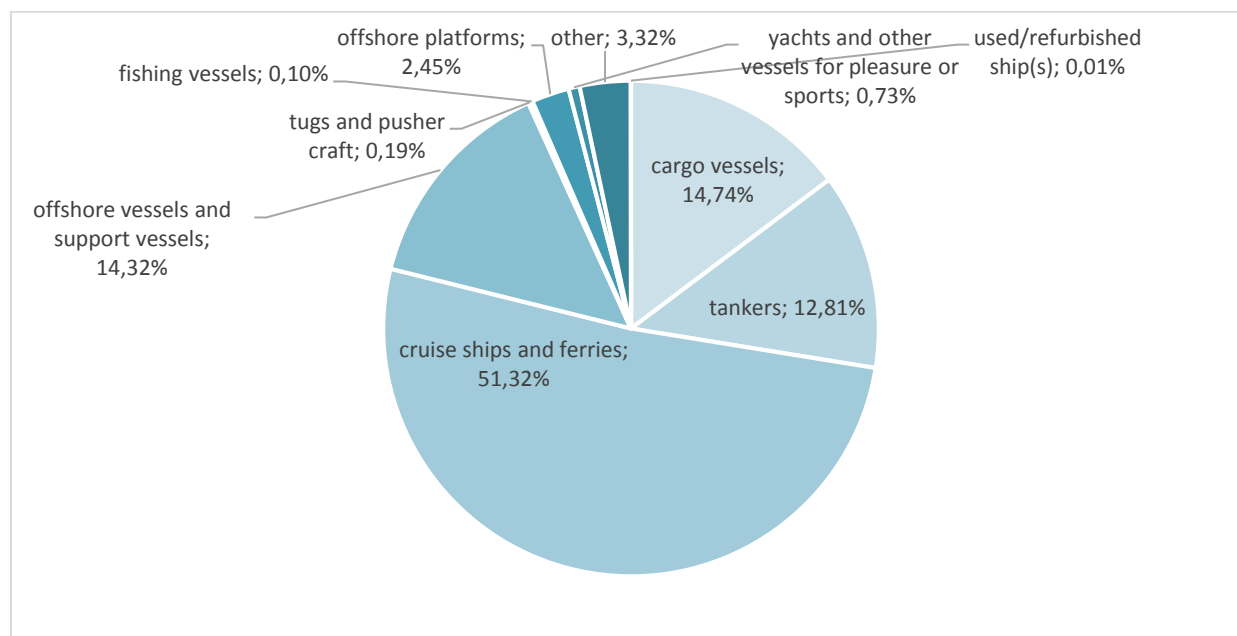
**Table 2.2. ECs supported under SSU –Annex I, 2008-2017 - USD in millions**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>new ship(s)</b>	13 443	4 517	5 971	9 700	2 440	13 293	18 110	15 330	13 141	10 718	<b>106 662</b>
<b>used/refurbished ship(s)</b>	0	0	1	0	14	0	0	0	0	0	<b>15</b>
<b>ship equipment</b>	1 232	1 654	4 780	2 259	519	227	55	52	0	0	<b>10 776</b>
<b>ship services</b>	127	120	152	0	0	7	36	3	0	0	<b>444</b>
<b>Total</b>	<b>14 801</b>	<b>6 290</b>	<b>10 905</b>	<b>11 958</b>	<b>2 973</b>	<b>13 527</b>	<b>18 200</b>	<b>15 384</b>	<b>13 141</b>	<b>10 718</b>	<b>117 897</b>

Source: OECD (2018)

Under SSU, over 2008-2017, funding provided by ECAs reached its lowest level in 2012 with USD 2.44 billion, and its highest amounts in 2014 with USD 18.11 billion. In the last 3 years, average funding for new constructions averaged at USD 13.06 billion. Including funding for ship equipment, ship services and finance for refurbishment to new buildings, total amount of funding provided for the last 10 years amounted to USD 117.89 billion (Table 2.2.). The largest share was taken by cruise ships and ferries (51.32 %), followed by offshore vessels and support vessels (14.32 %), cargo vessels (14.74%) and tankers (12.81 %) (Figure 2.9).

**Figure 2.9. ECs supported under SSU –Annex I, according to ship-type over 2008-2017**



Source: OECD (2018)

According to Allen & Overy, ECs supporting shipping and offshore finance increased in 2017, while posting a record at USD 7.27 billion in the second quarter of 2017. The majority of the credits were given for cruise ships. In particular, the United States cruise

lines had over two-thirds of 2017's volume. European owners received a mixture of cruise and oil & gas financing, while in Asia-Pacific the majority of funding was related to oil & gas vessel deals. Fincantieri, STX, and Meyer Werft and its 70% subsidiary Meyer Turku positioned were the largest shipyards in terms of ECs over 2016 and 2017. (TFX Data and Allen & Overy, 2018<sup>[21]</sup>).

**Table 2.3. Top ten countries by country of the borrower of ECs for ships, 2016-2017**

	2016		2017	
	USD million	Percentage	\$ USD million	Percentage
United States	7 031	46.20%	12 876	69.50%
Switzerland	455	3.00%	1 432	7.70%
Singapore	411	2.70%	774	4.20%
Marshall Islands	672	4.40%	554	3.00%
United Kingdom	203	1.30%	515	2.80%
Hungary	-	0.00%	483	2.60%
Spain	-	0.00%	441	2.40%
Philippines	-	0.00%	401	2.20%
Germany	-	0.00%	247	1.30%
Hong Kong, China	-	0.00%	200	1.10%

Source: (TFX Data and Allen & Overy, 2018<sup>[21]</sup>)

Considering the high cost of cruise ships, ECA funding appears crucial for the cruise industry. The appreciation of USD against EUR along with the dominance of the United States cruise market in 2017 contributed to the fact that the United States took the highest share of the total volume of EC finance (TFX Data and Allen & Overy, 2018<sup>[21]</sup>).

**Table 2.4. Countries providing ECs for ships**

	2016		2017	
	USD million	Percentage	\$ USD million	Percentage
EU	11 314	81.45%	10 194	81.95%
Korea	2 439	17.56%	1 812	14.57%
Norway	138	0.99%	211	1.69%
Japan	-	0.00%	161	1.29%
Australia	-	0.00%	61	0.49%

Source: OECD calculation based on Export Credit data

ECs for cruise ships surpassed other vessel types both in 2016 and 2017. The leading destination of ECs were the United States with its cruise companies, the United Kingdom and Singapore with their offshore oil services industries, the Marshall Islands and Panama notably given their registration advantages (TFX Data and Allen & Overy, 2018<sup>[21]</sup>)

### 2.2.2. Other types of interventions by ECAs beside ECs

ECAs can also provide other support such as refund guarantees, working capital loans, and investment loans, which are not ECs and hence not placed under the Arrangement or SSU terms. Technical guarantees are issued by banks on behalf of an exporter to secure the repayment of a down-payment - refund guarantees, advance payment guarantee - or the performance of a commercial contract – performance guarantee. Working capital facilities are offered by ECAs to shipyards. As an example, Finverra covers pre-delivery financing

requested by shipyards for the construction of vessels before the full payment of the vessel by the buyer. Investments loans can be provided by ECAs for overseas investment projects.

### ***2.2.3. Other public financial supports***

Governments sometimes use other channels than ECAs to grant/support financing and guarantees. The Korean Development Bank (KDB) and the China Development Bank (CDB) are for instance supporting shipping contracts. In France, the CFDI (Caisse Française de Développement Industriel) can partially guarantee, on behalf of the French State, guarantees and working capital facilities extended by commercial banks for shipping projects. Governments can support equity participation in shipyards or shipping companies for interim periods or as long term investments. Governments can also combine different instruments such as equity, and ECs for example to secure a complete support program. Announced in March 2016, the Korean "Ultra-large Ship Building Support Programme" is an example of this combination.

## **2.3. Other types of Ship Finance**

### ***2.3.1. Shipyard Finance***

Shipyards need finance for new capital investments or their working capital requirements, linked to expenses not covered by down payments or interim payments before ship deliveries. Most of working capital needs are financed by banks in the form of short term loans, while the needs corresponding to new capital investments involve financing instruments with longer maturities. Shipyard finance is closely related to ship finance.

Shipyards generally required their customers to make 'stage payments' to them on a sufficient scale to pay for materials and labour required to build ships. This generally involved a down payment to the builder for purchasing materials at the signature of the contract, with the balance being paid in roughly equal instalments on keel laying, engine delivery, launching and delivery. However, shipyards can compete among themselves by granting deferred terms of payments and some vessels can be paid in two instalments (20% on the order date, 80% on the delivery date). The financing needs in working capital basically arise after new building contracts (OECD, 2016<sup>[22]</sup>).

Some shipyards are state-owned enterprises and due to the high volatility of the shipbuilding market, governments, in some cases, contribute to shipyard finance through the acquisition of shareholding interests in shipbuilding companies. Table 2.5. shows shareholder composition for the top 10 shipyard groups as of September 2018.

Government related agencies contribute to the provision of loans to shipyards. After the financial crisis in 2008, the role of governments became critical not only for shipping companies, but also for shipyards. Most shipyards also suffer difficulties to find sufficient resources for financing their working capital needs or for maintaining a high level of utilization of their capacity as the volume of new building contracts decreased after 2007. The market downturn also led to the downgrading of shipyards' credit ratings, making it difficult for them to get sufficient funding from private financial institutions or capital markets. (Marine Money, 2017<sup>[23]</sup>).

**Table 2.5. Shareholder composition of the top ten shipyards, September - 2018**

Rank	Shipyards	Country	Shareholder-1	Shareholder-2	Shareholder-3	Shareholder-4	Shareholder-5
1	Daewoo (DSME)	Korea	Korea Development Bank 56.01%	KEB Hana Bank 8.45%	National Pension 3.87%	Financial Services Commission 2.18%	Others 27.63%
2	Hyundai HI (Ulsan)	Korea	Hyundai Robotics 13.36%	Mong-joon Chung 10.15%	National Pension Service 9.29%	Hyundai Mipo Dockyard 7.97%	Others 44.73%
3	Samsung HI	Korea	Samsung Electronics Co., Ltd. 15.9%	Samsung Heavy Industries Co., Ltd. ESOA 8.2%	Samsung Heavy Industries Co., Ltd. 4.6%	National Pension Service of Korea 3.9%	Samsung Life Insurance Co., Ltd. 3.0%
4	Jiangsu New YZJ	China (People's Republic of)	Julius Bär Gruppe AG 25.2%	Lido Point Investments Ltd. 9.92%	Liang Chang 7.20%	The Vanguard Group, Inc. 1.85%	BlackRock Fund Advisors 1.22%
5	Shanghai Waigaoqiao	China (People's Republic of)	No publicly available information				
6	Meyer Werft	Germany	Family owned				
7	STX France	France	STX Offshore & Shipbuilding 66.6%	French Government 33.4%			
8	Hyundai Mipo	Korea	Hyundai Heavy Industries Co., Ltd. 42.3%	National Pension Service of Korea 13.4%	Dimensional Fund Advisors LP 1.21%	The Vanguard Group, Inc. 1.17%	Templeton Investment Counsel LLC 0.88%
9	New Times SB	China (People's Republic of)	No publicly available information				
10	Hyundai Samho HI	Korea	No publicly available information				

*Note:* The ranking of top 10 companies in orderbook in 2018 are selected based on Clarkson July 2018, World Shipyards Monitor. Government-related agency shares are shaded in grey. The shareholder information collected in September 2018.

*Source:* Companies' websites for DSME, and Yangzijiang Shipbuilding (Holdings) Ltd., 4-traders.com for other companies.

Shipyards may use capital markets for raising capital in the forms of bonds and equity. Table 2.6. shows shipyards' capital raising activities between 2007 and 2018. In 2012, shipyards raised a total volume of USD 11.2 billion with 32 transactions 31 of them however came from bond issuances. The impact of 2008 Financial Crisis can be seen in 2008, with the lowest level of financing at USD 1.2 billion. For the latest 3 years average funding accounted for USD 4.4 billion. As of September 2018, USD 4.6 billion raised with one IPO and 2 follow-on transactions.

Table 2.6. Shipyard financing transactions, 2007-2018

	Total Shipyard Capital Market Activity by Number of Issuances	Total Shipyard Capital Market Activity USD million	Total Shipyard Bonds by Number of Issuances	Total Shipyard Bonds USD million	Total Shipyard Follow-Ons by Number of Issuances	Total Shipyard Follow-Ons USD million	Total Shipyard IPOs by Number of Issuances	Total Shipyard IPOs USD million
2007	8	3 169	3	786	3	1 746	2	637
2008	7	1 248	4	994	1	67	2	187
2009	15	5 691	9	3 282	1	20	5	2 389
2010	19	4 257	13	1 359	0	0	6	2 898
2011	18	4 173	15	4 002	2	44	1	127
2012	32	11 231	31	11 217	1	14	0	0
2013	14	2 140	14	2 140	0	0	0	0
2014	28	6 771	19	4 403	6	1 844	3	525
2015	14	1 820	10	1 442	3	361	1	17
2016	12	4 358	6	3 165	6	1 193	0	0
2017	5	4 258	1	357	3	3 672	1	229
2018*	3	4 613	0	0	2	4 610	1	3

Note: \*As of September 2018.

Source: Clarkson (2018)

### 2.3.2. Mergers and Acquisitions

In addition to above mentioned forms of financing, mergers and acquisitions (M&A) of shipping companies allow them to consolidate their respective market shares and to gain economies of scale to improve profit margins. Because of the high cyclicity of the shipping market, M&A offers some competitive advantage. This practice enables shipping companies to get more capitalized and to take further advantage of economies of scale by so doing they can reduce costs and financial risks. For example, on December 2017, Euronav and Gener Maritime officially confirmed their merger agreement creating the leading independent large crude tanker operator (Seeking Alpha, 2018<sup>[24]</sup>).

**Box 2.1. Comparison of financing alternatives**

Tables below present a comparison of financing alternatives, based on common practices in 2018. According to Table 2.7. the largest amount of financing can be raised by equity follow-ons that enables financing up to USD 500 million, it may also be executed in a small time frame such as 2 weeks.

**Table 2.7. Equity financing alternatives**

	IPO	U.S. 144A*	Follow-on	Preferred equity
<b>Size(\$ mm)</b>	\$ 125 - \$ 350 +	\$ 150 - \$ 400 +	\$ 25 - \$ 500 +	\$ 30 - \$ 120 +
<b>Coupon</b>	NA	NA	NA	Fixed or Fixed to Float
<b>Registration</b>	Registered	144A with Registration Rights	Registered	Registered
<b>Execution time</b>	4-8 Months	1-3 Months	2 Weeks	2 Weeks
<b>Listing</b>	NYSE or NASDAQ	NYSE or NASDAQ within 12 months of closing	NYSE or NASDAQ	NYSE or NASDAQ

Source: (Stifel, 2018<sup>[25]</sup>)

Table 2.8. gives information regarding different debt financing types. Same amount of funds can be raised both by HY bonds and institutional term loans, between USD 150 million – USD 1 billion, however the tenure for HY bonds are up to 10 years while for institutional term loan it is 7 years. For baby bonds and Norwegian bonds having a credit rating is not required, but the amount raised by them lower than HY bonds and institutional term loans.

**Table 2.8. Debt financing alternatives**

	HY Bond	Institutional Term Loan	Baby Bonds	Norwegian Bonds
<b>Size (\$ mm)</b>	\$ 150 - \$ 1 000 +	\$ 150 - \$ 1 000 +	\$ 30 - \$ 100 +	\$ 50 - \$ 150
<b>Tenor</b>	5 - 10 Years	5 - 7 Years	3 - 10 Years	3 - 5 Years
<b>Amortization</b>	None	1% per year	None	Varies
<b>Coupon</b>	Fixed	Floating	Fixed	Fixed or Floating
<b>Credit Rating</b>	Yes	Yes	No	No
<b>Covenants</b>	Incurrence	Incurrence	Maintenance & Incurrence	Maintenance & Incurrence
<b>Security</b>	Unsecured or Secured	Secured	Unsecured	Unsecured or Secured
<b>Registration</b>	144A or Registered	Exempt	Registered	144A
<b>Execution Time</b>	6 to 10 weeks	6 to 10 weeks	2 weeks	3 to 8 weeks
<b>Listing</b>	None	None	NYSE or NASDAQ	None

Source: (Stifel, 2018<sup>[25]</sup>)

\*Rule 144A is a Securities and Exchange Commission (SEC) rule modifying a two-year holding period requirement on privately placed securities to permit qualified institutional buyers to trade these positions among themselves. (Investopedia, 2018<sup>[26]</sup>)

### 3. Ship Finance Practices in Major Shipbuilding Economies

#### 3.1. China

##### *3.1.1. Shipbuilding industry export-import figures*

China produced 33.1% and bought 10.5 % of new built ships in CGT terms over the period of 2007 – 2017. Its shares of global lending portfolio in 2017 corresponded to 22.5 % that accounts for USD 71.8 billion.

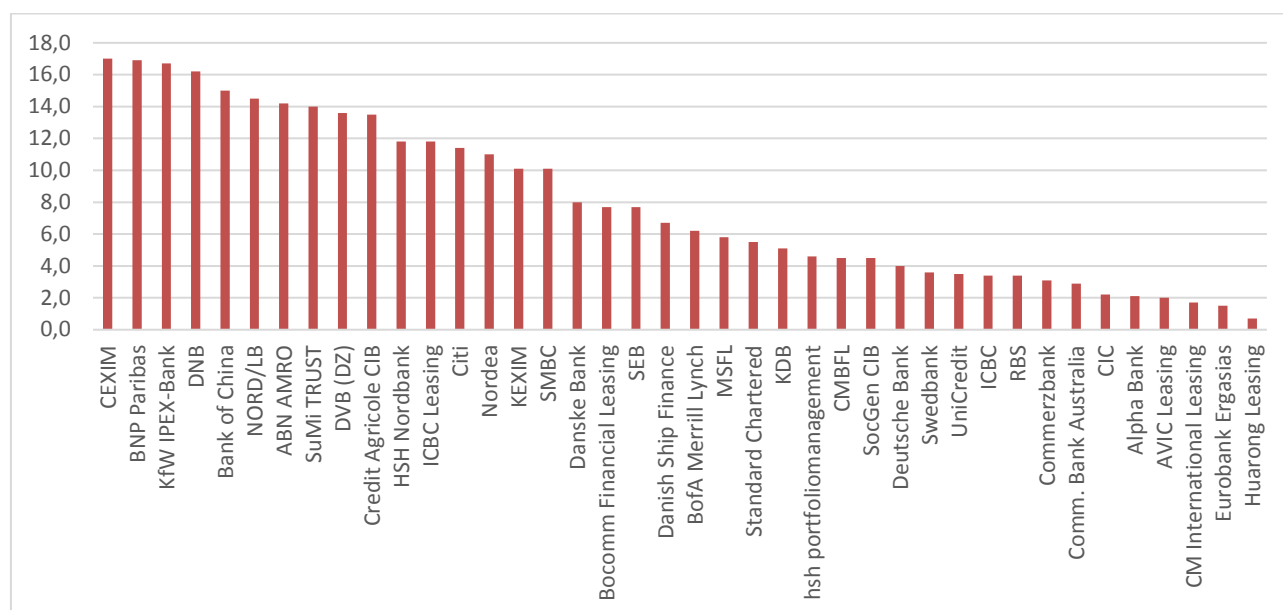
Over 2007-2017, Chinese total vessel construction accounted for 11 821 vessels (about 159 million CGT). 3 413 ships (43.6 million CGT - 27.4 %) were acquired by domestic owners and 62.6 % of total production was exported. Greece was the biggest customer of Chinese vessels. Greece bought 12.1 % in CGT (19.3 million). It was followed by Germany 8.2 %, Singapore 7.8 %, Hong Kong, China (hereafter ‘Hong Kong’) 7.4 % and Bermuda 2.4 %. Other 111 countries/destinations accounted the remaining 34.2 % of total CGT. (Bermuda 2.7 %, the United States 2.5 %, Norway 2.5 %, Korea 2.3 % and Japan 2 %)

In the same period, China built 4 188 bulk carriers accounting for 72.5 million CGT (45.6%), 1 966 tankers (16.6 %) accounted 29.7 million CGT (18.7 %) and 977 (8.2 %) FCC mounted to 20.3 million CGT (12.8 %). China also constructed 1 541 offshore service vessels and 1 488 other dry cargo vessels.

##### *China’s growing role in maritime industry and ship finance*

China has been and remains a big driver of seaborne activity in the last twenty years. Moreover, the Chinese fleet has been developing quickly and is already the third largest merchant fleet. Its shipbuilding capacity has grown significantly and represents about 40% of world total. In parallel, the role of China in ship finance has been increasing; Chinese banks have been gradually replacing Western banks in shipping portfolios since 2008 Global Financial Crisis. Particularly, the Chinese shipping finance contribution to new shipping business since 2016 accounts for almost 40% of global new business.

Figure 3.1. 2017 Shipping Portfolio League Table, USD in billion



Source: (Marine Money, 2018<sup>[19]</sup>)

Bank of China, China EXIM (CEXIM) and the China Development Bank (CDB) now place among the top 15 global shipping lenders as CEXIM is in the first and CDB are in the fifth place (Figure 3.1.). Before 2009, however, Chinese banks had been more focusing on domestic support for ship-owners and shipbuilding companies, and there were no Chinese Banks in the top 15 global bank list (The Jamestown Foundation, 2018<sup>[27]</sup>), (The Wall Street Journal, 2017<sup>[28]</sup>).

With a wide variety of financing types such as ECs, traditional debt financing, lease financing and private equity financing, China now accounts for an estimated value of 20% of total ship finance volume since 2009 (Marine Money, 2018<sup>[29]</sup>). As of December 2017, according to Marine Money's estimates, bilateral loans, ship mortgages and private placements of Chinese lenders including ICBC, China Minsheng Banking Corp, Bank of Communications and China Merchants Bank accounted for as much as one-quarter of a ship-financing sector which is valued at USD 200 billion a year, excluding leasing transactions (The Wall Street Journal, 2017<sup>[28]</sup>).

### *Policy framework*

One big driver for this sharp increase can be attributed to China's Belt and Road Initiative (BRI) announced in 2013 and with a projected total investment value between USD 1.4 trillion and USD 6 trillion. BRI is designed to encourage big investment projects in modernising overseas infrastructure spanning more than 60 countries in Southeast Asia, Africa, Europe and South America (Zhai, 2017<sup>[30]</sup>), (Lloyd's List, 2017<sup>[31]</sup>).

In accordance with Chinese national energy security goals in the beginning of 2000s, it was aimed by the Government that 60% to 70% of China's oil would be carried via ocean going tankers by 2020. In order to achieve this "national oil, nationally carried"<sup>10</sup> approach, in August 2003 a special working group named as "Tanker Working Group" was established (Collins and Gabe, 2007<sup>[32]</sup>).

In line with this policy framework, the Chinese government issued a series of plans to support the development of the shipbuilding industry. According to the goal of the deepening integration of shipping industry over 2016 - 2020, the “Action Plan of Deepening Structure Adjustments & Accelerating Transformation and Upgrade in Shipbuilding Industry” issued by the Ministry of Industry and Information Technology of China (MIIT). This action plan aims that ship completions of China's top ten shipbuilding enterprises’ account for over 70% of the national completions by 2020, which means that the concentration rate of shipbuilding industry will dramatically increase. According to the 13<sup>th</sup> Five-year Plan of China Ship Accessory and Equipment Industry (2016-2020), by the end of 2020, the proportion of domestic equipment are expected to reach 80%, 60% and 40% respectively in three main ship models, high-tech ships and ocean engineering equipment. Therefore, there will be large development space in China's ship equipment industry in the next few years (Research and Markets, 2018<sup>[33]</sup>).

In January 2017, MIIT has published a statement encouraging financial institutions to support the domestic shipbuilding industry with loans and funding. Moreover, the China Banking Regulatory Commission (CBRC) has encouraged financial institutions to support the domestic shipbuilding industry and the exports of domestically-built ships. The Maritime Silk Road (MSR) venture, announced on 20 June 2018 as one of the legs of BRI, aims to connect Asia, Africa, Oceania and Europe. MSR plans to promote mutually beneficial "blue partnerships" and forging a "blue engine" for sustainable development (The Jamestown Foundation, 2018<sup>[27]</sup>).

### *3.1.2. Export Credits*

CEXIM and the China Export & Credit Insurance Corporation (Sinosure) are the most active ECAs in China. In line with “national oil, nationally carried” goal Chinese ECA-backed lenders give priority to domestic firms who build their ships in Chinese yards.

According to CEXIM’s web site, as of November 2016, CEXIM has provided an accumulated total of over CNY 730 billion of credit facilities supporting the ship industry since its establishment in 1994. Since 2013, the Bank’s ship-related loans has reached CNY 170 billion, accounting for 30% of the commercial value of China’s ship export contracts for the same period, among which USD 14 billion shipping export buyer’s credit has facilitated the building of 365 ships and 24.37 million DWT offshore facilities ordered by 60 ship-owners worldwide at Chinese shipyards. In the same period, USD 6.8 billion letters of guarantee has been issued to provide coverage for 676 ships and offshore facilities (CEXIM, 2016<sup>[34]</sup>).

As of December 2017, CEXIM issued more than CNY 100 billion (USD 15.1 billion) in ship loans since the beginning of 2016, which supported the construction of 688 vessels and offshore projects in China, and CEXIM has a shipping portfolio of USD 16.2 billion. (Lloyd's List, 2017<sup>[31]</sup>).

On 5 August 2016 in Beijing, CEXIM and China COSCO Shipping Corporation signed a CNY 120 billion strategic cooperation agreements, as well as a term sheet to finance the construction of 50 ships. The signing of this agreement and the term sheet is an important measure that CEXIM and China COSCO Shipping Corporation jointly take to implement BRI. By the end of June 2016, the total amount of loans signed by CEXIM in the shipping sector reached CNY 705.7 billion, which has supported the construction and export of nearly 10 000 ships/offshore equipment (CEXIM, 2016<sup>[34]</sup>).

In 2017, CEXIM financed deals of both COSCO Shipping and CMA CGM with total loan values of USD 4 billion for the former and USD 1.5 billion for the later. These deals consists of COSCO Shipping's 50 newbuilding ships orders in 2014 and CMA CGM's up to nine dual-fuel engine 22 000 teu-class containerships construction projects (Lloyd's List, 2017<sup>[31]</sup>).

In July 2018, CEXIM and Navibulgar signed a deal with USD 96 million funding for a series of 45 000-dwt energy-saving and environmentally-friendly vessels from Yangzijiang Shipbuilding (Trade Winds, 2018<sup>[35]</sup>).

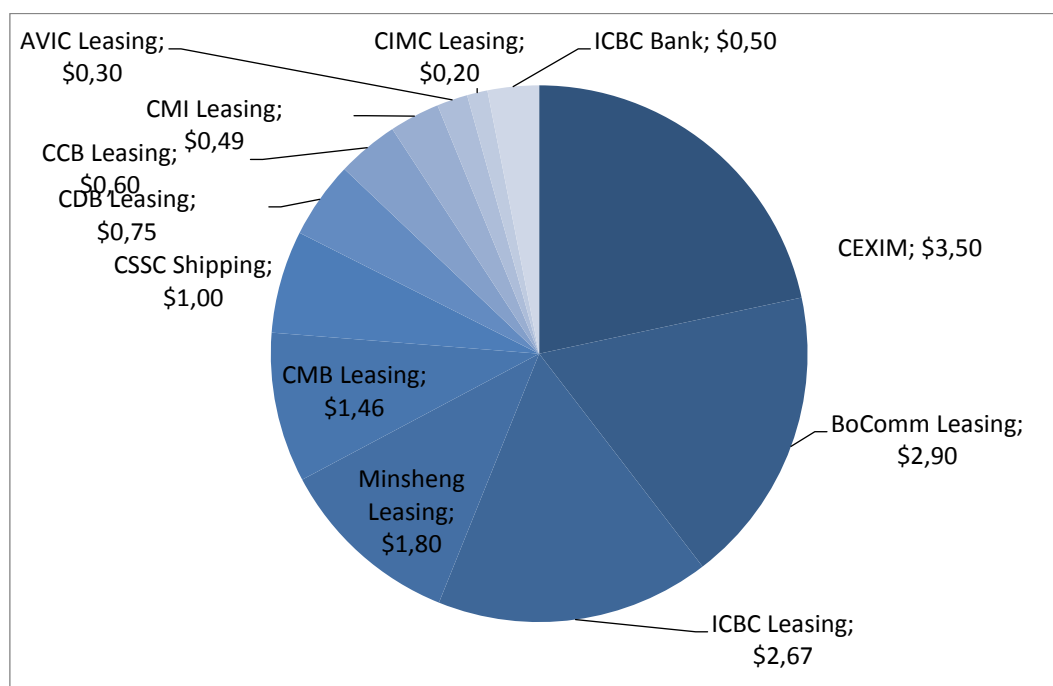
### **3.1.3. Leasing**

Chinese leasing is continuing to expand in the global shipping industry. One reason for this growth is traditional ship financiers'-mainly European Banks'- withdrawal from or reduced interest in to, the sector, and the other reason is Chinese leasing companies' ambition to fund prestigious global tonnage providers. More specifically, a ship with a long-term charter generating cash flow is convenient asset for leasing firms. Although, Chinese leasing companies are different from ECAs, they are in a position to provide finance for vessels built in foreign yards. Besides, high leveraged and sale and lease back schemes helps ship-owners to create cash which is used either for new projects or refinance debts (Marine Money, 2017<sup>[36]</sup>).

Since 2013, Chinese financial leasing companies have accounted for orders of around 12.2m GT under operating lease models — about a quarter of tonnage ordered by Chinese owners (Marine Money, 2018<sup>[20]</sup>).

While commercial banks are subject to strong capital adequacy regulations, bank-affiliated Chinese lessors are regulated by the Chinese Regulatory Commission whose restrictions are not as strict as the regulations for commercial banks. In the international ship-owners' point of view, leasing appears to be comfortable financing alternative which is appealing regardless of owners' credit worthiness and on the other hand, making business with Chinese leasing companies means networking in Asia which can increase the possibility of having advantaged financial packages in upcoming years (Marine Money, 2017<sup>[36]</sup>).

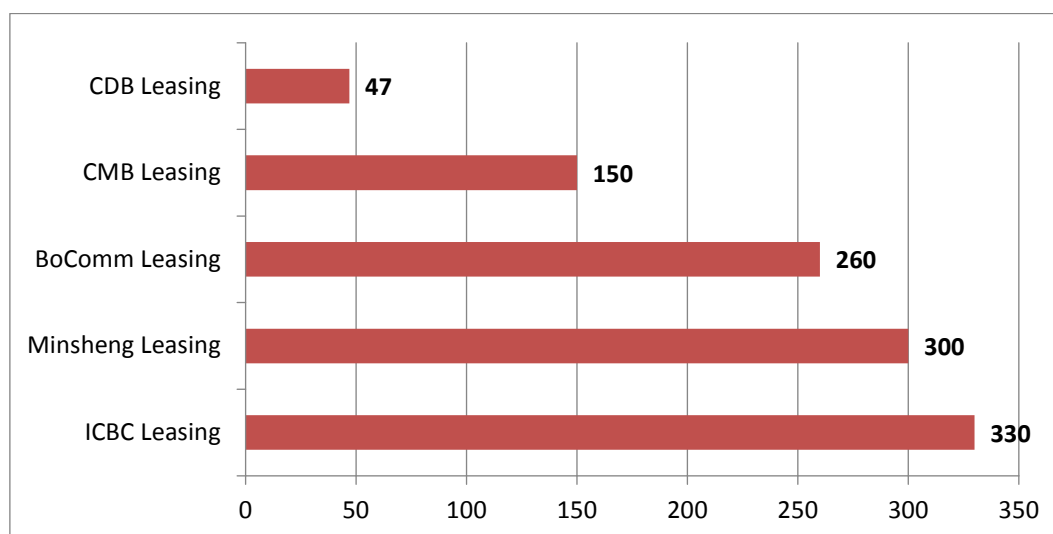
Figure 3.2. Chinese Leasing Spending in 2016, USD in billion



Source: Lloyd's List, 2017.

Leasing companies owned by banks such as ICBC Leasing, Minsheng Leasing and BoComm Leasing are the main actors of Chinese ship leasing since they have adequate financial liquidity for funding their operations. In contrast, leasing firms which have no connection with banks cannot reach that kind of liquidity levels. On the other hand, some large shipyards and large state-owned shipping conglomerates have also created their own leasing branches (IHS Fairplay, 2017<sup>[4]</sup>).

For instance, prominent established operators such as Denmark's Maersk Line, Swiss-based Mediterranean Shipping and France's CMA-CGM SA now work with ICBC Financial Leasing (The Wall Street Journal, 2017<sup>[28]</sup>). Specifically, in October 2017, ICBC Financial Leasing together with KMarin agreed on a LNG financing project for BP Shipping, worth more than USD 1 billion (Lloyd's List, 2017<sup>[31]</sup>).

**Figure 3.3. Top 5 Chinese leasing companies' possession of vessels, December 2017**

Source: Wall Street Journal, December 2017.

As for December 2017, ICBC Financial Leasing, Minsheng Financial Leasing and Bank of Communications Financial Leasing, possess more than 800 vessels, valued at USD 23.6 billion. In 2017, ICBC's shipping portfolio reached to USD 10 billion from USD 600 million in 2009, while Minsheng Financial Leasing's shipping assets increased to USD 6 billion with more than 300 ships (The Wall Street Journal, 2017<sup>[28]</sup>). As of 31 December 2017, ICBC holds 252 vessels with USD 7.09 billion shipping portfolio (Changkun, 2018<sup>[37]</sup>).

BoComm provides financial leasing services to shipping primarily in China. Approximately 70% of the vessels financed in foreign currency and over 75% of them constructed in Chinese shipyards (TradeWinds, 2017<sup>[38]</sup>). BoComm Financial Leasing and Minsheng Financial Leasing each have six 20 000 teu MSC containerships, while BoComm owns additional six 9 400 teu MSC ships (Lloyd's List, 2017<sup>[39]</sup>). The company's clients reside in 13 countries, including Sweden, Finland, Norway, England, Singapore and Korea (Marine Money, 2018<sup>[19]</sup>).

In 2016, it provided CNY 12.3 billion (USD 1.88 billion) financing mainly to European shipping companies. 30% of Minsheng Leasing's fleet are container ships while 28% and 15% are dry bulk and tankers respectively (IHS Fairplay, 2017<sup>[4]</sup>). Moreover, Minsheng Leasing is planning to increase its asset portfolio up to USD 11 billion by 2020.

AVIC Leasing finance medium sized owners and offers financial packages to ship-owners who order new-buildings from subsidiaries AVIC Dingheng and AVIC Weihai (Marine Money, 2018<sup>[19]</sup>).

The main form of leasing structure is sale and leaseback, which can be in the form of an operating lease with a purchase option in the end of charter period. Because, operating leases are taken as off-balance sheet by 1 January 2019<sup>11</sup>, they are very in favour of shipping companies. Financial leases are usually preferred by Chinese lessors considering their advantages on residual value risk that lies with lessee. In most transactions, the leverage ranges within the spread of 80% and 100% of the contract price or the value of the ship. And usually, a charge of 5.5% annual interest rate is applied. Moreover, the

Chinese lenders are quicker than European banks to recover ships, if payments are missed (The Wall Street Journal, 2017<sup>[28]</sup>) (Marine Money, 2017<sup>[36]</sup>).

ICBC Leasing offers three financial products; financial leasing, operating leasing and investment structure. The first includes leasing of newly-built vessels and leaseback after sale, the second comprises newly-built vessels and second-hand ship asset purchase, and the third consists of partnership structure mode and joint venture mode. ICBC Leasing also gives financial consultation (ICBC, 2018<sup>[40]</sup>).

### **Box 3.1. CMB Financial Leasing orders five containerships**

Transaction: USD 318.9 million financing facility for CMB Financial to finance the purchase of five 11 000 TEU containerships

Actors: Nordea Bank\*, Citibank, Dekabank, Development Bank of Japan, E. Sun Commercial Bank, KEB Hana Bank and KEXIM.

Citibank, along with DekaBank and the Development Bank of Japan arranged a USD 317.9 million and KEXIM supported financing for CMB Financial Leasing to partially finance the purchase of five 11 000 TEU containerships constructed in Hanjin Heavy Industries and Construction Philippines. The borrowers are five single purpose owning companies ultimately owned by CMBFL. In a unique transaction structure, the vessels are bareboat chartered to Seaspan Corporation and then sub-chartered, also on a bareboat basis to Mediterranean Shipping Company. The credit is further enhanced by CMBFL's role as remarketing agent and the loan security. The facility comprises three tranches: a 12-year KEXIM funded tranche, a 12-year KEXIM guaranteed tranche and a 10-year commercial tranche. This is a transaction which connects ECAs and well-known international lenders with the debt funding of Chinese leasing companies.

\*Bookrunner.

### *Recent activities regarding leasing companies*

As January 2018, COSCO Shipping Development, COSCO Shipping's leasing finance arm announced a plan to establish a shipping fund with state-controlled China Cinda Asset Management to finance ship assets (Splash, 2018<sup>[41]</sup>).

In May 2018, China Merchants Energy Shipping (CMES) signed a deal with ICBC unit VLOC Maritime Holdings (VMH) to invest in six 325 000-dwt bulkers on order at Beihai Shipyard in China and eight 400 000-dwt VLOCs ordered at Yangzi Xinfu. CMES and ICBC formed a USD 417 million joint venture, while the former provides USD 125 million, the latter provide USD 292 million for VLOCs (Tradewinds, 2018<sup>[42]</sup>).

Under the funding of BoComm Financial Leasing, In June 2017, commodity trader Trafigura stated that it agreed on leasing of 22 plus 10 new crude and product tankers, which will be built in Hyundai Heavy Industries (HHI) and privately owned Chinese firm New Times Shipbuilding. Besides, in 2016 Trafigura sold to, and then leasedback, five medium-range tankers with BoComm (Reuters, 2017<sup>[43]</sup>).

### **3.1.4. Equity-For-Debt Swaps (EDS)**

In October 2016, the State Council issued the guidance on market-orientated EDS, allowing banks to apply for the establishment of eligible institutions to conduct market-orientated EDS project. At the end of 2016, China's four major banks, Industrial and Commercial Bank of China, Agricultural Bank of China (ABC), Bank of China and China Construction Bank) successively announced setting up asset management subsidiaries that specialize in the EDS business (CSIC, 2018<sup>[44]</sup>).

In August 2017, it was announced that two of the subsidiaries fully owned by CSIC Ltd., Dalian Shipbuilding Industry (DSIC) and Wuchang Shipbuilding Industry Group (WSIG), would benefit from a total of CNY 22 billion (approximately USD 3.3 billion) of EDS. This move comes after CSIC's debt-to-equity ratio reportedly reached 2.3 in March 2017 and the shares of the Shanghai-listed company stopped trading in May 2017. Of the eight investing companies, China Cinda Asset Management and China Orient Asset Management, both controlled by the Chinese Ministry of Finance, swapped debt for equity for a total of CNY 7 billion. The other six companies, including State-owned enterprises, provided cash for equity, thus enabling the two shipbuilders DSIC and WSIG to service their debts (OECD, 2018<sup>[45]</sup>).

### **3.1.5. Mergers & Acquisitions**

Mergers and acquisitions were continuously carried out in China's shipbuilding industry in 2016. For instance, COSCO Group founded COSCO Shipbuilding Heavy Industry integrated 13 large shipbuilding factories and over 20 supporting service companies. CSIC Dalian Shipbuilding and Shanhaiguan Shipbuilding, Wuhan Shipbuilding and Beihai Shipbuilding, Fengfan and Torchbat Energy, Chongqing Hongjiang and Chongyue were integrated. (Lloyd's List, 2017<sup>[31]</sup>).

On July 25, 2017, COSCO Shipping filed a regulatory announcement on the Hong Kong Stock Exchange, stating that its proposed tender to acquire the outstanding shares of Hong Kong based ocean container shipping company Orient Overseas International with a total value of USD 6.3 billion (Lloyd's List, 2017<sup>[39]</sup>) (Trade Practitioner, 2018<sup>[46]</sup>).

COSCO Shipping Group and its partner Shanghai International Port Group, completed the acquisition of Hong Kong-based Orient Overseas International in August 2018 (Lloyd's List, 2018<sup>[47]</sup>).

### **3.1.6. Shipyard finance**

Ship finance has become a prominent policy tool for China to provide support for domestic shipyards and enhance the Chinese fleet (The Economic Times, 2017<sup>[48]</sup>). There has been a great demand to encourage the banks to finance ships, particularly those destined for export. The demand also comes from local shipyards, capable of building massive ships, such as those 22 000 TEU ULCVs<sup>12</sup> recently ordered by CMA CGM at CSSC yards. In the last quarter of 2017, by signing deals with Chinese companies, Mediterranean Shipping and CMA CGM ordered 22 000 TEU ships in China (Joc, 2017<sup>[49]</sup>) (World Maritime News, 2018<sup>[50]</sup>). Experts in the industry expect China to play an increasingly important role in ship finance in the coming years, as its banks have enough liquidity (The Wall Street Journal, 2017<sup>[28]</sup>).

Introduced in September 2014, the White List for yards meeting the standards established by MIIT, more easily receive government support, contributing to the removal of 10

million dwt of capacity of non-listed yards, or 12.5% of China's peak shipbuilding capacity (IHS Fairplay, 2017<sup>[51]</sup>).

In the first half of 2017, the Chinese Government spent USD 17.7 million for the construction industry mainly for encouraging development of new ship designs. The majority of funding went to projecting designs for large oil tankers to be constructed at Shanghai Waigaoqiao Shipbuilding (SWS) (Tanker Shipping&Trade, 2017<sup>[13]</sup>).

## 3.2. Japan

### 3.2.1. Shipbuilding industry export-import figures

Over 2007-2017 Japanese new-building constructions accounted for 18.9 %, and Japanese new-building acquisitions realized 12.1 % in CGT terms. On the contrary, Japan held a relatively small portion of global financial shipping portfolios (7.5 % - USD 24.1 billion) in 2017.

Japan built 5 582 (90.8 million CGT) vessels over 2007-2017. More than half of Japanese total production (53.1 %) bought by domestic costumers. Greece was the second largest buyer of Japanese vessels accounted for 8.7 % followed by Singapore (7.7 %) and Chinese Taipei (5.4 %). 52.1 % (2 685 vessels) of the total completion in CGT of Japan was in bulk carrier, 19.1 % (1 128 vessels) was in tankers and 7.2 % (216 vessels) was in PCC.

#### *Japanese Shipping companies*

Japan hosts some of the world's leading shipping companies that could be the biggest factor which may explain domestic demand for new-buildings. Having a market capitalization value over USD 3.5 billion Mitsui OSK Lines (USD 3.74 billion) and Nippon Yusen Kaisha (USD 3.54 billion) takes 6<sup>th</sup> and 7<sup>th</sup> places in global maritime industry by equity market capitalization values. Kawasaki Kisen Kaisha (USD 2.5 billion, 13<sup>th</sup>) and Iino Kaiun Kaisha (USD 480 million, 53<sup>th</sup>) are also in among the top 100 (Marine Money, 2018<sup>[52]</sup>).

### 3.2.2. Export Credits

As a direct lender, the Japan Bank for International Cooperation (JBIC) provides loans to support exports of Japanese ships, in accordance with the SSU. In the fiscal years of 2015 and 2016 JBIC's commitments to the ship industry were YEN 33.6 billion (total of 9 loans) and YEN 10.5 billion (total of 3 loans) respectively (JBIC, 2017<sup>[53]</sup>). Besides, Nippon Export and Investment Insurance (NEXI) signs guarantees or insurances in favour of commercial banks which extend loans.

#### *The latest activities of ECAs*

On 20 July 2016, based on a project financing, JBIC signed a buyer's credit agreement with San Isidro for the export of a LNG carrier constructed by Imabari Shipbuilding. A loan co-financed by Mizuho Bank and NEXI. BNP Paribas and JBIC provided to buyer's credit agreements with TCC Group on 12 January 2017 for the funding of two tankers built by Namura Shipbuilding in its Japanese Shipyards (JBIC, 2018<sup>[54]</sup>) (NEXIM, 2018<sup>[55]</sup>).

On 21 July 2017, BNP Paribas and JBIC co-financed two buyer's credit agreements, insured by NEXI (amounted approximately USD 28.3 million) for purchasing of two bulk carriers by Ultrabulk A/S and Naviera Ultrana Limitada Group. The vessels are to be

purchased by Ultrabulk Group through Mitsui&Co. to be constructed by Imabari Shipbuilding (JBIC, 2018<sup>[54]</sup>) (NEXIM, 2018<sup>[55]</sup>).

On 15 January 2018, JBIC signed a buyer’s credit agreement with TTM Group for financing of an ore carrier, built by Imabari Shipbuilding, on a project finance basis co-financed by Citibank whose part is insured by NEXI (JBIC, 2018<sup>[54]</sup>) (NEXIM, 2018<sup>[55]</sup>).

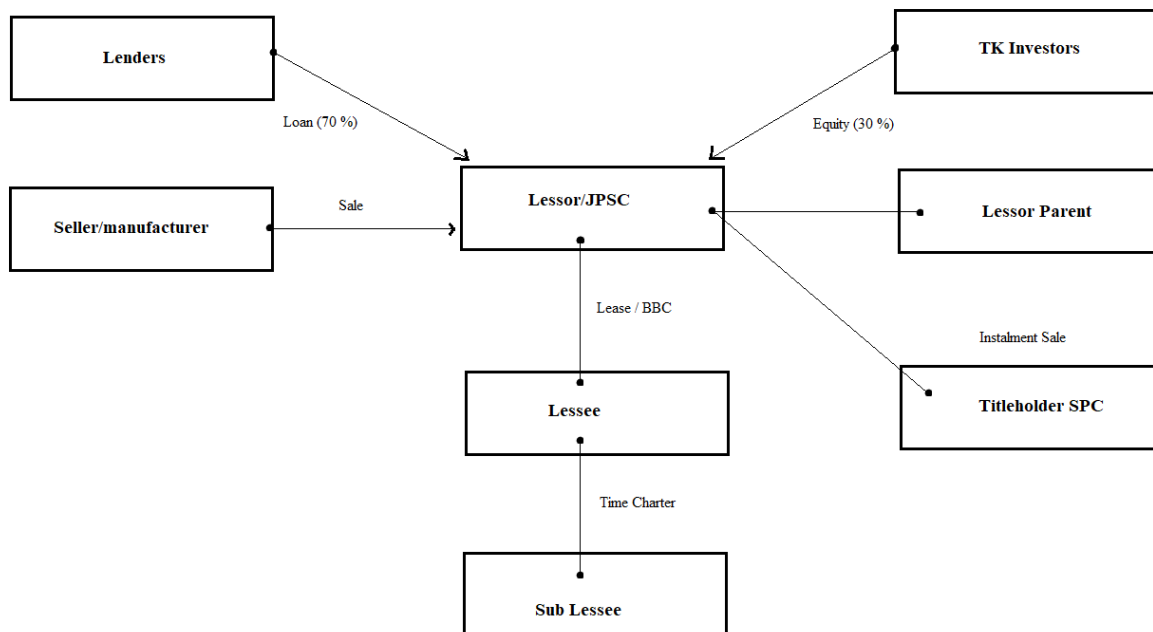
*Other government supports*

With an aim to enhance the transportation and distribution facilities in Japan, domestic ship-owners or other domestic third parties apart from shipbuilders can be granted home credits by the Development Bank of Japan (DBJ). The grant comprises project financing of maritime-related infrastructures including ocean-going vessels with interest rate determined by the credit rating institutions and the loan maturity (OECD, 2016<sup>[56]</sup>).

**3.2.3. Leasing**

Japanese Operating Lease with Call Option (JOLCO) is a tax-driven leasing structure financed by equity investment from a Japanese entity with non-recourse senior debt provided by an onshore bank. JOLCO provides 100 % funding with relatively advantages rates and terms (Marine Money, 2018<sup>[20]</sup>).

**Figure 3.4. Vessel JOLCO structure**



Source: (Marine Money, 2018<sup>[20]</sup>)

The Lessor acquires funds to purchase the ship in the forms of loans and equity. The equity contribution is typically comprised of multiple Japanese corporations investing by way of tokumei kumiai (‘TK’) contribution or nin’i kumiai (‘NK’) partnership. In a TK, a Japanese special purpose company (JSPC) is set up as the TK operator (and as Lessor) by an equity arranger, and such JSPC enters into TK agreements with the equity investors (‘TK

Investors’) on a separate but usually equivalent basis to raise the requisite equity contribution. In turn, the JSPC as TK operator will distribute to TK Investors profits and losses arising from the TK business.

The Titleholder SPC and the JSPC/Lessor enter into an instalment sale agreement, under which sufficient economic interest is transferred to the Lessor to enable it to lease the vessel and claim the requisite depreciation allowances, while title to the vessel remains with the Titleholder SPC for the sole purpose of registration. Following the acquisition and instalment sale arrangement, the Lessor then leases the vessel to the shipping company which lease must qualify as an “operating lease” for Japanese tax law purposes.

One of the distinguishing characteristics of the JOLCO structure (as opposed to a ‘normal’ operating lease) is that the JOLCO is a tax-based leasing product. The TK Investors are Japanese, almost exclusively privately owned corporate entities that seek to use the JOLCO as a means of deferring their Japanese corporation tax liability.

According to the estimates of Crédit Agricole, Japanese tax-based operating lease deals are expected to reach a total amount of USD 495.5 million by March 31, 2019, while it was USD 481 million at the same point in 2018. (Lloyd List, 2018<sup>[57]</sup>).

### **Box 3.2. An example for multi-actor JOLCO**

Transaction: Gram Car Carriers USD 52 Million JOLCO of a 6,700 CEU PCC

Actors: Credit Agricole, Mizuho Securities, SBI Group

Crédit Agricole CIB (CACIB) arranged a USD 52 million Sale and Leaseback Facility for the post-delivery financing of a 6,700 CEU PCC for Gram Car Carriers Holdings Structured as a JOLCO, the sale and leaseback raised funds for Gram equal to 93% of the market value of the vessel. Funding for the JOLCO consisted of a 75% senior secured term loan facility and an 18% junior-secured “tax equity” facility fully underwritten by a wholly owned subsidiary of the SBI Group of Japan, who subsequently syndicated it to its Japanese investor base.

The SBI affiliate also acted as legal owner/lessor of the vessel the Chinese CSC Jinling shipyard supported the Japanese tax requirements and the vessel was certified for specialized tax depreciation for the benefit of the Japanese tax investors. This benefit, which allows the tax owners to depreciate 40% of the vessel’s cost in the first year, was factored into the rentals payable by Gram over the term of the JOLCO, resulting in a highly competitive (tax enhanced) bareboat rate for Gram. The JOLCO has a term of 11 years from delivery of the vessel with an early buy-out option, exercisable at the discretion of Gram, on the 7th anniversary of delivery.

This JOLCO is particularly unique, as it does not involve a single element of Japanese content. The vessel was built in China for a Norwegian owner, who chartered it to a Norwegian operator, with financing arranged by a French bank. In this way, it is a pioneering transaction which will open the door for other international owners to benefit from the provision of Japanese tax equity.

### 3.2.4. *Mergers & Acquisitions, cooperation agreements and joint ventures*

#### *M&A*

Mainly known for building bulkers, Japanese shipbuilding firms united their powers in order to enhance their capacity for being able to construct drill ships. IHI Marine United and Universal Shipbuilding completed their union in January 2013 creating Japan Marine United (JMU), Japanese biggest shipbuilder (IHS Fairplay, 2017<sup>[51]</sup>).

In August 2014, Namura Shipbuilding owned Sasebo Heavy Industries and become the third largest shipbuilder in Japan. Imabari Shipbuilding and Mitsubishi Heavy Industry (MHI) set up a joint venture for creating more docks for ultra-large container ships and LNG carriers in 2013, named as MI LNG Company (IHS Fairplay, 2017<sup>[51]</sup>).

Imabari Shipbuilding a family led, unlisted, parent company with 19 subsidiaries declared that it had a basic agreement to acquire Minaminippon Shipbuilding from Mitsui O.S.K. Lines and Mitsui Engineering & Shipbuilding (Nikkei Asian Review, 2018<sup>[58]</sup>) (D&B Hoovers, 2018<sup>[59]</sup>).

#### *Cooperation agreements*

On the other hand, Oshima Shipbuilding and Sasaki Shipbuilding have specialized in bulk carriers and small gas carriers. However, in 2017, MHI, Imabari, Oshima and Namura signed an alliance agreement with a view to improve their competition power. Kawasaki Heavy Industry (KHI) is planning to divert more commercial ship orders to its joint venture yards with China COSCO Shipbuilding Corporation (IHS Fairplay, 2017<sup>[51]</sup>).

In June 2017, MHI reached an agreement with Oshima Shipbuilding to form a commercial shipbuilding alliance. In May 2018, Mitsui Shipbuilding and Tsuneishi Shipbuilding agreed to cooperate on design, development and capacity sharing and cost competitiveness without merging their independent management (Ship&Offshore, 2018<sup>[60]</sup>).

#### *Joint ventures*

In December 2014, Agricole Corporate and Investment Bank (CA-CIB) and Sumitomo Mitsui Trust Bank (SMTB) established a 50-50 joint venture named as ‘Sea Bridge Finance’ which valued USD 1 billion in senior secured ship mortgage loans over the next three years (Norton Rose Fulbright, 2014<sup>[61]</sup>).

Nippon Yusen Kabushiki Kaisha (NYK-Line), Mitsui OSK Lines (MOL) and Kawasaki Kisen Kaisha (K Line) paid total value of USD 3 billion for creating a joint venture named Ocean Network Express (ONE) established in April 1, 2017. (Lloyd's list, 2018<sup>[62]</sup>)

### 3.2.5. *Other financing types*

#### *Some funding examples*

In February 2016, Mitsui & Co. agreed on a sell and leaseback agreement of a LNG tanker with GasLog and GasLog Partners for a period up to 20 years (Splash, 2016<sup>[63]</sup>).

In June 2017, Mitsubishi UFJ Lease & Finance leased a 58 000 dwt bulk carrier to Wisdom Marine under a bareboat chartering and purchase agreement (Splash, 2017<sup>[64]</sup>).

### *Refinancing*

In April 2018, Kawasaki Kisen Kaisha (K-Line) secured USD 180 million refinancing for two of its LNG ships with an agreement by MUFG Bank, DBJ and Societe Generale (Glory Logistics, 2018<sup>[65]</sup>).

### *Green bonds*

In May 2018, Tokyo listed NYK-Line issued green bonds, maturing in 2023 with a coupon rate of 0.29%, for financing eco-friendly projects and raised JPY 10 billion (Tradewinds, 2018<sup>[66]</sup>)

**Table 3.1. NYK Summary of Green Bond**

Name	Nippon Yusen Kabushiki Kaisha Unsecured Corporate Bonds No.40 (NYK Green Bond)
Issue date	May 24, 2018
Pricing date	May 18, 2018
Maturity	5 years
Issue Amount	JPY 10 billion
Coupon	0.29%
Use of Proceeds	Investment toward mainly new, but including existing, (refinancing) projects indicated in NYK's "Roadmap for Environmentally Friendly Vessel Technologies," <sup>11</sup> such as (1) LNG-fuelled ships, (2) LNG bunkering vessels, (3) ballast water treatment equipment, and (4) SOx (sulphur oxides) scrubber systems
Credit ratings	A , (Japan Credit Rating Agency, Ltd.)

Source: (NYK, 2018<sup>[67]</sup>) (110)

In August 2018, Mitsui OSK Lines (MOL) announced its plan to issue green bonds through a public offering in Japanese market for its various projects. The bonds are expected to be in 5 years term with a value of JPY 5 billion (USD 45 million) (Splash, 2018<sup>[68]</sup>).

### *Commercial Banks*

In November 2017, a special ship investment division was opened at Hiroshima Bank whose ship finance activities have risen by 41.8% over the last five years and reached JPY 485 billion (USD 4.4 billion). In 2017, Iyo Bank lent USD 5 billion for ship finance transactions. Iyo Bank loans to the local owners covers 80% of newbuilding costs with the owner providing 20% equity (Lloyd's List, 2018<sup>[69]</sup>).

## 3.3. Korea

### *3.3.1. Shipbuilding industry export-import figures*

Over 2007-2017, Korea's total construction accounted for 31.1 % of global new-buildings, while its acquisitions corresponded to 3.4 %. On the other hand, Korean total shipping loan portfolio corresponded to USD 15.2 billion (4.7 % of global portfolio) in 2017.

Over 2007-2017, Korea constructed 4 778 (149 million CGT) ships, and exported 40 % of total CGT to 61 different countries/destinations including Bermuda (3.6 %), Monaco (3.2 %), China (3.1 %) and Japan (3.1 %). Only 8 % of Korean new-buildings in total CGT bought domestically.

Greece was the top importer of Korean vessels with a share of 19 % (28.2 million CGT) accounted for 941 vessels. Germany bought 8 % of the Korean ships in CGT. The United States and Denmark both acquired 5 % of the total production in 10 years. Tankers, FCC and gas carriers were the three most constructed vessels in Korea with shares of 32.7 % (48.8 million CGT), 29.7 % (44.3 million CGT) and 18.5 % (27.5 million CGT) respectively.

### 3.3.2. *Export Credits*

In line with the OECD Export Credit Guidelines, the Export–Import Bank of Korea (KEXIM) provides purchasing and refinancing loans for Korean ship-owners as “Overseas Business Loan” and “Overseas Project Loan” and it signs export promotion loans for domestic ship producers up to three years from the initial disbursement date with the purpose of contributing to working capital requirements of Korean shipping companies. Besides, for foreign ship-owners, KEXIM issues “Export Facilitation Loan”, “Financial Guarantees” and “Bond Guarantees” (Korea Eximbank, 2018<sup>[70]</sup>).

In June 2016, Korean Government announced its plan to increase the capitalisation of two state banks in order to help Korean shipping lines and shipbuilding companies in their restructuring process. Total loans to shipping and shipbuilding companies have decreased from 29.1% in 2014 to 25.9 % in August 2017 (Lloyd's List, 2017<sup>[71]</sup>).

As of November 2017, about 75% of the KEXIM’s non-performing loans which accounts USD 3.1 billion have stemmed from shipping and shipbuilding firms. Besides, KDB has been exposing non-performing loans of Korean shipping companies and shipyards, with a net loss of KRW 3.6 trillion due to restructuring expenses in 2016. (Lloyd's List, 2018<sup>[72]</sup>)

KEXIM commits KRW 800 billion (USD 753.29 million) for domestic shipping industry in terms of loans and guarantees in 2018 (Trade Winds, 2018<sup>[73]</sup>).

As the official ECA under the Ministry of Trade, Industry and Energy, Korea Trade Insurance Corporation (K-sure) promotes trade and overseas investment of Korean enterprises aiming at boosting the national competitiveness (K-sure, 2018<sup>[74]</sup>).

On 1 June 2017, K-sure stated that it would provide USD 800 million of trade insurance support to a floating liquefied natural gas (FLNG) facility construction project of Mozambique. Moreover, on 1 November 2017, K-sure stated its plan to strengthen financing support for liquefied natural gas (LNG) vessel export (K-Sure, 2018<sup>[75]</sup>).

### 3.3.3. *Government programs*

On 31 October 2016, Korean Government announced a proposal named “Plan to Bolster the Competitiveness of the Korean Shipping Industry” (Ministry of Strategy and Finance, 2016<sup>[76]</sup>)

In April 2018, the Ministry of Oceans and Fisheries (MOF) revealed a resurrection plan which aims to build 200 vessels including 60 containers and 140 bulk carriers in 3 years (Yonhab, 2018<sup>[77]</sup>). According to the plan, ship-owners can be subsidised up to 10% of the new building price if they replace their old ships with new eco-friendly vessels. (Trade Winds, 2018<sup>[73]</sup>).

As of March 2018, Korean banks’ financial exposures to Sungdong Shipbuilding & Marine Engineering and STX Offshore & Shipbuilding are estimated to KRW 4.6 trillion (USD 4.27 billion), only 10% of these are owned by private financial institutions (Lloyd's List, 2018<sup>[78]</sup>).

*Other government entities and funds active in maritime industry*

Korea Development Bank (KDB) aims fostering the national economy, industries and infrastructure, financial and corporate system and. It is also active in shipbuilding industry (KDB, 2018<sup>[79]</sup>). KDB had a net loss of KRW 3.6 trillion in the 2016 fiscal year related to the restructuring expenses that stemmed from bailing out a number of shipbuilders and shipping lines namely DSME, STX Offshore & Shipbuilding, and Hanjin Shipping (Lloyd's List, 2018<sup>[72]</sup>).

*Korea Asset Management Corporation (KAMCO)*

KAMCO purchased 33 vessels between 2009 and 2014 using its Shipping Fund, which is worth around USD 887 million (based on ship prices). The KAMCO shipping fund acts as a borrower of senior loans from domestic and international commercial banks. Additionally, the senior share of the KAMCO Shipping Fund has been repaid in quarterly instalments from the date of the first drawdown (OECD, 2017<sup>[80]</sup>).

*Korea Ocean Business Corporation (KOBC)*

As a state-run entity with an initial registered capital of KRW 3.1 trillion (USD 2.77 billion) launched in July 2018, KOBC aims at supporting the local shipping and shipbuilding industry by investing in new vessels and providing payment guarantees for newbuilding orders (Splash, 2018<sup>[81]</sup>).

KBOC provides consultancy services for investments on the maritime industry and is expected to create and maintain shipping indices such as forward freight agreement (FFA) derivatives market to assist shipbuilders and ship-owners to diversify their financial risks taking into the consideration that over 40% of domestic shipping companies are considered 'high risk companies' with leverage ratios in excess of 400%. One of the instrument to lower this risk is through the use of sell and lease-back programs arranged by KBOC and KAMCO (Trade Winds, 2018<sup>[82]</sup>).

*Maritime funds*

There are several shipping funds established in Korea such as the Maritime fund established by KAMCO in 2009, KDB shipping fund established by KDB in 2009, and KIC (Korean Investment Corporation) managed by KEXIM. In 2015, KDB launched the 'KDB Ocean Value-Up Fund' amounting to KRW 1 trillion (USD 847 million) and a USD 1.2 billion ship investment fund to assist Korean ship owners. These funds buy a ship owned by a shipping company but if ship-owner may lend the vessel through a "sale & lease back" method and receives a lease. Funds are set at 30% in KAMCO, 60% in creditor banks, and 10% in general investment funds in the form of in-kind investments in vessels pledged as collateral (OECD, 2017<sup>[80]</sup>).

*Private equity fund*

In July 2018, KTB Asset Management, a privately owned investment firm, launched a private equity fund valued USD 30 million tenured in five years. The funding will be used by New York-listed tanker and LNG carrier group Teekay Corp for its investment in three 155 000-dwt shuttle tankers on order SHI (Trade Winds, 2018<sup>[83]</sup>).

### 3.3.4. Capital markets

In October, HMM lined up a share sale worth KRW 694 billion with a view to invest in shipbuilding and ports (Trade Winds, 2017<sup>[84]</sup>). In March 2018, HHI raised KRW 1.23 trillion (USD 1.15 billion) from a share issue on Korea's main stock exchange. KRW 820 billion of found will be devoted to improve company's financial situation, while rest of the money will be used research and development for eco-friendly and smart vessels. With this latest issuing the company's debt ratio decreased to 78% which was 89.9% in December 2017 (Trade Winds, 2018<sup>[85]</sup>).

## 3.4. Norway

### 3.4.1. Shipbuilding industry export-import figures

Norway constructed 471 vessels accounted for 4 million CGT in global new-buildings, over 2007-2017. 68.7 % (2.8 million CGT) of the Norwegian construction were for domestic owners. The United States, the United Kingdom and Denmark had second, third and fourth place among the top Norwegian ship buyers with shares of 4.9 %, 4.0 % and 3.9 % respectively. Norway built 366 offshore service vessels that accounted for 3.5 million CGT and having a share of 87.2 % in its total construction. It was followed by cruise/passenger vessels with a share of 6.1 % (246 thousand CGT) and tankers with 4.2 % (171 thousand CGT).

### 3.4.2. Export Credits

In Norway, Export Credit Norway (Eksportkreditt Norge) and the Norwegian Export Credit Agency (GIEK) work together for financing exports, the former provides loans and the latter issues guarantees. Eksportkreditt issues loans for vessels including offshore vessels, passenger vessels, well boats, car ferries and fishing vessels and for the supply of equipment for ships built at Norwegian shipyards with maturities of up to 12 years, while offering two different sets of interest terms CIRR or LIBOR plus a fixed margin. Besides, regarding equipment for the oil and gas industry, Eksportkreditt is involved in large loan syndicates with commercial banks and other export financing institutions with maximum repayment period of 8.5 years (Eksportkreditt, 2018<sup>[86]</sup>).

A new shipping loan scheme to support Norwegian yards became operational on 1 July 2018. The new scheme support ship owners ordering at Norwegian shipyards. Under the new scheme, Eksportkreditt is allowed to provide financing Norwegian customers wishing to purchase ships from Norwegian yards for use in foreign trade and offshore industry. This scheme covers ferries, fishing vessels, well boats and short sea vessels. Under the old scheme, no loans were available if the vessels were to be built in Norway. Financing was available only shipbuilding abroad and Norwegian equipment installed on board. The scheme began as a provisional, three year arrangement and evaluation. The new scheme is expected to lead to increased activity of Norwegian shipyards, workplaces, expertise.

GIEK gives guarantees for exporters, buyers and banks in order to facilitate export financing. In line with this, GIEK provides guarantees for the construction of vessels and offshore installations at Norwegian shipyards. GIEK works closely with Eksportkreditt and commercial banks. Buyer credit guarantee of GIEK can be applied to build ships in Norway or to install Norwegian equipment on foreign-built vessels (GEiK, 2018<sup>[87]</sup>).

A typical ship financing deal with GIEK's participation is based on 30–40 per cent equity and a GIEK guarantee for 70 % of the loan. GIEK can take place in second-hand sale and

vessel retrofits and modernisation provided that the vessels in question are sufficiently tied to Norway. In 2016, GIEK's guarantees for ships and ship equipment come to NOK 72.9 billion which accounts 74% of outstanding guarantee liabilities. This guarantee portfolio comprises 292 vessels of which 244 are in the offshore oil and gas sector and 48 in shipping, fishing and cruising (GEiK, 2018<sup>[87]</sup>).

More specifically, between February 2018 and January 2015, GIEK issued guarantees under the categories of Ro/Ro passenger carriers, car ferries, factory trawler, jackups, tankers, bulk vessels, offshore vessels, drill ships, seismographic research vessels etc. with a guarantee amounts ranging from NOK 291 180 to NOK 2.085 billion (GEiK, 2018<sup>[87]</sup>).

### 3.4.3. Commercial banks

Den Norske Bank (DNB) ASA was founded in 1822 and is headquartered in Oslo, Norway. Norwegian Government (Ministry of Trade, Industry and Fisheries) owns 34% of the Bank. Internationally, the banking group is among the world's leading banks within its priority areas, especially the energy, shipping and seafood sectors. DNB Markets operates as a subsidiary of DNB Bank ASA, and provides capital markets services. In 2017, DNB Markets acted as a left lead for 12 deals including 7 Norwegian Bonds. DNB ASA stated its reorganization on ocean industries with narrowed customers but widened products offerings to them (DNB Bank, 2018<sup>[88]</sup>) (DNB, 2018<sup>[89]</sup>) (Bloomberg, 2018<sup>[90]</sup>).

### 3.4.4. Bonds

In 2017, established owners raised record levels of HY bonds in Oslo. With few credits and uncertain cash flow, these deals remain fraught with risk. To mitigate the risk, transactions were highly structured and included security and tighter terms. Higher pricing was an offset as well, but with historic low interest rates and no amortization, they were still a palatable alternative to bank loans (Marine Money, 2018<sup>[8]</sup>).

In the first ten months of 2017, NOK 3.5 billion were raised through bond issuances by shipping companies up by 600% from the same period in 2016. The Norwegian bond markets mainly used by owners with US-listed equity. Besides, offshore companies raised NOK 1.49 billion. In November 2017, USD 944 million was raised through Norwegian bond offerings by US-listed companies including Teekay LNG, Navigator Holdings, Golar LNG Partners, Eronav, Ship Finance International and Eagle Bulk (IHS Fairplay, 2018<sup>[91]</sup>).

In June 2017, Teekay LNG Partners L.P. announced issuing NOK 300 million (USD 35 million) in new senior unsecured bonds through an add-on to its existing Norwegian bonds due in October 2021. All payments will be swapped into a USD fixed-rate coupon of approximately 7.75%. The net proceeds from the bonds are expected to be used for refinancing of existing bonds and/or general partnership purposes, which may include funding instalment payments on future newbuilding deliveries. Danske Bank Markets, DNB Markets, Nordea and Swedbank acted as Joint Lead Managers of the above mentioned new bond issuance (Teekay, 2017<sup>[92]</sup>).

### Box 3.3. Borealis Finance LLC bond issuance

#### USD 150 million senior secured bond issue 2017/2022

USD 150 million senior secured bond issuance with 7.50 p.a. coupon and 99.48% issue price for 5 years tenor listed through Oslo Stock Exchange and settled in 16 November 2017. Maintenance covenants include:

- Vessel LTV Ratio of maximum 75%,
- Min liquidity equal to 5% of total debt of the issuer.

Investors 'demand varied geographically as 36% Nordics, 34% the United Kingdom, 14% Asia, 11% the United States and 5% Europe.

Net proceeds to be used to repay Borealis Finance LLC's outstanding USD 115.5 million secured bank facility. The bond security package comprises of 17 container vessels and 4 dry bulk vessels.

### 3.4.5. Equity

As for the equity capital markets, the Norwegian OTC market (NOTC) is the most active in the shipping sector. For the issuers IPOs and FPOs are quicker ways of raising money. The NOTC imposes fewer regulating requirements compared to New York Stock Exchange (NYSE) and Oslo Bors (OB). An additional advantage of the NOTC is that the associated listing costs are lower than those of stock exchanges (Kavussanos and Visvikis, 2016<sup>[14]</sup>). For example, MPC Container AS raised USD 100 million by private placements in April 2017 for acquisition of two small container (Marine Money, 2018<sup>[8]</sup>).

Shipping companies raised NOK 1.85 billion (USD 224 billion) using equity issuances Oslo bourse in the first 10 months of 2017 with a 10% increase compared to the same period in 2016. Offshore service companies, on the other hand, raised NOK 1.94 billion in the same period of 2017. These figures do not include the financing from over-the-counter (OTC) market (IHS Fairplay, 2018<sup>[91]</sup>).

### Box 3.4. OTC GoodBulk equity issuance

#### USD 100 million Equity Private Placement

GoodBulk Ltd. raised USD 100 million (USD 11.0 per share) for acquisition of 5x Capesize vessels and 1x Ultramax vessel from Carras Ltd., a company controlled by Brentwood Shipping & Trading. Additional financing was provided by ABN Amro in a senior secured term loan facility. Shares registered on the Norwegian OTC list following the transaction. 41% of the demand came from the United States, and this was followed by the United Kingdom and Europe with a share of 32% and 10% respectively (Pareto Securities, 2018<sup>[2]</sup>).

In November 2017, Höegh LNG Partners' issued USD 115 million on preferred share at 8.75% (Lloyd's List, 2017<sup>[39]</sup>). In 2017, GoodBulk, Navios Maritime Containers and 2020

Bulkers for the first time raised capital from OTC market (IHS Fairplay, 2018<sup>[91]</sup>). In May 2018, Borr Drilling issued unsecured convertible bonds valued USD 350 million for funding five rigs from Keppel FELS shipyard. The offering handled by Citigroup, Clarksons Platou Securities, DNB Markets and Goldman Sachs International (Trade Winds, 2018<sup>[93]</sup>). In July 2018, 2 020 Bulkers raised USD 6 million by a private placement of 800 000 new shares each valued USD 7.5 in order to use the money for general corporate purposes and to finance eight newcastlemaxes which are under construction in New Times Shipyard in China. The eight 208 000-dwt bulkers are valued between USD 44.2 million and USD 44.7 million, and to be delivered between September 2019 and May 2020 (Trade Winds, 2018<sup>[94]</sup>).

#### **3.4.6. Mergers & Acquisitions**

In July 2018, Kongsberg agreed to acquire Rolls-Royce's commercial marine business in a USD 662 million deal. In 2018, Kongsberg has also formed an autonomous shipping company with Wilhelmsen called Massterly (Trade Winds, 2018<sup>[95]</sup>).

### **3.5. The European Union**

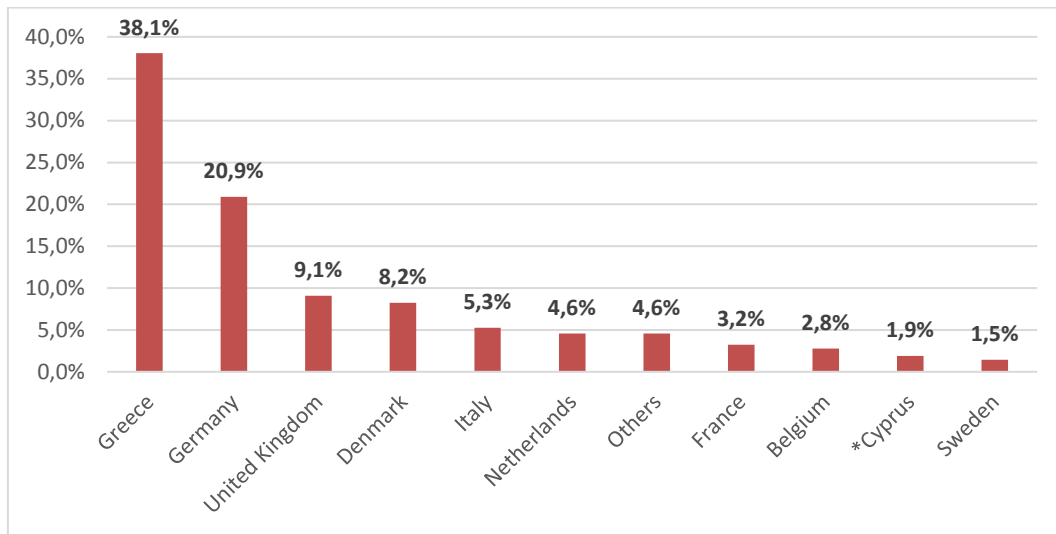
#### **3.5.1. Shipbuilding industry export-import figures**

The EU constructed 6.4 % and acquired 32.2 % of global vessel production in 2007 – 2017 periods. Besides, the share of European financial institutions in global shipping loan portfolios corresponded to 37.2 % in 2017.

The EU produced 2 720 vessels accounted for 30 million in CGT over 2007 – 2017. 59.4 % of the total construction was acquired by domestic ship-owners. The second biggest customer of the EU was the United States, which bought 18.9 % (5.6 million CGT, 108 ships) of total production. 77 other countries/destinations bought 9.5 % of the total CGT including China (0.9%), Brazil (0.61 %) and Mexico (0.58 %).

Cruise/passenger segment had the biggest share with 40.28 % (12.3 million CGT) accounting 336 ships which was followed by FCC (13.94 % - 4.2 million CGT) and offshore services vessels (9.10 % - 2.8 million CGT). Besides, 171 tankers, 944 miscellaneous ships 408 other dry cargo vessels were built in this 10-year-period.

Inside the EU, Germany (315 ships), Italy (194 ships) and the Netherlands (927 ships) were the biggest builders in CGT terms accounting 6.9 million CGT (22.6 %), 5.6 million CGT (18.2 %) and 3.5 million CGT (11.4 %) respectively. And they followed by Croatia (7.7 %), Spain (7.1 %), Finland (5.8 %), France (5.3 %), Poland (5 %) and Denmark (3.6 %).

Figure 3.5. EU buyers, aggregated over 2007 – 2017<sup>13</sup>

Note: \* Please refer to endnote 14.<sup>14</sup>

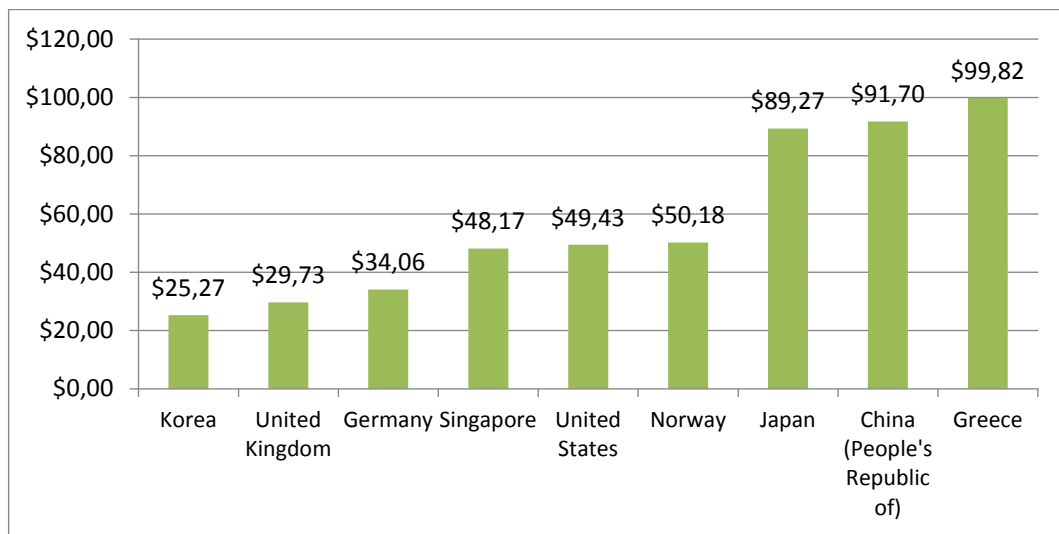
Source: OECD calculation based on Clarkson data.

The EU bought 8 674 ships accounted 154.5 million CGT in this 10-year-period. Greece was the leader buyer with 2 571 ships (58.8 million CGT – 38.1 %) followed by Germany (32.2 million CGT – 20.9 %), the United Kingdom (14 million CGT – 9.1 %) and Denmark (12.7 million CGT – 8.2 %). Other ten members accounted for 4.6 % of the all purchase and took the seventh place. France (3.2 %), Belgium (2.8 %), Cyprus<sup>15</sup> (1.9 %) and Sweden (1.5 %) followed them respectively (Figure 3.5).

### *Fleet of Greece*

According to Vessel Value, Greece has the most valuable fleet in the world (Marine Executive, 2018<sup>[96]</sup>). The European Banks are the main financiers of Greek Shipping as holding 80 % of overall Greek loans. Greek ship owners are looking for cooperation opportunities with Chinese lenders and companies particularly in the field of leasing. The Greek merchant fleet is still the largest in numbers, size and value with a need for more funding (The Jamestown Foundation, 2018<sup>[27]</sup>).

Figure 3.6. Top shipping nations by value, in USD billion



Source: (Marine Executive, 2018<sup>[96]</sup>)

According to Petrofin Bank Research, as of November 2017, banks' lending to Greek shipping has decreased by 5.62% in 2017 while the contraction was 8.77% in 2016. On the other hand, the Greek fleet increased by 25.2 million tons DWT with 7% from 2016 to 2017, reaching 387 million tons DWT. The share of Greek Banks in overall Greek shipping portfolio was actualized as USD 9 billion with 16 % (Petrofin Bank Research, 2018<sup>[97]</sup>).

### 3.5.2. Policy framework

The policy document, LeaderShip 2020, adopted in 2013, states that access to finance is a prominent factor in competing for international shipbuilding contracts. In this respect the importance of promoting European Investment Bank's (EIB) funding opportunities, exploring a potential measure for long term financing and the accessibility of market based guarantees are highlighted in the document. More specifically exploring possibilities to broaden EIB's lending activities, primarily for projects related to green shipping, offshore renewable energy, and retrofitting are emphasized. Besides, when required, the industry is encouraged to think the possibility of a 'blue' Public Private Partnership (PPP) in the framework of respecting state aid rules (European Commission, 2015<sup>[98]</sup>).

The Green Shipping Guarantee (GSG) Programme is supported by the EU's Connecting Europe Facility (CEF) Debt Instrument and the European Fund for Strategic Investments (EFSI). The Programme is designed primarily for accelerating investment in environmental technologies and for the retrofitting of ships with sustainable technologies (such as LNG, ballast water, energy efficiency, etc.).

Under the umbrella of EFSI, Green Shipping Loan Programme (GSLP) was approved in June 2016 with a focus on supporting small and medium size enterprises. This programme may support up to 100% of the incremental environmental investments on existing vessels or up to 50% of the debt financing on new vessels (European Investment Bank, 2016<sup>[99]</sup>).

### 3.5.3. *Export Credits for selected EU members*

Since January 2017, Bpifrance Assurance Export is responsible for the management of public guarantees for ECs in France. (TFX Data and Allen & Overy, 2018<sub>[21]</sub>).

In Italy, Servizi Assicurativi del Commercio Estero (SACE) provides ECs and guarantees. (SACE, 2018<sub>[100]</sub>)

While Finnish Export Credit provide export and home credits for buyers of vessels constructed in Finnish shipping yards, its 100 % state owned parent company Finnvera provides loan guarantees for the credits given by Finnish Export Credit which applies fixed rate interest (CIRR) plus margin or floating rate interest (Euribor or USD libor) plus margin; a commitment fee 0.30% p.a. for EUR and USD (OECD, 2018<sub>[101]</sub>) (Finnevera, 2018<sub>[102]</sub>).

Germany's official ECA, Euler Hermes provided the Export Credit to cruise industry (TFX Data and Allen & Overy, 2018<sub>[21]</sub>).

### 3.5.4. *Commercial banks*

On 11 December 2017, EIB (EUR 49.5 million full guarantee), Société Générale (EUR 142.6 million financing for the acquisition) and Brittany Ferries signed the agreement on acquisition of a LNG powered ferry.

Euronav NV, the largest NYSE listed independent crude oil tanker company in the world, signed a USD 173.5 million loan facility with Crédit Agricole Corporate & Investment Bank, BNP Paribas Fortis SA/NV and Sea Bridge Finance Ltd (commercial lenders) and KEXIM (as ECA lender) on 22 March 2018. The fund will be used for financing four ice-class suezmax newbuildings being constructed by Hyundai Samho Heavy Industries (WFW, 2018<sub>[103]</sub>).

With an intention to raise capital, on April 2018, the share buyback programme of Singaporean BW LPG ended up with acquiring 2.12 million shares NOK 76.4 million (USD 9.8 million) while targeted value was 4 million shares worth up to USD 15 million. Earlier in 2017, BW LPG successfully managed to acquire loan from lenders including ING Bank, Danish Ship Finance, Development Bank of Japan, OCBC and Societe Generale for refinancing USD 150 million debt due in March 2018 (Trade Winds, 2018<sub>[104]</sub>).

KfW IPEX-Bank has a shipping portfolio of EUR 13.9 billion (as of December 2017) including mainly cruise financings. The majority of the shipping loans are secured by ECAs and ship mortgages. In general, the bank targets corporate recourse financings with strong shipping companies. In 2017, the bank arranged EUR 5.4 billion in new commitments.

In January 2018, KfW IPEX-Bank together with DekaBank provided finance for four bulkers ordered by Ireland's Arklow Shipping. The deal amounted USD 60.83 million for 16 500-dwt short sea vessels built at Ferus Smit in Germany and the financing is backed by a 95% guarantee from export credit agency Hermes (Trade Winds, 2018<sub>[105]</sub>).

Société Générale's business model remains selective and focuses on the top end of the market covering both corporate and project finance. The bank particularly active in LNG and Offshore sector project finance & advisory as well as leasing and, export finance across the shipping sector. SG specialises in structured and project financing including vanilla

mortgage loans. The bank's shipping book stands at around USD 4.5 billion mainly consisting LNG shipping, offshore sector and container shipping.

Founded in 1961, Danish Ship Finance is a prominent financial institution, which has approximately USD 6 billion loan book secured by first priority mortgages in 562 vessels. Its funding based on the value of the vessel (the mortgaged asset) and projections for a vessel's earnings potential. Financing will typically not exceed 70% of a vessel's market value. Financing is always provided against first priority mortgage in the vessel and assignment in respect of the vessel's insurances. The term of the loan, additional collateral and other loan terms are agreed on an individual basis (Danish Ship Finance, 2018<sub>[106]</sub>).

### Box 3.5. A credit facility example for two-new-buildings

**Transaction:** USD 327 million Credit Facility for 1x 173 400 cbm LNG FSU and 1x 174 000 cbm LNGC

**Actors:** Credit Agricole\*, Société Generale, KEXIM, Arab Petroleum Investments Corp. ABNAMRO, SEB and National Australia Bank

Teekay LNG bought two 174 000 cbm LNG carriers using a USD 327 million EC facility for pre- and post-delivery financing. The loan agreement led by Credit Agricole and Société Generale. The facility is structured as 80% financing funded 66% by a 12-year KEXIM tranche repaid straight line to 0 and a 33% commercial tranche repaid in full at maturity in year 12, which combined give a repayment profile of 18 years to 0. For only the third time, the KEXIM tranche includes an option to convert into a KEXIM-covered bond, a structure pioneered by Credit Agricole. The conversion option gives Teekay LNG the opportunity benefit from the pricing arbitrage in the institutional debt capital market at the time of delivery, thereby lowering its current cost of financing.

\*Joint book-runner and facility agent.

### *German KGs*

Designed to promote shipyards and shipping industry, German KGs (kommanditgesellschaft or limited partnership) have been used for almost 40 years for financing maritime industry. Particularly, Shipping KG funds raised EUR 33.1 billion (USD 46.8 billion), mainly from private investors, between 1992 and 2008. German KDs enable to invest in and acquire a single ship using a mixture of bank credit and equity with some tax advantages. Before shipping downturn in 2007, 26% of global orderbook tonnage came from German one ship KGs, however after the shipping crisis that number has shrunk to 2%. Besides, since 2008, over 180 one ship KGs have gone insolvent and been removed from the market. (Akol, 2008<sub>[107]</sub>) (Kravets&Kravets, 2018<sub>[108]</sub>) (Financial Times, 2008<sub>[109]</sub>).

As of July 2018, the German-owned tanker fleet stood at 264 vessels, but in 2015, it numbered over 300 vessels with a collective value of over USD 6 billion. This may be shown as the downsizing of the German KG funding scheme. (Tanker Shipping&Trade, 2018<sub>[110]</sub>).

### 3.5.5. Bonds

In 2016, A. P. Moller Maersk raised USD 1.88 billion through proceeding of bonds in two issuances. Hapag Lloyd raised USD 1.21 billion in two Eurobonds and a capital increase associated with the merger with UASC in 2017 (Marine Money, 2018<sup>[8]</sup>).

### 3.5.6. Venture Capital

In May 2018, Germany's Zeaborn group and Intermarine of the United States entered into a joint venture agreement with Zeaborn to establish Zeamarine a MPP and heavy-lift Company with a near-term target of more than 100 ships. Zeamarine is expected to be the third-largest player in sector, just behind COSCO and BBC Chartering (Tradewinds, 2018<sup>[111]</sup>).

A wholly state owned venture capital and private equity company Tesi also operates in the shipbuilding industry. In September 2014, together with Meyer Group, Tesi acquired Turku shipyard from STX Europe and exited from this investment in April 2015. In December 2015, Tesi and private investors Taaleri and Finda participated in an investment round which increased RMC's share capital to nearly EUR 25 million (OECD, 2018<sup>[101]</sup>).

### 3.5.7. Mergers & Acquisitions

In September 2016, the German shipbuilder Lürssen has acquired the Blohm+Voss shipyard in Hamburg for an undisclosed price (World Maritime News, 2016<sup>[112]</sup>).

According to Tanker Shipping&Trade, as of July 2018, German shipping group John T Essberger/Deutsche Afrika-Linien has finalised a purchase agreement that will acquire Crystal Nordic from joint owners Nordic Tankers and Embarcadero Maritime (Tanker Shipping&Trade, 2018<sup>[110]</sup>).

### 3.5.8. Selected recent ship finance activities by EU's actors

In 2016, CEF, the EIB and Société Générale signed a EUR 150 million guarantee framework agreement to support shipbuilding, and the modernization of existing ships for environmental protection. In December 2017, EIB, Société Générale and Brittany Ferries signed an agreement for the construction of a LNG powered ferry aimed to be completed in April 2019 to operate between Caen-Ouistreham (France) and Portsmouth (United Kingdom) route. Société Générale acted as the main arranger of the EUR 143 million financing for the acquisition of the ferry commissioned by Brittany Ferries, which includes a tranche of EUR 49.5 million fully guaranteed by the EIB (European Commission, 2017<sup>[113]</sup>).

In February 2018, an agreement to support green investments for the European shipping market for a total value of EUR 300 million was signed by ING and EIB (European Commission, 2018<sup>[114]</sup>). In June 2018, the European Bank of Reconstruction and Development (EBRD) bought 3.6 % stakes of Estonia's port and ferry company Tallina Sadam (Port of Tallinn) by an IPO raised USD 172 million on the Nasdaq Tallinn Stock Exchange (Trade Winds, 2018<sup>[115]</sup>).

In January 2018, the European Commission approved Croatian plan to grant Uljanik shipyard a State guarantee for a EUR 96 million loan and found that the plan was in line with EU state aid rules (European Commission, 2018<sup>[116]</sup>).

In December 2017, EIB and Wärtsilä a Finnish marine engine producer signed a loan agreement valued EUR 125 million regarding Wärtsilä marine researches on cleaner

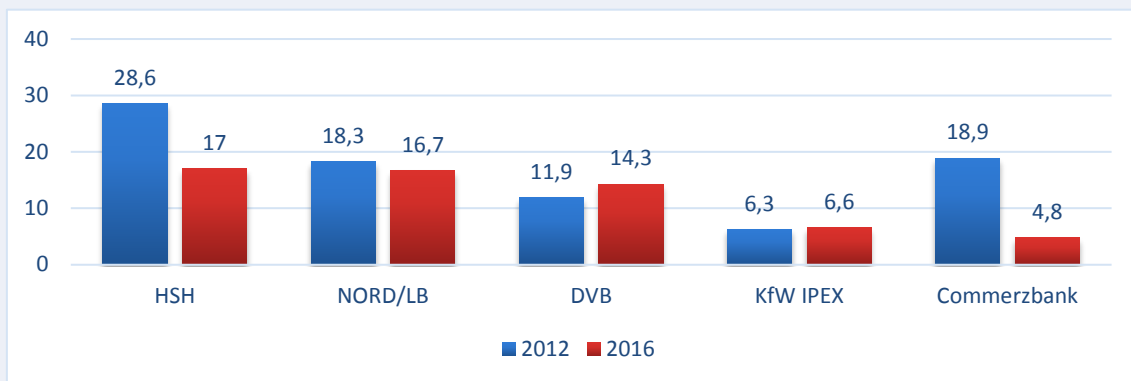
technologies and higher levels of automation and digitalization (European Investment Bank, 2017<sup>[117]</sup>).

In May 2018 Croatia Government approved EUR 68.1 million guarantee for the construction of a polar vessel valued EUR 106.4 million and ordered by Polaris Exploration.

### Box 3.6. Shipping portfolios of European Commercial Banks

In 2006, European commercial banks accounted for 94% of global financial shipping portfolio, while their share decreased to 58.6 % in 2017. Instead, the Asian commercial banks, including state-owned Chinese banks, increased their share as they had more long-term resources in dollars available than European banks. Furthermore, whereas development banks (including ECAs and Policy Banks in China) accounted for limited financing in 2006 in terms of total ship finance exposure, their share went up to 21% in 2014.

Figure 3.7. German banks' exposure to shipping loans (EUR in billions)



Source: Shippingwatch (2017)

European banks like Norway's DNB as, Sweden's Nordea and France's BNP Paribas still hold some of the world's biggest shipping portfolios. European financiers that were once heavyweights in the industry, including Royal Bank of Scotland Group PLC and Lloyds Banking Group PLC, have withdrawn from shipping. Others, like Germany's HSH Nordbank AG and Nord/LB Group, are looking to divest themselves of part or all of their shipping portfolios. European firms are pulling back because of shipping's long down cycle, in which overcapacity kept freight rates low and made investments risky (The Wall Street Journal, 2017<sub>[28]</sub>).

According to data compiled from different resources including Marine Money, Petrofin Research, and company reports, from 2010 to 2017 decrease in shipping exposure of major European Banks as follows for HSH Nordbank: USD 47.5 billion to USD 14 billion, for Nord/LB USD 17 billion to 12 billion, for Commerzbank: USD 30 billion to 4 billion, for DVB USD 14 billion to 11 billion, for DNB: USD 25 billion to 10.5 billion, for RBS: USD 22 billion to 4 billion and for Credit Agricole: USD 20 billion to 15 billion (DC Maritime Partners, 2018<sub>[118]</sub>). Royal Bank of Scotland still had GBP 2.5 billion of shipping loans at the end of 2017 (Trade Winds, 2018<sub>[119]</sub>).

In August 2018, Italy's Banca Monte del Paschi di Siena (BMPS) offloaded its non-performing shipping loans valued about USD 160 million by a transaction deal to a finance group led by SC Lowy an independent fixed income specialist based on Hong Kong (Trade Winds, 2018<sub>[120]</sub>).

New regulations on the banking sector are expected to affect further the European shipping lending as the more stringent rules mean more risk-averse behaviour of commercial banks.

An increase on capital requirements of banks, particularly, could put more SME shipping companies at risk. (Deloitte, 2017<sub>[121]</sub>)

#### **German banks**

With USD 100 billion toxic debt from the shipping industry, the German banking system tries to dispose of distressed shipping loans mainly stemmed by unprofitable shipping companies. The five biggest German shipping banks had a combined exposure to shipping of EUR 59 billion by the end of 2016 (Figure 3.7.) (Shippingwatch, 2017<sub>[122]</sub>).

For example in June 2018, German Commerzbank returned its regulatory licence to conduct business concerning ship Pfandbriefe as part of its plan to dispose of bad shipping loans worth EUR 4.5 billion (World Maritime News, 2017<sub>[123]</sub>). Commerzbank had reduced its shipping portfolio by more than 30 percent EUR by 1.5 billion in the first nine months of 2017 (Reuters, 2017<sub>[124]</sub>). German NordLB planned to offload EUR 2.7 billion (USD 3.1 billion) of its non-performing loans (NPLs) portfolio accounted for USD 7.7 billion with a goal to decrease its total NPLs in shipping to USD 5 billion by the end of 2019. It has been speculated that Industrial and Commercial Bank of China and the Bank of China are among the potential suitors (Lloyd's List, 2018<sub>[125]</sub>).

## **3.6. Turkey**

### ***3.6.1. Shipbuilding industry export-import figures***

Over 2007 – 2017, Turkey constructed 881 ships in total (4.9 million CGT). Almost half of the Turkish production was bought internally. Other 22 % part of the production was acquired by 52 different countries. 32 % of the vessels bought buy eight different European countries. More specifically, Italy bought 46 ships (326 thousand CGT, 7 %), Netherlands acquired 47 ships (243 thousand CGT, %5) and Denmark acquired 33 ships (231 thousand CGT, %5). 58.6 % of Turkish production accounted for tankers (316 vessels). It was followed by miscellaneous ship group at 11.4% and other dry cargo group at 8.1 %. Turkey also built 89 cruise/passenger ships accounted for 321 thousand CGT (6.4 %).

### ***3.6.2. Policy framework***

Ministry of Transport and Infrastructure is the principal government institution dealing with issues related to the maritime and shipbuilding sectors in Turkey. In general, the Turkish government takes a relatively non-interventionist approach to shipbuilding. 10<sup>th</sup> Development Plan (2014-2018), which draws a general frame for the direction of government policies states (Ministry of Development, 2013<sub>[126]</sub>);

- Turkish shipbuilding industry is aimed at becoming more R&D intensive,
- A national research vessel has been constructed for performing oil exploration,
- Enhancement of Turkish fleet will be encouraged in order to more capable in international trade.

#### ***R&D support***

R&D supports is implemented as a general measure and there is no direct R&D support for the shipbuilding industry. Instead, R&D support is provided to the manufacturing sector horizontally through the Ministry of Industry, and Technology, Small and Medium

Industry Development Organization (KOSGEB), and the Scientific and Technological Research Council of Turkey (TÜBİTAK), which provides input for the shipbuilding industry.

#### *Issues regarding ship finance in Turkey*

Majority of shipbuilding projects are funded by using bank loans in Turkey. There are some key findings regarding ship finance practices in Turkey as follows (Erdogan et al., 2016<sup>[127]</sup>):

- Intra and –especially- post construction financing have shown by Turkish shipbuilders among the key issues that negatively affect the competitive power for construction of above 50 thousand DWT vessels.
- Due to the fact that Turkish maritime companies do not use bond and equity issuance, the companies should be encouraged to use capital markets.
- Creation of a maritime consortium may bring some competitive power to Turkish maritime industry.
- Private Pension Funds (BES), Credit Guarantee Fund (KGF) and Turkey Wealth Fund should be active in providing long term funding for the industry.
- The problems regarding fund creation for shipyards' using collateral and valuation can be solved by amending property issues on rent contracts of yards.

#### **3.6.3. Export Credits**

Türk Eximbank is a fully state-owned bank acting as the Turkish government's major export incentive instrument in Turkey's sustainable export strategy. As Turkey's official export credit agency, Türk Eximbank has been mandated to support foreign trade and Turkish contractors/investors operating overseas.

#### **3.6.4. Recent trends on the industry**

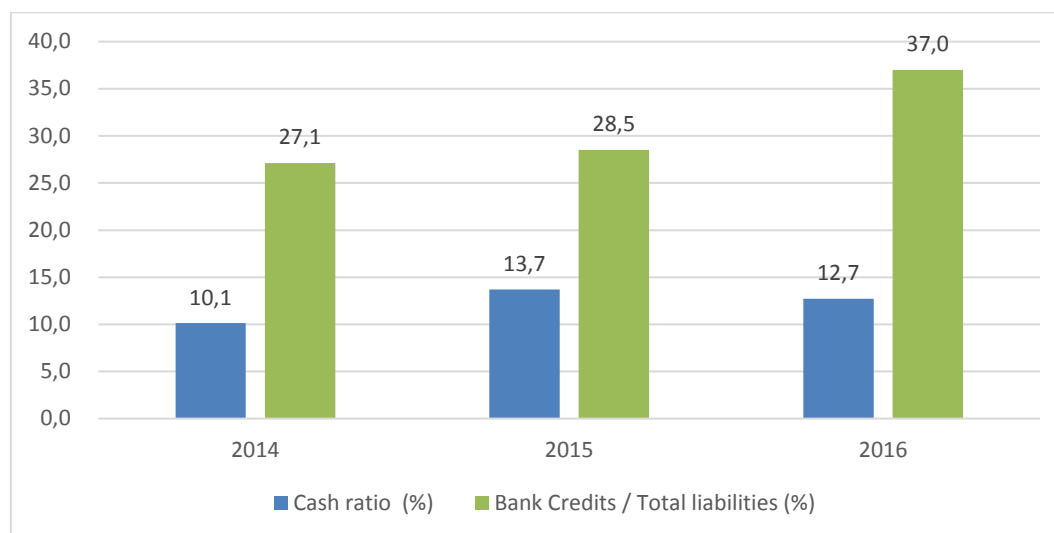
According to maritime sector experts, depreciation of Turkish Lira (TRY) against USD, which seived in August 2018 may enhance competitive power of Turkish shipyards (Lloyd's List, 2018<sup>[128]</sup>).

As for the shipping sector, DFDS have bought Turkish ferry operator UN Ro-Ro from Turkish private equity firms Actera Group and Esas Holdings for EUR 950 billion in June 2018.

In June 2018, National Coaster Fleet Renewal Project signed founding Coaster Maritime Incorporated Company. 51 % of the stakes of company owned by privately and rest of the shares are owned by Ministry of Industry and Technology of Turkey. The project aims at constructing 500 ships in 15 years period (Anadolu Agency, 2018<sup>[129]</sup>)

In July 2017, Turkey's Ro-Ro firm Alternative Transport has secured a EUR 27.5 million loan to finance the acquisition of a new Ro-Ro cargo ship (valued EUR 55.5 million) from European Bank for Reconstruction and Development (World Maritime News, 2017<sup>[130]</sup>).

In February 2017, Turkish consortium consists of Kolin Construction and Kalyon Group ordered two floating storage and regasification units (FSRU) to HHI – Korea with a predict contract value of USD 230 million for one unit (Splash, 2017<sup>[131]</sup>).

*Financial outlook of firms in shipbuilding***Figure 3.8. Cash and bank credits to liabilities ratios, 2014 – 2016**

Source: Data taken from (CBRT, 2018<sup>[132]</sup>) and visualized by OECD.

The Central Bank of the Republic of Turkey (CBRT) publishes average ratios for some shipbuilding companies taken from a sampling. Both average cash ratios<sup>16</sup> (from 10.1 % to 12.7 %) and average bank credits to total foreign assets ratios of these sampled shipbuilding companies (from 27.1 % to 37.0 %) increased from 2014 to 2016 (Figure 3.8).

### 3.7. The United States

#### 3.7.1. Shipbuilding industry export-import figures

The United States built 911 vessels accounted for 4 million CGT over 2007-2017. 91 % of the total production bought internally. 16 different countries/destination also acquired 5 % of the vessels in CGT terms. Other exporters were Brazil (2 %) and Mexico (2%). While 48.6% of the United States construction was offshore service vessels, 40.2 % of it was in miscellaneous segments. Cruise/passenger ships and tankers accounted for 5% and 4.6 % respectively. Other dry cargo, Ro-Ro and FCC segments had the minority part of production accounting for 1.6 % in total.

The share of US lenders in global shipping portfolio corresponded to 5.5 % (USD 17.6 billion), while its shares in vessel production and acquisition over 2007 - 2017 accounted for 0.8 % and 4.8 % respectively.

#### 3.7.2. Policy framework

The Federal Ship Financing Program (commonly referred to as Title XI based on the part of the Merchant Marine Act of 1936 that established the program) provides for a full faith and credit guarantee by the United States Government to promote the growth and modernization of the United States merchant marine and United States shipyards. (MARAD, 2018<sup>[133]</sup>).

Government guaranteed debt issued by US or foreign ship-owners for the purpose of financing or refinancing either US flag vessels or eligible export vessels constructed, reconstructed or reconditioned in US shipyards and US shipyards for the purpose of financing advanced shipbuilding technology and modern shipbuilding technology of a privately-owned, general shipyard facility located in the United States under the Federal Credit Reform Act of 1990, appropriations to cover the estimated costs of a project must be obtained prior to the issuance of any letter of commitments for debt guarantees (MARAD, 2018<sup>[133]</sup>).

### **3.7.3. Commercial banks**

New York-listed Genco Shipping & Trading (GNK) gained a five-year refinancing loan worth of USD 460 million from lenders including Nordea Bank, SEB, ABN AMRO, DVB Bank SE, Credit and Danish Ship Finance. The cost of loan came up as LIBOR plus 325 basis point for the first year and LIBOR plus a range of 300 to 350 basis points thereafter. With a planned sale of 15 ships worth USD 140 million, the company is now in a good position with renewed fleet and strength capital structure. Having a USD 0.6 billion market capitalization rate, GNK is among the leaders of dry bulk business (Trade Winds, 2018<sup>[134]</sup>)

In May 2018, Euroseas, bulker and containership company, ensured a USD 18.4 million bank loan for funding a newbuilding (Trade Winds, 2018<sup>[135]</sup>).

Euronav and International Seaways signed a USD 220 million loan agreement with ING Belgium SA/NV to refinance the FSO AFRICA and FSO ASIA, and to acquire general working capital (WFW, 2018<sup>[103]</sup>).

### **3.7.4. Bonds**

In May 2018, Scorpio Tankers executed a refinance transaction with a USD 175 million bond exchange agreement that will extend maturity by three years. The 2.375% convertible notes, due next year, are being swapped for a 3% series due in 2022. (Tradewinds, 2018<sup>[136]</sup>).

In August 2018, Ship Finance International Ltd., a New York-listed ship-owner company, placed NOK 600 million bonds at Nibor<sup>17</sup> plus 4.75% in five year maturity for refinancing debts and general corporate purposes. The bonds are listed in the Oslo Stock Exchange and Danske Bank, DNB Markets, Nordea and SpareBank acted as managers (Lloyd's List, 2018<sup>[137]</sup>).

### **3.7.5. Leasing**

Scorpio Tankers concluded a sale and leaseback deal of six MRs built in 2014 for an eight-year charter back agreement, to China Huarong Shipping Financial Leasing. This deal is expected to bring additional liquidity valued USD 48 million to the aforementioned company. Scorpio is about to apply a combination of bank loans, leasebacks and refinancing to add USD 334 million in new liquidity (Tradewinds, 2018<sup>[138]</sup>).

**Table 3.2. Top US Shipping Company Fleets by Value (in USD billion), June 2018.**

Company	Value
Scorpio Shipping Group	\$4.1
Noble Corp	\$3.4
Edison Chouest Offshore	\$2.8
Rowan Companies Inc	\$2.7
Diamond Offshore	\$1.7

Note: As of June, 2018.

Source: (Vessel Value, 2018<sup>[139]</sup>)

### 3.7.6. Equity

There are currently around 50 publicly listed shipping companies on the NYSE or NASDAQ, most of which became public after 2004. In 2017, USD 2.2 billion and USD 429 million raised in NYSE and NASDAQ respectively (Kavussanos and Visvikis, 2016<sup>[14]</sup>) (Marine Money, 2018<sup>[8]</sup>).

Shipping companies like Costamare, Diana Shipping, Safe Bulkers, Navios and Tsakos Energy Navigation have issued preferred equity for financing vessel acquisitions. IPOs in the United States are regulated by the Securities and Exchange Committee (SEC) and the whole process for an IPO is usually completed between four and six months. After the company is gone public the company has a public currency that allows it to return to the market for additional capital by issuing more shares to investors through FPOs (Kavussanos and Visvikis, 2016<sup>[14]</sup>).

In 2016, Ireland based, NYSE listed, Ardmore Shipping raised USD 68 million from public offering of common shares with a view to partially finance the purchase of three MRs from Frontline (Marine Money, 2017<sup>[16]</sup>).

In 2016, two SPAc IPOs were completed raising USD 65 million for Stellar Acquisition III and USD 150 million for Hunter Maritime Acquisition. Seaspan Shipping raised USD 420 million and USD 111 million from in three preferred offerings and an offering of common stock separately, in 2016. Nordic American Tankers, quoted in NYSE, realized a public offering of common shares in the amount of USD 127 million, to partially fund the acquisition of three suezmax newbuilding, in 2016. In 2017, Borr Drilling (Bermuda) raised USD 1 245 million in two equity offerings for financing jack-up rig acquisition (Marine Money, 2017<sup>[16]</sup>).

USD 2.15 billion raised by using NYSE in 15 offerings, and with 9 offerings USD 429 million raised in NASDAQ. Morgan Stanley acted as left lead for 11 deals (Marine Money, 2018<sup>[8]</sup>).

### 3.7.7. Shipyard finance

In July 2018, General Dynamics, the parent company of Nassco Shipyard, reported an increase in the revenue to USD 91 million in the second quarter from USD 17 million in the same period of last year and about USD 74 million of that revenue came from commercial shipbuilding. Nassco, the last major shipbuilder on the United States west coast, has completed building 10 commercial ships recently. The shipyard has been constructing two conro vessels which are to be delivered in 2019 and 2020 to the United States containership owner Matson (Trade Winds, 2018<sup>[140]</sup>).

**Box 3.7. Refinance credit example – International Seaways**

Transaction: International Seaways' USD 600 Million Senior Secured Credit Facilities including a USD 550 Million Term Loan B

Actors: Jefferies, JP Morgan, UBS, DNB Markets, Fearnley Securities, Pareto Securities and SEB

July 2018, INSW announced it had successfully concluded a new USD 550 million Senior Secured First Lien Term Loan, including the exercise of the USD 50 million accordion feature, and a USD 50 million Super Priority Secured Revolving Credit Facility, which will mature respectively on June 22, 2022 and December 22, 2021. Proceeds from the Term Loan will be used to refinance the USD 458 million outstanding balance on the company's existing term loan, and for general corporate purposes, including fleet renewal and growth.

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## *Endnotes*

<sup>1</sup> Very large crude carriers.

<sup>2</sup> These two terms are used interchangeably.

<sup>3</sup> Including bonds, follow-ons, IPOs.

<sup>4</sup> Earnings before interest, taxes, depreciation and amortization (EBITDA) is an indicator of the operating profitability of a firm or a sector.

<sup>5</sup> FPO is an issuance of stock shares following a company's IPO (Investopedia, 2018<sub>[143]</sub>).

<sup>6</sup> Multiple lenders provide capital to a single borrower with a lead or underwriter bank which put up a relatively bigger share of the loan.

<sup>7</sup> A single lender provides capital to a single borrower.

<sup>8</sup> ATLB is issued by institutional investors. Like a high-yield bond, it has few covenants attached, but unlike a bond, a TLB charges a floating rate (a margin over LIBOR) (Fairplay, 2017<sub>[141]</sub>).

<sup>9</sup> A baby bond is a fixed income security issued in small dollar denominations, with a par value of less than USD 1 000. The small denominations enhance the attraction of baby bonds to average retail investor (Investopedia, 2018<sub>[142]</sub>).

<sup>10</sup> China imports approximately 70% of its energy needs through sea transport.

<sup>11</sup> After that date on IFRS 16 becomes effective and all leases will be on balance sheet item.

<sup>12</sup> Ultra large container vessels.

<sup>13</sup> Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus" issue.

Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

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<sup>15</sup> Idem

<sup>16</sup> The ratio of a company's total cash and cash equivalents to its current liabilities.

<sup>17</sup> Norwegian Interbank Offered Rate.