Note by EIC

SCB Economic Intelligence Center

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Reviving domestic maritime transport to strengthen Thai logistics system

Highlight

- Maritime transport has several advantages over other modes of transport including lower transport costs, higher weight and storage capacity, and being environmentally friendly. However, maritime transport accounts for only 17% of total transport of goods in Thailand. These are divided into two types 1. Inland waterways with the main route from Pa Sak River and Chao Phraya River in Ayutthaya to Chonburi and 2. Coastal transport between ports in Laem Chabang, Bangkok, and Samutprakarn.
- EIC analysis shows that the increased costs for road transport, development of maritime infrastructure, and increasing ship size for international transport of goods will lead to more businesses adopting domestic maritime transport in place of the road alternative. The main beneficiaries of this trend are existing transport waterways while industries that will make the most use of maritime transport are makers of auto parts, electronic components, and electrical goods. The volume of container shipment is expected to grow by 17%CAGR to reach 16 million tonnes in 2019.
- Public and the private sectors need to cooperate to promote the use of maritime transport with the public sector pushing for development in infrastructure, improvement of regulations, and conduct a public hearing on new projects. The private sector, such as maritime service providers and ports, need to develop the standard of the service, increasing connections with other modes of transport in the hinterland, and partner with other businesses.

Maritime transport has advantages over other modes of transport, but it is not being fully utilised. Today, maritime transport accounts for 17% of total transport of goods in Thailand. They can be divided into two types based on the routes being taken, which are 1. Inland waterways with the main routes from Pa Sak River and Chao Phraya river in Ayutthaya, and Ang Thong to Koh Sichang in Chonburi. The total transport volume on this route in 2016 was 50 million tonnes with a growth of 1.5%CAGR in the past 5 years. The main products for inland waterway transport are soil, stone, sand, coal, cement, cassava, and rice and 2. Coastal transport with the main routes between Laem Chabang and Map Ta Phut to ports in Bangkok and Samutprakarn, as well as to ports in

Suratthani and Songkhla. The total volume for the coastal transport routes in 2016 was 51 million tonnes with a growth of 3.6%CAGR in the past 5 years. The main products for coastal transport are petroleum products and containers. In comparing the costs between modes of transport, the cost of maritime transport is only THB 0.65 per tonne/kilometre whereas road transport costs THB 2.12 per tonne/kilometre.

EIC analysis shows that the rise of costs associated with road transport of goods, development of maritime infrastructure, and increasing ship size are three important factors that will lead to increase usage of maritime transport for goods. 1. The costs associated with using road transport for the transport of goods is on the rise. This is due to several factors including the global increase in oil prices, traffic problems, and the toughening of rules and regulations on the weight of goods transport on the road. Subsequently, goods that are normally transported on the road, such as sugarcane, minerals, and cassava, are likely to be transported using maritime mode of transport instead. 2. The investment on maritime infrastructure by the public sector, under the strategic plan on maritime transport with a budget of THB 50 billion, will improve the inland waterway routes and reduce problems associated with the lack of coastal ports. The examples of such investment are the building of navigation dams on Chao Phraya and Nan Rivers, the project on improving the route between Pa Sak River and Chao Phraya River out to the sea, and the project on building new coastal ports. 3. The increasing ship size for international transport of goods means that these ships will only be able to dock at the Laem Chabang port according to the draft requirement. Alongside the policy of reducing the usage of Bangkok Port for international transport of goods, the trend of increasing ship size will result in the rise of demand for cargo ships that can be used on inland waterways.

The changeover from using road transport of goods will create a thriving maritime transport industry, especially in the transport of containers. EIC expects that if the transport of goods changes from road to maritime by 10% within the next 5 years, the increase of maritime transport traffic will grow by 10%CAGR, which is over 9,000 trips for barge carrier per year.

The inland waterway route that is going to receive the most benefit from the growth in maritime transport is the route between Pa Sak River and Chao Phraya River that flows out to the Gulf of Thailand at Samutprakarn and connects all the way to Chonburi. This is because the waterway is near to several important industrial parks, such as Rojana Industrial Park, Navanakorn Industrial Zone, Hi-tech Industrial Estate, and Bangkadi Industrial Park, which are located within 15 kilometres of the river. As a result, maritime transport can help to facilitate movement of goods from these industrial areas. The goods that will make the most use of container on the barge are likely to be auto parts, electrical parts, electrical equipment and processed food. The cost of maritime transport using a 20-foot container (twenty-foot equivalent unit: TEU) is around THB 2,500 while transport on the road would cost THB 7,000.

Regarding coastal transport, the main route that will benefit from increasing maritime transport usage is the route between Bangkok Port and Samutprakarn with Laem Chabang Port, as there will be an increasing use of barge in transporting goods between these ports. The main goods that will be transported is the container, which has seen a growth of 12%CAGR between 2012 and 2016 and is expected to grow by 17%CAGR in the future alongside the growing trend of international container shipping. In addition, the coastal route between Laem Chabang and Suratthani is a more effective transport alternative in comparison to road transport (currently road transport accounts

for 60% while maritime transport accounts for 35%) because of lower costs, shorter route, and providing a connection to foreign ports such as Malaysia and Singapore.

The development of maritime infrastructure for the transport of goods and rules and regulations will not only benefit the waterway transporters but also businesses operating down the supply chain including transport services, ports, shipbuilders and repairers. The growing demand for maritime transport will directly benefit waterway transport businesses. Meanwhile, ports will receive more incomes from container storage and associated fees through higher traffic. In the long run, the increase in demand for maritime transport will create a need for new ships, alongside the repairing of old ships, which create business opportunities for shipbuilders and repairers alike.

Nevertheless, maritime transport is still limited by the lack of routes and hinterland linkages with other modes of transport. Alongside the issue of speed, maritime transport also faces other challenges, for example the varieties of depth, width, and angle in natural waterways, the height of bridges, and environment issues and natural disasters including high tides and storms that will lengthen the transport time while cargo may also be damaged in the process. On the issue of hinterland connectivity and linkages with other modes of transport, the lack of good connectivity will limit the appeal of maritime transport to potential users and increase costs through the need of related services, such as the "double handling cost" that occurs during transshipment between movement of goods from international shipment to domestic transport or from ships to trains or trucks. Therefore, potential users of maritime transport must consider these costs when planning the route of transport of goods.

Note: *from the Office of The National Economic and Social Development Board

Implication

- **Businesses that are parts of the maritime transport value chain should improve quality to all of their services, provide hinterland connections, and partner with other players.** Maritime transport operators should choose the connected routes that link international shipping routes with goods for both import and export. This is because 85% of all transports are connected shipments from imports and exports. Therefore, by facilitating both ends of transport, the associated costs and the incidents of empty containers will be reduced.

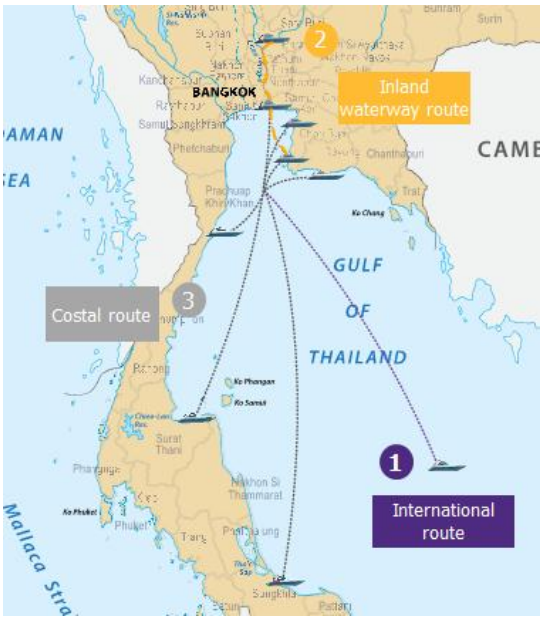
  As for port operators, they should focus on the quality of their services, provide hinterland connections, and link up with other players in the supply chain. The readiness of the ports, in both dimensions relating to loading services and hinterland connections through roads and rails, will facilitate and speed up the movement of goods, leading to satisfied and returning customers. Meanwhile, port operators should also link up with related players, such as transport providers, road transporters, makers of goods, and the public sector, as these linkages will help to develop services further that can attract new customers.

- **Alongside the transport fees, users of maritime transport should consider transport providers and ports that offer benefits in several dimensions.** In

terms of the ports, users must consider the location, equipment relating to docking and loading, the length of time it will take to transfer goods, the customs process and paperwork, and the hinterland connections. At the same time, transport providers must consider the standards and the frequency of services.

- The public sector should support and facilitate businesses operating in the maritime transport supply chain, such as granting financial concessions and facilitate businesses through rules and regulations. For the maritime transport sector to succeed, there is a need for cooperation between the public and the private sectors in managing the services. In addition to the development of infrastructure, the public sector needs to provide financial concessions to both transport providers and users, including tax deductions, and facilitate businesses through favourable rules and regulations for handling paperwork and other environmental issues, for example. Furthermore, the public sector needs to provide additional support for already existing ports, for example, Khlong Yai Port in Trad and Khlong Wan Port in Prachuap Kiri Khan.

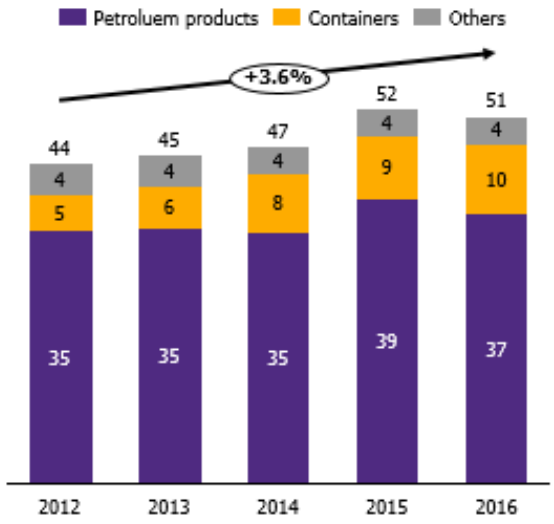
Figure 1: Main routes of waterways for maritime transport in Thailand



Source: Marine Department and the Office of Transport and Traffic Policy and Planning

Figure 2: Volume of goods transported by coastal transport

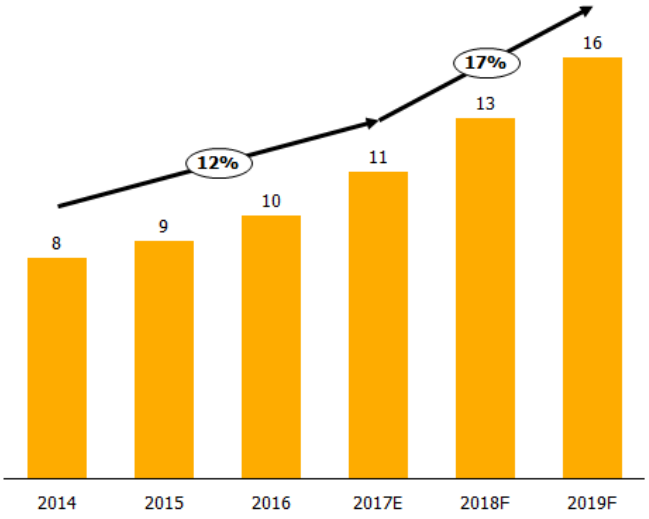
Unit: Million Tonne



Source: Marine Department

Figure 3: Volume of container shipment by coastal transport

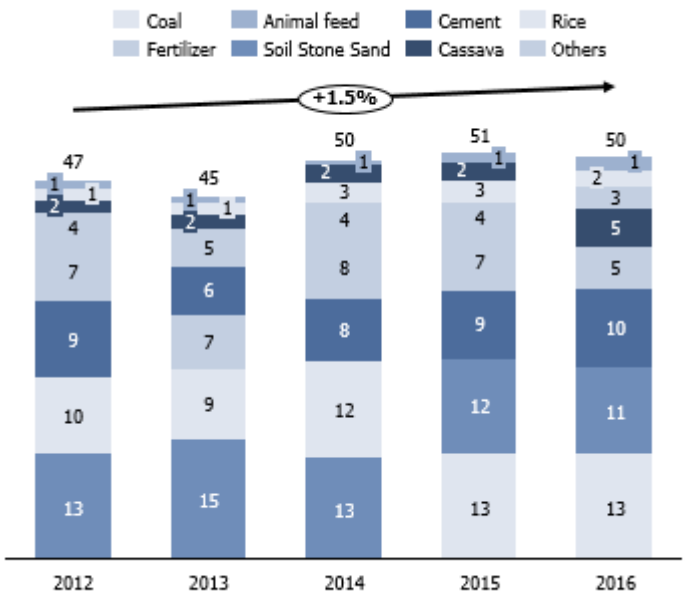
Unit: Million Tonne



Source: EIC analysis of Information from Marine Department

Figure 4: Volume of Dry Bulk transport in Thailand

Unit: Million Tonne



Source: Marine Department

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