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Global Cooperation to Mitigate Supply Chain Disruption

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- The capacity shortages of port labors, shipmen, truck driver and others to deliver products have further deteriorated as containers keep piling up across major ports, especially in United States. Moreover, the Ukraine-Russia geopolitical tension has caused shortages in several commodities, pushing the prices to increase substantially
- This bottleneck of global supply chain, gradually, starts to induce domestic headline inflation (consumer price index).
- Indonesia's domestic trade face the price pressure through two channels of transmission, namely import price and shortage of fleet as domestic shipping shifts their fleet to foreign routes with higher fees.
- The need to increase shipping fleets is urgent to mitigate the shortage problem, especially amidst oligopolistic structure of shipping industry (MLO). Purchasing additional fleets, however, is costly due to the high price volatility of cargo vessel. Shipping companies need third party support, both for the financing purpose and also for bearing the implied risk in obtaining a new fleet.
- This Economic Bulletin highlights both the cyclical and structural challenges facing the shipping industry, and proposes potential solutions to address the headwinds.

*/THE ORIGINAL VERSION OF THE DRAFT HAS BEEN SUBMITTED AND ACCEPTED AS A POLICY BRIEF FOR THE T-20 (THINK-TANK FOR G-20 MEETING) OF 2022

Global Cooperation to Mitigate Supply Chain Disruption[1]

The Covid-19 pandemic crisis has impacted international trade, especially thru the disruption in the global supply chains. Recent geopolitical tension between Russia and Ukraine crisis has also added the complexities, halting most of Ukraine's production capacities and supplies of certain commodities into Europe and beyond. Similarly, the sanctions imposed on Russia by the international community have ended decades of economic cooperation across several economic sectors. The disruption caused by changing global trade patterns and geopolitical issues compounded the bottlenecks of global shipping especially containerized cargo, driving-up logistics costs. The price impact is likely to climb as the logistical bottleneck persists. To address the challenges due to supply chain distortion, there is an urgent need for managing a more stable logistics cost for several major routes and establishing global financial service facility for the shipping industry to promote the competitiveness of small shipping companies and hence to reduce the dependency to major Main Line Operators (MLOs).

Bottlenecks of Global Supply Chain

While around 80 percent of all goods are carried by sea, the global maritime container trade covers the greatest portion of the various types of vessels namely tanker and bulker. Based on UNCTAD research, it is estimated that around 60 percent of all seaborne trade is using containers with total value equivalent to roughly 14 trillion U.S. dollars in 2019. Following the outbreak of the Covid-19, the bottlenecks of container deliveries have piled up across Asia, putting great strains on the capacity of supply chains to deliver in a timely fashion and adding to dozens of huge container ships continually idling near ports in Los Angeles, New York and elsewhere around the world. Shortages of port labours, shipmen, truck driver and others have further worsened the capacity chains. Consequently, we have witnessed long-delay of large quantities of merchandise waiting to be loaded and unloaded at the ports.

Data from IHS Markit shows that order backlogs & customer inventories have dropped by 80% and 38% by August 2021 and April 2020, respectively. This phenomenon raises shipping costs, especially from China to various international destinations. Bloomberg data of freight cost index shows that the cost increased sharply from just 1000 in early 2020 to 1800 by the end of 2020. By November 2021 the shipping cost was up by almost 26% in the US on yearly basis --- the largest year-on-year price increase since 1988. The disruptions from political conflicts have affected global supply chains relatively quick. The trade dislocation exhibits the impactful effects, particularly for the fuels sector that have to look for alternative trading partners to maintain their levels of fuel imports at the outbreak of the current geopolitical conflict. Accordingly, this event has caused energy supply deterioration and led to energy-driven inflation

[1] The original version of the study has been submitted and accepted as a Policy Brief for the T-20 (Think-Tank for G-20 Meeting) of 2022

The Rise in Inflation

The spill-over impact of the supply-chain bottleneck must be addressed beyond the port, especially thru the two channels of transmission, import price and fleet shortage. In countries like Indonesia the rising logistic costs has gradually but notably transmitted to overall headline inflation (Consumer Price Index) through the rise in the import price, particularly those of the commodity prices. Furthermore, Indonesia is also facing a peculiar situation in which domestics shipping operator have shifted some of their ships to international route responding to the higher freight rates of the overseas routes. Consequently, the domestic trade is left out with fewer fleets and high cost of domestic sea transport. This condition would amplify the rise in price of import goods and further pressure the domestic industry. A simple testing from Samudera Indonesia Research Initiatives (SIRI) shows that a 1% increase in domestic freight rate contributes to about 0.2% increase in Consumer Price Index in Indonesia. The price impact is likely to climb up as the logistical bottleneck persists, the condition in which the country couldn't afford given the current stages of the early recovery from the Covid-19 pandemic in many domestic industries.

Inadequate Financing Facility

On the other hand, to solve the shortage in fleet, shipping companies could procure additional fleets to support the market. However, it is a challenging exercise especially in the short run without the strong supports from the financial sector. The price of cargo vessel is not only very expensive, but also volatile, imposing operational risks for the ship owners to acquire new fleet in the present environment. In addition, the high depreciation rate of the vessel price discourages the shipping companies, especially those with lower capital, to add a new fleet. The shortage in logistical supports especially sea transportation is particularly latent for many developing countries relying their trade on the sea transportations. The role of G20 members is crucial in addressing these problems.

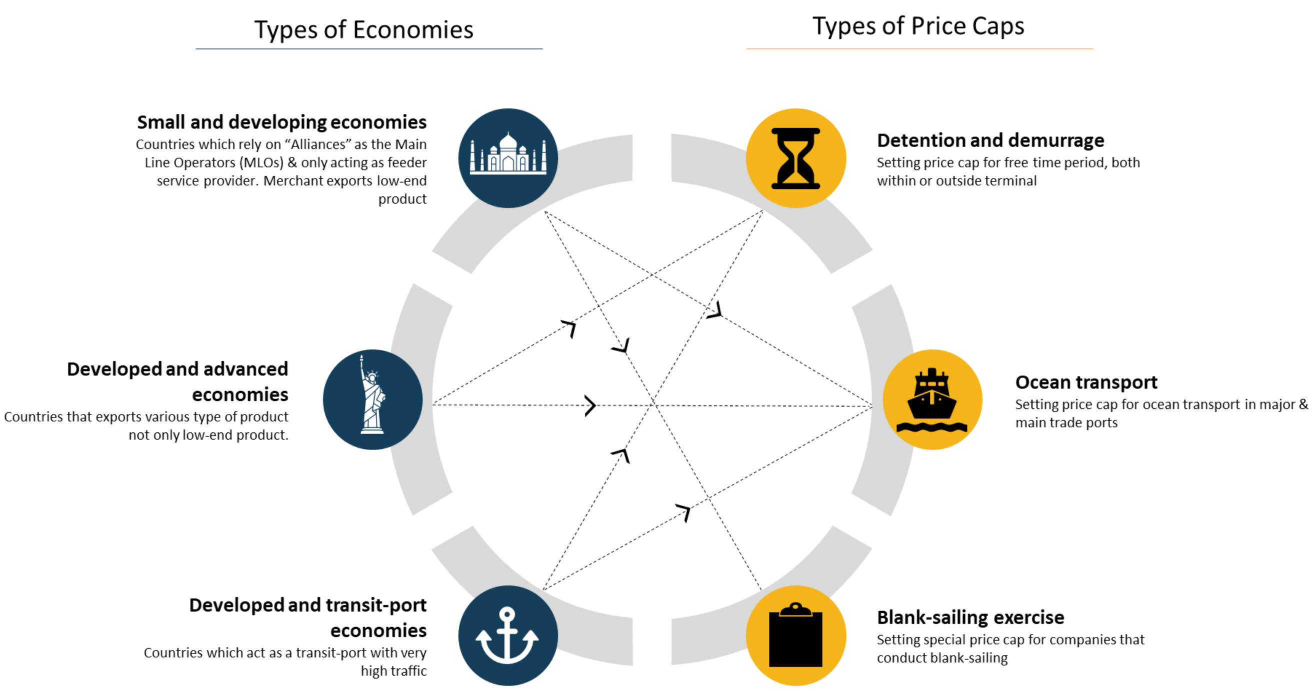
Price Caps to Tackle Unreasonable and Uncompetitive Cost

We propose a couple of measures to address the challenges listed earlier. With the characteristic of capital-intensive industry, alliance between MLOs in shipping sector is seen as a good strategy in the context of sharing facilities, fleet, and others as it could reduce the cost and eventually pushing the shipping cost down. But as the alliances grow larger (comprise of ±85% total capacity)[2] and forming the oligopolistic market, the adverse effects of these alliances become more obvious, especially during the Covid-19 period. The oligopolistic market structure of the MLOs implies that the adjustments in the clearing freight rates are not necessarily determined by the market prevailing demand and supply of the container shipping globally. In fact, the freight rates are largely the outcomes of the reaction curves of the three largest alliances: the Alliance, the Ocean alliance and the 2M

[2] See more in https://ifgprogress.id/wp-content/uploads/2022/04/Econ.-Bulletin-Issue-7-Domestic-Value-Chain-0-Inflation-Part-1-4-Apr-2022_Final..pdf

alliance. As they control more than 80% of total capacity, these Alliances can control the supply and raise the freight rates, especially on the back of the spike in the demand amid economic recovery from the Covid-19 pandemic.

Exhibit 1. Types of Economics & Proposed Price Caps



Source: IFG Progress

To solve this challenge, we Introduce price caps for several major routes. This price caps would consist of several structure and scenarios, 1) price cap for detention and demurrage, 2) price cap for ocean transport, and 3) price cap for companies that conduct blank sailing (Exhibit 1)**.** As what we have seen, the strong rebound in the demand, following the economic recovery from the pandemic has led to the backlog and the levels of trade traffic beyond the capacity of the port to handle. This forces many shipments to park their container in the ports either waiting to be loaded or stranded in the ship waiting to dock and unload. The extend in both loading and unloading time incurred a very expensive cost for the merchants and increase their production cost. In this condition, most merchants would have two options: 1) increase the price of their goods or reduce their production or 2) endure this cost and reduce their profit margin and sustain their expansion and growth.

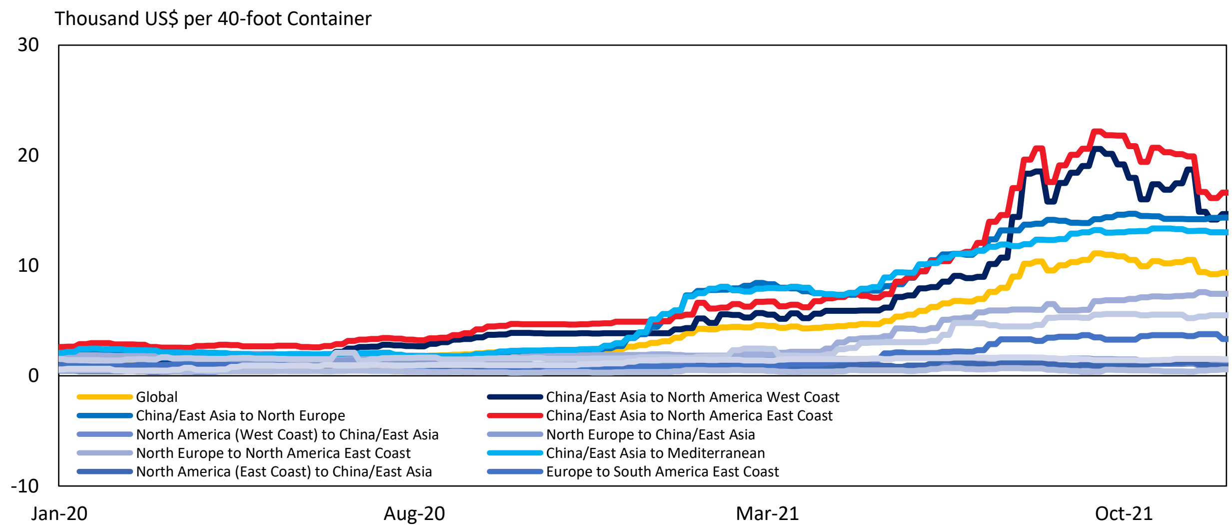
Responding to this problem, in July 2021, President Biden signed Executive Order (E.O) 14036[3] with one of the objectives is to "ensure vigorous enforcement against shippers charging American exporters exorbitant charges and to "consider further rulemaking to improve detention and demurrage practices and enforcement of related Shipping Act prohibitions". This E.O can act as a catalyst for implementing the price cap proposal to prevent exorbitant fee charge practices. Furthermore, this E.O could also become a spark for further collaboration and coordination to promote reasonable and competitive pricing

[3] See more in https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/

in container price, including for developing economies.

Most of trade flows especially from the developing countries must go through transhipment process, starting from the origin, Feeder Service, Main-Line Operators (MLOs), and finally to the destination. This structure and pattern of trade are very dependent on the MLOs, mainly the three alliances. Meanwhile, the share of the developing economies in ocean transport is very limited, largely concentrated to transporting exports (imports) to (from) the port of transhipment hubs such as Singapore and Malaysia in the case of ASEAN countries. The process from the port of Singapore to the destination will be taken care of by MLOs. This means that for a particular region, such as ASEAN countries, the role of regional shipping is only acting as a feeder service for MLOs. Our incapability of transporting our own exports or imports is a long-standing one. This shortcoming has contributed to the annual current account deficit especially in services. Based on Bank Indonesia statistics, the goods transportations deficit was about 7.7 billion USD or contributing to about 48% of the total current account deficits in services in 2020. In 2021, goods transportations deficits decreased slightly to 6.2 billion USD or about 42% of the total current account deficits in services. Price cap on the second sub-proposal, which is the price cap for ocean transport, is seen to be an alternative solution especially for developing economies, including for majority of the ASEAN countries.

Exhibit 2. The Increase of Container Freight Cost Per Route



Source: Bloomberg, IFG Progress

The fluctuation in freight rates could hurt many countries' especially those who are highly dependent on MLOs. During the pandemic, MLOs implemented a special policy such as blank sailing that prove to be very efficient in pushing up the price of ocean transport. Blank sailing is a strategy of MLO to implement supply rationing during which at a particular time ports will not have a vessel to discharge or load cargo. As these Alliances control more than 80% of the market, blank sailing measure by these Alliances could guarantee significant drop in supply. It is up to these Alliances' policy commitment to increase their supply, particularly, to meet the sudden spike in demand as what we have experienced in the beginning of 2021. In result, almost every route from eastern to western hemisphere experience an increase in ocean transport cost. Route for China/East Asia to North America West Coast, China/East Asia to North Europe, China/East Asia to North America East Coast, North America (West Coast) to China/East Asia, North Europe to China/East Asia, North Europe to North America East Coast, China/East Asia to Mediterranean, North America (East Coast) to China/East Asia, Europe to South America East Coast, North America East Coast to North Europe, Europe to South America West Coast, and Mediterranean to China/East Asia each have increased by as low as 20% to as high as close to 1000% from January 2020 to December 2021 (Exhibit 2). Price cap on the third sub-proposal is a key response to address the conduct blank sailing and could act as a warning for these alliances.

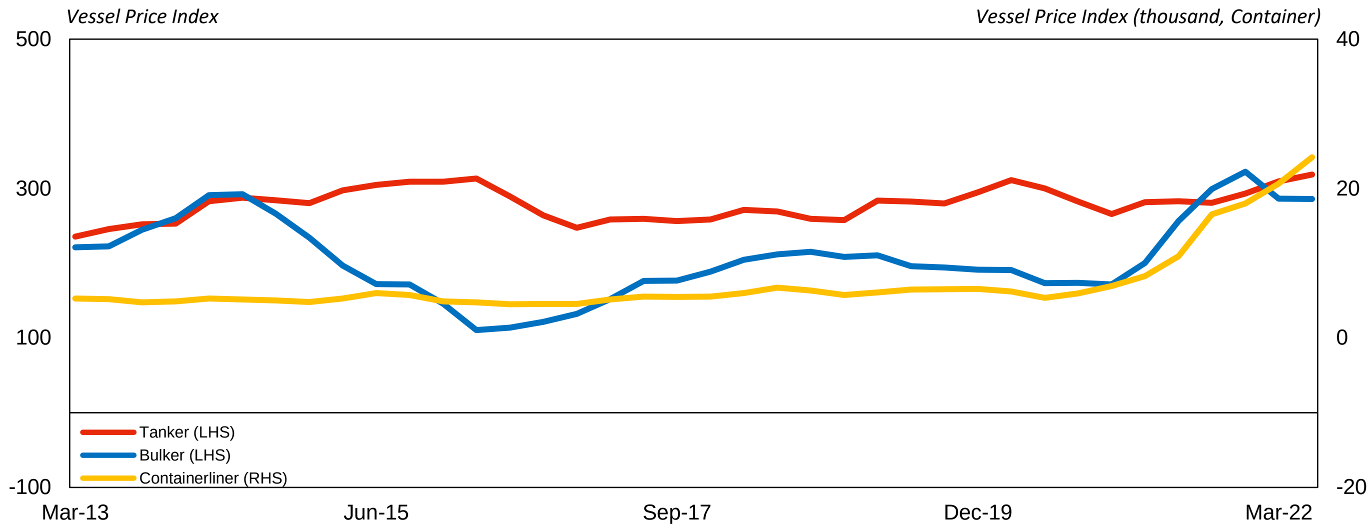
Massive increase in freight rates, whether through the high price in detention and demurrage, ocean transport, or short in supply (from blank sailing), would be a major problem and put additional pressure in every economy, especially the ones with most of its exports are in the low-end category. Countries with this characteristic require massive capacity to transport their product because they need to transport the goods in bulk terms. With their goods being a low-end product, these merchants usually work on a relatively low margin, in comparison to those with the high-end product. Facing the increase in the freight rates and the low profit margin, this group of producers/ merchants is at risk of bankruptcy, placing massive pressure for both the downstream and upstream industries.

The price cap measures are expected to provide guidance and certainties for both exporters and importers in projecting their freight costs. Consequently, a more stable pricing of tradable goods could be achieved and support the current economic recovery. The G20 member economies could facilitate the dialogue between the relevant government authorities/agencies and the MLOs in designing and setting these price caps.

Financial institutions to support logistics industry

The challenge concerning the high volatility of vessel prices is another major obstacle for the ship operators in many countries. The price fluctuations of the tanker, bulker, and container liner ship hinder the ability to raise the fleet number to meet market demand. One of the determinant factors behind the price volatility is the type of goods being transported. Tanker mainly carries crude oil or petroleum products. Bulker ship mainly carries items without any specific packaging such as ores, coals, and cement. Container liner ships carry manufactured goods and products. The demands for each type of the commodities and products will determine the amount of fleet needed in the market, and thus the price of the vessel. Another factor behind the price movement relates to the price of raw materials to build the specific ship.

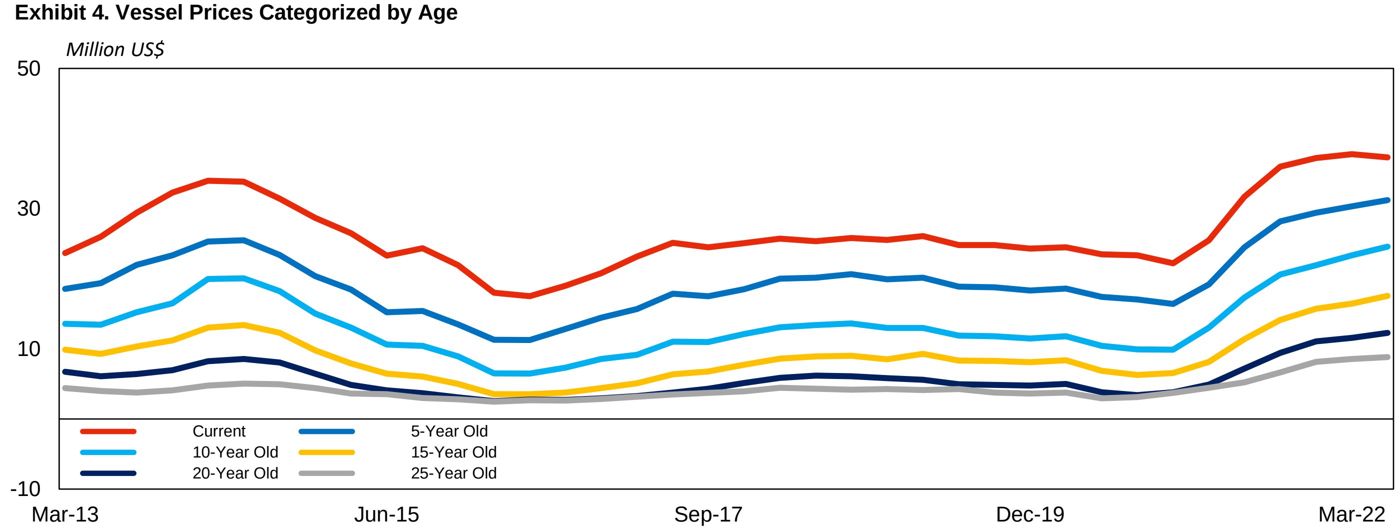
Exhibit 3. Vessel Price Based on Category



Source: Bloomberg, IFG Progress

In recent years, shortage of vessel capacity has caused prices for new and used ships to rise (Exhibit 4). Age of ship is an important indicator for shipping industry. Old vessels could cost more to operate due to higher maintenance expenses compare to the newest one to keep up their performance. Theoretically, when the ship ages, the technology gets old and its remaining economic life decreases[4]. From an operating cost standpoint, newer vessels are preferred because they're more economical to maintain. However, to cope with tight vessel supply, more ship owners opt to buy more second-hand ships leading to increase in the price of the older ships[5].

Exhibit 4. Vessel Prices Categorized by Age



Source: Bloomberg, IFG Progress

To address the high vessel price, some countries have introduced regulation called cabotage to help domestic shipping companies to meet the demand for their shipments. In maritime transportations, a cabotage policy means a restriction of the sea operation

[4] Gultekin et.al., 2021. "*The effect of aging on ship values: an econometric analysis on major ship types". See more in https://dergipark.org.tr/en/download/article-file/1741435.*
[5] *See more in https://unctad.org/system/files/official-document/rmt2021_en_0.pdf .*

within a particular country's own transport services. In Indonesia, this policy is introduced under Law number 17 of 2008. The cabotage policy initiative has targeted the maintenance of the local merchant fleets, and therefore help mitigating the volatilities of the freight expenditures. The cabotage policies on the national capacity of ship building and repairmen, the ship-ownership, and the overall value-chain in the maritime industry should also contribute to economic growth[6].

Due to the necessity to supports the shipping industry, few countries have also offered specialized financing assistance, typically thru private bank loan schemes (Exhibit 5). The loan terms offered are usually limited in loan size with specific tenors. If the financing requirement exceeds the provisions in most cases, the shipping companies can access other financial institutions or financial facilities such as mortgage banks, leasing companies, or syndicated loans between several banks.

In some countries, shipping financing is facilitated by the development banks or other financial institution that are managed or owned by the government. Singapore has developed ship financing through various incentive programs, including generous tax exemption on qualifying income for the entire life of any vessel acquired by an Approved Ship Investment Vehicle (ASIV) within the incentive period. In Malaysia, Bank Pembangunan Malaysia Berhad (BPMB), wholly owned by the Malaysian Government, has been providing financing facilities through medium-long term loans scheme for shipping, shipyard, or others maritime related activities. In Thailand, the Export-Import Bank of Thailand under the Ministry of Finance has been providing long-term credits to finance Thai maritime purchases of old or new ships.

Exhibit 5. Support of Financial Sector for the Shipping Industry

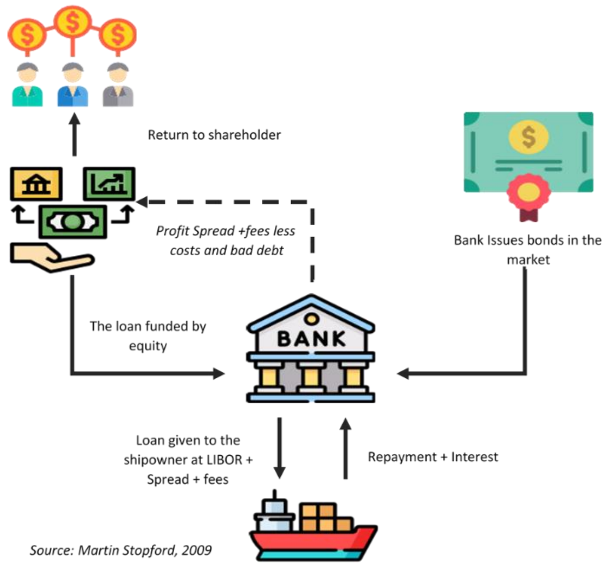
	Cabotage	Financing Assistance
Indonesia	Yes	Private and government bank loan
Singapore	No	DNB Shipping banks and Maritime Finance Incentives (MFI)
Malaysia	Yes, With certain exceptions	(Government bank to local citizen) BPMP Maritime financing for shipping, shipyard, and related activities
Thailand	Yes, With certain exceptions	(Government bank to local citizen) Merchant Marine Financing for shipbuilding or purchase new ships
Philippines	Yes, With certain exceptions	Private bank loan
Vietnam	Yes, With certain exceptions	Private bank loan

Source: Samudera Indonesia Research Initiatives, OECD Statistics

Bank loan has played an important role in shipping industry for a long time. The general model of financing from bank loan is shown in Exhibit 6. To generate the required capital, banks often issue bonds in the capital market. According to BIS guideline, 8% -12% of

[6] Stopford, Martin. 2009. "Maritime Economics, third edition". Routledge. New York.

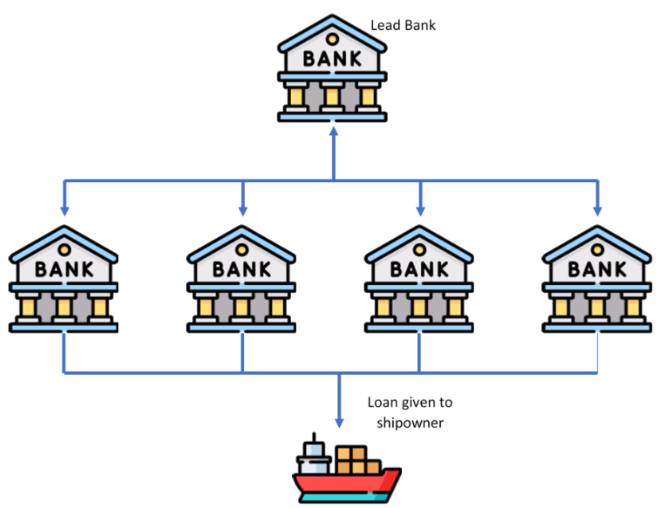
Exhibit 6. General Scheme of Bank Loan for Shipping Industry



Source: Martin Stopford, 2009

the loan is also funded by equity. The equity type of funding depends on the risk of the loan given to the borrowers. In general, the fund is extended to shipowner at LIBOR + Spread + Fees. The spread offered to the borrowers varies depending on the risk levels (20 – 200 basis points)[7]. For the large loan, banks tend to spread the risks by sharing the loan to several banks (Exhibit 7). The large loans are split to small packages to be distributed to many banks. By spreading the risk to many banks, those banks which are not specialized or do not have the expertise to appraise shipping loans can participate under the guidance of the lead bank often with long experiences in the shipping industry.

Exhibit 7. Scheme of Syndication



Source: Martin Stopford, 2009

To make the financing scheme more attractive to lenders for the new ship builders, the government could take part in several ways. One facility is thru government guarantee to

[7] *Ibid.,*

support shipowner to get access to commercial bank loan. The value of this guarantee depends on how the government agency sets the credit standard. Alternatively, the government can provide subsidy on interest rate charged by the lenders to borrowers. The subsidy offered by the government cover the difference between the market interest and agreed rate of the loan set by the government agency and the borrower[8]. To solve this challenge, the coordination led by the G20 members is necessary so that small and open economy will have greater financial supports to develop their shipping industry.

Conclusion

This economic bulletin outlines both the cyclical and structural problems faced by the shipping industry. The cyclical problems relate to the elevated volatilities of the freight rates, reflections of the impacts of the severity of the Covid-19 the pandemic. The skyrocketing freight rates are also the consequence of the oligopolistic nature of the global merchant containerized cargo industry. We have witnessed how the market power of the existing alliances strongly influence the global freight rates, especially by implementing the blank sailing program during the pandemic. The tit-for-tat strategy has led to the increased of freight rates in major routes globally even until today. For this reason, the price cap options can be considered as an appropriate strategy to prevent further pressure on the transportation cost that can potentially drive cost-push inflation. Fright rates increase is also an unfavourable condition for some emerging countries relying on low value-added products as the small profit margin cannot compensate for the volatile and costly transportations costs.

On the structural problems, the emerging economies usually have a limited power on controlling the shipments of the goods and services in the global market. Due to its limited capacity, the shipping operators in the emerging economies usually have the ability to transport goods from each country only as far as towards the regional hubs before the cargo being offloaded into the internationally owned mother vessels with the destinations across the globe.

The capacity of shipping operators in the emerging countries is typically constrained by their ability to procure vessel due to the risk from the volatile vessel price. Moreover, the absence of dedicated financial intermediaries in the shipping industries adds to the complexities. This is a gap that can be addressed by a stronger tie and cooperation between the G20 countries, facilitating the establishment of the global financial institutions with the knowledge and understanding of the typical risks facing the shipping industry. With the presence global cooperation, the emerging economies have the chance to strengthen their shipping industry and reduce their dependency on the global Main Line Operators (MLOs).

[8] *Ibid.,*

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