

THE ROLE OF THE MALACCA STRAIT IN THE ONE BELT, ONE ROAD INITIATIVE

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Abstract:

The Strait of Malacca is a commercial step of utmost importance, where 60% of international maritime trade passes; it is crucial for global commerce but its geographic position makes it a dangerous chokepoint. In 2013 China unveiled its project of the One Belt, One Road Initiative (OBOR). This project is in part aimed to consolidate the Chinese strategic position in Southeast Asia, promoting alternative routes to secure the traffic of energy resources while reducing the Chinese dependence on the Strait of Malacca.

The main objective of this paper is to examine the geopolitical and economic impact of the OBOR Initiative in South East Asian Nation economies through an appraisal of the traffic in the Malacca Strait as well as highlight and justify why the One Belt, One Road Initiative is so crucial for the region. Even when China is actively seeking to reduce its dependence on the Strait, the calculations carried on this study show the Malacca Strait as the best route compared to its feasible alternatives.

Keywords:

Malacca Strait; chokepoint; energy security; alternative routes.

INTRODUCTION

Nowadays, over 90 percent of the world's trade is carried by sea. Maritime industry is an important economic sector as it has a direct impact on the prosperity of a region, providing a source of income and employment for many developing countries¹.

The Southeast Asian region has played an important role in the development of global maritime economy and, at the same time, the sea has also played a pivotal role in the Southeast Asia's economic and political development. Since the early days, the strategic position of Southeast Asia region favoured the boosting of its maritime trade as it is home to several international shipping lanes that straddle the territorial waters of numerous States.

The Malacca Straits was then already a critical trade route linking the Indian Ocean to the South China Sea and Pacific Ocean. Now, it is a commercial step of great importance and one of the main oil transportation routes². Among all the strategic routes that offer

entry into the South China Sea, the Strait of Malacca is by far the most widely used. It is the shortest and therefore most economical passageway between the Pacific and Indian Oceans. The high concentration of commercial goods flowing through it has raised concerns about its vulnerability as a strategic chokepoint.

Nowadays China accounts the 19% of global economic activity. Its economy is now so large that it pretty much determines the global price of a huge range of products. Even though its economy has been showing a slowdown after three decades of rapid growth, deepened by its trade war with U.S., its energy needs are expected to increase exponentially in the coming decades³. Since more than 80 % of the crude oil and almost 30 % of the natural gas imports of China come through the Malacca Straits⁴, that leaves China in a vulnerable position and with the need to decrease its dependency on the region and its littoral for supplying their energy needs⁵.

In order to overcome this weakness, in 2013 Chinese President Xi Jinping unveiled plans for two massive infrastructure networks connecting East Asia with Europe: the “One Belt, One Road” (OBOR) Initiative, which comprises the Maritime Silk Road (MSR) and the Silk Road Economic Belt (SREB). The project is a system of roads, power grids, ports and other infrastructural projects destined to create a more connected trade and a commercial zone between the countries in East Asia, Southeast Asia and Africa⁶. The 21 Century Maritime Silk Road is not the first maritime initiative that China has undertaken to consolidate its strategic position in the geopolitics of the Indian Ocean Region (IOR)⁷. Projects such as is China's trans-Myanmar oil and gas pipelines, the Pakistan-China Economic Corridor or the proposals to develop two land-bridges - including an oil pipeline and a railway - linking ports on the west and east coasts of the Malay Peninsula are aimed to bypass the Malacca Straits⁸.

Despite the uncertain global political and economic environment, the ASEAN states and China have become, in the last decades, key partners regarding trade, investment, and infrastructure development^{9, 10, 11}. The prevalence of the Belt and Road Initiative as the only existing major integration initiative with a global framework, have increased the willingness of the countries and regions to cooperate in its economic alliance¹².

Recently, coverage of the OBOR Initiative in papers and mass media has been steadily expanding. To date, aside from providing background information, literature has largely examined the opportunities and the economic and political significance of China's plans¹³. However, many analyses are policy prescriptions and the facts exposed are distorted or biased by the public's opinion of China and the motivations behind their initiative rather than showing the facts objectively. The truth is that China's OBOR Initiative is not fully understood from the international perspective, and it is not comprehensive enough to predict future development.

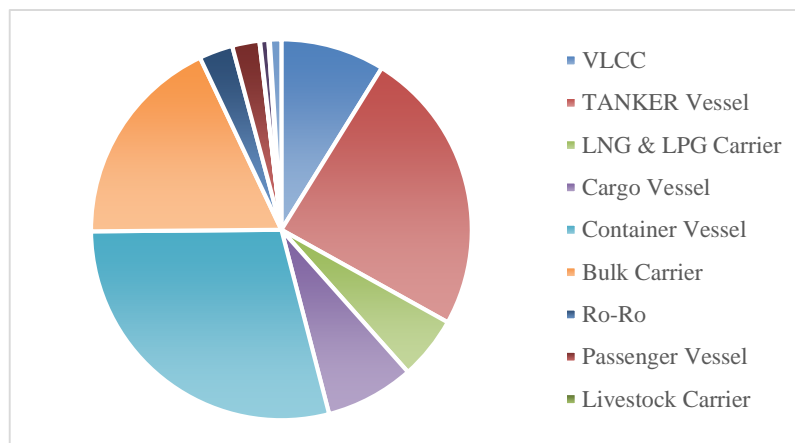
To address this subject objectively this paper focuses on the Strait of Malacca to make an early assessment of the impact of the OBOR Initiative on it. Despite considering the geopolitics, the foreign policy or the economic relationship between the states involved as important, this paper follows an analytical approach examining the traffic volume, the tendency of growth and other variables capable to give a more objective image of the effects of this project on the region. Furthermore, this paper wants to highlight and justify why the OBOR Initiative is so crucial for the region assessing the other feasible alternatives available at this moment, trying to judge its adequacy as well as its capacity to be enough in the future in conjunction with the Malacca Strait.

In order to do so, this paper contemplates, first, the data obtained with the STRAITREP and provided by the Marine Department of Malaysia, to study the growth tendency of the Malacca Strait in order to try to predict the risk of congestion on the Strait. After that, the estimated cost of rerouting the traffic from the Strait to the other two alternatives is calculated. Finally, through the Liner Shipping Connectivity Index, the impact of the OBOR Initiative in the ASEAN region is overviewed. The paper concludes with some remarks about the relevance of this project for the Strait of Malacca and ends outlining future lines of work to further the investigation.

1. METHODOLOGY

First, an assessment of the actual situation of the Malacca Strait was made by reviewing the number and type of vessel reporting to Klang VTS in 2018, which resulted in the following figure (Figure 1). With that information, its tendency of growth was studied.

Figure 1. Type of vessel reporting Klang VTS in 2018.



Also, to highlight the importance of the OBOR Initiative for the Malacca Strait an analysis of a case scenario was presented. Literature shows the Straits of Sunda and Lombok as feasible alternatives to the chokepoint¹⁴. One of the objectives of this study was to check whether these two other routes were a feasible alternative by calculating the estimated cost of rerouting the traffic from the Strait of Malacca to them; the assessment of the real costs in the scenarios proposed are the same as the models established in literature by different authors such as Cullinane and Khanna (2000)¹⁵, Stopford (2008)¹⁶ or Gkonis and Psaraftis (2010)¹⁷.

In order to do so, a hypothetical Liner Company which sees one of its service schedules affected by the closure was proposed. In the assessment of the cost assumed by the Liner Company, six components of liner service costs were identified: service schedule, ship costs, port charges, container operations, container costs, and administration.

Regarding service schedule, it concerns the service frequency, the number of port calls and the distance, as well as the required number of ships in weekly string. The ship cost is usually expressed in terms of unit slot cost. Operating, capital and fuel costs are important elements, since fuel consumption is a particularly important variable. Port charges are beyond the control of the ship-owner and vary around the world. Container

operations costs depend on the mix of container types, container turnaround time and empty containers that must be repositioned. Container costs include daily cost, maintenance, repair, and handling, among others. Administrations costs are related to management, logistics, financial, and commercial aspects of the business.

The object of study was a Container ship of 4.300 TEU as container vessels were the largest users of the strait in 2018. For cost calculation purposes, a characteristic ship was obtained from averaging data of some vessel with similar particulars and schedules and some assumptions were made. For instance:

1. In the calculations it was assumed that a year has 360 days.
2. The Bunker price was selected on 24rd of May 2019 in Singapore (Shipandbunker.com) reaching for IFO380 the 413,5 \$/ton.
3. It was assumed a 20% of inter-zone repositioning as an estimation of what industry demands nowadays.
4. It was assumed a 20% as the estimated amount the ship-owner would carry out the inland intermodal transport.
5. It was considered a 10% of cargo claims.
6. For administration cost, only were considered the employee costs, depreciating the other costs.

Due to that the major part of the costs remained constant, the time taken on the voyage and the distance travelled on that voyage were the two causal factors which had a strong effect on costs when considering a detour.

It is important to remark that for the sake of the comparison the total number of voyages per annum remained constant, even when a greater distance means more sailing time and consequently less voyage per year. It was assumed in that way to show what would suppose in terms of costs for the ship-owner to maintain the same conditions of service.

As this study also pretended to offer an early assessment of the impact of the OBOR Initiative in the ASEAN region, the Liner Shipping Connectivity Index for the different countries conforming it was studied and compared with the first top ranking countries, for instance, China and Singapore.

2. RESULTS

In the last four years, daily transit reports to Klang VTS increased from 222 vessels per day in 2015 to 233 vessels per day in 2018. This equates to nearly 10 vessels entering or leaving the straits every hour, or one vessel every six minutes.

In 2018, container vessels accounted for 30,8% (Figure 1) and remained the largest users of the strait despite rapid growth in the size of containers on the trade with lines.

Overall tanker traffic, including VLCCs, saw 28127 transits in 2018, an increase of 787 compared to 27340 transits in 2017, showing a continuous growth. Tankers alone accounted the second, with a 24,4% of the traffic. Bulk Carrier traffic in the strait saw a steady growth too reflecting East Asia's import of raw materials such as iron, ore, and coal. On the other hand, LNG and LPG vessel traffic saw a small increase in transits too, showing a slow but constant growth.

As figure 2 shows, the Malacca Straits follows a tendency of continued growth, hitting an all-time high of 85030 transits in 2018. However, from 2012 to 2018 the average growth rate was of 2,67%; so, even when the tendency continuous being upwards, there has been a deceleration in the increase of the shipping traffic (figure 3).

Figure 2. Tendency of the traffic in the Straits from 2011 to 2018.

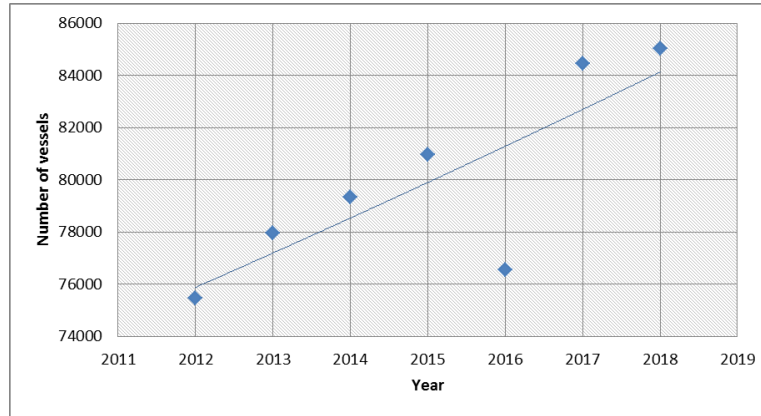
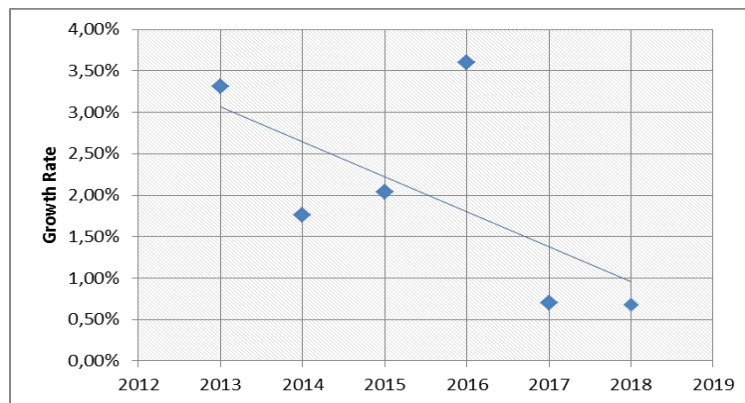


Figure 3. Growth Rate of shipping traffic from 2012 to 2018.



On the other hand, based on the difference in time between the minimum distance route, the one through the Strait of Malacca, and the other two feasible alternatives, **Figure 4** shows the different costs due to the additional sailing time, the total cost (in Dollars and Euros) and the associated percentages.

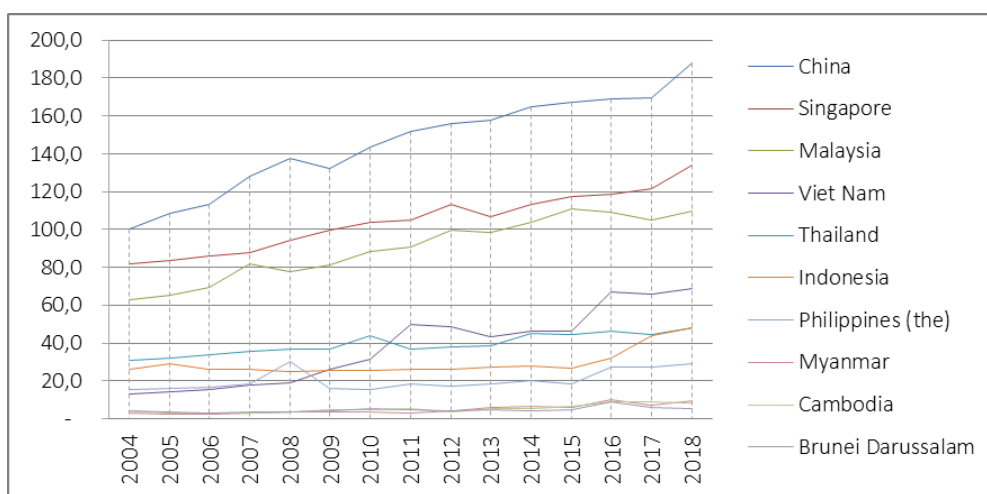
Figure 4. Costs assumed for the different scenarios.

	SUNDA	LOMBOK
Additional fuel costs (\$)	\$7.827.430,39	\$13.942.769,83
Additional container & container handling costs (\$)	\$9.406.533,34	\$16.925.576,03
Total additional costs (\$)	\$17.230.485,81	\$30.864.867,94

Total additional costs (M€)	↑15,35 M €	↑27,47M€
Percentage of cost increment (%)	↑ 9,83%	↑ 17,62%

Finally, regarding the Liner Shipping Connectivity Indexes for each ASEAN state member, the tendency is positive (figure 5). All the state members have observed a steady increase during the last decade, even though the crisis of 2008. Using China and Singapore, the two first top countries of the rank in 2018, as reference, it is clear that even when the ASEAN states are yet far from reach their same level, the tendency is clear upward. Furthermore, since 2013, the year when the Belt and Road Initiative was announced, it shows a further growth, following the path of China.

Figure 5. China & ASEAN Liner Shipping Connectivity Index Comparison¹⁸.



3. DISCUSSION

In 2006 the Maritime Institute of Malaysia (MIMA) conducted a study to enhance the safety of navigation in the Straits of Malacca. The basis of that study was determining the Carrying capacity of the Straits to make an appraisal for Risk Governance., resulting in 122640 vessels per year. MIMA forecasted this number of vessels for 2024, as well the World Bank predicted a similar number in 2025, while the Japan International Transport Institute projected 140000 vessels in 2020. These results implicate that congestion will start when the number of ships reach the Carrying Capacity of 122640 annually.

However, it must be considered that at the moment of the study, from 2000 to 2006, the growth rate of the Straits was about 6% per year. Nowadays, the figures have changed drastically. Even when the Malacca Strait has been following a tendency of continued growth, hitting an all-time high of 85030 transits in 2018, comparing this decade with the last one, growth rate shows a deceleration in the increase of shipping traffic.

It could be considered that both, the declining growth rate and the decrease in the accidents in the Straits, are consequence of the measures taken by the authorities to ensure the safety of navigation. However, a double reading can be derived from the data when considering the impact of the Belt and Road Initiative. The joint pursuit of the Belt and Road Initiative (BRI) aims to enhance connectivity and practical cooperation, and it has

put in place a general connectivity framework. The improved interconnectivity has had an impact on the Malacca Strait, as it was intended, and that is being shown in the constant deceleration in the increase of shipping traffic.

That affirmation is also corroborated by the comparison of the Liner Shipping Connectivity Indexes (LSCI) for each ASEAN state member (Figure 4). As the LSCI shows, all the ASEAN states members have observed a steady increase during the last decade, even though the crisis of 2008. ASEAN region is improving accessibility to the global trade, despite being yet far from reach the same level as China and the tendency is clearly upwards for the years to come.

On the other hand, even when the Sunda and Lombok Strait are physical viable alternatives, the extra cost of detour makes them inadequate as a long-term solution as it supposes an increase of distance as well as fuel consumption; calculations made show that for a Liner Shipping Company with a line service in the Southeast Asian Region, the added costs of rerouting would increase from a 10%, in the Sunda Strait, to a 17%, in Lombok Strait. The delays as well as the cost that ship-owners would need to assume surely could have far-ranging economic consequences for the global marketplace.

4. CONCLUSIONS

There is not yet a satisfying solution to the Malacca dilemma, and it seems that this situation would not change in the near future. However, China has not stopped here and is looking to ensure a more viable long-term energy security policy.

Climate change, in particular the melting ice, has opened new sea routes through the North Pole. The Arctic awakens commercial interests in many large companies and coastal and non-coastal states, given their natural resources and the savings they entail in the transport of goods between continents. China has also expressed interest in Arctic shipping routes along the Northern Sea Route and through the Northwest Passage. The shortest route from China to Rotterdam for example, is by using the Northern Sea Route, which can save up to 13 days. This translates into cost savings due to transport efficiency and considerable fuel savings. But other aspects as safety, security or legal requirements for ships sailing in those waters are not assessed.

The Arctic route reduces the risk of oil disruption for China, Japan and South Korea. The capacity to ship oil and gas from ports along the Northern Sea Route also reduces the need to build costly pipelines across the tundra for land-based energy transport. The fact that rivers in Russian Siberia flow north to the Arctic Ocean also allows these waterways to be used to ship oil and other resources to coastal ports. Using the Northern Sea Route that connects Northern Europe with China, Taiwan, South Korea and Japan will suppose a 40% reduction in sailing distance, and a 20% cut in fuel, compared with the Suez Canal route via the Middle East.

Even though analysts say that the transit will be increasingly easy to navigate for bulk carriers, even during winter months when ice levels are highest, navigating these routes will always involve a series of limitations and risks. The draft due to the shallowness in some navigation areas, the fact that they are only navigable for 3-5 months of the year, the lack of infrastructure and rescue, due to the long distances to supply and lack of investments, and communication problems due to high latitudes difficult the navigation.

A further route, still under discussion, is the proposal to build a canal across the Isthmus of Kra in southern Thailand. The canal would allow shortening maritime traffic by approximately 1,000 nautical miles¹⁹.

Although the channel project has not been officially part of the Belt and Road initiative and there has been political resistance, there have been unconfirmed talks between commercial parties in China and their counterparts in Thailand.

No one knows exactly how much oil and gas will go through the alternative routes and how much time will they take their final destinations. Other question marks include insurance charges and storage facilities. It would remain to be seen if the relative economic costs, even when the physical distance is reduced, would be competitive compared with the Malacca Straits. The accurate determination of the economic benefit considering these other alternatives is considered as future works.

The China-proposed and funded Belt and Road projects will undoubtedly alter the traditional trading routes in the region. However, just as in ancient times, the Malacca Straits will continue to remain a key focus for China in the near future.

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