



# South China Sea Contentions and Economic Sustainability of the Shipping Industry

Qi Chen <sup>1,\*</sup>, Amanda Pang <sup>2</sup> and Daniel Pang <sup>3</sup>

<sup>1</sup> *Massachusetts Maritime Academy, USA*

<sup>2</sup> *Beth Israel Deaconess Medical Center Boston, USA*

<sup>3</sup> *New York University, USA*

\* *Corresponding author: qchen@maritime.edu; Tel.: 001-508-367-5122.*

**Abstract:** The South China Sea is the most important international maritime passage and carries an estimated 33% of total global shipping annually. For centuries, several neighboring countries have disagreed over assertions of their territorial claims in the area, including China, Vietnam, and the Philippines. Recently, territorial disputes have drawn attention as escalating to potential military conflicts. A military conflict in the South China Sea would force most shipping from Europe, the Middle East, and Africa, which is destined for Asia and the US west coast, to divert around the south of Australia, which greatly increases shipping costs. Military contentions in the area would likely lead to disruption of global supply chains, restructuring of production organization in the involved countries, and be a detriment to national outputs for afflicted countries and consequently the world economy.

**Keywords:** economic sustainability, shipping efficiency, South China Sea, military conflicts

## 1. Introduction

As a vital commercial artery connecting Asia to America, Europe, and Africa, the South China Sea is an essential maritime passage for many economies, including the USA, China, and Japan. Each year, the South China Sea claims an estimated one-third of global shipping, with roughly \$5.3 trillion worth of goods transiting through this waterway. The dominating principle of international maritime transportation has been “freedom of the seas”, emphasizing freedom for all to navigate the oceans and is authored in the United Nation Convention on the Law of Sea (UNCLOS) under Article 87 (1) – “the high seas are open to all states, whether coastal or land-locked.”

However, for centuries, the South China Sea has been subject to overlapping territorial disputes, involving China, Vietnam, the Philippines, Taiwan, Malaysia, and Brunei. Over the past two decades, territorial disputes have been escalating in nature, raising concern for potential impending military conflicts. As recently as March 28th, 2022, the Philippines and United States conducted the largest joint military drills in the South China Sea, with nearly nine thousand soldiers participating in the military exercises. China has fully militarized a minimum of three man-made islands it has established in the disputed area. It is well noticeable that the region is arming at an alarming rate. The potential clashes, especially among influential global powers, could lead to disruptions of the South China Sea waterways. Any scale of disruptions has the potential to force trading countries to reduce international trade, divert to alternative sea routes, which will cause cost inefficient for shipping companies, and hinder economic growth on the global scale.

This paper intends to examine the manner in which disputes over the South China Sea would negatively impact short-term and long-term sustainability of the shipping industry. This paper also examines how political instability and military tensions in the South China Sea could lead to changes in productions and supply chains of the relevant countries, as well as affecting their economic growth for the foreseeable future.

The paper is structured as the following: Section I presents an introduction. Section II explains the territorial disputes and military tensions in the South China Sea, followed by Section III, which describes the negative impacts of military contentions on sustainability of the shipping industry. Section IV concludes

## **2. South China Sea Contentions**

### *2.1 The Disputed Claims on South China Sea*

There are seven countries/states that have competing claims for the 1.2 million square miles of the South China Sea, which include China, Vietnam, Taiwan, the Philippines, Malaysia, Indonesia, and Brunei. In addition, the South China Sea is an integral waterway for trade goods, totaling 4-5 trillion USD in goods being transported annually, as well as transporting natural gas. Therefore, the South China Sea has become a crucial financial interest and is of major strategic importance for many countries.

As early as the 1970s, countries began to claim islands and various zones in the South China Sea, such as the Spratly Islands, which possess rich natural resources and fishing areas. More recent territorial disputes began in 2009 with China's announcing of the "Nine-Dashed Line" which were based in their historical sovereign claims to the South China Sea. In 2012, the contention escalated when a Chinese platform was towed into the Vietnam Exclusive Zone. However, in 2016, the Permanent Court of Arbitration ruled against China's claims for the South China Sea and Spratly Island, in favor of Philippines, Indonesia, Malaysia, and Vietnam.

### *2.2 Military Contentions and Military Competition*

Territorial disputes in the South China Sea have been escalated into military confrontations and military completions among the neighboring countries and the international superpowers. According to the Bloomberg report on March 8th, 2022, Vietnam claims that the ongoing military drills conducted by China violates its continental shelf and exclusive economic zone (EEZ), after China carried out a week-long military drill near the Vietnam coast. In addition, China's construction of artificial islands with military installations has made it a focal point of tension with the United States. Analysts fear that China's next move is to create an air defense identification zone (ADIZ) over the disputed waters. In the event of China's threat becoming reality, all aircraft entering the designated airspace would be required to identify themselves, or be subject to interception.

The military conflict in the South China Sea could potentially close the Malacca Strait between Malaysia and Indonesia, and stop all east-west passage between the Pacific and Indian Oceans through the South China Sea. Consequently it would force most ships from the Middle East and Africa, destined for Asia and United States west coast, to be diverted around the South of Australia. This rerouting will certainly increase both consumer and commercial shipping costs, according to studies by Cosar and Thomas.

Escalating tensions in the South China Sea would not only lead to increased military expenditures of adjacently neighboring countries, but also have a heightening effect on militarization levels worldwide. According to the comments of a senior researcher, Nan Tian, at Stockholm International Peace Research Institute (SIPRI), "countries are playing with each other in terms of action-reaction, where when one country increases [purchases], another country [also] increases, procuring more weapons. ...That comes as worldwide military spending surpassed \$2 trillion for the first time ever in 2021."

## **3. Impacts on Sustainability of Shipping Industry**

So far, the military contentions in the South China Sea has built up momentum at an alarming speed, and yet it has not reached a point of oppressing the waterway to a stalemate. However, it is still of noticeable interest that, according to data collected by Marine Traffic in 2016 and 2017, most ships carrying oil or cargo were choosing to go around the Paracels, instead of electing a more direct route straight through the Paracels, which would reduce fuel costs. It is well understood that if conflict arises and a multi-national crisis shuts down the South China Sea, regardless whether it is only for the short term (such as several days), or long term (e.g. months or longer), the maritime shipping industry would undeniably be one of the first to be hit, and hit hard. The disruption of safe passage routes in the South China Sea would force shipping companies to go through alternative waterways, and rerouting, through either Australia or other even more expensive trade route

alternatives. In either case, it would tremendously increase shipping costs, and shipping companies themselves would be forced to pay a spike of other expenses, including premiums for protection operating under war risks, depreciation of currencies, and surges in oil or other fuel costs.

### 3.1. Cost of Destructions of the Waterways

The tensions and military conflicts in the South China Sea, especially between the two superpowers, China and the United States, is cause for legitimate international concern. The clear and immediate danger of military conflicts would be the disruption to all shipping traffic and endangerment of commercial vessels passing through the Malacca Strait. Though there are other sea lines of communication (SLOC) which offer the entry into the South China Sea, such as the Sunda Strait and Lombok Strait, the Strait of Malacca offers the shortest and thus most economical shipping traffic between the Pacific and Indian Oceans. According to research published by China Power Project, in the event the Strait of Malacca is closed, the added costs of rerouting can be calculated by looking at average daily voyage costs of various vessels. Assuming that tankers and bulk carriers exceeding 100,000 deadweight tonnage (DWT) detour through the deep-water Lombok Strait and smaller ships transiting through the shallower Sunda Strait, a week-long closure of the Strait of Malacca would result in an estimated \$64.5 million additional shipping costs. And yet these amount takes only 0.08% to 0.10% of the average weekly value of trade that passes through the South China Sea. If rerouting to Australia, the estimated added shipping costs will be ten times more than that of passing Sunda Strait. The following table illustrates the length of disruption of Malacca Strait, additional cost of retouring other passages and percentage of the South China Sea trade value over the period.

Table 1: Estimated Cost to Reroute All Malacca Traffic (in Million US Dollars)

	Sunda	% of South China Sea trade over period	Lombok	% of South China Sea trade over period	Australia	% of South China Sea trade over period
Daily	9.21		17.00		92.98	
Weekly	64.49	0.08-0.10	119.03	0.15 – 0.18	650.85	0.80- 1.01
Monthly	279.46		515.80		2,820.35	

Sources: China Power Project, 2017

### 3.2. Reorganization of Supply Chains

Tensions in the South China Sea, alongside existing disruptions due COVID, port pileups, and the 2022 Russian-Ukraine War, demand companies to preemptively diversify their supply chains away from the region. It has become a well-accepted notion by now that any degree of trade disruptions could create a critical shortage of components that results in companies lowering productions and losing profits. Additional geopolitical risks will ultimately push more supply chains out of China and cause shifts of production centers to the other low-cost Asian countries, such as Vietnam, Thailand, and India. “We will definitely see some reshoring and nearshoring,” Peter Sand, chief analyst of ocean-rate data provider Xeneta, told American Shipper. “But the lion’s share of changes I see will involve bringing manufacturing out of China to neighboring Asia countries.”

Some countries on the South China Sea, like Taiwan and Singapore, are export oriented economies and depend heavily upon the South China Sea to transit their products. The conflicts and possible disruptions of the ocean-passage would be devastating to their industrial structure and national economy. In a recently released report, the World Trade Organization (WTO) warned that: “trade could become more fragmented in terms of blocs based on geopolitics.” A worst-case scenario involving the “permanent disintegration of the world economy into two blocs” would reduce long-term global GDP “by 5%”, according to the WTO.

Research performed by Cosar and Thomas predicts that if the military confrontations intensified and blocked the South China Sea waterways, the expected deduction in GDP for a country like Taiwan can be as high as 33%. Table 2 sums up their estimates for related countries (Cosar & Thomas, 2020).

Table 2: For the deduction of GDP of neighboring countries

Countries	Taiwan	Singapore	Vietnam, Philippines, Malaysia, Hong Kong	China	Japan
Predicted deductions in GDP	33%	22%	10 – 15%	0.7%	2-3%

Source: Cosar & Thomas, 2020

#### 4. Conclusion

The South China Sea has become such a contested area among many countries in large part due to its keystone importance to global shipping and the economic advantage from the abundantly available natural resources. High military expenditures and rising geopolitical instability in the South China Sea can lead to higher predicted GDP deductions and lower profitability for the shipping industry, particularly of the countries close to Malacca Strait, the epicenter of the potential conflict. The question of how to keep a sustainable growth of shipping industry has become even more crucial after the outbreak of COVID-19 in early 2020. The subsequent lockdowns of the China and other countries have imposed vastly detrimental consequences on global supply chains. In addition, recent blockages of the Black Sea waterways, as a result of the Ukraine-Russian crisis, could start on global food shortages in the future months, if not years. Therefore, the well-being of the world as well as the sustainability of the shipping industry demand a peaceful solution to the disputes, rather than military confrontations of any kind in the South China Sea.

#### References

- [1] Cosar, K. & Thomas, B., (2020), The Geopolitics of International Trade in Southeast Asia, National Bureau of Economic Research, working paper 28048, November 2020, <https://www.nber.org/papers/w28048>
- [2] Buddhavarapu, R, (2022), South China Sea faces higher risk of conflict as arms race builds up, says weapons expert, CNBC, <https://www.cnbc.com/2022/04/27/south-china-sea-region-at-a-higher-risk-for-conflict-weapons-expert.html>
- China Power Team, "How Much Trade Transits the South China Sea?" China Power. August 2, 2017. Updated January 25, 2021. <https://chinapower.csis.org/much-trade-transits-south-china-sea/>
- [3] Global Conflict Tracter, (2022) Territorial Disputes in the South China Sea <https://www.cfr.org/global-conflict-tracker/conflict/territorial-disputes-south-china-sea>
- [4] Long, D., (2020), Data Shows Commercial Shipping Avoids Hotspots in South China Sea, Radio Free Asia, <https://www.rfa.org/english/news/china/southchinasea-shipping-09282020155242.html>
- [5] Uren, D., (2020), Southeast Asia will take a major economic hit if shipping is blocked in the South China Sea, The Strategist, Australian Strategic Policy Institute, <https://www.aspi.org.au/southeast-asia-will-take-a-major-economic-hit-if-shipping-is-blocked-in-the-south-china-sea/>
- [6] Wood, G, (2020), Component Supply Chain and South China Sea, HIS Markit, <https://ihsmarkit.com/info/1020/supplychain-south-china-sea.html>