

MARITIME STRATEGIC EVALUATION FOR ISRAEL 2021/22

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The Incident of the Suez Canal Blockage by the *Ever Given* Container Ship – The Implications for the Region and for Israel

*Ehud Gonen*¹

The sequence of events in the March 2021 Blockage of the Suez Canal

On March 23, 2021, the *Ever Given* container ship, which was passing northwards through the Suez Canal, ran aground on the banks of the Canal about ten km north of the Port of Suez. The Canal got blocked as a consequence, and shipping through the Canal was stopped in both directions for almost six days.

The *Ever Given* is a megaship built in 2018 with a gross tonnage of 219,079 tons and operates under a Panama flag. It is about 400 meters long and 59 meters wide. It was carrying goods worth billions of dollars in 18,300 TEU out of its maximum carrying capacity of 20,000 TEU.² The ship is owned by the Japanese Shoei Kisen corporation, managed by the Taiwanese Evergreen Company, and is insured against third party damages by the UK Club insurance organization.³

While sailing through the Canal, the ship swerved toward the bank of the Canal, its bow hit one bank while its aft swung to the opposite bank so that the ship totally blocked the passage. The official reason for the accident was not made public, however it is possible that the prevailing weather conditions at the time were the cause of the accident, since strong winds were blowing perpendicular to the ship, and sandstorms restricted visibility.

Following the blockage, hundreds of ships of various kinds got stuck inside the Suez Canal, in the Bitter Lakes and also at the north and south entrances to the Canal. Realizing that it would take a long time to release the ship, numerous ships changed course and opted for the route circumnavigating Africa, rather than sailing through the Canal. These were ships which were at this decision point along their voyage in the Indian Ocean, and were geographically in a place that enabled altering the course southwards. Ships that were already in the Red Sea and ships in the Mediterranean continued along their course and waited in the ports of Port Said and in the Gulf of Suez.

¹ The author wishes to thank Dr. Elai Rettig, Captain Alex Gerson and Dr. Benny Spanier for their professional assistance with this article.

² TEU – Twenty-foot equivalent unit.

³ The data are from the shipping data website MarineTraffic.com.

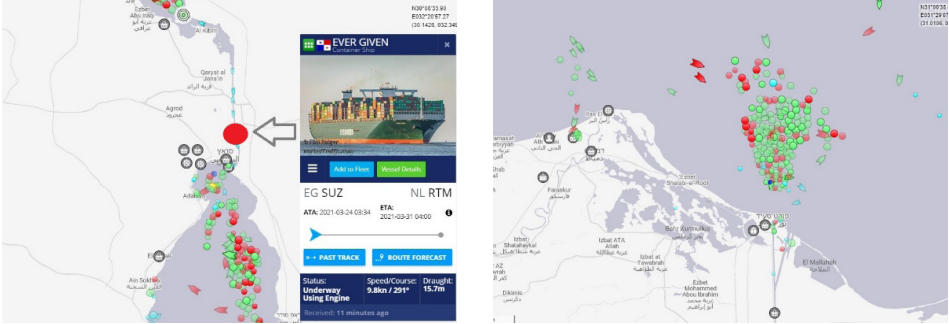


Figure 1: Left, the Ever Given (red dot) stuck approximately 10km north of the southern entrance to the Suez Canal and a queue of hundreds of ships waiting in the Gulf of Suez for the ship to be freed. Right, a similar queue of ships waiting at the northern entrance to the Canal opposite Port Said (source: screenshot from the Marine Traffic website).

This marine "traffic jam" was only fully uncorked about one week after the ship had been freed. While the traffic in the Canal was resumed, the Egyptian authorities impounded the *Ever Given* to investigate the incident and placed the responsibility for the heavy damage incurred to the *Suez Canal Authority* (loss of revenues and the cost of releasing the ship). The ship anchored in the Bitter Lakes area for 106 days and was only allowed to sail on on June 6, 2021 after an agreement was signed between the Canal authorities and the ship owners. The details of the agreement have not been made public.

The canal blockage incident and the delays to global and regional trade it caused aroused a public discussion over the importance of free, uninterrupted shipping to international trade and to economic prosperity. In a world where the global economy and the manufacturing value chain straddles the entire globe, there is a brisk trade in both finished goods and in semi-finished goods (products which are transported from one production site to another all over the world). Therefore, the canal blockage impacted not only trade in finished goods from the manufacturing centers to the markets, it also had an immediate impact on the industrial manufacturing processes in many countries due to the "just in time" method of industrial production processes and inventory management practices.⁴

⁴ This is an inventory management method in which the components for the manufacturing process are received from the supplier when they are needed, rather than being stored in a warehouse on the manufacturer's premises.

Specifically, the Suez Canal was exposed as a significant choke point, mainly in the trade between Asia and Europe, and raised the need to consider alternative routes in order to reduce the dependence on the Suez Canal passage.

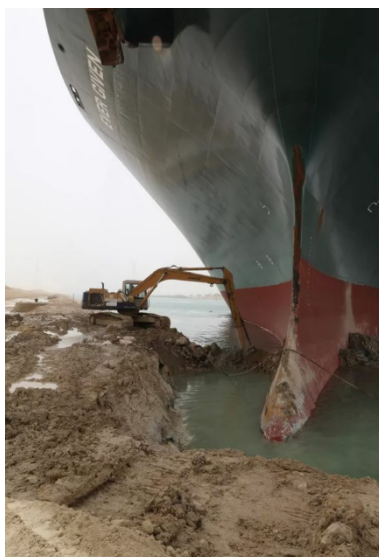


Figure 2: a lone bulldozer attempting to free the huge ship stuck on the Canal banks (photo credit: Suez Canal Authority – SCA)

The Suez Canal and Global Trade

The Suez Canal, which was first opened in 1869, is one of the world's most important shipping lanes. Passage through the Canal shortens the sailing distance from the Straits of Malacca to Rotterdam (the largest port of entry into Europe) by approximately 3,500 nautical miles and it also shortens the sailing distance from the Straits of Malacca to the ports on the United States eastern shore (see figure 3). In 2019, before the outbreak of the COVID-19 pandemic and its disruption of the global economy, approximately 13% of the world's trade passed through the Suez Canal⁵ in 18,880 ships (an average of 52 ships per day), which carried cargoes weighing 1,031 million tons.⁶ During the first half of 2021, the traffic through the Canal increased drastically (despite the blockage event which lasted six days). Between January and June 2021, 9,763 ships passed through the Canal, a 2.3% increase compared to 2020.

⁵ SCZone head: 13% of world trade passes through Suez Canal, *Hellenic shipping news*, June 24, 2019.

⁶ SCA Navigation Statistics.

The net cargo weight that passed through the Canal grew in the first half of the year by 3.8% to 610.1 million tons, compared to 2020.⁷ It appears that 2021, despite the Canal blockage incident, will be the most successful year in the history of the Canal from the financial perspective.⁸



Figure 3: the navigation routes from the Straits of Malacca to western Europe and to the United States eastern seaboard via the Suez Canal and bypassing the Canal

In 1956, the canal, which was under British ownership and operation, was nationalized by the Egyptian President at the time, Nasser, and since then it is operated by the Suez Canal Authority (SCA). Egypt's revenues from the canal are extremely significant and stood at approximately \$5.84 billion during the 2021–2020 fiscal year, accounting for approximately ten percent of the total revenues of the Egyptian government and approximately 2% of the total Egyptian GDP. This is a fixed, stable source of revenues in foreign currency (exporting services), which are of the highest priority to the Egyptian economy, which is beset by numerous structural difficulties.

In 2014, Egyptian President Abdel Fattah al-Sisi announced a national project of widening the Canal, which was completed within just one year in 2015. The project, which was carried out and financed in full by Egyptian internal sources and accompanied by the expression of intense national sentiments, doubled the northern section of the Canal over a length of 70 km (out of a total Canal length of

⁷ Egypt's Suez Canal reports record revenue despite blockage crisis, *Alljazeera*, July 11, 2021.

⁸ *Ibid.*

approximately 200 km). Today it is also integrated with the construction of industrial parks,⁹ which take advantage of the existing workforce in Egypt on the one hand, and the logistical accessibility to the world's main trade routes on the other. The doubling of the canal project is also combined with the New Egyptian Administrative Capital project. The Canal is a primary national symbol in Egypt, whose roots go back to those days when it was nationalized by Nasser and the canal widening project harped on those same national sentiments.

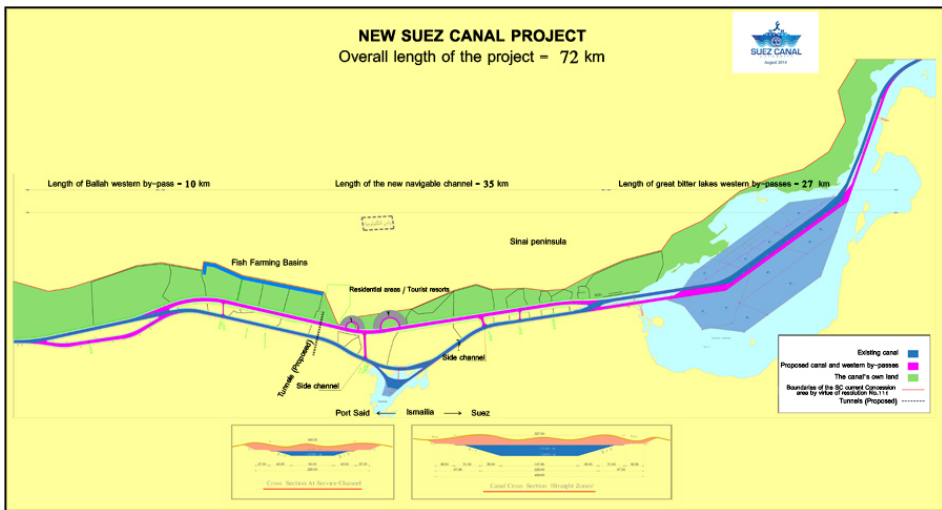


Figure 4: The area of the widened Suez Canal north of the Bitter Lake
(source: Suez Canal Authority)

Legal Aspects

The Canal blockage incident by the *Ever Given* placed the issue of responsibility of Compulsory Piloting on the agenda. This responsibility lies with the ships crossing the Canal and also, to an extent, placed the Egyptian authorities in a rather unflattering light. Since Egypt requires whoever passes through the Canal to use SCA pilot services, the question regarding the Canal authorities' accountability, and that of the Egyptian pilot, has been asked following the accident.

According to international law, the Canal is an internal waterway, meaning that all of the Egyptian laws apply to those passing through the Canal. The passage regime in the Canal was set in the Convention of Constantinople (1888) and in addition

⁹ Suez Canal Area Development Project, Great Egyptian Dream.

there are specific Egyptian laws governing the Suez Canal, starting with the decree nationalizing the Canal (1956) and other laws from 1975, 1998,¹⁰ and also other general commercial laws.¹¹

After the ship was extricated from its location, the Canal authorities impounded the ship in the Great Bitter Lake area and set a price of approximately \$916 million as the price for releasing it as compensation for the damages caused to the Canal through loss of revenue, release costs, financial damage and damaged reputation. The ship's insurer, the UK Club, named this as an unacceptable demand. The Egyptian authorities later lowered their demands to approximately \$550 million. Upon releasing the ship in July 2021, the Canal Authority chairman Admiral Osama Rabie said that the parties (the Canal Authority and the ship owners) have no more claims from one another.¹² On another occasion the Chairman of the Canal Authority said that the compensation agreement includes the purchase of a tugboat for the Canal. However, the details of the final agreement that was signed in early July between the owners and the insurer on the one hand, and the Canal Authority on the other, remain confidential.

The private international law (Conflict of laws) governing torts is complicated. According to past precedents, which go back as far as the 19th century, there apparently is no unequivocal legal grounds for the Egyptian authorities to claim torts from the ship owners directly in case of damage during a voyage under a compulsorily-piloted journey under international law. However, the law (or more precisely certain concepts of the law) allow for "personification" of the ship and claiming torts from the ship itself even in a case of compulsory pilotage.¹³ On the other hand, the rules of navigation of the Suez Canal Authority explicitly state (Art., 4(1) – Responsibilities) that the vessel and its captain are responsible for any damage that may be caused when navigating through the Canal.¹⁴ In addition, in terms of the accountability of the Egyptian pilot stationed on board the ship according to Egyptian law, the pilot bears no responsibility for damages in case of an accident.

¹⁰ Canal Treaties & Decrees.

¹¹ Egyptian Maritime Trade Law No. 8 for the year 1990.

¹² Egypt's Suez Canal reports record revenue despite blockage crisis (Video), *Alljazeera*, July 11, 2021.

¹³ Dennis M. Robb, (1974) "The Compulsory Pilot Defense: A Reexamination of Personification and Agency," *University of Chicago Law Review*, Vol. 42(1), Article 8, pp. 199–215.

¹⁴ Rules of Navigation, Suez Canal Authority, August 2015 (p. 6).

This lies fully on the ship's captain even in the event of a mistake on the part of the Egyptian pilot.¹⁵

This is not the place for an exhaustive legal discussion, in particular since the issue never actually reached the courts in Egypt and the ship was ultimately released with a confidential agreement. However, certain media outlets claim that such conduct on the part of the Egyptian authorities – including slashing the claim amount in half – presents Egypt in an unflattering light and as a country operating non-transparently and even resorting to blackmailing methods.

Operating the navigation of a ship through the Suez Canal and Calculating the cost of passage

In terms of ton-mile cost (the cost of transporting one ton of merchandise a distance of one mile), maritime shipping is the most effective mode of transport over long distances. This is why approximately 80% of world trade in terms of weight is transported by sea (and the rest by air, overland and through pipelines). This efficiency of maritime shipping increases as the distance the merchandise travels increases. Therefore, in the longest and most congested shipping lines in the world between northeast Asia and Europe, with the existing railway technology overland transport via the vast expanses of steppes in central and western Asia cannot possibly serve as an economical, efficient substitute for maritime shipping.

Another main parameter in the logistics of trade is the transfer of cargo from one means of transport to another and transshipment¹⁶ of cargo between two of the same means of transport. Generally speaking, it can be said that any transfer of cargo from one means of transport to another considerably increases the shipping cost.

¹⁵ Liability: Pursuant to the Egyptian Maritime Code No. 8 of 1990 (Art. 279) as well as rulings of the Supreme Court in Egypt, the responsibility for pilotage operation in port and in the Suez Canal lies entirely with the Master of the guided vessel even in case of the pilot's error. In this context one can mention the ordinance from 1939 issued by the British High Commissioner to Palestine, which is still practiced in Israel and in many other countries. According to "[the Damage by Vessels under Pilotage Ordinance](#)": "Notwithstanding anything contained in any Ottoman law or in any other law or Ordinance the owner or master of any vessel under pilotage, whether compulsory or otherwise, shall be answerable for any loss or damage caused by the vessel or by any fault of the navigation of the vessel".

¹⁶ Transshipment: in the maritime context, transshipment is transfer of a container from one ship to another. The transshipment is usually done at a transit port between the port of origin and the destination port of the merchandise.

An outstanding and extreme example of this commercial principle can be seen in the trade between Europe and Asia, beginning in the 16th century, with the discovery of the maritime route from Europe to Asia by *Vasco da Gama*. Trade, which until then passed through the Mediterranean and continued in overland caravans through Egypt and in ships to India came to a halt, and instead the trade was diverted to the long route circumnavigating Africa. The Cape of Good Hope route included only a single vessel from Europe to India with no loading or unloading and without an overland component, and was therefore much more efficient despite the considerable added distance (approximately 3,500 nautical miles). This efficiency eventually resulted in the demise of the trading city-states like Venice, which had dominated the Mediterranean trade which dwindled in favor of the trade route to India through the Atlantic Ocean.

This being said, however, despite the great efficiency of the maritime trade, the Canal blockage incident raised the need to consider additional trade routes, which might be less profitable but which provide redundancy and will enable trade to continue even in case of a major shipping lane being blocked. For this, the cost of sailing along the various routes and the cost of passage through the Suez Canal needs to be considered, as well as other possible overland routes, pipelines for fluid commodities, etc.

The passage through the Canal shortens the maritime voyage from east Asia to Europe by about 3,500 nautical miles, which are equivalent to 8 to 12 sailing days. The exact number of days saved is calculated as a function of the ship's speed, which is determined by a number of factors.¹⁷ The cost of a day of sailing can vary between a few thousands of dollars and tens of thousands of dollars.¹⁸ In other words, the cost savings gained from shortening the journey time, for example by approximately ten days saved by traversing the Suez Canal, can vary between a few tens of thousands of dollars for small ships and hundreds of thousands of dollars for a large, modern ships.

¹⁷ The ship speed is determined by mechanical factors such as type of engine, ship structure, environmental factors like weather and administrative factors like captain decisions to increase or decrease speed, instructions from the owners of the cargo regarding the urgency of the ship's arrival, etc.

¹⁸ The per-diem cost depends on numerous factors such as ship size, ship type, ship launch date, type of charter etc. (in general there are two kinds of charter: time charter – meaning chartering the ship for a fixed term, and voyage charter, meaning chartering the ship for a voyage from a port of departure to a destination port. It is also possible to charter a ship under various charter models, such as bareboat charter, etc.).

On the other hand, the passage through the Suez Canal is not free. Egypt, through the Suez Canal Authority, charges a hefty fee for each passage and it is reasonable to assume that this payment is determined by the abovementioned alternative cost of circumnavigating Africa. The cost of a passage in the Canal for a large container ship can add up to hundreds of thousands of dollars.

The container megaships being built in recent years, with capacities in excess of twenty thousand TEU, are faster and can sail at speeds of more than 20 knots. At such speeds, the time saving afforded by the Suez Canal is less than a week, meaning that the alternative cost of a Suez Canal passage is reduced.

Beyond the direct monetary aspect, the passage through the Suez Canal also allows for greater certainty as to the costs of the voyage and its duration, since the weather when circumnavigating Africa can make it difficult to meet the planned voyage schedule. In order to meet the schedule in case of bad weather, the captain might have to increase speed, meaning increased fuel consumption and increased wear on the ship's systems.

The high costs of Canal passage, which in certain cases come close to the alternative route circumnavigating Africa, make the shipping companies consider the worthwhileness of the Canal passage. Shipping companies, primarily in the container sector, which operate fixed-frequency lines with periodic port calls will of course prefer passing through the Canal since the savings in time mean they need a smaller total number of ships for the total circuit. For example, for a weekly service between Japan and Europe, at least eight ships would be needed (four weeks for each direction). Extending the duration of the voyage by two weeks due to the Africa circumnavigation means each one-way journey would take six weeks, or 12 weeks for the full circuit, meaning it would be necessary to operate 12 ships in order to keep up the same service level.¹⁹ Also owners of sensitive cargos or cargos with relatively short lifetimes will prefer to sail through the Canal – for example cargos of agricultural produce, livestock, refrigerated goods (food, medicines etc.), and so forth. It is commonly assumed that all time-sensitive goods would prefer the Suez Canal crossing.

Cargo owners and ship owners that transport the rest of the types of goods will do a financial feasibility calculation before crossing through the Canal. Sometimes, under depressed prices in the commodities market, cargo owners will prefer the long

¹⁹ This is only an example. The shipping companies cope with the scheduling issue also by setting up 'alliances' and other forms of collaboration.

African circumnavigation in order to gain time and wait for the prices to recover. On the other hand, the Suez Canal authorities are quite flexible when setting the cost of passage and they grant "discounts" to certain ships according to the prevailing market conditions. For example, a discount for ships carrying liquefied natural gas (LNG) when prices in the natural gas market are low. This is done in order to encourage them to use the Canal for passage in any case.²⁰

Suez Canal Blockage

Ships pass through the Suez Canal in convoys. The ships wait in the Canal termini at Port Said in the north and in Suez in the south (the wait usually lasts a few hours). When there are enough ships waiting, the convoy gets underway where a local Egyptian pilot boards each ship (this is a requirement of the Egyptian authorities) and a tugboat escorts the convoy.

The convoys depart concurrently from the north and south and pass each other in the Bitter Lakes, where the Canal opens into a wide waterway. After having completed the doubling of part of the Canal in 2015, convoys can sail concurrently in opposite directions through the stretch where there is a double canal.

The Canal blockage by the *Ever Given* occurred in the section where there is no double canal. This highlighted the vulnerability of the trade route, which passes through the Suez Canal bottleneck and raised dire concerns as to the continuity of navigation along this route in case the Canal will be blocked for longer periods of time. In all its 150 years in operation, the Canal had remained closed for eight years between 1967 and 1975 due to wars between Israel and Egypt (from the outbreak of the Six-Day War in June 1967 to June 1975, while the negotiations over the Interim Agreement were suspended). The second time it was shut down to navigation was on account of the *Ever Given*.

There are three conceivable reasons why the Canal might be blocked to navigation:

1. **Operational and safety reasons:** as was the case with the *Ever Given*, meaning a ship running aground, cargo overboard blocking the Canal, availability issues with the tugboats that accompany the ships in their crossing, etc. In view of the dramatic increase in the size of container ships, which have reached Mega Container Ship proportions, it appears that the operational risks in managing such large ships in general, and in narrow passages like the Suez Canal in particular, are on the rise due to the fact that their size leaves no margin for error in such

²⁰ Suez Canal extends discounts for LNG carriers, *Sea trade Maritime News*, September 17, 2019.

a narrow waterway. The sides of such a mega-ship, along with the thousands of containers on board, form a formidable huge wall, making them exceptionally difficult to navigate in case of strong wind shear. In recent years there have been other events and accidents which resulted in the loss of thousands of containers when the container hold collapsed in the ship, container fires which destroyed entire ships, etc.²¹ Events of this kind occurred also years ago, however the increased size of the ships means that nowadays, when such an incident occurs, the damage, both direct to the cargo and to the ship, and indirect – for example to the environment – are immeasurably greater. Also the amount of hazardous materials these megaships carry is greater, with potential for touching off a significant safety incident.

2. **Force Majeure:** ranging from temporary conditions like the local weather through to catastrophes like earthquakes or tsunamis, which could disable the Canal.
3. **Security and political causes:** for example, the past wars between Israel and Egypt or a terrorist attack. In this context it must be noted that Egypt is indeed engaged in a battle against radical Islamic terrorist organizations throughout the country, and in the Sinai Peninsula in particular. The terrorist organization *Ansar Bayt al-Maqdis* which is operating in Sinai and which has sworn allegiance to ISIS, has in the past launched severe terrorist attacks against the Egyptian Army and even against IDF soldiers on the border with Egypt (2012) and fired rockets at the city of Eilat (2017). Between 2012 and 2013, Egypt reported foiling attempts to attack Canal shipping.²² It is likely that the sinking of one large vessel (or more than one, in case of a mega-attack) in the Canal will result in months of blockage. However, considering the fact that the digging of the New Suez Canal, 70 km in length, took just one year, it is likely that even in an extreme scenario of deliberate blocking of the Canal, the Egyptian authorities (perhaps with international assistance) would solve the problem in a matter of a few months.

It is very difficult to estimate what the long-term effects of a protracted blockage (months) of the Suez Canal would be. Yet, an analysis of the costs and behavior of global shipping in the case of the *Ever Given*, makes it safe to assume that in the short term there would be a sharp spike in the costs of maritime transport, plus a degree of increase in the prices of goods and products. The rise in the prices of maritime haulage prices would be caused by the diversion of maritime transportation from

²¹ Among the most outstanding accidents in just the past two years one can mention the collapse of hundreds of containers on board the ONE Apus, the fire on the decks of the X-Press Pearl in Sri Lanka and the fire on the decks of a container ship in the Port of Dubai.

²² [Egypt attack on Suez Canal ship 'foiled'](#), *BBC News*, September 1, 2013.

other regions around the world toward the Asian-European trade in order to complete the periodic calls as described above. The rise in product prices would primarily be the result of the uncertainty effect, of the opportunity to raise prices even if the actual costs have not really risen (consumers understand and accept the rise of prices due to a large-scale event like the Canal blockage).

In the medium and long term, it is likely that the market will stabilize around a new permanent situation (a "new normal"), and to the extent that such an extreme event can be analyzed, one can deduce that the costs of shipping between Asia and Europe will increase, albeit not drastically, since for part of the goods, already today the costs of passage in the Canal embody, to an extent, the alternative costs of circumnavigating Africa.

At the same time, certain goods, which are sensitive to the voyage duration, might endure a sharp rise in prices due to the need to transport these cargos by air or by high-speed ships, which incur high fuel consumption costs. Or in some cases, the inability to transport the goods over maritime routes altogether.

Some countries would be severely affected by such a future long-term closure, first and foremost Egypt. The revenues from the Suez Canal are extremely vital to the Egyptian economy. Hundreds of thousands of jobs are created by and around the Canal (tens of thousands of employees in direct employment and more in the other circles of employment in the industrial parks adjoining the Canal). In the second circle would be the Eastern Mediterranean countries like Israel, Cyprus, Greece, and Malta, which will find themselves far from this major global shipping lane, which today passes along the shortest line between Port Said on the northern outlet of the Canal and the Straits of Gibraltar. Malta, for example, is a major transshipment hub in the central Mediterranean. This transshipment activities contribute immensely to the economy of this small island. Should global trade switch to the route around Africa instead of passing through the Mediterranean, Malta's economy would be severely affected since the volume of transshipment in the island-nation's ports would be slashed drastically.

The connectivity of the ports in Israel would also be affected by such a hypothetical future blockage: they would find themselves far from the world's main shipping routes. This would lead to negative impacts on Israel's foreign trade, since the import and export costs would increase. Figure 5 presents two shipping lanes. On the right is the main lane between Asia and Europe nowadays through the Suez Canal (marked in black). The Israeli Mediterranean ports of Ashdod and Haifa are approximately one hundred nautical miles from this route (marked in yellow). On the left is the

route around Africa in case the Suez Canal is blocked (marked in black). The Israeli ports would now be 2,700 nautical miles from the route (marked in yellow).

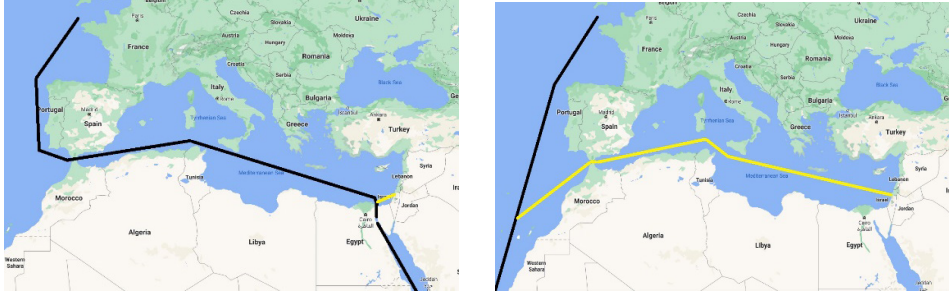


Figure 5: Right, the main trade route from Asia to Europe via the Suez Canal, Left, the global trade route around Africa

Alternative routes

The Suez Canal creates a maritime trade link between the Mediterranean Sea and the Indian Ocean. This issue of connecting the trade routes between the Mediterranean Sea and the Indian Ocean has occupied the minds of the region's rulers, merchants and sailors for thousands of years. Evidence of attempts to connect the Nile River eastwards to the Red Sea, thereby forming a maritime route between the Mediterranean and the Red Sea, has existed since the time of the Pharaohs.²³ In the Roman era, trade between the Mediterranean basin and Asia passed through Egypt via overland routes before continuing onwards by sea. It was France which succeeded in completing this massive project of digging the Suez Canal, which was first opened in 1869.

Any future alternative route would have to deal with the economy of scale of the trade via the Suez Canal. The average cost of transporting a container through the Canal stands today at approximately \$25–35,²⁴ compared with hundreds of dollars it would cost to transport the same container via overland routes by truck or train.

²³ Suez Canal... A Historical Evolution, Suez Canal Authority.

²⁴ To do a rough calculation, we can use a 6,000-container ship, which pays approximately 200,000 dollars in passage fees through the Suez Canal, which are equivalent to 33.3 dollars per container crossing through the Canal.

Besides the Suez Canal, several alternative routes can be taken into consideration between the Mediterranean and the Indian Ocean (both existing and future routes).²⁵

Oil Pipeline Network

There are two active oil pipelines between the Red Sea and the eastern Mediterranean. The first is the SUMED pipeline,²⁶ which was laid between the City of Suez and Alexandria after shipping was blocked in the Suez Canal following the Six-Day War (June 1967). The pipe began operations in 1978. The second pipe is the EAPC (Asia-Europe Pipeline Co), formerly the Eilat-Ashkelon Pipeline) between Eilat and Ashkelon in Israel. In addition, there is a pipeline between Iraq and Ceyhan in Turkey. Although this pipeline does not originate in a sea port in Iraq, but rather from the Kirkuk region, it does help reduce European dependence on tanker passage through the Straits of Hormuz and the Suez Canal in the oil trade between the Persian Gulf and Europe. In addition, there is the route of the oil pipeline between Iraq and Syria, which has been inactive since 2003 and the oil pipeline from Iraq to Haifa, which has not been used since 1948.

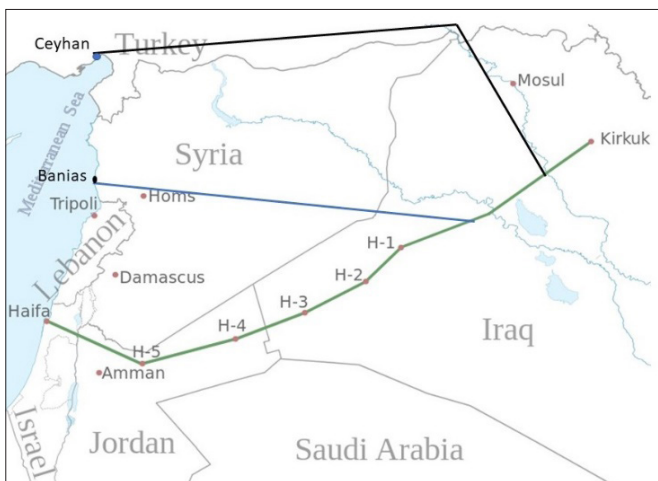


Figure 6: Oil pipelines from Iraq to the Mediterranean, the Kirkuk-Haifa (Israel) line, the Kirkuk-Banias (Syria) line which branches off it, and the Kirkuk-Ceyhan (Turkey) line (Drawn by the author)

²⁵ For a complete review, see: Ehud Gonen, *Logistic Corridors between the Indian Ocean and the Mediterranean – Existing trade routes, planned ones and China possible future involvement*, in: Shaul Chorev and Ehud Gonen (eds.), *Maritime Strategic Evaluation for Israel 2020/21*, pp. 336–354, University of Haifa.

²⁶ SUMED – Suez Mediterranean pipeline



Figure 7: Route of the SUMED oil pipeline from Suez to Alexandria (published by the Netoil Company which built the pipeline).

In 2017, 9% of the global trade in oil products passed through the Suez Canal and the SUMED pipeline.²⁷ In recent years there is an upward trend in the oil traffic from north to south, primarily oil from Russia and the United States to destinations in East Africa and South Asia, in addition to the "traditional" oil traffic from the Gulf states to Europe.²⁸ The data go on to show that in 2016 (the last year verified data were released by the US Energy Information Authority), approximately 30% of the oil passing from Suez to the Mediterranean passed through the SUMED pipeline and the remaining 70% passed by tanker.²⁹ Israel does not publish data on the oil traffic in the EAPC.

Overland connection in the Levant

Theoretically, it would be possible to transfer goods between the Mediterranean and the Indian Ocean by unloading and loading in the ports of Eilat and Ashdod in Israel, and transporting the cargo between these two ports on trucks. While this route

²⁷ The Suez Canal and SUMED Pipeline are critical chokepoints for oil and natural gas trade, US Energy Information Administration, July 23, 2019.

²⁸ In this context, it must be noted that due to the sanctions imposed on Iran, which have meant a decline in European imports of Iranian oil, have resulted in a decline in the oil movement from south to north via the Canal and via the SUMED pipeline.

²⁹ World Oil Transit chokepoints, US Energy Information Administration, July 25, 2017.

did indeed operate on a small scale in certain periods, the unloading and loading, and then the truck-borne transport, is an inefficient proposition for very large-scale trade. There is a plan in principle to link the city of Eilat and its sea port with a railway line to Israel's national railway network, however it seems this project is still very far from materializing for economic, environmental and social reasons.³⁰

Another overland link is connection of the continuation of the Valley Train Line in Israel to the Jordan border crossing (the Sheikh Hussein Bridge), and from there via a future railway south toward Aqaba or east toward the Gulf States via Saudi Arabia. This link would enable trade between the Kingdom of Jordan with Europe, without having to pass through the Suez Canal (Jordan's only outlet to the sea is the Port of Aqaba on the Red Sea). Economically this is a very attractive proposition, however it encounters political hurdles due to the political situation between Israel and Jordan.

It should also be noted that Iran is working to build an overland corridor, based on an ethnic Shiite continuum (referred to as the '*Shiite Crescent*') from the northern Persian Gulf to the Syrian coast. The motivation for building this logistical corridor, however, is mainly political – to support Hezbollah in Lebanon and to prop up the Syrian regime – and not commercial, in support of global trade.

The northern route



Figure 8: The northern route versus the Suez Canal for trade between the Far East and northwestern Europe.³¹

³⁰ Gad Lior, The train to Eilat is not in Minister of Finance Avigdor Lieberman's work plan: "It isn't viable", *YNET*, July 12, 2021 [Hebrew].

³¹ What is the Northern Sea Route?, *The Economist*, September 24, 2018.

It is possible that, due to global warming, new seasonal shipping routes will be opening up between northeast Asia and western Europe via the Arctic Ocean.³²

Despite the economic attractiveness of this route (as opposed to the dire consequences of global warming), large-scale trade in the Arctic Ocean is still a long way off since there are substantial logistical hurdles to overcome for shipping in that region (there are no major ports anywhere along the way to provide technical support), legal difficulties due to various claims being made by the countries in the region (mainly Russia) and also very strict environmental regulation.

Overland Link via Central Asia

In 2013, China announced its Belt and Road Initiative, which is intended (inter alia) to build physical and logistical connectivity between the countries throughout the Eurasian region that have signed up to the initiative. A significant part of this building of connectivity is intended to rebuild the ancient overland trade routes (the Silk Road) from China through Central Asia en route to Russia and Europe.

As part of this initiative, China is investing billions of dollars in building railroads over enormous distances in central Asia, on the way overcoming engineering challenges and political instability in some of the countries in the region. At the same time, despite these mega-investments, trade by railway over long distances cannot compete with the economic efficiency of maritime transport. A large part of the trade being done over the newly-opened land routes is transacted thanks to generous government subsidies provided by China. These accounted for over 50% of the cost of the transport and nowadays they account for "only" a third of the transport cost.³³

The Belt and Road Initiative was intended, inter alia, to stimulate China's economic development in its western provinces, which are far from its prosperous eastern seaboard cities, to check internal migration from the west eastwards, and through a supportive economic policy, to help deal with internal political problems with ethnic minorities on western China. All these, from the domestic Chinese perspective, justify these far-reaching subsidies. Besides, one can think of certain scenarios, for example for certain goods produced in western China which are destined for inland cities (for example Moscow, the large city in Europe with 12 million inhabitants). In such cases,

³² For more on this, see Tzevy Mirkin, *The Russian Northern Sea Route – Declarations and Reality*, in: Shaul Chorev and Ehud Gonen (eds.), *Maritime Strategic Evaluation for Israel 2018/19*, (Haifa: University Haifa, 2019), pp. 118–127.

³³ Huilin Shi, *Is the elimination of Chinese subsidies a good idea?* *railfreight.com*, January 11, 2021.

a direct westward overland journey by train would be cheaper and more efficient than a lengthy journey to the Chinese east coast, then by sea to European ports and from there transshipment overland or by river boat to landlocked destinations.

Nevertheless, besides these specific cases, for the bulk of Chinese exports produced in the large economic centers on China's eastern shores, maritime trade was and remains the most efficient, cheapest means of transport to the international markets.

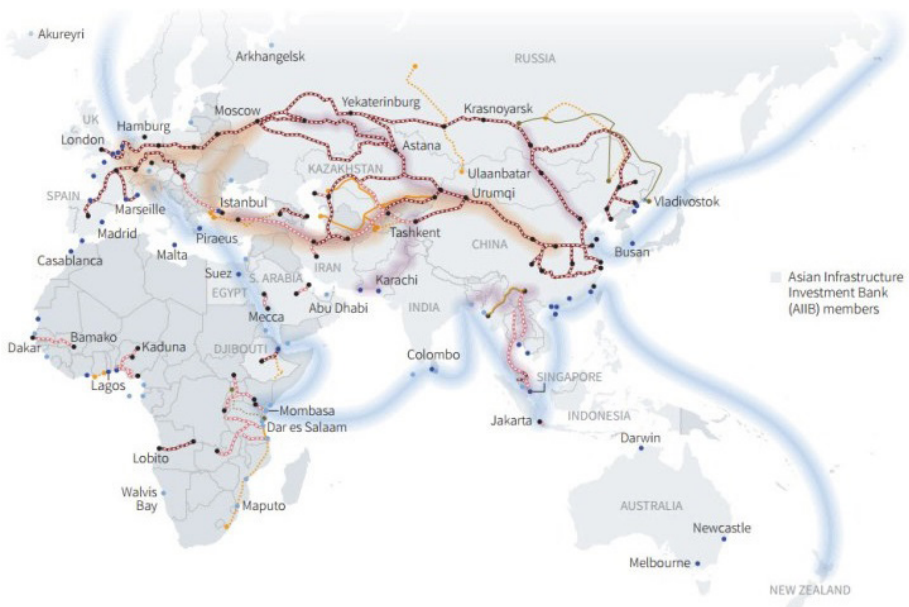


Figure 9: Logistical Corridors between China and Europe under the Chinese Government's Belt and Road Initiative (BRI).³⁴

Another overland route between east and west Asia is the Trans-Siberian Railroad. Russia is trying to sell this train line mainly to customers in Japan, who are offered a ferry line between Japan and Vladivostok in the Russian Far East and from there via the Trans-Siberian Railroad to eastern Russia and onwards to Europe. However, it seems that despite a measure of attractiveness this journey has to offer, which under certain circumstances can even be shorter than the maritime journey, bureaucratic and administrative obstacles in Russia, plus the limited transport volume, make this route unattractive.

³⁴ Mercator Institute for China Studies (MERICS).

Conclusion

One of the reasons for blocking the Suez Canal in the first place, and certainly the main reason for the great difficulties in releasing the *Ever Given* is the huge size of the container ships which are being built this past decade – larger than aircraft carriers. With the opening of the new ports in Israel (the Haifa Bay Port and the South Port in Ashdod), such megaships will be calling in Israel at relatively high frequencies. This fact has numerous economic and commercial benefits to it, but at the same time it is worthwhile to prepare (and we hope this is being done) for safety incidents inherent to these megaships. Safety incidents and hazardous materials are present in any case, but these are exacerbated due to the sheer size of the ships. It seems that Egypt, with assistance from the international community, ought to take a close look at the safety aspects of the passage of ships in the Canal and also evaluate the shipping safety of these megaships elsewhere around the world.

At present there is no alternative overland Asia-Europe route for large-scale trading in goods (which are not oil in a pipeline). On the other hand, the world's reliance on maritime transport ensures that at least for the foreseeable future the Suez Canal will continue to serve as a significant shipping route of considerable importance. The only "threat" to the Suez Canal's preeminence as a main commercial link in the Asia-Europe trade is the opening up of the northern route to large-scale trade on the tail of global warming, however even the opening up of this route has its problems and it will be a long time before trade there will gather significant momentum.

The Suez Canal is vital to the Egyptian economy. It is a key service export sector especially now with global tourism in freefall due to the COVID-19 pandemic; in view of Egypt's demographic and economic situation – a population of over one hundred million of which approximately forty percent are under the age of twenty and an (official) unemployment rate of ten percent; plus the past experience of the Muslim Brotherhood movement's election victory (2012), provide the west with a clear interest in the continued operation of the Suez Canal, which on its part is helpful in preserving the stability of the regime in Egypt.

Israel has a clear economic interest in maintaining the Suez Canal as a major world shipping route. The proximity of Israeli ports on the Mediterranean coast (Haifa and Ashdod) to the northern outlet of the Suez Canal (160 and 105 nautical miles respectively) enables Israel's foreign trade to benefit from a high degree of connectivity thanks to this proximity to a main trade route. Therefore, beyond the overriding consideration of security in the Sinai Peninsula vis-à-vis Israel, there is also a secondary economic consideration in support of collaborating with Egypt

in eradicating terrorism in the Sinai Peninsula which will also assure the continued trade via the Suez Canal.

The Ministers of Transport in Israel have promoted the railway connection of the Port of Haifa through the Beit She'an region to Jordan, and have branded this initiative in various ways. For instance, *Tracks to Peace* under Minister Israel Katz and the *Bay to Gulf* initiative of Minister Miri Regev. In any case, and regardless of the branding, such a project has tremendous regional development potential, mainly with Jordan, and it could curry sizable European support thanks to the logistical redundancy it presents for passage through the Suez Canal. It is recommended that the railway to Jordan initiative continue to be promoted as opposed to a railway line to Eilat, which is more problematic from the environmental, transport (loading the railway system in the center of the country) and demographically (transforming the city of Eilat from a tourist city to a logistic city). The promotion of the railways project eastward past the Israeli border has to be coordinated with Egypt in order for them not to feel that the railway lines are supplanting the passage through the Suez Canal, and to make it clear that there is no intention to harm the Egyptian economy.