Views On News

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Views on the Crisis
"The Transport Sector"

Introduction

While the whole world shares the broad outlines of the economic and social repercussions of the Coronavirus (COVID-19), which are unprecedented in its recent history, the implications thereof for each country are

linked to the nature of each country’s economic system, its ability to withstand the entailed repercussions and the speed of its recovery.

In light of the need to study the sectoral implications of these repercussions in order to address the crisis properly, the Egyptian Center for Economic Studies (ECES), in its initiative, is producing a set of daily reports entitled "Views on Crisis". The reports aim to analyze the implications of the coronavirus crisis for Egypt in relation to a number of vital production and service sectors and to key macroeconomic variables. This ECES initiative comes from the belief that the current critical conditions require directing state’s efforts towards achieving two main goals: providing a decent life for Egyptians during the crisis and in the recovery phase, preserving the existing investments-especially domestic investments- and helping to overcome the crisis and prepare for a rapid launch with the gradual decline of the crisis and recovery of the global economy.

The methodology used in these reports is based on an analysis of the supply and demand shocks associated with the crisis cycle in its various stages. Given the lack of detailed data on the sectoral impact of the crisis, the sectoral analysis is based on logical assumptions related

to the nature of each sector and the degree of sector vulnerability to previous sever crises that were certainly less severe than the current crisis and different in nature. However, it is a starting point for the urgently required scientific diligence at this stage.

The reports attempt to provide a detailed perception of the magnitude and direction of crisis impact on each sector at present and until the end of the crisis. They aim to propose quick solutions to reduce the adverse impacts of the crisis in a balanced and integrated means that complement the serious efforts made by the state in this regard, and to offer other longer-term solutions to the existing institutional flaws, clearly revealed by the crisis. It is high time that these flaws are radically removed, which will improve post-crisis development efforts.

"Mobility must be a crucial part of the response to the pandemic, not just to curb its spread but also to rekindle economic activity and ensure that the poor are shielded from its immediate and long-term impacts."

World Bank, 2020

First: Brief description of the subject of the report

The transport sector is considered one of the main drivers of economic and social development. It is the artery through which goods and services flow and through which individuals communicate internally and externally. All sectors depend on the services and capabilities that this sector provides to link production, consumption and access to raw materials and requirements. Individuals also depend on it for access to work, health services, education, and social and cultural contact. With the fragmentation of production across value chains, the cost of transport and supply has become an important component of the production and investment decision across the different stages of the value chain. Therefore, the readiness and efficiency of services in this vital sector is considered a major pillar in the competitiveness of any economy and its ability to achieve economic growth, employment and attract foreign investments.

The report begins with an overall picture of the transport sector in Egypt, and then focuses on the maritime and air transport sectors, being the most affected by the crisis.

A. Overall picture of the transport sector

1. The contribution of the transport sector to the Egyptian economy:

- Despite the economic importance of the transport sector, independent data that reflect its contribution to the national economy are not available. Therefore, all data related to the transport sector is added to storage, which makes the sector's contribution to the national economy inaccurate.

  The transport and storage sector contributed about 5 percent of GDP in FY 2018/2019 compared to 4 percent in 2008/2009. It achieved a growth rate of 4 percent during the past two years, which is lower than that of 2008/2009, which was in the order of 6 percent. The private sector contributed about 82 percent of output in 2018/2019 compared to 74 percent in 2008/2009.

- The transport and storage sector is the fourth largest sector in terms of the value of investments. Total investments in the sector amounted to about EGP 97 billion, representing 11 percent of total investments executed during FY 2018/2019, and this percentage has not changed since 2008/2009. Over the past decade, public investments accounted for about

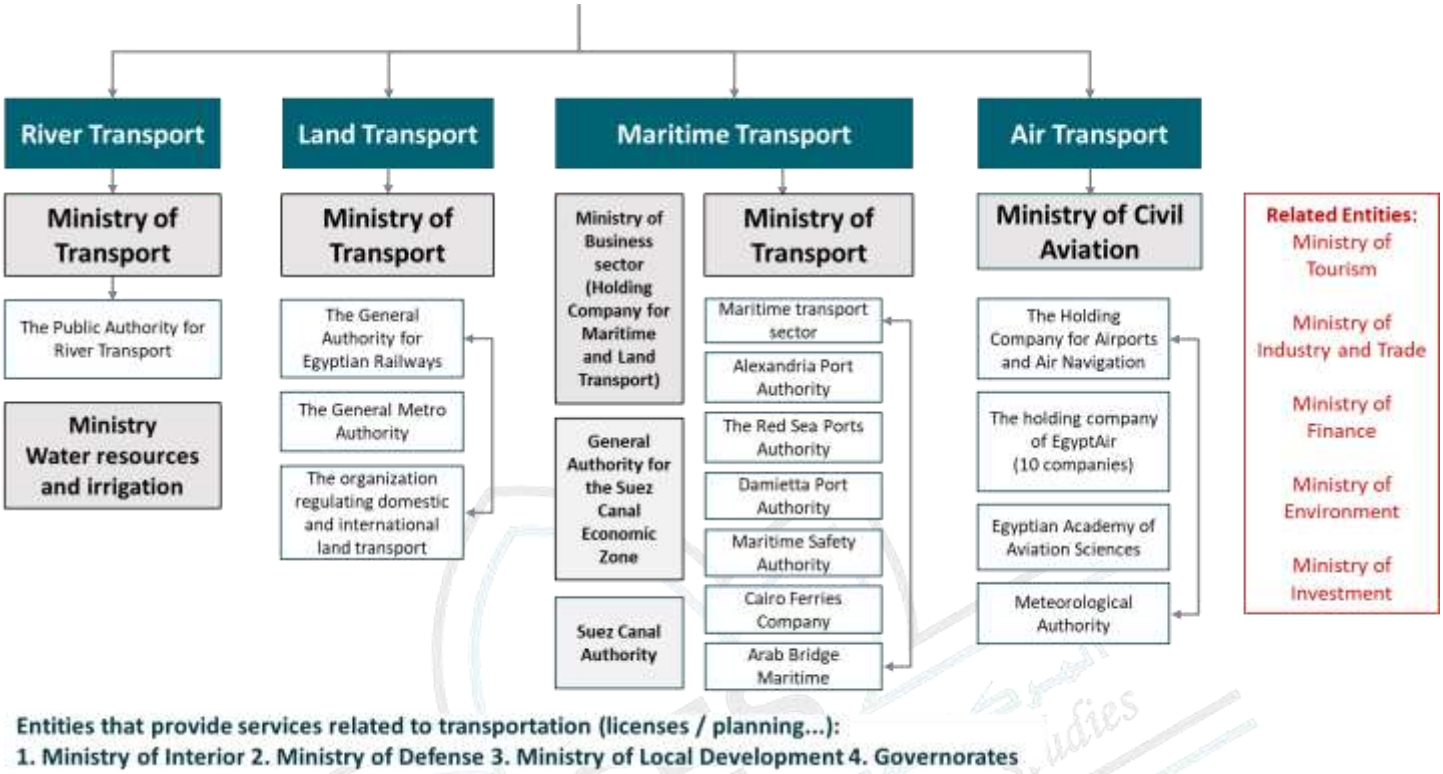
two-thirds of these investments compared to a third for the private sector (Ministry of Planning and Economic Development, 2020).

- Finally, the transport and storage sector is the fifth largest sector in terms of its labor absorption, as it accommodates more than 2 million workers, representing 8 percent of the total employed in 2018 (Central Agency for Public Mobilization and Statistics, 2019).
- According to the data of the last economic census for the year 2017/2018, the number of employees in the transport sector is estimated at about 70,000, representing 0.5 percent of total employment in all economic activities, 58 percent of them in the private sector and 42 percent in the public and public business sectors.

2. The structure of the transport sector:

Egypt has a diversified transport network that includes many sub-sectors. Figure 1 below shows these sectors and the entities affiliated to them.

Figure 1. Structure of the transport sector



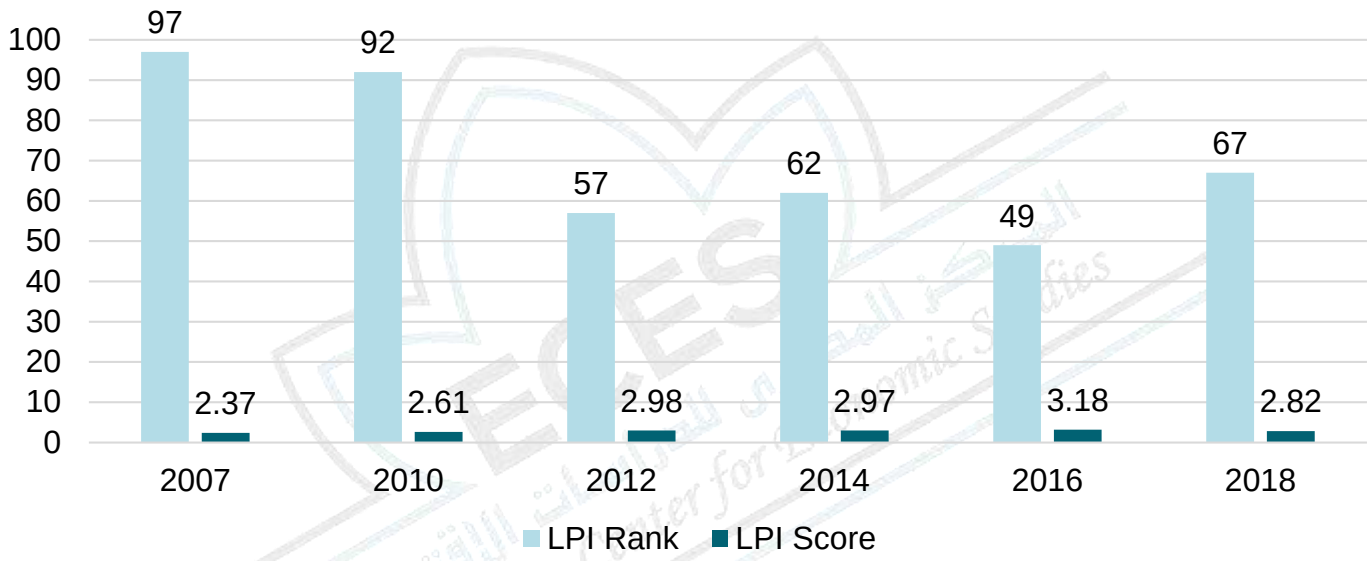
Source: Prepared by the researcher based on the ministries' organizational structures available at their website

Consequently, public policy planning for transport, and the management and operation of the system is carried out by many actors, headed by the Ministry of Transport and the Ministry of Civil Aviation, and in light of various legislative and administrative frameworks. There are no institutional guarantees for the existence of sufficient coordination to serve unified strategic objectives.

3. Key indicators that reflect the performance of the sector:

- In the Logistic Performance Index,[1] Egypt advanced by about 30 points, coming 67th in 2018 compared to 97 in 2007, as shown in Figure 2.

Figure 2. Egypt's performance in the logistics performance index during the period 2007-2018



* Ranking 1 best - 160 worst, score 5 best 1 worst.
Source: World Bank, Logistics Performance Index report, various years

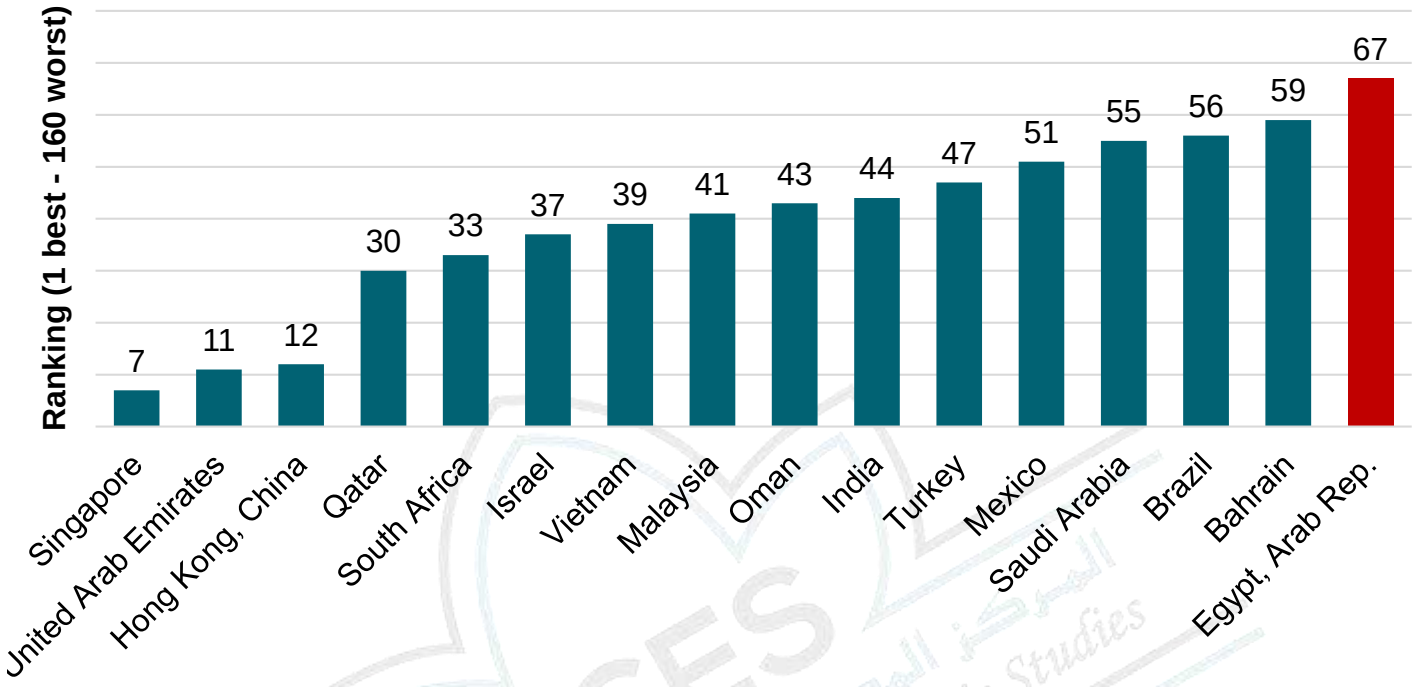
- By tracking the performance of the sub-pillars as shown in Table 1 in the appendix, we find that this progress in the ranking is due

[1] A multidimensional indicator of logistics performance issued by the World Bank. It is an average of countries' performance in six sub-indices: efficiency of the clearance process, quality of infrastructure related to trade and transportation, ease of arranging shipments at competitive prices, efficiency and quality of logistics services, ability to track and trace shipments, time taken for arrival and delivery. Country data are collected through quantitative and qualitative questionnaires that reflect performance. Index values range from 5 for best performers and 1 for worst performers.

to improved performance in all sub-pillars. The best performance was in the infrastructure pillar, including the development of ports and customs. The lowest performance was in the shipment tracking and delivery time.

- However, tracking performance over the last two years indicates a decline in Egypt's ranking in the index by about 18 points from the 42nd position in 2016 to the 67th position in 2018. This is due to the decline in performance in all pillars, especially international shipping, shipment tracking, quality of logistics services and the time taken for arrival and delivery.
- Although Egypt is ranked high in the index, it is considered a poor performer compared to other countries, as shown in Figure 3a.

Figure 3a. Ranking of Egypt and selected countries in the 2018 Logistics Performance Index

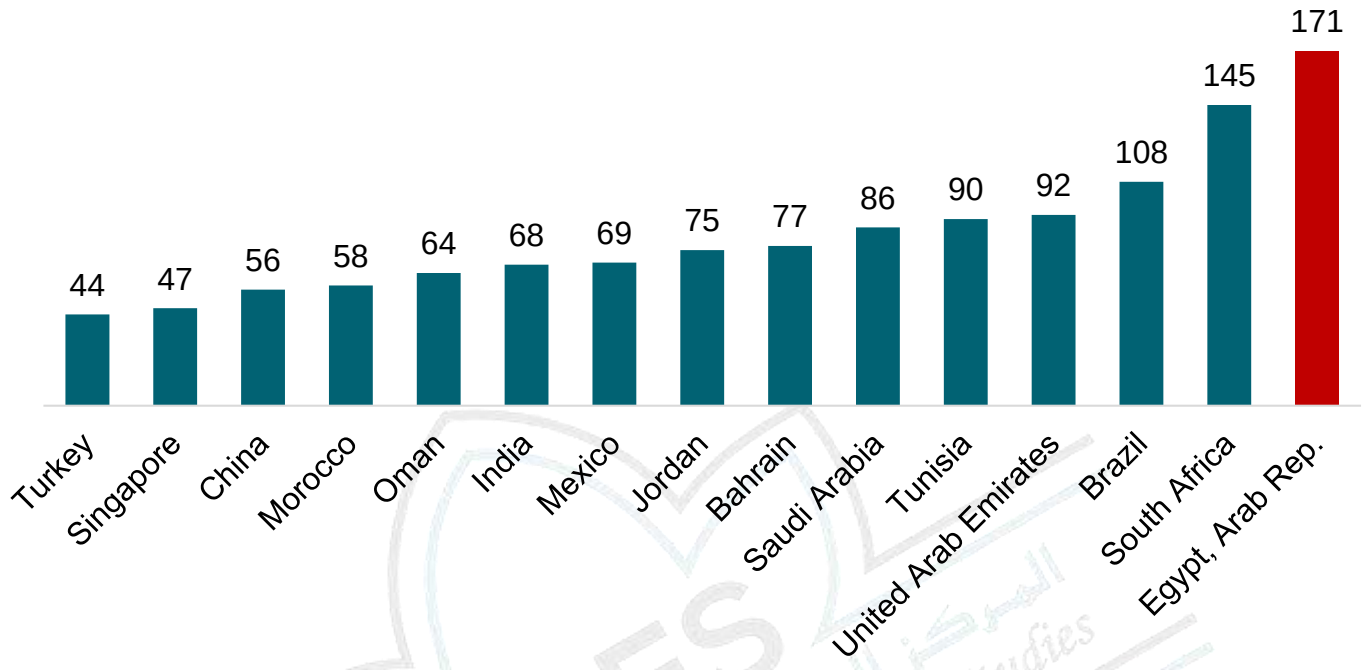


Source: World Bank, Logistics Performance Index report, various years.

The customs system in Egypt still suffers from multiple challenges that keeps Egypt in a low ranking in the cross-border trade index,2 especially when compared to the performance of a group of neighboring and competing countries, as shown in Figure 3b.

[2] One of the sub-indicators of the Ease of Doing Business Index issued by the World Bank in 2020. It evaluates countries according to a set of variables that include the duration, cost, and number of import and export documents, then countries are ranked according to their score, with 100 being best performance achieved by 16 countries worldwide (WB, 2020).

Figure 3b. Egypt's performance in the 2020 cross-border trade index



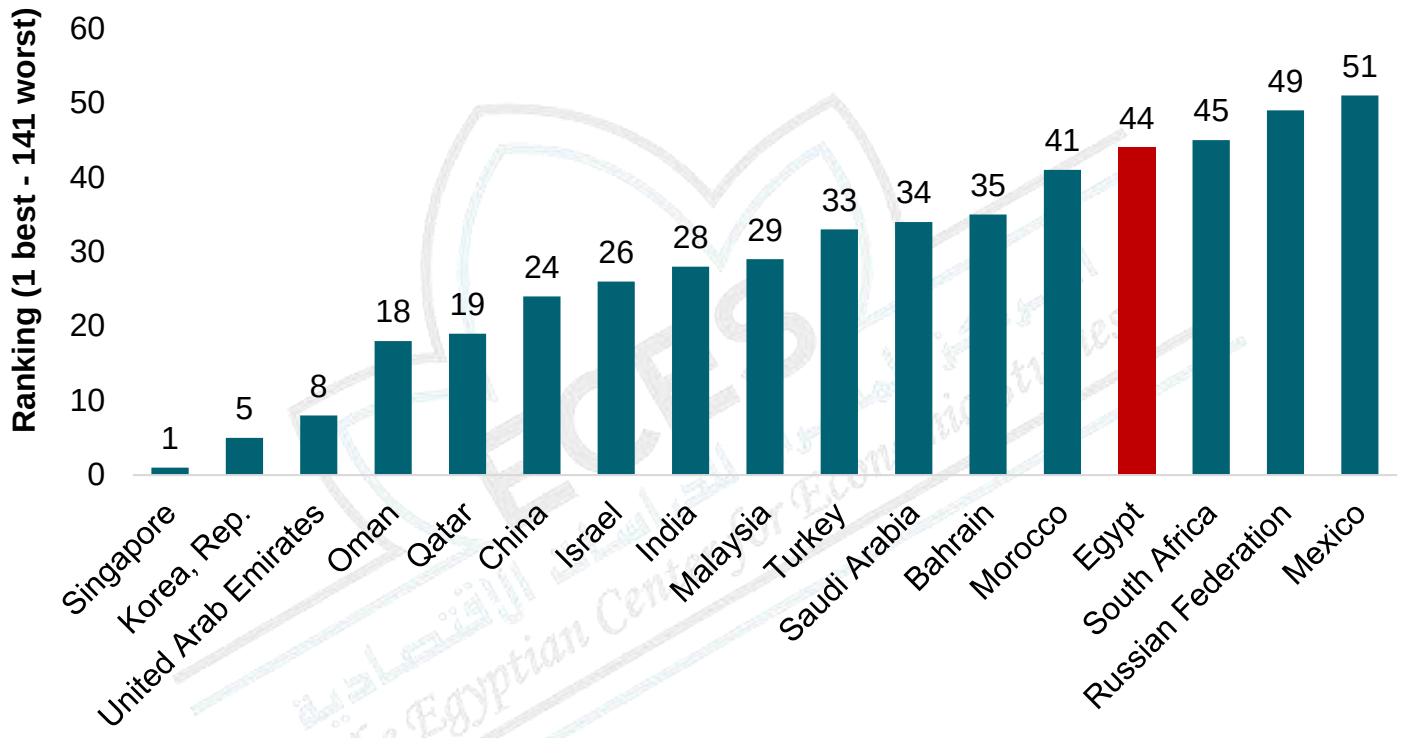
*Ranking (190 worst - 1 best)
Source: World Bank, Doing Business report 2020.

- Consequently, customs procedures are still complex and the customs clearance period is long and costly, especially since the automated system for the one-stop shop has not been implemented to clear import and export procedures in all ports, airports and land ports, as evident from Table 2 in the appendix (Federation of Egyptian Industries, 2019).[3]
- Despite Egypt's advanced ranking in the index of competitiveness of transport infrastructure of all kinds, it ranked

[3] Federation of Egyptian Industries (2019), "Urgent reforms agenda to boost industrial growth and encourage foreign investment," February.

44 out of 141 countries. However, there is still room for development, especially as many neighboring and competing countries achieved better performance in the same indicator, which is shown in Figure 4.

Figure 4. Transport Infrastructure Index for 2019



Source: World Economic Forum, 2019.

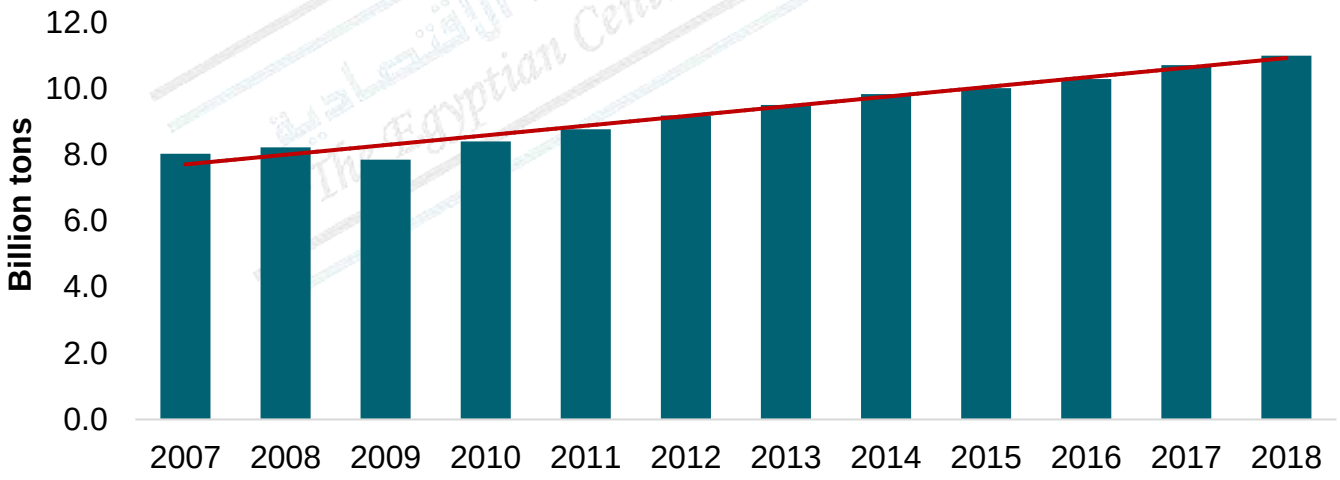
B. The Maritime and Air Transport Sectors:

1- Maritime Transport:

1-1 Global Maritime Transport:

- Maritime transport is the backbone of international trade, through which 80-90 percent of international trade is transported.
- The volume of global maritime trade increased from 8 billion tons in 2008 to 11 billion tons in 2018, an increase of 32 percent, as shown in Figure (5).

Figure 5. Evolution of the volume of global maritime trade during the period 2008-2018



Source: Prepared by the researcher based on the UNCTAD database.

- Table 1 shows the most important features of global maritime trade in terms of the nature of goods transported by sea, the relative distribution of maritime trade between countries and regions, and finally the size of the global maritime fleet.

Table 1. Key features of the global maritime trade, 2018

Nature of goods	Dry cargo represents about 69 percent, on average, of total global maritime trade, followed by crude oil by about 19%. This structure did not differ much during the past decade despite the slight decline in the share of crude oil, coinciding with the decline in world oil prices, against a slight increase in the share of dry goods as shown in Figure (1) in the Appendix.
According to the nature of countries and territories	1. Developing and emerging countries contribute about 60% of the total global maritime trade compared to 34% for developed countries. This distribution did not differ during the past decade, despite a slight decline in the contribution of developing countries, coinciding with the decline in petroleum trade, compared to a slight increase in the contribution of developed countries, as shown in Figure (2) in the Appendix. 2. Given the pivotal role of Asia in global supply chains over the past decade, it had the largest share of global maritime trade. China alone accounted for half of the growth rate of international maritime trade during the past decade, as it imported a quarter of global maritime imports in 2018. So, the growth rate of global maritime trade declined due to trade conflicts between China and the United States to reach 1.8 percent in 2015 compared to 3.5 percent in 2014.

	3. America's share of international maritime trade has remained stable at around 22 percent. 4. The decrease in the relative weight of Europe. 5. Finally, Africa's share remained modest, not exceeding 5 percent of unloaded goods, and it declined from 9 to 7 percent for loaded goods (exports), as shown in Figure (3) in the Appendix.
The size of the global merchant fleet	1. The total global merchant fleet reached 95.4 thousand ships, with a tonnage of 1.97 billion tons in 2019. 2. The size of the global merchant fleet (2014-2019) has grown by about 8% in terms of the number of ships and containers and by about 17% in terms of net tonnage in million tons. 3. Dry bulk vessels and oil tankers account for the largest share of this fleet with rates of 43% and 29%, respectively. 4. In terms of the number of ships, there are five countries that own 50% of the global merchant fleet: China, Japan, Greece, Hong Kong and Singapore. China, Japan and Korea account for 90% of shipbuilding activities worldwide. 5. By reviewing the last five years, it is clear that shipbuilding activity has declined in Germany, Japan and Korea, compared to an increase in Greece, Singapore and China. 6. Maritime transport is witnessing an increase in alliances and mergers between global shipping lines, as the market share of the 10 most important regular transportation lines from east to west increased from 68% in 2014 to 90% in 2019. This may be due to the increase in supply and thus its pressure.

Source: UNCTAD (2019)," Review of Maritime transport", United Nations and UNCTAD database on Maritime transport.

1-2 Maritime Transport in Egypt:

1-2-1. Key sector performance indicators:

- Despite the distinguished geographical location that Egypt enjoys and the length of its marine coasts (representing 0.36% of total coasts worldwide), Egyptian ports rank low in the list of the 100 most important container ports in the world. Port Said Port ranked 57th in 2019 and the Alexandria Port ranked 94th for the year 2018. This is due to the slow growth rate of its container handling compared to other ports,[4] while the Chinese port of Shanghai came as the largest port in the world in 2019; It accounts for about 42 million tons of twenty-foot equivalent units,[5] followed by the Port of Singapore (36.6 million tons), then Jebel Ali in the UAE in the tenth place, then the port of Jeddah in Saudi Arabia in the 40th place, and the Moroccan port of Tangier in the 47th place, in the list of the 100 most important ports in 2019.

[4] The Journal of Commerce annual Top 50 World Container Ports, Lloyd's List annual Top 100 Ports, AAPA World Port Rankings, Drewry World Container Traffic Port Handling and individual port websites, American Journal of Transportation Top 100 ports (Retrieved at: https://www.ajot.com/premium/ajot-ajots-top-100-containerports-a-to-z/P0)

[5] Twenty foot equivalent units TEU.

- At the level of all Egyptian ports, container port throughput did not exceed 6 million twenty-foot equivalent units (TEU) during the period (2010-2018), so Egypt's share is limited compared to the shares of countries at similar levels of development, as evident from Table (2).

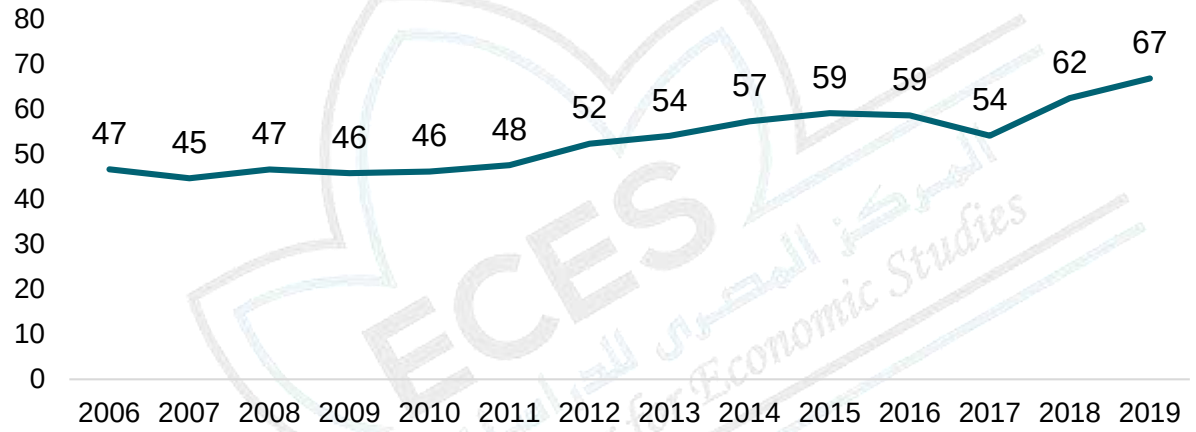
Table 2. The volume of cargo handling in the ports of Egypt and selected countries in 2018

Country	Value in 2018	Global share%	Change 2010-2018
China	225.8	28%	58%
Singapore	36.6	5%	26%
Malaysia	25.0	3%	38%
UAE	19.1	2.4%	26%
India	16.4	2.1%	84%
Vietnam	16.4	2.1%	174%
Indonesia	12.9	1.6%	33%
Thailand	11.2	1.4%	48%
Brazil	10.3	1.3%	38%
Turkey	9.9	1.3%	51%
Saudi	8.7	1.1%	49%
Mexico	7.0	0.9%	88%
Egypt	6.2	0.8%	-10%
South Africa	4.9	0.6%	24%
Morocco	4.8	0.6%	70%

Source: UNCTAD database.

- Egypt achieved a score of 67 out of 100 in the Liner Shipping Connectivity Index in 2019, thus advancing by about 20 points compared to 2006, as shown in Figure 6.

Figure 6. Evolution of Egypt's score in liner shipping connectivity index during the period (2006-2019)



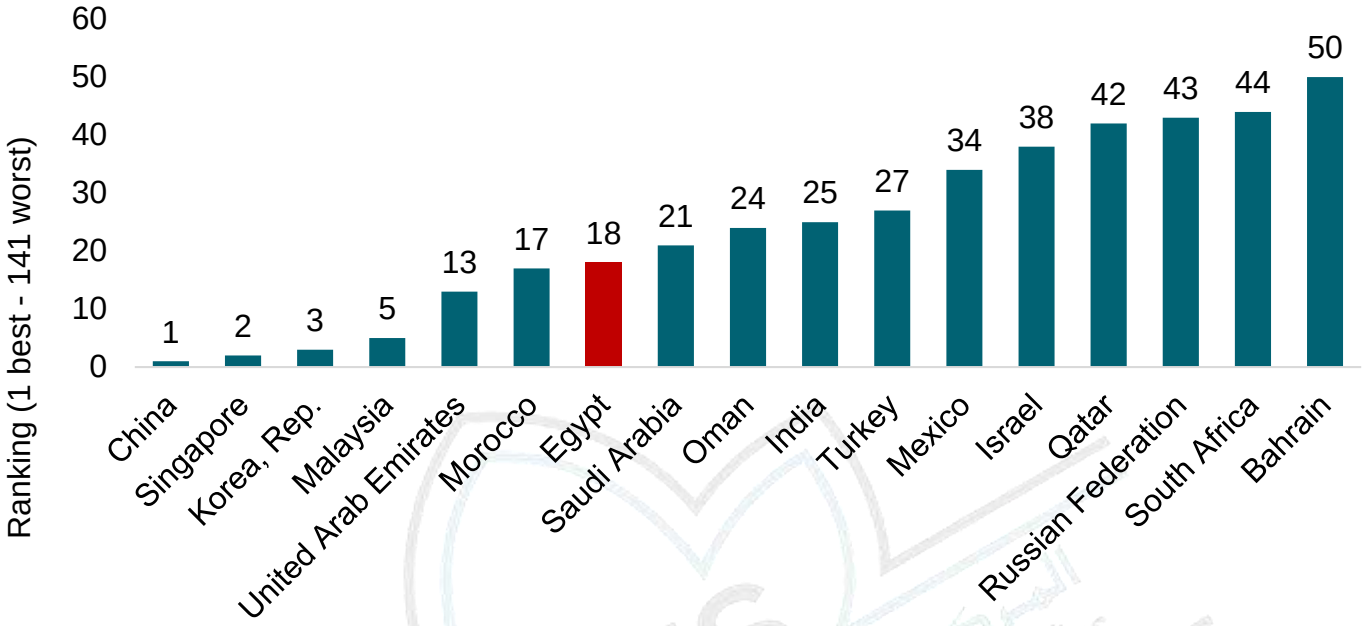
Source: UNCTAD, Liner Shipping Connectivity Index report, various years.

* Performance is better if the index is 100 or more.

- Despite Egypt's advancement in Liner Shipping Connectivity Index, its ranking is still low compared to some neighboring and competing countries. It ranked 18th out of 141 countries, as can be seen in Figure 7.6

[6] An indicator issued by the United Nations Conference on Trade and Development (UNCTAD) to assess the extent of a country's connection to global shipping networks. This indicator is based on five components in the maritime transport sector: the number of ships, container carrying capacity, maximum vessel size, number of services and the number of companies that deploy container ships in the country's ports. The World Economic Forum calibrates the original index values so that the closer the index value is to 100, the better the performance.

Figure 7. Ranking of Egypt and selected countries in the liner shipping connectivity index 2019

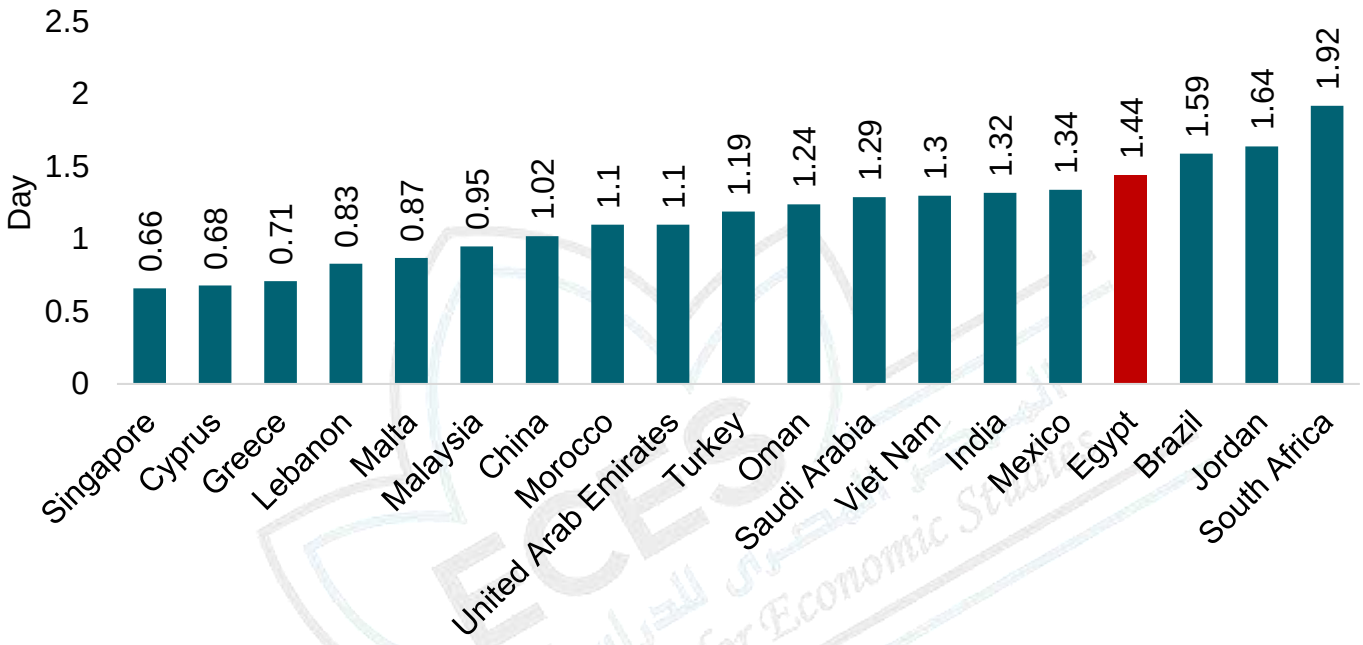


Source: WEF, Global Competitiveness report, 2019.

- The time spent in the port is one of the key indicators that reflect the efficiency and competitiveness of the port. According to the UNCTAD database, the average time spent in ports was about 23.5 hours, or 0.97 days. Dry bulk vessels take 2.05 days, which is three times the time spent on containers.
- Figure 8 shows the average time spent in ports for all types of ships in Egypt compared to selected countries. The Figure shows that there is still a need to reduce the time of

ships' presence in ports, especially dry bulk ships, which take 4.4 days, double the global average.

Figure 8. Average time spent at port for Egypt and some selected countries (2018)



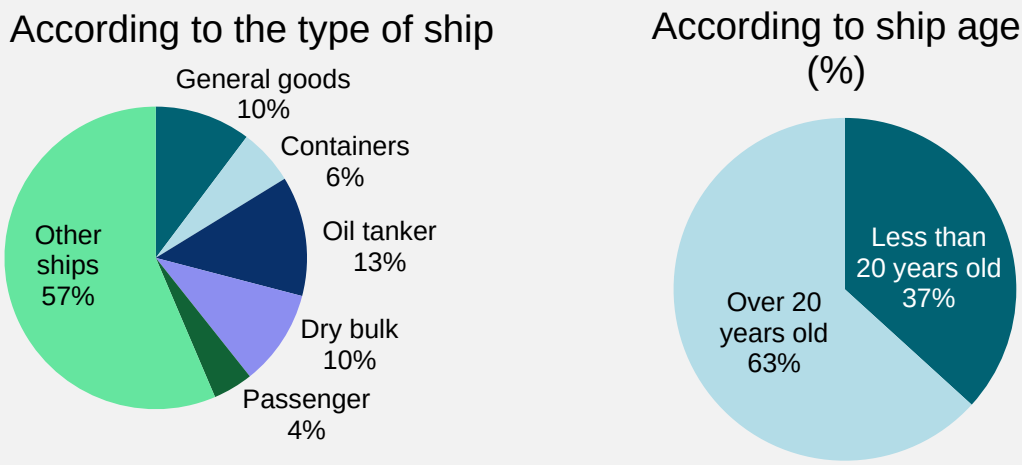
Source: UNCTAD Database, 2020.

1-2-2. Features of the sector:

Table 3 shows the most important features of the maritime transport sector in Egypt in terms of the size of the merchant fleet, the number and capacity of sea ports, and the volume of handling.

Table 3. Key Features of Maritime Transport in Egypt

<table>
<tr>
<td>The size of the maritime fleet</td>
<td>
1. The Egyptian merchant fleet included 117 ships in 2018, two-thirds of which is more than twenty years old. The following two figures show the distribution of the Egyptian fleet according to the type and age of ships.

Figure 9. The Egyptian maritime fleet in 2018


Source: Prepared by the researcher based on data from the maritime transport sector, Ministry of Transport.

2. By following the development of the size of the Egyptian maritime fleet over the past two decades, it becomes clear that the number of ships in the Egyptian fleet has decreased by 32%. The number of ships reached 211 ships in 2001 compared to 117 ships in 2018. It is clear from Table 3 in the Appendix that the decline is in all types of ships, although the biggest decline is in cargo transport ships.
</td>
</tr>
<tr>
<td>Ports</td>
<td>1. Egypt has 48 ports, including 15 commercial ports, two of which belong to the General Authority of Alexandria Port, while one port belongs to the Damietta Port Authority, 6 ports belong to the Red Sea Ports Authority, and 6 other ports belong to the Suez Canal Economic Zone, in addition to 33</td>
</tr>
</table>

	specialized ports to serve a variety of mining, petroleum, tourism and fishing activities along the coasts of the Red Sea, the Mediterranean, the Gulf of Suez and Aqaba. 2. The design capacity of the Egyptian commercial ports varies in terms of area, maximum capacity, berths and container berths as shown in Table 4 in the Appendix. 3. There are about nine commercial ports that do not have container berths, including Safaga Port in the Red Sea. 4. Efforts have focused over the past decade on increasing the length and number of berths other than container berths, which weakens the ability to achieve the targets of increasing the volume of handling to 20 million containers, and increasing the capacity of ports to 370 million tons by 2030.
Volume of handling	1. The Egyptian ports handled 172 million tons during 2019, an increase of 9% over that of the previous year. The Alexandria port alone handled 62 million tons, or 36% of the total handled by all ports, followed by the ports of the Suez Canal Economic Zone (58 million tons, 34%), then Damietta Port (36 million tons) and finally the Red Sea ports (5 million tons only). 2. The volume of containers handled in Egyptian ports during 2019 reached about 7.24 million containers, representing an increase of 8% over their volume in the previous year. The containers were divided into 3.6 million containers of imports, while the outgoing and transit containers also recorded 3.6 million containers. The ports of the Suez Canal Economic Zone are the most active in this area, handling 61% of them. 3. The number of ships visiting Egyptian ports in 2019 reached about 13.6 thousand vessels, which is 2% less than in 2018, and more by 7% than in 2016. 4. The number of vessels passing the Suez Canal reached 18,000 vessels in 2018/2019, with a tonnage of 942 million

	tons. Petroleum products represent 23% of the goods handled through the Canal, and 77% are non-petroleum products (the Suez Canal Authority). 5. In a previous report, the Egyptian Center for Economic Studies addressed in detail the impact of the crisis on the Suez Canal revenues.[7]

Sources: Central Agency for Public Mobilization and Statistics 2018, Maritime Transport Bulletin; Ministry of Transport, (2018), "Egyptian Maritime Transport Strategy, Development and Increasing the Competitiveness of Sea Ports", Cairo; Ministry of Transport, Maritime Transport Sector Database.

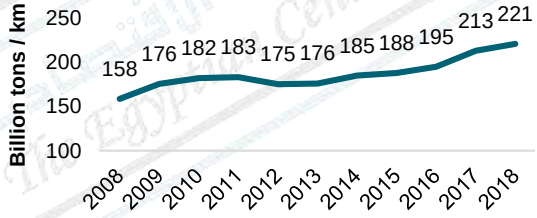
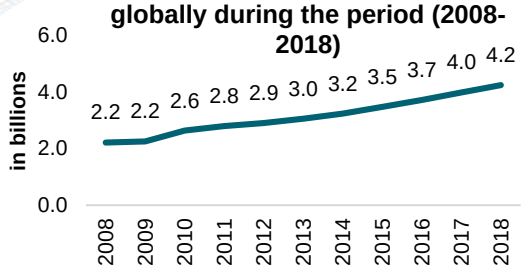
2- Air transport:

2-1. Global Air Transport:

The following table shows key features of the air transport sector worldwide in terms of its contribution to GDP and employment, the development of passenger and freight traffic during the past decade, and the relative distribution of passenger and cargo movement according to region.

[7] The report is available at the website of the Egyptian Center for Economic Studies: www.eces.org.eg.

Table 4. Key features of global air transport (2018)

Economic importance in output and employment	- The output of the air transport sector is about $2.7 billion, or 3.6% of the world GDP. - It avails about 65.5 million direct and indirect job opportunities, and transports goods worth $6 trillion annually. - Across the Middle East, it contributes about $130 billion to economic activity, or 4.4% of GDP, and creates about 2.4 million direct and indirect job opportunities.[8]
Development of passenger and cargo transportation	- Air transport is the backbone of passenger and cargo transport worldwide, as the number of air passengers worldwide doubled from 2 billion in 2008 to 4 billion in 2018. Air freight traffic also increased from 158 billion tons / km in 2008 to 221 billion tons / km in 2018, i.e. an increase of 40% (Figures 10 and 11) **Figure 11. Evolution of air freight movement of goods during the period (2008-2018)**  **Figure 10. Evolution of the number of air passengers globally during the period (2008-2018)**  *Source:* World Bank, World Development Indicators database
Relative distribution of passenger and freight traffic	- Three regions account for more than 80% of total passenger and air freight traffic globally during the past decade. They are East Asia and the Pacific, North America, and Europe and Central Asia, as shown in Table 5:

[8] Air Transport Action Group (ATAG). (2020). “Aviation Benefits and Beyond the Borders”.

Table 5. Relative distribution of global passenger and air freight traffic by region during the period (2008-2018)

	Passenger air transport		Air transportation, freight	
	Average % (2008-2018)	Change (2008-2018)	Average % (2008-2018)	Change (2008-2018)
East Asia and the Pacific	29%	33%	36%	-0.3%
Europe and Central Asia	26%	-9%	24%	-7%
North America	27%	-32%	22%	-18%
Middle East and North Africa	6%	39%	12%	68%
Latin America and the Caribbean	7%	14%	3%	-13%
South Asia	3%	64%	1%	26%
Sub-Saharan Africa	1%	17%	1%	44%

Source: World Bank, World Development Indicators database.

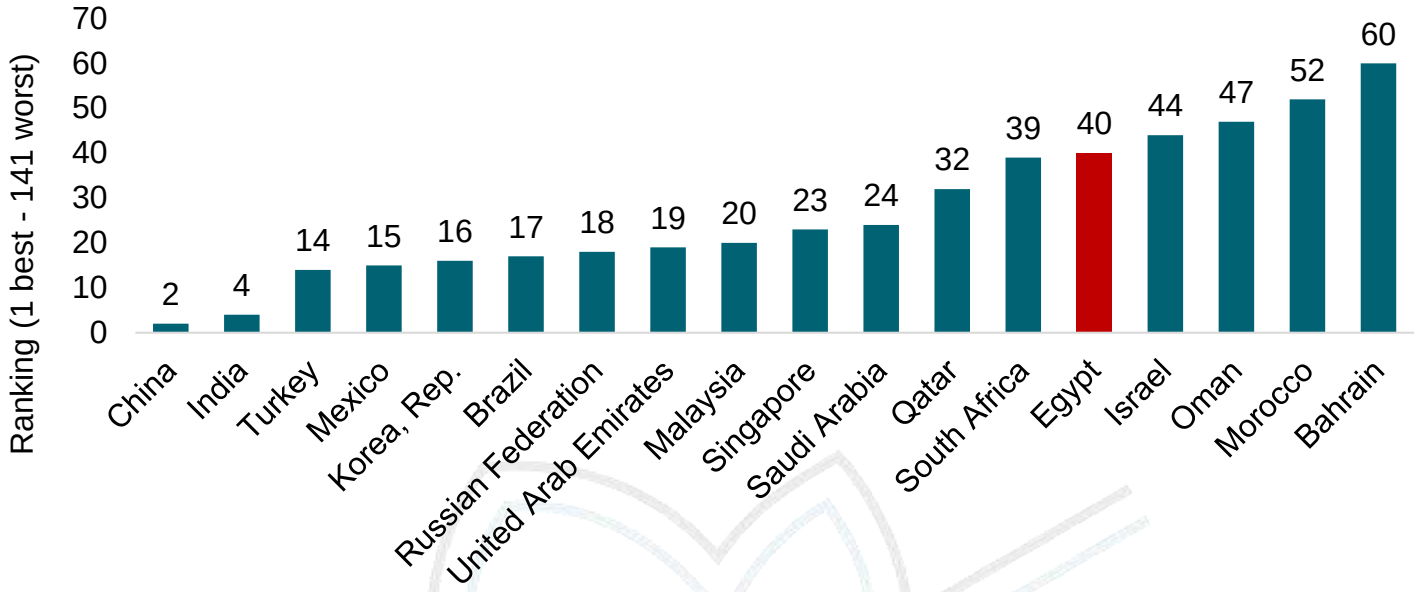
2-2. Air transport in Egypt:

2-2-1. Key sector performance indicators:

- Egypt ranked 40th out of 141 countries in the air connectivity network. It is a low rank compared to some neighboring and competitor countries,[9] as shown in Figure 12.

[9] An index issued by the International Air Transport Association (IATA), which assesses the extent of a country's integration into the global air transport network. At the level of each airport, the number of seats available for each receiving country is weighted by the size of the receiving country's airport

Figure 12. 2019 Air Connectivity Index



Source: World Economic Forum, 2019.

- Despite the privileged position that Egypt enjoys, its share of global air freight does not exceed 0.2 percent and its share of global air passenger transportation does not exceed 0.3 percent, surpassed by countries with comparable levels of development. Even Arab countries succeeded in achieving leaps in their share of global freight and air transport, as shown in Figures 13 and 14.

(measured by the number of passengers), then these weights are collected for all the receiving countries. This is repeated on the rest of the airports and a score is calculated for each country. The World Economic Forum calibrates index values so that the closer the value is to 100, the better the performance.

Figure 13. Evolution of the share of Egypt and selected countries in global air freight, 2008 and 2018

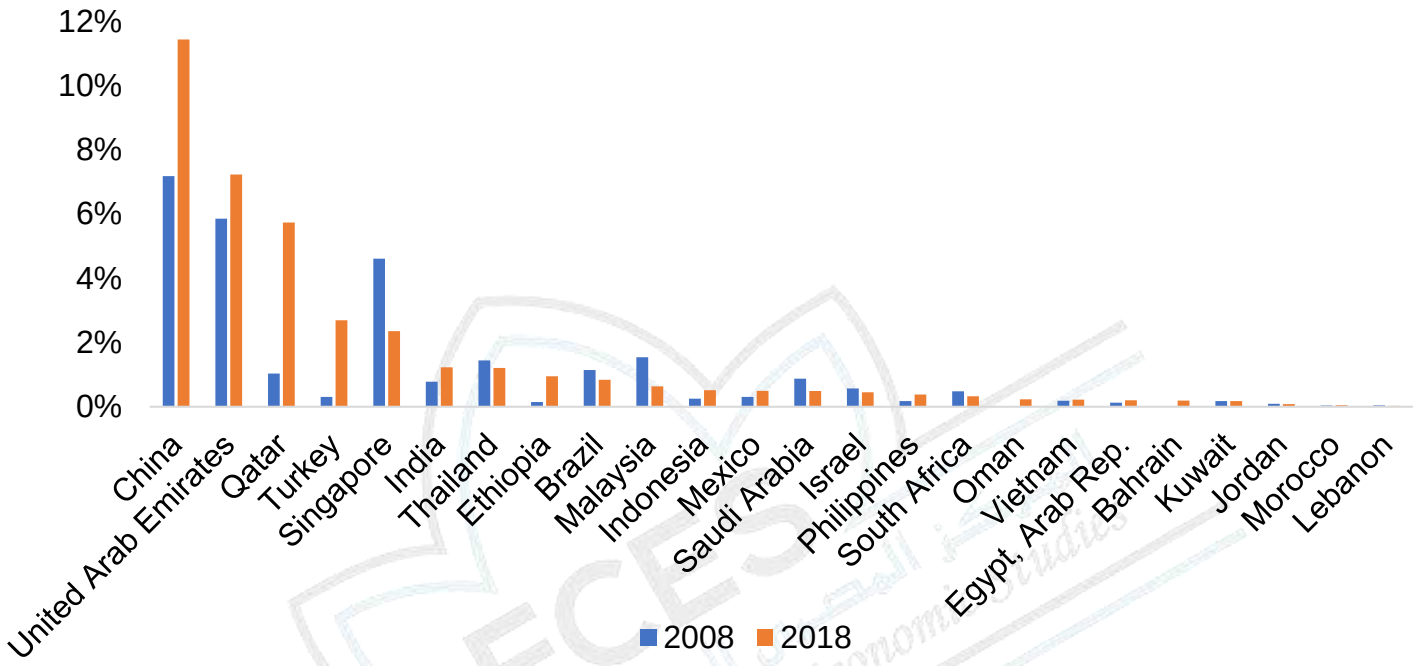
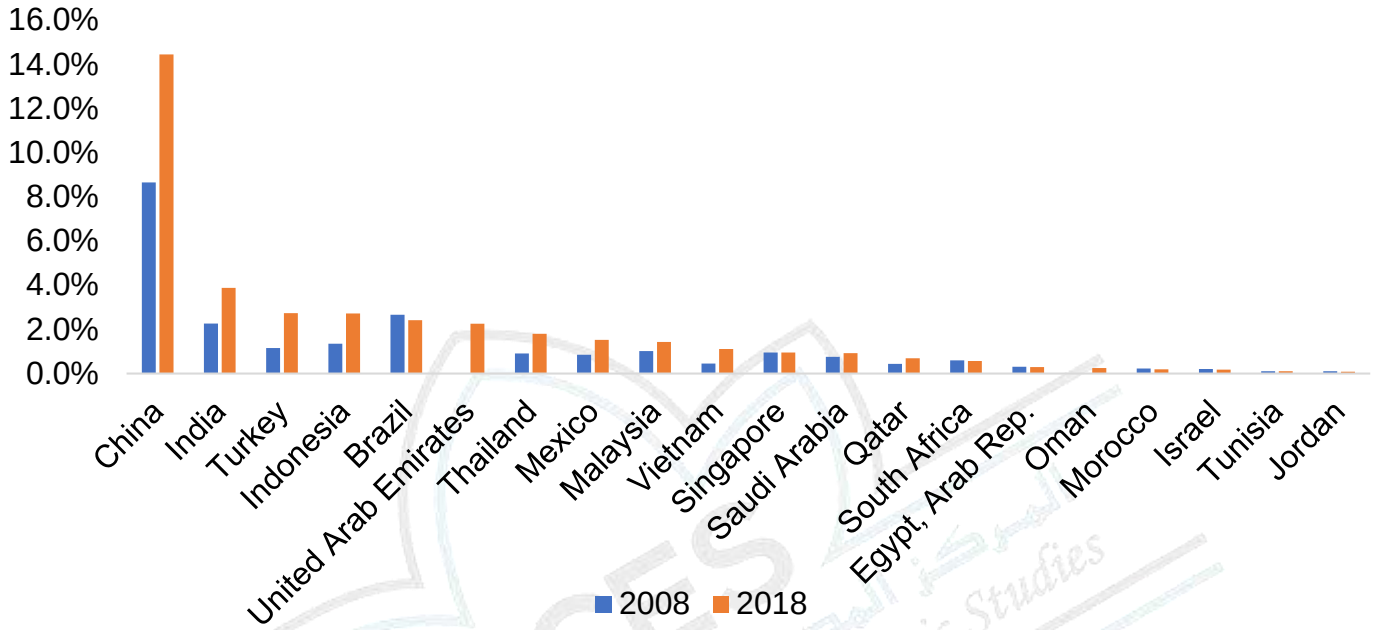


Figure 14. Evolution of the share of Egypt and selected countries in total global passenger air transport, 08 and 2018



Source: International Civil Aviation Organization, Civil Aviation Statistics of the World and ICAO staff estimates.

- Despite the doubling of passenger and air freight traffic in the Middle East and North Africa over the past decade, Egypt's share of air freight in the region remained within one percent, and its share of passenger air transport decreased from 9 percent in 2008 to 5 percent in 2018, as evident in Figures 15 and 16.

Figure 16. Evolution of Egypt's share of passenger air transport in the Middle East and North Africa and the development of the region's share of passenger air transport during the period 2008-2018

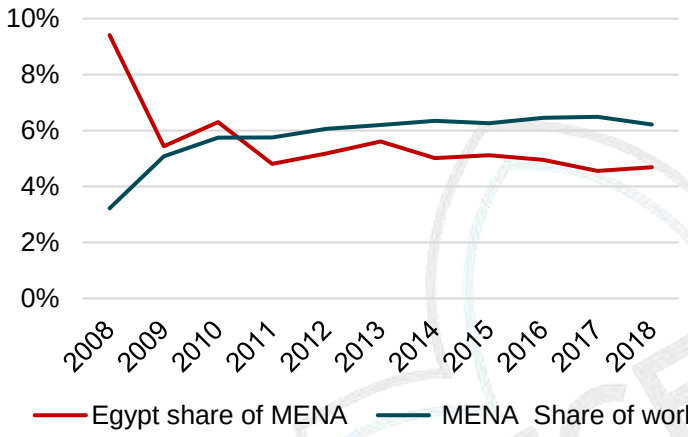
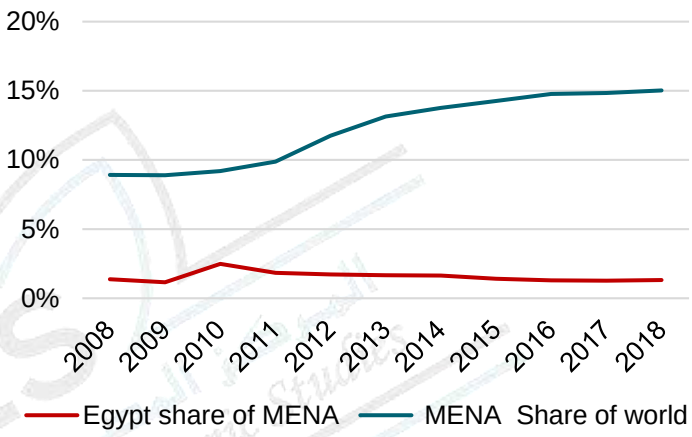


Figure 15. Evolution of Egypt's share of air freight in the Middle East and North Africa versus the development of the region's share of global air freight during the period 2008-2018



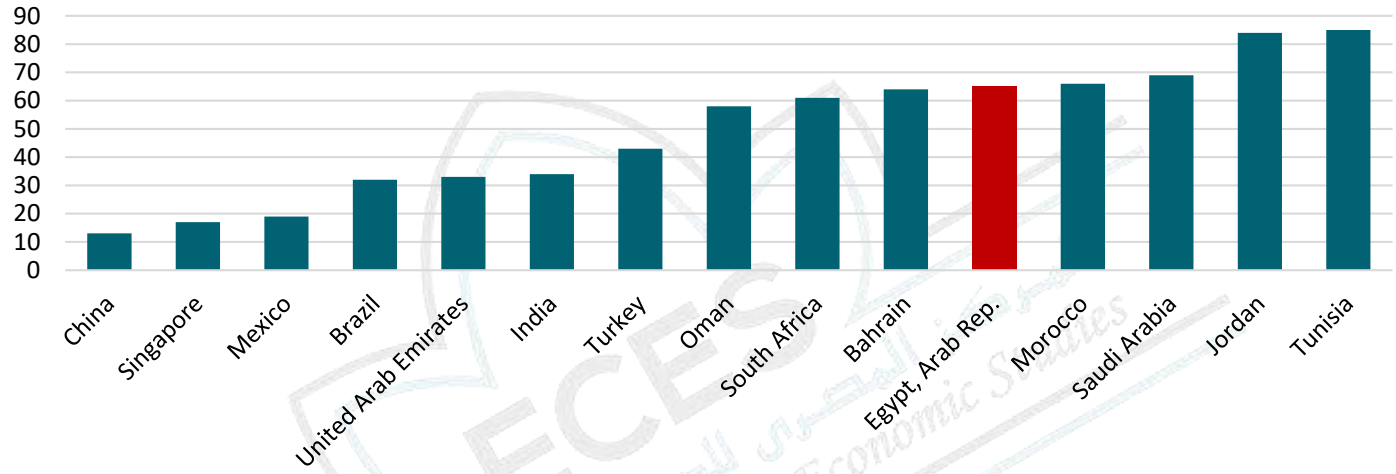
Source: International Civil Aviation Organization, Civil Aviation Statistics of the World and ICAO staff estimates.

- The previous figure indicates that air freight represents a missed opportunity for Egypt that exceeds its opportunity to transport passengers.
- The poor performance of air transportation in Egypt is reflected in the modest ranking of Egypt in the Travel & Tourism Competitiveness Index.[10] Egypt

[10] An index issued by the World Economic Forum, which is a simple average to measure the performance of countries in 14 pillars and 90 sub-indicators that reflect the factors and policies that

ranked 65th out of 140 countries, which is lower than many countries that are not comparable to Egypt in terms of its cultural heritage.

Figure 17. Performance of Egypt and selected countries in the Tourism and Travel Competitiveness Index, 2019



Source: World Economic Forum, Travel &Tourism competitiveness report, 2019

** 140 worst- 1 best.*

- According to this indicator, Egypt is still one of the least open countries in the world,11 as it ranked 124 out of 140 countries. The performance is still relatively modest in the pillar of air transport

contribute to a sustainable environment for the travel and tourism sector, which in turn contributes to the competitiveness of countries. The index ranges from 100 (the best) to 0 (the worst).

[11] The index measures requirements for obtaining a visa, signing open skies agreements, and the number of trade agreements in progress.

infrastructure, where Egypt ranked 55, while the UAE is fourth globally.12

- Egypt's performance in the Travel Facilities Index is considered modest,13 with a score of 3.8 out of 10 in this indicator.
- According to the Air Trade Facilitation Index,14 Egypt ranked 78th out of 124 countries and 34 out of 135 countries in the Freight Friendliness Index.15

2-2-2. Features of the sector

Table 5 shows the key features of the air transport sector in Egypt in terms of its contribution to GDP and employment, the development of passenger and freight

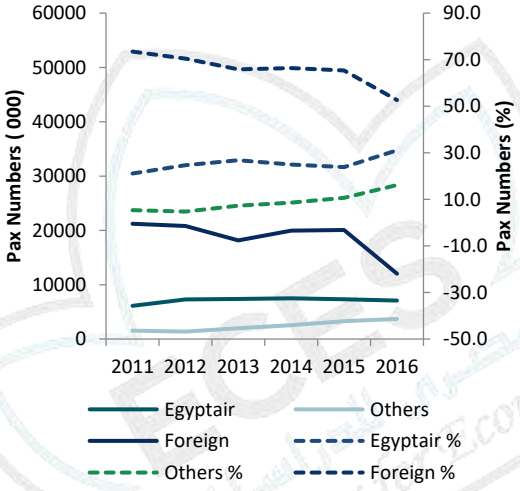
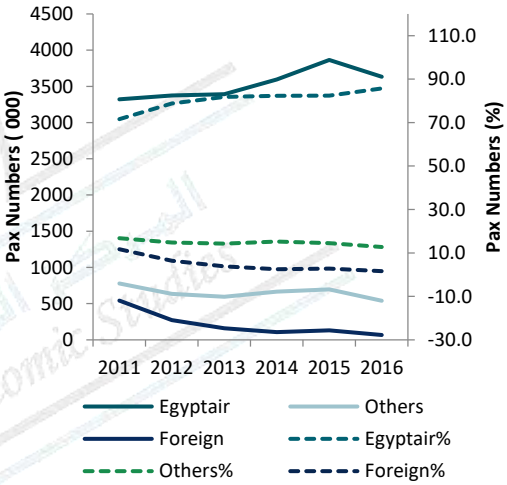
[12] The index measures the number of airports, their density, the number of airline operations, and the quality of infrastructure for air transport, and international and domestic flights.
[13] One of the indicators of the Air Transport Regulatory Competitiveness issued by IATA in 2018 and monitors the extent of the facilities provided to facilitate the movement of individuals worldwide and thus assess the progress of governments in the agreements of open skies, progress in passenger information systems, automation of border control systems, visa requirements. The closer the index is to 10, the better the performance.
[14] The index assesses the extent to which the country provides facilities for transporting goods by air, whether through customs regulations or border procedures (IATA).
[15] The index assesses actual penetration of electronic transactions and documents in IATA air cargo shipments.

traffic during the past decade, and the relative distribution of passenger and cargo traffic by region.

Table 5. Key features of air transport in Egypt, 2018

Economic importance in output and employment	- The sector, including its supply chain, contributes about 1% of Egypt's GDP in 2018, and this figure doubles if we add to it the contribution of tourism, whether in employment or output. - According to IATA (2019), the sector employs about 97,000 direct jobs, most of which are highly skilled jobs, in addition to 102,000 indirect jobs related to the supply of goods and services. It is estimated that one direct job in the air transport sector creates six indirect jobs in the economy, which is evident in the establishment of an increasing number of companies near Cairo International Airport (World Bank, 2010).
Development of passenger and cargo transport	- Air transport activities are concentrated in the transportation of passengers. The number of passengers who are dependent on air transport reached 31 million, while the amount of cargo transported by air reached about 269.2 thousand tons in 2018. - Despite the increase in total passenger traffic at Egyptian airports (international, domestic and transit) from 27.2 million passengers in 2016 to 31 million in 2018, it is 11 percent less than the figure in 2008. This is much less than the capacity of Egyptian airports, which is estimated at 73 million passengers annually. - The amount of cargo transported from Cairo airport remained around 300 thousand tons annually during

	the last seven years, which represents only half of its capacity (600 thousand tons) (Ministry of Civil Aviation, 2018).
Egyptian airports	- In Egypt, there are 23 airports owned by the state, with the exception of Marsa Alam and El Alamein airports with the BOT system. The airports include about 11 international airports and four domestic airports used for international charter flights, and only four domestic airports. Three new airports have been established, namely Sphinx, Al Melis, and Kattameya, with Berenice airport under construction, bringing the number of airports to 27 (Ministry of Civil Aviation, 2018). - According to passenger and cargo traffic, Cairo International Airport is the largest international airport in Egypt and the second largest in Africa after Johannesburg Airport in South Africa. Cairo Airport received about 18 million passengers in 2018, or 58% of the total passengers, as well as in terms of cargo transportation.

International and domestic passenger traffic	Decline in international passenger traffic on foreign airlines versus an increase thereof on Egyptian airlines. Domestic passenger traffic, however, is mainly acquired by EgyptAir and some other Egyptian airlines, as can be seen from the following two figures: **Figure 18. The development of international air passenger traffic, 2011-2016**  **Figure 19. The development of domestic air passenger traffic, 2011-2016**  *Source*: The Egyptian Center for Economic Studies, (2018), "Opening Egyptian Skies: Lost opportunity or Waste of resources, " September.
Air Fleet	- Egypt has a diversified structure of air transport and freight companies. Besides the holding company of EgyptAir (10 subsidiary companies) there are 10 private companies, 3 public sector companies and public business sector companies in addition to foreign airlines. - EgyptAir owns the largest part of the Egyptian aviation fleet. The number of EgyptAir aircraft is 64, including 61 for passenger transport and 3 cargo aircraft, while

	the size of the remaining fleet of Egyptian companies is 47.

Second: Demand and supply shocks in light of the crisis cycle

This part reviews the repercussions of previous crises on the maritime and air transport sectors, then the repercussions of the Corona crisis and expectations for 2020. Finally, it provides an analysis of the demand and supply shocks as a result of the Corona crisis on the maritime and air transport sectors during the crisis cycle.

1. Implications of previous crises on the maritime and air transport sectors:

Theoretically, the demand for transport of all kinds is primarily derived from economic activity, international trade, and the movement of people across countries. Therefore, it is a sensitive sector for any external or local crises that would affect any of the previous variables.

Globally, the maritime transport sector was affected by the global economic crisis of 2008, which contracted global economic growth by -1.9% in 2009, and lowered the volume of international trade by 13.7% in 2009 (value decrease by -22%), i.e., a decline seven times that in economic growth.

The crisis led to a decline in the growth rate of the global maritime trade volume to reach -4.5% in 2009, compared to 2% in the previous year.

The volume of global container trade also decreased by 7-8% as a result of the crisis (UNCTAD, 2010).

Air transport was also affected by the decline in demand for tourism and travel and the number of international tourist arrivals after the crisis by -1.1% and -4%, respectively, in 2009 compared to 2008. (Arab Air Transport Association, 2020)

The global economy, international trade, and consequently the air and maritime transport sectors recovered quickly from the repercussions of the global financial crisis due to the limited scope of the crisis. As its impact was more severe on developed countries compared to developing and emerging countries, which are the main actors in the two sectors, as mentioned earlier in the first section of this report.

Locally, Egypt's maritime and air transport sectors are affected by global and local crises. The global financial crisis led to a slowdown in economic growth, in addition to a decline in the value of Egyptian foreign trade, as shown in Table 6:

Table 6. Implications of the global crisis on Egyptian foreign trade

	Total Egyptian trade (Billion $)		Percentage change (%)
	2008	2009	
Value (billion dollars)	79	69	-12
Trade via Egyptian sea ports	67	59	-11
Trade via Egyptian airports	12	9.7	-19

Source: Calculated based on the Central Agency for Public Mobilization and Statistics data, Foreign Trade Bulletins.

The passengers and air freight traffic at Egyptian airports was also affected by global or local crises,[16] as shown in Table (7):

Table 7. Air transport was affected by global and local crises

	2008 Global Financial Crisis	The Revolution of 25 January 2011	Some countries barred their citizens from traveling to Egypt after the Russian plane crashed
The growth rate of passenger traffic at Egyptian airports*	-14%	-12%	-22%
The volume of cargo shipped by air to all airports**	-8%	-20%	

Source: Calculated based on:

*Central Agency for Public Mobilization and Statistics, Annual Bulletin of Air Transport Statistics.

**The World Bank, World Development Indicators Database.

[16] ECES studied the impact of previous crises and the Corona crisis on the tourism sector in Egypt and these can be found on the center's website: www.eces.org.eg.

2. Implications of the Corona crisis since its inception and expectations for 2020:

The economic and social repercussions of the Corona crisis are expected to exceed the repercussions of previous crises, including the global economic crisis of 2008/2009. The Corona crisis caused the global economy to enter into an economic recession, according to what the International Monetary Fund announced on April 1, 2020, which negatively affects the expected growth rates for all regions and countries (International Monetary Fund, 2020).[17]

The crisis also led to a decline in demand, slowing economic activity and caused disruptions in global supply chains, and a decline in international trade by about 3 percent during the first quarter of 2020, falling again by about 18.5 percent during the second quarter.

Table 8 presents the repercussions of the crisis on the global maritime and air transport sectors, according to the latest available data.

[17] According to the latest update by the International Monetary Fund in June 2020, global economic growth is expected to achieve -4.9% in 2020, -8% for developed economies and -3% for emerging and developing economies, with varied growth rates between regions and countries of the world.

Table 8. Implications of the crisis on the global maritime and air transport sectors

Maritime Transport	Air Transport
- Global container trade traffic decreased in February 2020 by 8.6% compared to February of the previous year. The decline was greater in the Far East, where the crisis began (a decline of 17.5%) against a smaller decline in Europe and then America.[18] - The decline in demand led companies operating in shipping to reduce and cancel trips to the extent that operating capacity of containers decreased by about 10.6% of the total operating capacity last March, and cancellation reached 30% for containers heading from the Far East to Europe. - The number of containers has also been reduced to avoid oversupply and thus	- The decline in international and domestic air traffic led to global passenger transport revenue losses estimated at about $126 billion during the period from January to May 2020. The Asia-Pacific region accounted for 38% of the losses, followed by Europe at 24% and North America by 22%. The regions of the Middle East, Latin America and Africa are the least affected regions, with rates not exceeding 10%. - In the Middle East and North Africa, international aviation revenues declined by 97.3% in April 2020, compared to a decrease of 50.3% in March 2020. - Air cargo freight has seen a less severe drop than that of passenger transport, as the former decreased in March 2020 by 15.2% compared to the previous year and by 32% from its value in 2008, compared to a decrease in passenger transport by about 30% during March 2020 compared to the previous year. This is due to the doubling of air freight

[18] International transport Forum, 2020, "Covid-19 transport Brief", 29 April.

having to reduce prices of shipping services.	for preventive and medical supplies and many commodity requirements.[19]

3. With regard to the outlook for 2020:

3-1. Maritime transport:

The World Trade Organization expects the volume of trade to decline by the end of 2020 compared to 2019 by rates ranging between 13% and 32%, according to the extent of controlling the virus and the extent to which global economic growth is affected by its repercussions.

It is also expected that the global container trade will witness a decrease by more than 10% as a result of the impact of the Corona crisis, surpassing the decline witnessed as a result of the Global Financial Crisis, which ranged between 7% and 8%.

3-2. Air transport:

- The International Civil Aviation Organization (ICAO) expected an unprecedented decline in the performance of the aviation sector globally as a result of the Corona crisis.

[19] IATA,(2020),” Covid19- assessing prospect for Air Cargo”, April.

The following Table 9 shows the sector's performance outlook for 2020:20

Table 9. Performance expectations of the global aviation sector in 2020 compared to 2019

Variable	Optimistic scenario	Pessimistic scenario
Passenger air traffic	-48%	-62%
Number of passengers carried by air	-2.3 billion passengers	-2.9 billion passengers
Passenger air transport revenues	$308 billion	$391 billion
Number of seats available through airlines	-42%	-52%

Source: ICAO, (2020). "Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis Economic".29 June

- ICAO expects Europe will witness the largest decline in passenger numbers, revenues and capacity, followed by Asia and North America.
- The losses in passenger traffic and reduction in capacity are reflected in airport revenues, which are expected to decrease by about $ 97.4 billion in 2020, representing losses of more than 50% for all airports, in all regions, of

[20] ICAO, (2020). "Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis Economic".29 June.

their expected value in the case of the usual scenario, with the exception of Europe, whose losses represent 60%.

- Airline revenues are also expected to incur net profit losses of $84 billion, meaning that the net profits of all airlines in the various regions will decline by more than 50 percent in the usual scenario.
- Flight rates are expected to improve in the following year, but will remain lower than in 2019 by 32-41%. It takes two years for the civil aviation to recover after global GDP recovers.[21]
- The Arab Air Transport Association developed three scenarios about the impact of the virus on the aviation sector, expectations of recovery at the level of the global and Arab economies, and its expectations to recover from the crisis and return to 2019 rates = 100, as shown in Table 10:

[21] IATA, (2020)," Covid-19 outlook for air travel in the next 5 years ", May.

Table 10. Scenarios for the impact of the virus on the aviation sector globally and in the Arab world

		Quick recovery scenario		Moderate recovery scenario		Slow recovery scenario	
		2020	2023	2020	2024	2020	2026
International Economy	Passenger revenue (RPKs)	-48%	2.30%	-56%	-0.60%	-65%	6%
	Numbers of international tourist arrivals	-58%	5.60%	-70%	-0.10%	-78%	9.60%
Arab economy	Passenger revenue (RPKs)	-47%	4.30%	-55%	-0.20%	-47%	4.30%
	Number of international tourist arrivals	-55%	6.60%	-63.50%	-0.30%	-55%	6.6

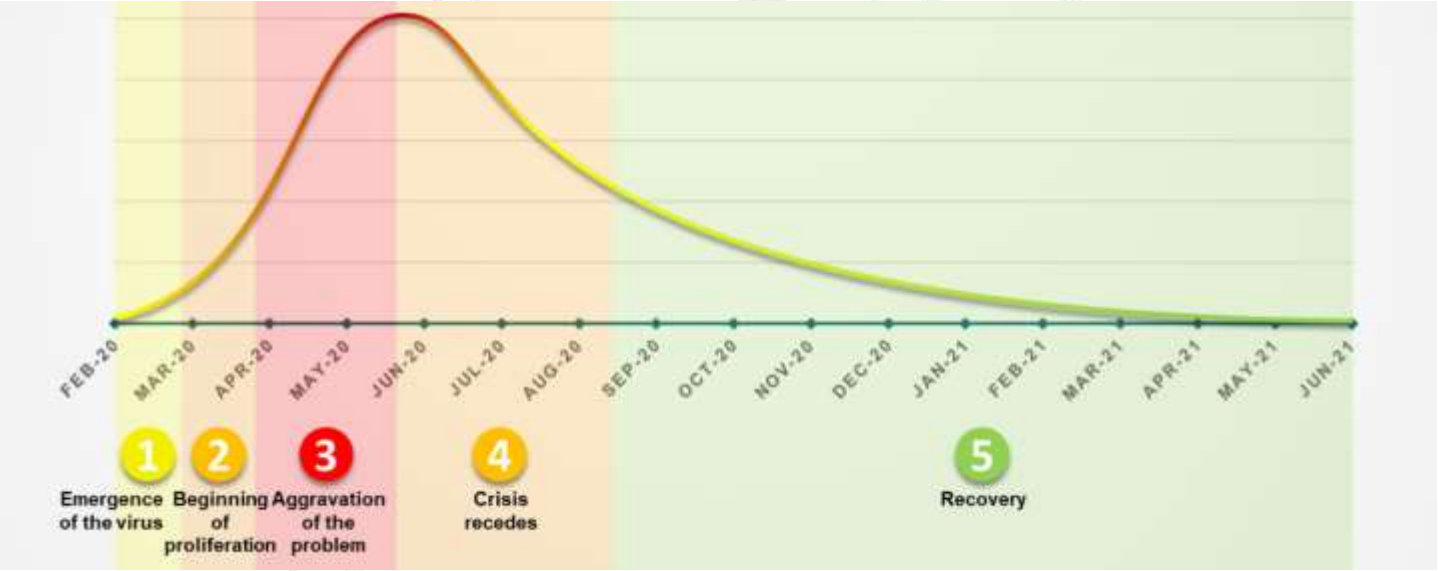
Source: Arab Air Transport Association, (2020), "Analysis of previous global crises that affected the economy, tourism and travel in comparison with the emerging corona virus crisis, with expectations of the time required to overcome this crisis," June.

The International Air Transport Association (IATA) expects a lower decline in air freight of goods than the decline in passenger transport due to the increase in reliance on it to ship preventive and medical supplies and food commodities. The

decline in cargo freight during the year 2020 was estimated between 14% - 31%.[22]

4. Demand and supply shocks in light of the crisis cycle from its inception until now and future outlook:

The expected impact on demand and supply is related to the stage we are facing in the crisis cycle. We can track five stages during the crisis cycle as summarized in the following figure:



Source: The Egyptian Center for Economic Studies.

Below is a brief description of each stage:

[22] The two scenarios relate to what the World Trade Organization expected regarding the impact of the crisis on the volume of global merchandise trade during the year 2020, which is expected to decline by about 13% from its value in 2019 in the optimistic scenario, i.e., the end of the crisis by June 2020, or the decline may reach 32% in the pessimistic scenario, i.e., continuation of the crisis until the end of 2020.

The first stage: Emergence of the virus

The crisis began and aggravated in China only. The rest of the world, including Arab and European countries, were not yet affected by the crisis.

The second stage: Beginning of proliferation

The spread of the virus globally. Arab countries began to be affected at the end of February and initiated precautionary measures to prevent the spread of the virus. European countries are greatly affected.

The third stage: Aggravation of the problem

The situation in the world has worsened, tougher measures in Arab countries, especially Saudi Arabia, and in European countries, a major worsening of the crisis in Italy, beginning of the virus's receding in China, and beginning of its spread in the United States.

The fourth stage: **Crisis recedes**

The beginning of recovery from the virus globally, starting from China, which is expected to be followed by European countries, and finally, Arab countries and the United States.

Fifth stage: Recovery

Gradual recovery in all countries, including Arab countries, although the latter's recovery is expected to be delayed due to being strongly impacted by the global economy and its weak impact on it.

The analysis is based on a set of concepts that include:

1. **Demand shock**: Change in the demand for maritime and air transport services as a result of change in economic activity, trade and travel, both internationally and locally.
2. **Supply shock**: Change in the ability of the global and local maritime and air transport system, with all its material, human and organizational elements, to cope with changes in demand.

The analysis is based on a set of assumptions as follows:

1. Linkage of maritime and air transport in Egypt to changes in global maritime and air transport, which is affected by economic activity, international trade movement, and demand for tourism and travel. All of which are negatively affected by crises, as we have already indicated, and their recovery is related to controlling

the virus, the speed of discovering a vaccine or treatment for it, and the extent of the ability to adhere to precautionary measures.

2. Egypt's main trading partners,[23] namely China, the European Union, the Gulf countries, and the United States are among the economies most affected by the Corona crisis. In an attempt by these countries to contain the crisis, each of them adopted a set of precautionary measures that led to the suspension of some economic activities, which negatively affected Egypt's foreign trade.
3. Although six months have passed since the beginning of the global crisis, data related to sea and air transport traffic in Egypt are not available on a monthly basis for the impact to be accurately tracked. Therefore, the analysis depends on available data in addition to estimates based on specific assumptions related to global performance.
4. The analysis is based on the latest available official data, specifically data on Egypt's air and sea transport and foreign trade published by the Central Agency for Public Mobilization

[23] In 2019, the European Union accounted for 42% of Egyptian exports, followed by 23% for non-Arab Asian countries, 13% for the United States and 9.4% for Saudi Arabia. While 34% of Egyptian imports came from the European Union, 19% from China, and 8.4% from the United States (Central Bank of Egypt, 2020).

and Statistics, in addition to the responses of a sample of businessmen in various fields.

5. Data reflecting the monthly traffic of passengers at Egyptian airports are not available, so the latest available data on 31 million passengers in 2018 was relied on to calculate the average monthly traffic rate, which ranges between 2-2.5 million passengers.
6. The monthly traffic of Egypt's foreign trade through ports and airports reflects the impact of the crisis on the maritime and air transport sectors, which is detailed in Table 6 in the Appendix.

The following table presents an analysis of the impact on the maritime and air transport sectors of the crisis since its inception and currently and forecasts for the next phase until June 2021. The analysis is based on rates of change only, while total values are included in Table 6 in the appendix:

Table 11. Estimate of the repercussions of the Corona crisis on maritime and air transport in Egypt

Stage	Demand and/or supply shock	Analysis	Implications for the maritime and air transport in Egypt	
			Maritime transport	Air transport
1- The emergence of the virus (From December 2019 to January 2020)	Demand and Supply Shock in China (Global) There is no local demand and supply shock	• Slowdown in economic activity in China, factory closures, and supply disruptions to and from China and in many of China's trading partners • Decline in container activity in most of the world's ports • Decline in the number of travelers to and from China.	• The crisis in China led to a slight decline in the total value of Egyptian foreign trade to $7.7 billion in January 2020 compared to $8.6 billion in December 2019. • Maritime trade accounted for 91% of the total value of Egypt's foreign trade, with a value of $7.1 billion, as shown in Table 3 in the Appendix. • The impact of the crisis on maritime trade is very limited, as the value of maritime trade during January decreased by only 2% from its value in the previous month and by 8% from its value last January.	**Passenger Transport:** Passenger traffic at Egyptian airports is proceeding normally. **Air Freight:** • The value of air shipped trade reached $703 million in January 2020, which represents 9% of the total value of Egyptian foreign trade. • Although the crisis is confined to China, its impact was significant on air cargo traffic, whose value declined in January by about 50% from its value last month. • The limited share of air freight in the total value of Egyptian foreign trade reduced the impact of this decline on the value of total Egyptian foreign trade during January.

2- The beginning of the spread (From February to mid-March 2020)	- Increased global demand and supply shock and the onset of a slight shock in domestic demand and supply	• Beginning of a limited recovery in China, the escalation of the crisis dramatically in European countries, and the beginning of the Arab countries being affected by the crisis • Countries have adopted precautionary measures such as partial closure of economic activities. • Disruption of global transport and freight traffic, canceling many shipping dates, as well as canceling specific routes due to the decline in demand. • Reducing the number of	**February 2020** - Further limited decline in the total value of Egyptian foreign trade by 6% - The impact on maritime trade of the crisis remains limited; as it fell to $6.6 billion in February compared to $7.1 billion in the previous month, a decrease of 6%. - The main reason for the decline in maritime trade is the decline in imports, which represent 70% of the total value of maritime trade, by 12%. - Egyptian imports from China, Europe and the United States declined by 36.2%, 20%, and 45% respectively in February 2020 compared to their value in February 2019. The largest decline was in China's share due to its large relative weight in Egyptian imports, while the United States' share was modest, reducing its impact on imports.	**February 2020** **Passenger transport**: Several airlines, including EgyptAir, have suspended flights to China and some countries where the virus appeared. The normal passenger traffic at Egyptian airports continues at an average of 2- 2.5 million passengers per month, according to the latest data of the Ministry of Civil Aviation. **Air Freight:** • The value of air-shipped trade decreased by only 3%. • Egyptian exports witnessed a slight increase of 5%. • On the other hand, Egyptian air-shipped imports declined by 45%. • The modest share of Egyptian imports in total Egyptian air-shipped trade (9%) has limited the impact of the decline in imports on total air trade. **March 2020** A limited decline in the number of travelers to

		workers in ports and shipping services • Worldwide passenger numbers decreased by 48% in March, as a result of tightening transit procedures, reducing foreign air traffic and imposing quarantines on arrivals. • The emergence of the virus in Egypt at the beginning of March • Egypt announced many precautionary measures to confront the virus, including closing some activities, suspending schools, and suspending air traffic as of March 19.	**March 2020** • A further limited decline in the total value of Egyptian foreign trade by about 2%. • Maritime trade declined by 5%, 1% less than the average in the previous month. • As China has recovered relatively, the rate of import decline has gradually decreased. It decreased by only 3%, compared to 12% decline in February. • Maritime exports decreased by 8% due to the impact of the crisis in recipient markets, particularly Europe, the Arab countries and the United States of America. • Thus, the decline in Egyptian exports and imports reflects the direct impact on European countries of the crisis, as they are Egypt's main trading partners.	and from Egypt during March due to the spread of the virus around the world. Thus, the maximum number of passengers at Egyptian airports during March is estimated at 2-2.5 million passengers. **Air Freight:** • The value of air shipped trade has increased by about 20%. • This improvement is mainly due to the recovery of air shipped imports to $492 million in March, compared to $59 million in the previous month. This recovery is linked to the start of China's recovery. • The negative impact of the crisis on European countries was reflected in the decline in air shipped exports by 47%. • The modest share of air shipped trade (11%) limited the impact of this increase on the total value of Egyptian foreign trade during March 2020.

3- Aggravation of the problem (From mid-March to mid-May 2020)	- Peak of global demand and supply shock - Greater domestic demand and supply shock - Attempts to increase supply efficiency	• Further recovery of China and its gradual return to its position in the global economy • European and Arab countries are still strongly affected by the virus, while the United States has begun to be affected by the crisis • The period witnessed tightening precautionary measures and complete lockdown in most countries, which led to a decline in demand • A decline in transport and freight activity to a greater degree than what happened in the first stage and increase	• **According to the results of the questionnaire prepared by the International Transport Services Division at the Alexandria Businessmen Association, the crisis affected a sample of transport and freight companies as follows:** - 52% of companies have reduced their operating capacity - 74% of companies believe that the virus has a negative impact on their activity - 45% of companies have had difficulty in their employees arriving to work and their regularity as a result of the precautionary measures - 58% of companies will reduce their investment in the field - 71% of companies believe that the operational challenges were the decline in demand and the	**Passenger transport:** • Passenger traffic to and from Egypt was halted during April, resulting in a decline in the number of passengers at Egyptian airports by 2-2.5 million passengers • The suspension of air traffic resulted in losses estimated at $1.2 billion to the civil aviation sector a month, according to the Ministry of Civil Aviation **April 2020** • A further improvement in the value of air-shipped trade, which rose by about 20%. • This improvement is mainly due to the recovery of exports, especially agricultural crops and food products. The value of exports reached $592 million in April compared to $332 million in the previous month, an increase of 78%. • Imports declined by about 11%, reflecting a gradual response to the Chinese

		in blank sailing[24] due to the high operating costs. However, it began to recover in May due to the further recovery of the Chinese economy, but the decline in performance in various ports of the world continues. • Decline in the number of passengers by 94% in April, then by 100% in May.[25] • Locally: Continued suspension of foreign airline traffic, the closure of some economic activities, reduction of the number of	weakness of logistical services. • Adherence to precautionary measures and lockdown, in addition to reducing the number of workers in international and Egyptian ports and airports, has resulted in late arrival of documents and the accumulation of goods in ports • Egypt has offered many facilities in import and export procedures (detailed in Table 5 in the Appendix) **April 2020** • The great turmoil witnessed by Egypt's trading partners as a result of the lockdown, in addition to the decline in domestic demand and supply, led to a significant decline in the total value of Egyptian foreign trade to $6.3 billion in April compared to $7.1 billion in March, a decline of 16%.	economy's recovery and its return to global trade. • The modest share of air-shipped trade (17%) limited the impact of this increase on the total value of Egyptian foreign trade.

[24] American Chamber of Commerce in Egypt, 2020 , " covid19 Impacts of on Egypt's transport sector ", April.
[25] IATA, 2020, Air passenger market analysis, June.

		workers in establishments, including ports, airports and government agencies, and the imposition of a partial curfew	• This decline is due to the major impact on maritime trade as a result of the lockdown in most countries, which led to a decrease in the value of maritime trade to $5 billion compared to $6.3 billion in March and $6.6 billion in the previous month, a decline of 21%, which represents a decline by about four times the rate during the period between March and February 2020. • Exports were affected by the lockdown more than imports; exports declined by 35%, while imports decreased by 15%.	
Fourth stage: Receding of the crisis (from mid-May to mid-September 2020)	• Continuing crisis in global and local demand and supply • Signs of gradual recovery from the beginning of June	• Further easing of precautionary measures in Egypt and worldwide, including reducing curfew hours and gradually returning economic activities.	This period is divided into several stages: **The first stage**: May 2020: The closure will continue in many countries, and some will gradually ease the lockdown measures. **Second stages: June - July 2020** The virus continues to decline and the precautionary	**Passengers**: This period is divided into several stages: **Stage 1 May - June 2020:** • Air traffic is still suspended and consequently a loss of 4-5 million passengers • The Egyptian aviation sector's losses will continue, reaching

<table>
<tr>
<td></td>
<td>• Ambiguity of the situation thereafter, because it is related to the developm ent of the virus</td>
<td>• The gradual return of aviation and tourism under different operating rules to adhere to social distancing and increased preventive measures</td>
<td>measures are further eased.
Although these stages have already passed, their data are not available.
The value of maritime trade in the period June-July is expected to be higher than in May, due to recovery of economic activities and global trade with the easing of the lockdown.

The third stage: August 2020: This stage is characterized by increased uncertainty related to the virus, so two scenarios are possible:
<table>
<tr><th>Optimisti c scenario</th><th>Pessimistic scenario</th></tr>
<tr><td>- The virus ends and all precautio nary measure s are lifted
-The return of maritime trade to rates that are in line</td><td>A new cycle of the virus as a result of openness in most countries and lack of a vaccine or treatment, followed by retightening procedures and thus the negative impact on economic</td></tr>
</table>
</td>
<td>about $3.5 billion until June 2020, according to the Ministry of Civil Aviation
Second phase July 2020:

The beginning of the resumption of air traffic, starting July 2020
The number of international tourists coming to Egypt did not exceed 4000, apart from Egyptians returning from abroad.
Continued commitment to social distancing and implementation of precautionary measures imposed operational restrictions on aviation that reduced the operational capacity of aircraft and air traffic. This makes a return to pre-crisis operation rates unthinkable, at least during 2020.

<table>
<tr><th>Optimistic scenario</th><th>Pessimistic scenario</th></tr>
<tr><td>Return of passenger traffic by about 25%, meaning that the number of</td><td>Return of passenger traffic by about 10% only, that is, the number of</td></tr>
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			with global trade and economic activity. -However, it is certain that the value will be lower than that of the previous year.	activities and global trade, which leads to another decline in maritime trade. In this case, it is expected that the decline will be less severe, due to increased ability to adapt to the virus.	passengers at Egyptian airports is about 500-625 thousand passengers	passengers at Egyptian airports is about 200-250 thousand passengers.

The third stage: August 2020: This stage is characterized by increased uncertainty about the virus, so two scenarios are possible:

Optimistic scenario	**Pessimistic scenario**
More limited and gradual passenger traffic recovery that may reach 10%, so that the estimated number of passengers at Egyptian airports is between 200 and 250 thousand passengers, at most.	A new cycle of the virus as a result of openness in most countries and the lack of a vaccine or treatment followed by retightening procedures, thus negatively affecting the movement of passengers and travel. In this case, the decline is expected to be less severe, due to the increased ability to

				cope with the virus.

Air Freight:
This period is divided into several stages:
Stage 1: May 2020 - July 2020
Limited and slight improvement in air freight
Although this stage has already passed, its data are not available at the time of this report.
The second stage:
August 2020: This stage is characterized by increased uncertainty about the virus, so two scenarios are possible:

Optimistic scenario	**Pessimistic scenario**
- The virus ends and all precautionary measures are lifted - A more gradual recovery of air cargo traffic	A new cycle of the virus as a result of openness in most countries and lack of a vaccine or treatment, followed by retightening procedures and thus the negative impact on

					economic activities and global trade, which leads to another decline in air freight, but it is expected that the decline will be less severe, due to increased ability to adapt to the virus.
Fifth Stage: Recovery (from mid-September to June 2021)			Projections for this period are related to a set of criteria that include: 1) What happens in the immediately preceding stage regarding the evolution of the virus 2) The stimulus global economic policies that are taken to accelerate the ability of the economy and trade to recover 3) The institutional reforms that the Egyptian state is undertaking to raise the efficiency of the customs and logistical services system.	Projections for this period are related to a set of criteria that include: 1) What happens in the immediately preceding stage regarding the evolution of the virus 2) The stimulus global economic policies that are taken to accelerate the ability of the economy and trade to recover 3) The extent of the ability to adhere to the precautionary measures and new operational controls for the aviation sector	

				4) State policies to stimulate inbound tourism and its ability to receive tourists and to manage the system more safely.

Source: Prepared by the Egyptian Center for Economic Studies.
* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or not directly.

We conclude the following from the aforementioned analysis of the impact of the crisis on international and local maritime and air transport sector:

- The expected repercussions of the Corona crisis outweigh any repercussions from previous crises - including the global financial crisis and the January 2011 revolution - on Egyptian foreign trade. This is logical given that it is both an external and internal crisis. Previous estimates are consistent with World Bank estimates as well as with the World Trade Organization estimates regarding the impact of the crisis on international trade.
- Though the crisis negatively affected both the maritime and air transport sectors, its greatest impact was on air transport, for passengers or goods.

- The limited share of air freight in Egypt's total foreign trade has limited the impact of the crisis on the total value of Egyptian foreign trade.
- Fluctuations in air freight reflect what happened in the international trade in general, namely, a big shock as a result of the lockdown in China and the global economic turmoil, then a greater recovery with the recovery of China and its return to its position in the global economy, and then stability of rates thereafter.
- Continuation of trade traffic in ports, even if the operating rate is lower compared to before the crisis. The emergence of problems in the import and export process during this period relates to customs procedures in each port.
- The performance of Egyptian seaports varied during the first quarter, January - March 2020. The value of trade in Alexandria port decreased (37% of imports, 33% of exports) by about 22% and 9% of Egyptian imports and exports, respectively. Other ports witnessed an increase in the value of trade, including an increase in the value of imports coming to Dekheila and Safaga Ports by 11% and 213%, respectively. Likewise, exports through the ports of Suez and Damietta increased by 8% each during the first quarter of 2020.

- It is important to emphasize that the performance of foreign trade relates to the performance of ports, airports and logistical services. Therefore, the challenges they face negatively affect the performance of trade. So, policies that countries have taken to facilitate trade, simplify the customs system, raise the efficiency of logistical services, and digitize the system improve their ability to increase trade regardless of emergence of a new wave of the virus.

Third: Required interventions to mitigate the effects of the crisis

Globally, due to the magnitude of risks that the transport sector faces, especially air transport, as a result of the crisis, many countries have taken the initiative to support companies operating in this vital sector so that they are not vulnerable to bankruptcy. The International Air Transport Association estimated the value of financial aid needed by airlines worldwide at about $200 billion. The following table shows some examples of support extended to the civil aviation sector:

Country	Measure
European Union	Support valued at 600 million euros for companies operating in maritime transport, shipping and storage, in the form of loans, grants and tax exemptions.
Germany	$10 billion rescue package has been earmarked for Lufthansa Airlines.
United States	Supporting the US aviation sector with about $85 billion, half of which is allocated to cover employee salaries.
France	The French government has provided support estimated at 7 billion euros to AIR France
Italy	Provision of a 600-million-euro bailout package to support the aviation sector.

Source: Heba Abdel Moneim, Mohamed Ismail (2020), "Policies of the Coronavirus Implications on the Civil Aviation Sector in Arab Countries and Recovery," Arab Monetary Fund

In Egypt:

A set of measures have been announced to support the civil aviation sector in countering the crisis, and to facilitate customs clearance procedures throughout. Table 5 in the Appendix lists the most important measures.

Despite the importance of these measures, there is still a need for:

1) Integrated packages to support all companies according to their different needs. In this regard, the following is suggested:

- The need to prepare a complete database of all companies operating in the sector so that the required support can be estimated in light of actual needs.
- Supporting private Egyptian airlines, as they are vulnerable to bankruptcy and exit from the market permanently.
- Improving terms of credit available to companies operating in the civil aviation sector. It is suggested that interest-free financing be made available to pay wages, aircraft leases and operating expenses with a grace period of not less than two years or until air traffic recovers.
- Setting adequate guarantees to ensure easy access for Egyptian Airlines to these credit facilities, especially in light of the high uncertainty and consequently the absence of incentives that drive banks to provide credit facilities to lossmaking companies, as the crisis is expected to continue to continue, affecting their financial solvency.
- Expanding the scope of support and assistance to the remaining subsectors that come under the transport sector.
- Extending the period of tax exemptions or credit facilities and any fee reductions for companies until they restore normal operating rates on average.

2) Continuing efforts to upgrade the customs regime and facilitate procedures, which the State actually did during the crisis to ensure goods are not accumulated in ports, the speed of customs clearance of goods, and the facilitation of arrival of components and supplies so the production process continues.
3) The need to review the one-stop shop system and the single window system applied to customs due to the many challenges it faces, such as: difficulty of tracking shipments, slow and delayed clearance procedures, lack of a clear and announced timeframe to reduce customs clearance time, in addition to the following problems:[26]

- Lack of periodic updating of indicative prices for imported raw materials
- Double inspection of imports: pre-shipment inspections and random checks at ports are adequate
- Weak electronic connectivity between the various customs outlets, especially the remote land ports, as well as with other supervisory authorities

[26] Federation of Egyptian Industries, (2020), the Federation of Egyptian Industries paper on urgent measures to confront the repercussions of the Corona virus at the economic level and on Egyptian industry.

- The multiplicity of customs clearance procedures, as well as fees for handling containers between ports
- Delay in activating the electronic payment of customs duties and dues
- Failure to apply the green track clearance system for factories and companies that maintain a good track record as an importer, as well as supplier and customs brokers as a single entity.

Fourth: Institutional weaknesses revealed by the crisis

Although Egypt possesses many potentials that make it a major trade corridor worldwide and an international center for production and distribution serving Europe, Africa and the Middle East, its competitiveness and attractiveness for investments in the field of maritime and air transport is less compared to many neighboring countries that do not possess the same potentials.

The following is a set of suggested pillars to be taken into consideration when adopting a comprehensive and integrated reform of the system:

1) Dynamism of the maritime and air transport system, its linkage to developments in the global system, performance of other countries, and methodology for development require policy makers to take into account these developments when

upgrading the national system because it does not lie in isolation from the aforementioned developments.

2) Need for a clear and declared strategic thinking that leads any efforts to develop the Egyptian sea or air fleet.[27] The absence of this thinking and weak governance reduces the attractiveness of private investment in all areas of development and limits appropriate financing opportunities.[28]
3) The need to create a detailed database on the transport sector in general as well as sub-sectors. If it already exists, it is not readily available and not updated, which is essential for careful planning of the sector, assessing its performance and developing relevant future scenarios in light of developments.
4) Address the weak governance of the transport system as a whole, as the general transport policy planning, management and operation of the system are being carried out by many actors, in the context of various legislative and administrative frameworks. Also, there are no institutional guarantees for adequate coordination that serves unified strategic objectives.

[27] The obsolescence and limitations of Egypt's merchant maritime fleet; as only 5% of Egypt's foreign trade is carried out using Egyptian ships. So, transportation of oil and cargo depends on a fleet of foreign shipping companies.
[28] Egyptian Businessmen Association (2018), “The vision of the business community about the logistics system and its role in developing the transport sector.”

The forms of the system's institutional weakness include the following:

Maritime transport	- The multiplicity of the governing bodies of the system and consequently the different organizational frameworks for work in each port. This raises questions about to what extent the Supreme Council of Ports is enforced (Council of Ministers Resolution No. 399 of 2015) and the nature of its duties. - The multiplicity of legislations, laws and decisions regulating maritime transport and investment in the relevant fields, especially that some of them have become obsolete and are not in line with the developments in maritime transport activity. - Delayed issuance of the general plan for Egyptian ports. The plan would identify the projects needed by each port in a way that would ensure integration between Egyptian ports and lack of competition between them for the same projects.
Air transport	- Separation of planning, implementation and follow-up functions in the aviation sector. The Ministry of Civil Aviation plays the role of planner, enforcer and observer of all civil aviation activities, especially in light of the lack of complete independence of the Holding Company for the Operation of Airports. This is in addition to the need for more coordination between the Ministry of Civil Aviation and the Ministry of Transport. - Announcing the long-term investment and planning priorities of the civil aviation sector. - Addressing the challenges that hinder the private sector from entering in the civil aviation sector and

	operating therein, including restrictions on fleet size, preferential prices for fuel and payment terms, the capital required to establish a company, operating restrictions, and ground services.[29] - The existence of a framework through which concessions are granted to new airports, making them competitive, and linking these concessions to tourism development plans.
Management and operation of ports and airports	- The multiplicity of agencies responsible for managing ports and airports, and the fragmentation of responsibility among them, which leads to operational imbalances that reduce their competitiveness. For example, passengers are congested at Cairo Airport due to overlapping international and domestic flight schedules. - The performance of each port varied in terms of cost, services provided, management and operating systems, especially in light of the different natural and logistical potentials and basic infrastructure of each port.

Among the most important proposals to address institutional weakness:

- A comprehensive restructuring of EgyptAir
- Restructuring the way airports are managed and operated

[29] Egyptian Center for Economic Studies, (2018), “Open Skies: lost opportunity or a waste of resources”, September.

- Reviewing the delay in entering into Open Skies Agreements,[30] despite the many inherent opportunities
- Comprehensive review of service fees in Egyptian ports, whose rise led to the withdrawal of many shipping lines
- Standardization of fees and customs clearance procedures between ports

5) Expanding on utilization of technological developments to digitize the system and its related services, a trend that the crisis has proven inevitable as a way-out for the continuation of the import and export process, especially in light of the world's move towards smart ships and ports, uses of blockchain, the Internet of things and artificial intelligence, which requires training workers on this modern technology.

[30] Ibid.

Appendices

Table 1. Egypt's position in the logistics performance index and its sub-pillars during the period 2007-2018

	Ranking							Score						
Year	2007	2010	2012	2014	2016	2018	Change (2007-2018)	2007	2010	2012	2014	2016	2018	Change (2007-2018)
Logistics Performance Index	**97**	**92**	**57**	**62**	**49**	**67**	**31**	**2.37**	**2.61**	**2.98**	**2.97**	**3.18**	**2.82**	**19**
Customs	122	122	69	57	65	77	**37**	2.08	2.11	2.6	2.85	2.75	2.6	**25**
Infrastructure	121	106	45	60	50	58	**52**	2	2.22	3.07	2.86	3.07	2.82	**41**
International shipments	111	110	51	77	45	73	**34**	2.33	2.56	3	2.87	3.27	2.79	**20**
Logistical efficiency	95	54	50	58	43	63	**34**	2.38	2.87	2.95	2.99	3.2	2.82	**18**
Tracking	72	101	66	43	54	89	**24**	2.62	2.56	2.86	3.23	3.15	2.72	**4**
Timing	96	81	64	99	48	74	**23**	2.85	3.31	3.39	2.99	3.63	3.19	**12**

Source: World Bank, Logistics Performance Index Report, various years

Table 2. Position of Egypt and selected countries in the sub-pillars of the 2020 cross-border trade index

country	Trading across Borders rank	Time to export: Border compliance (hours)	Cost to export: Border compliance (USD)	Time to export: Documentary compliance (hours)	Cost to export: Documentary compliance (USD)	Time to import: Border compliance (hours)	Cost to import: Border compliance (USD)	Time to import: Documentary compliance (hours)	Cost to import: Documentary compliance (USD)
Turkey	44	10	338	4	55	7	46	2	55
Singapore	47	10	335	2	37	33	220	3	40
China	56	21	256	9	74	36	241	13	77
Morocco	58	6	156	26	67	57	228	26	116
Oman	64	28	279	7	107	39	244	7	124
India	68	52	212	12	58	65	266	20	100
Mexico	69	20	400	8	60	44	450	18	100
Jordan	75	53	131	6	100	79	206	55	190
Bahrain	77	59	47	24	100	42	397	60	130
Saudi Arabia	86	37	319	11	73	72	464	32	267
Tunisia	90	12	375	3	200	80	596	27	144
United Arab	92	27	462	5	140	54	553	12	283
Brazil	108	49	862	12	226	30	375	24	107
South Africa	145	92	1257	68	55	87	676	36	73
Egypt, Arab	171	48	258	88	100	240	554	265	1000

Source: World Bank, Doing Business report 2020.

Table 2. Evolution of the Egyptian commercial fleet during the period 2001-2018

	Total fleet	Other ships	Container ships	Bulk	Passenger	Oil tankers	Cargo
2001	211	59	5	7	12	30	98
2002	126	4	3	12	13	22	72
2003	128	4	3	12	13	22	74
2004	132	4	5	13	13	23	74
2005	146	17	5	13	13	24	74
2006	170	67	5	15	9	20	54
2007	171	73	5	12	8	21	52
2008	170	77	6	12	7	17	51
2009	101	11	3	12	7	18	50
2010	171	82	6	15	7	17	44
2018	117	66	7	12	5	15	12
Change between 2018 and 2010	-32%	-20%	17%	-20%	-29%	-12%	-73%
Change between 2018 and 2001	-45%	12%	40%	71%	-58%	-50%	-88%

Source: The Central Agency for Public Mobilization and Statistics, Maritime Transport Bulletin, various issues.

Table 4. Designed capacity of Egyptian commercial ports

Commercial ports	Area		Max. design capacity		Docks			total docks including container berths		
	Total km2	Land km2	Cargo (mn tons)	Containers million)	.No	Lengths (m)	(m)Draft	No	Lengths (m)	(m)Draft
Alexandria	8.6	1.8	37.9	1	5	967	14	64	9697	14
Dekheila	6.2	3.5	27.1	1	6	1520	14	20	4660.5	20
Damietta	11.8	8	21.75	1.4	4	1050	14.5	23	5880	14.5
Port Said	3	1.3	12.175	1.1	3	350	13.2	32	4427	13.2
Arish	0.23	0.05	1.2	0	0	0	0	2	364	8
East Port Said	72.1	70.6	12	5.4	4	2400	19	4	2400	19
Suez	158.7	2.3	6.6	0	0	0	0	14	2100	8.2
Petroleum basin		1.16	8	0	0	0	0	7	828	10
Adabeya		1.1	11	0	0	0	0	9	1840	13
Sokhna	87.8	22.3	23.5	1.1	1	750	17	9	2400	17
Hurghada	9.94	0.04	0	0	0	0	0	1	330	10
Safaga	57.15	0.62	6.5	0	0	0	0	6	1327.4	14
Al-Tor	1.65	0.5	0.38	0	0	0	0	1	75	5
Nuweiba	9.9	0.4	2.5	0	0	0	0	3	385	9
-Sharm El Shaikh	88.3	0.2	0	0	0	0	0	2	741	10
Total 2018	515.37	113.87	170.605	11	23	7037		197	37454.9	
Total 2008	515.37	113.87	133.85	5.6	23	5775.4		180	32401	
The change between 2018 and 2008			27%	96%	0%	22%		9%	16%	

Source: Ministry of Transport, Maritime Transport Sector, 2018.

Table 5. Key measures taken by Egypt to support the transport sector and facilitate trade

Area	Measures
Policies to support the civil aviation sector	1) Allocating an additional EGP100 billion to EgyptAir Holding Company for air freight while extending support for the air freight program for agricultural crops to include the Arab Gulf states.

	2) Granting additional reductions on the price of aviation fuel, bringing the total value of reduction to 10 cents per gallon, to be applied upon the return of air traffic. 3) Granting the EgyptAir Holding Company a 50% reduction in landing, waiting and boarding fees for its passenger aircraft. 4) A support loan was provided for civil aviation with a grace period of two years, provided that the Ministry of Finance bears its burden until operating rates are equal to 80% of operating rates in 2019. 5) Payment and scheduling of dues for electricity, water and gas consumption for tourism and hotel establishments and airlines for a period of 6 months.
Facilitating customs clearance procedures	1. Providing an exception for imports from submitting the original invoices, and using copies on condition that the concerned party attests to the validity of the documents submitted and the originals are submitted and approved by the chambers of commerce within a maximum period of 6 months from the date of clearance or until the circumstances related to the spread of the Coronavirus have passed, whichever is earlier). 2. Imports are exempted from the provisions of Article 12 of the executive regulations of the Customs Law issued in 2006 with regard to the requirement of Egyptian embassies or consulates abroad to certify certificates of origin, which are documents indicating the origin, or other documents accompanying the goods in cases other than those exempted from the certification requirement. 3. Continued use of inspection and conformity certificates submitted by the companies for imported shipments of goods mentioned in Resolution No. 2 of 2020, with a

	warning to those companies that it is necessary to register with the National Food Authority, for food commodities and tools that come into contact with food until the end of next May. 4. The Food Safety Authority also decided to examine only 25% of finished food commodities, for which a pre-inspection was performed before shipment, provided that they are accompanied by an inspection certificate approved by the inspection companies registered with the Authority. 5. In case of pre-inspection certificates issued by companies not listed with the Authority, or in the event that the shipments are not accompanied with a pre-inspection certificate, a full inspection of these shipments shall be carried out according to the previously applied ratios, with a warning to importing companies that by the end of May of 2020, inspection procedures will be reconsidered of any shipments received from the goods attached to Resolution No. 2 of 2020 in the event that they are not accompanied by a pre-inspection certificate from the inspection and conformity companies registered with the National Food Safety Authority. 6. It is sufficient to examine 25% of factory production requirements shipments for the factories included in the list approved by the National Food Safety Authority "White List". 7. Unifying the customs compass form in transporting goods from one customs to another at the level of Egyptian ports.

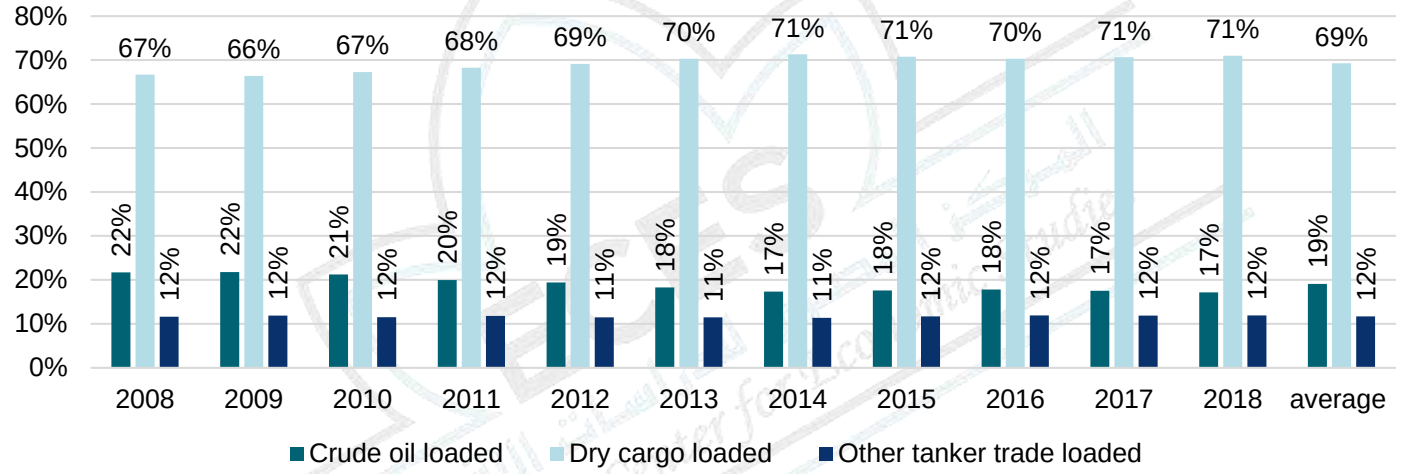
Source: Calculated based on data from the Central Agency for Public Mobilization and Statistics, Monthly Foreign Trade Bulletin, various issues.

Table 6. Monthly traffic of Egyptian foreign trade from January to April 2020

Jan-20							
	Trade movements in Egyptian airports			Trade movement in Egyptian ports			
Total trade	Total trade	Imports	Exports	Total trade	Imports	Exports	
7.8	0.703	0.107	0.596	7.1	5.2	1.9	Value ($ billion)
-13%	-43%	-85%	11%	-8%	-10%	-1%	Change in January 2020 compared to January 2019
-10%	-50%	-86%	-7%	-2%	-1%	-3%	Change in January 2020 compared to December 2019
Feb-20							
	Trade movements in Egyptian airports			Trade movement in Egyptian ports			
Total trade	Total trade	Imports	Exports	Total trade	Imports	Exports	
7.3	0.685	0.059	0.626	6.6	4.6	2	Value ($ billion)
-20%	-51%	-93%	13%	-15%	-21%	1%	Change in February 2020 compared to February 2019
-6%	-3%	-45%	5%	-6%	-12%	10%	Change in February 2020 compared to January 2020
Mar-20							
	Trade movements in Egyptian airports			Trade movement in Egyptian ports			
Total trade	Total trade	Imports	Exports	Total trade	Imports	Exports	
7.1	0.824	0.492	0.332	6.3	4.4	1..9	Value ($ billion)
-27%	-38%	-40%	-34%	-25%	-29%	-14%	Change in March 2020 compared to March 2019
-2%	20%	735%	-47%	-5%	-3%	-8%	Change in March 2020 compared to February 2020
Apr-20							
	Trade movements in Egyptian airports			Trade movement in Egyptian ports			
Total trade	Total trade	Imports	Exports	Total trade	Imports	Exports	
6.03	1.03	0.435	0.592	5	3.8	1.2	Value ($ billion)
-33%	-15%	-40%	23%	-36%	-34%	-41%	Change in April 2020 compared to April 2019
-16%	25%	-11%	78%	-21%	-15%	-35%	Change in April 2020 compared to March 2020

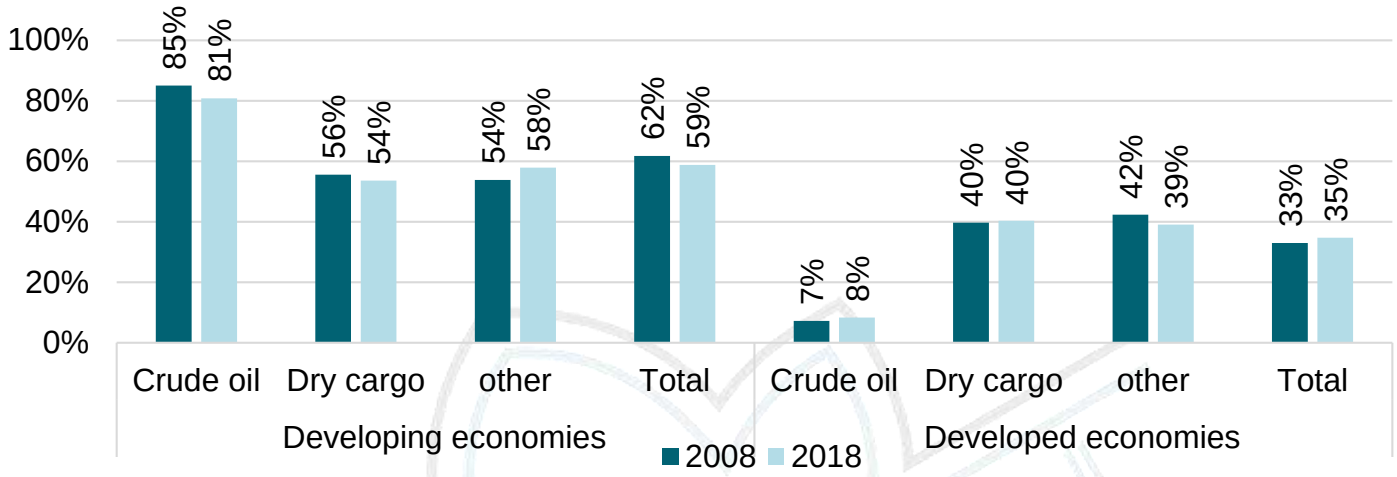
-10%	**-50%**	**-86%**	**-7%**	**-2%**	**-1%**	**-3%**	**Change in January 2020 compared to December 2019**
-6%	**-3%**	**-45%**	**5%**	**-6%**	**-12%**	**10%**	**Change in February 2020 compared to January 2020**
-2%	**20%**	**735%**	**-47%**	**-5%**	**-3%**	**-8%**	**Change in March 2020 compared to February 2020**
-16%	**25%**	**-11%**	**78%**	**-21%**	**-15%**	**-35%**	**Change in April 2020 compared to March 2020**

Figure 1. Evolution of global maritime trade according to the type of cargo during the period (2008-2018)



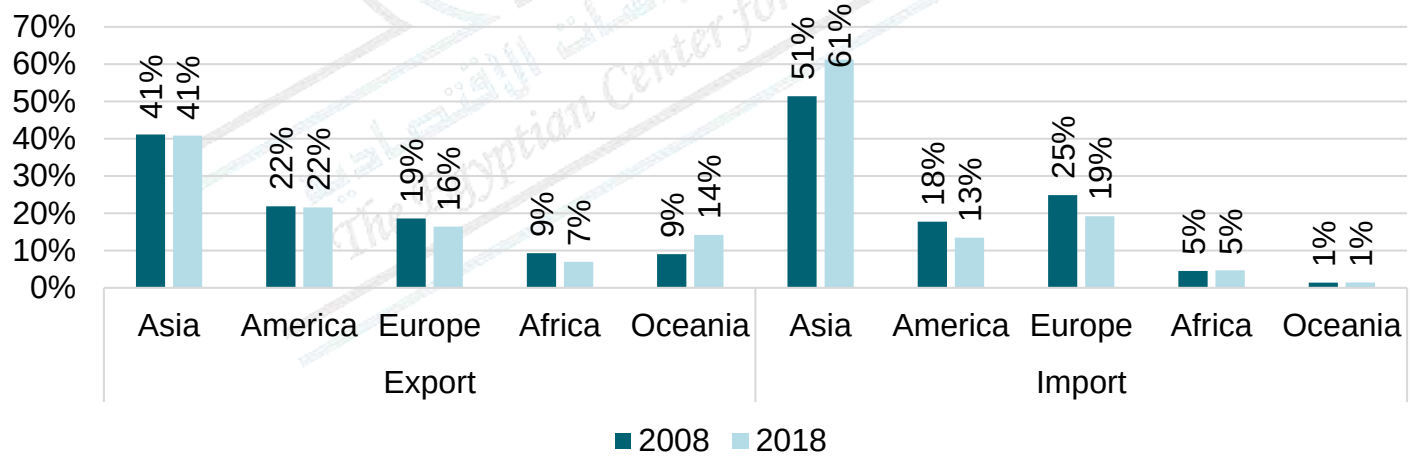
Source: Prepared by the researcher based on the UNCTAD database.

Figure 2. Percentage distribution of international maritime trade in developing and developed countries according to type of cargo in 2008 and 2018



Source: Prepared by the researcher based on the UNCTAD database.

Figure 3. Percentage distribution of global maritime trade according to region in 2008 and 2018



Source: Prepared by the researcher based on the UNCTAD database.