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Shock & Recovery:

Resilience in the After Math of the Beirut Port Explosion

Shock e ripresa: resilienza dopo l'esplosione del porto di Beirut

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Dedication

At first, I would like to say that it was not easy for me to choose the topic of the explosion in the port of Beirut, both on an emotional and practical level, because this catastrophe affected us Lebanese very deeply and still does today. I am proud that my master's thesis deals with the Beirut port explosion disaster, and I would like to take this moment to express my condolences once again to all the victims of the Beirut port explosion.

First, I would like to thank Professor Marchella Niccolini for giving me the confidence and motivation for my dissertation topic and for guiding me to successfully complete my work and Thanks to all the members of the supervisory committee for the dissertation at the University of Pavia. Secondly, I would like to dedicate my success to my husband, Dr. Ali Ghandour, who was my first supporter, and I thank him for his endless support and love. My thanks and appreciation also go to my family for their endless love and to my mother, who has always supported me. I would also like to express my deep gratitude to my greatest supporter and confidant, Mr. Amer Iskandarani, my supervisor at work in Lebanon, and I thank him for his cooperation with me in the completion of my work.

Thanks to everyone who contributed to my success in accomplishing my mission and earning my master's degree!

Content:

I. Introduction

Today, resilience is one of the building blocks of the paradigm that leads people's efforts to survive with disaster situations. The term originates from engineering, where it refers to the capability of certain materials to be exposed to an external stress, resist it, and respond by absorbing the stress or changing with a minimum of interruption. Erwig and Simoncini have emphasised that resilience presented several challenges for international law. These include the need for law to understand what resilience to catastrophes requires and in what circumstances it must be limited. (Routledge 2017). A sorrowful occasion was recently provided by the explosion that devastated Beirut (Lebanon's capital) to evaluate the obstacles of the resilience narrative on August 4, 2020. Straight with the cedar tree which symbolises eternal life, Lebanon is known and celebrated for its strength to bounce back quickly from adversity. The Lebanese people resiliency is featured to phoenix which is a mythical Phoenician bird which is eternal in life and rises from the ashes to survive another day. Beirut was rebuilt seven times from the ashes according to legend, which is why it is called an urban phoenix.

In the aftermath of the explosion in Beirut, it should be remembered that the Beirut port catastrophe occurred at a time when Lebanon was experiencing its worst financial and economic crisis since the start of the civil war in 1975 that ended 1989, in addition to 70% inflation rate, widespread political instability and social unrest, especially since the "October Revolution" that began in 2019. The situation was exacerbated by the pandemic of corona virus (COVID-19) in early 2020, when the World Bank predicted that by the end of 2021 more than half of Lebanon's population would face poverty (World Bank 2020). Alot of Lebanese

people believe that the communal elites who have ruled the country since the end of the civil war are in charge for the Lebanon's financial, social, and political recession and are calling for extremist structural remedy.

The World Bank has done lately a review about Beirut Port function assured that the infrastructure of the port not been able to ensure secure and dynamic operations and couldn't follow up with its role as an operator of economic development nationally". (World Bank 2020). With respect to the World Bank, these failures are directed to framework of the port's governance reflecting the politico-economic complication realities so because of that it conflicts to many recognised efficient practises (ibid.), while the August 4, 2020, blast which shed the light on the clear shortage of the present institutional foundation as well as the risks of the no-reform scenario (ibid.). In December 2020, a reconstruction plan was launched of a period of 18 month Calling for socio-economic structural reforms by the 3RFs which consists of the United Nations (UN), the World Bank and the European Union (EU). This plan aims to form the foundations for the first phase Lebanon's - Beirut port recovery amid the catastrophe of August 4, 2020. Months and years after the catastrophic explosion of the port, Beirut and its harbour are still on the road to recovery, but bringing justice to the victims of such a catastrophe is no easy task. It is an extremely complicated process because, unfortunately, the judicial system is weak and powerless when it comes to dealing with such a catastrophe due to a lack of integrity and independence, the political elite claiming immunity, and repeated violations of due process. (Tess Graham)

Abstract:

Aim and Research Questions:

The aim of the thesis is to shed light on the aftermath of the explosion in the port of Beirut on August 4, 2020, the damage it caused to the port of Beirut, the civilian population and various sectors, and the way in which the Lebanese people were able to withstand this catastrophe. In addition to a proposal for the problem of a trading company through the difficulties it faced in shipping goods after the explosion in Beirut harbour and what solutions it pursued to continue and survive.

On the other hand, the thesis also discusses how the port of Beirut was able to withstand the disaster and what alternatives were available for the continuation of shipping and international trade and what plans were proposed for the reconstruction of the port of Beirut by the World Bank in cooperation with different international organizations.

The ultimate goal of the thesis is to find out how the port of Beirut was able to rise from the ashes and how the port managed to restore itself and resume its activities despite the Lebanese state's inability to provide the financial means to repair the port.

Abstract:

Obiettivo e domande di ricerca:

L'obiettivo della tesi è quello di far luce sulle conseguenze dell'esplosione nel porto di Beirut del 4 agosto 2020, sui danni che ha causato al porto di Beirut, alla popolazione civile e a vari settori e sul modo in cui il popolo libanese è stato in grado di resistere a questa catastrofe. Oltre a una proposta per il problema di una società commerciale attraverso le difficoltà che ha dovuto affrontare nel trasporto merci dopo l'esplosione nel porto di Beirut e quali soluzioni ha perseguito per continuare e sopravvivere.

D'altra parte, la tesi discute anche di come il porto di Beirut sia stato in grado di resistere al disastro e quali alternative erano disponibili per la continuazione della spedizione e del commercio internazionale e quali piani sono stati proposti per la ricostruzione del porto di Beirut dalla Banca Mondiale in collaborazione con diverse organizzazioni internazionali.

L'obiettivo finale della tesi è scoprire come il porto di Beirut sia stato in grado di risorgere dalle ceneri e come il porto sia riuscito a ripristinarsi e riprendere le sue attività nonostante l'incapacità dello stato libanese di fornire i mezzi finanziari per riparare il porto.

II. Beirut Port between the past & the present

1. History of the port of Beirut

1.1 Phoenician and Islamic era:

A substantial port become known in Beirut since the Phoenician era, like the ports of Sidon, Tyre, Tripoli, and others. The Franks also used it as a nerve centre for their vessels and soldiers. When Beirut was subjected under Islamic rule, its port was a centre for the Islamic vessels building industry. The port of Beirut was one of the important strategic centres in the region because whoever seized it could advance towards the city and the rest of the regions, because most of the military operations were at sea, and some were on land. Consequently, this is why the Franks in the Middle Ages, after dominating Beirut and the coastal cities, were acute to pay attention to build defence around the port. Beirut, thus fortifying the city, so that they could shield it against the Muslims. When the Muslims won back Beirut and the cities of the Levant, Prince "Baydmar Al-Khwarizmi", who died in 1387 AD, was acute to take care of the port of Beirut and develop it, significantly since he used it for the manufacture of warships. He commanded the cutting of wood from Beirut forests to make the vessels, and he made them between the Mastaba (today's Al-Musaytbeh) and the square of Beirut and the port, also Prince "Fakhr al-Din al-Maani" had commanded the filling of the port of Beirut out of fear of the Ottoman fleet and to prevent its ambushes. (Ya Beyrouth, 2012).

1.2 Ottoman Era:

After the Islamic ear later, When the Ottomans invaded of Beirut and the Levant, they felt of the crucial significance of the Beirut Port, as did foreign countries,

whether on the economic or strategic level, and that is why the significance of Beirut as an emerging city began to manifest clearly. In the eighteenth-century AD, Beirut began to overrun a prominent economic position and turned to be the most commercial and populous city on the Levantine coast, thanks to its port and other economic factors. This is what induced foreign merchants, especially the French residing in Sidon, to write to their government in the year 1753 AD and requested to send some merchants and manufacturers to Beirut and its vicinity among those who understand cotton spinning to direct industry and trade in the right way. (Ya Beyrouth, 2012).

Figure1: The Figure shows a new phase of construction of the Port of Beirut during the Ottoman ear back in 1893. (Reddit, 2020).

1.3 The port's historical importance

Historical studies and consular reports indicated that the port of Beirut was, since ancient times, one of the most suitable ports for vessels to dock, and it is the port where boats find safety in all seasons. In the past, vessels used to dock inside it, and the shippers working in the port would place scaffolds, which are wide planks of wood, so that travellers could use them as a bridge to get to land and unload goods on the dock.

As for the large ships coming to the port, they would pause during summer towards Beirut, while in the winter they were imposed to take refuge in “Al-Khader Bay” near Karantina (a district in Beirut), or at the effluent of the Beirut River. (Ya Beyrouth, 2012).

Some of the consuls and the residences of foreigners, and of foreign countries, were located on the southern side of the port of Beirut, and many small inns (hotels) were concentrated in and next to the port, to ease the stay of merchants and expatriates from abroad. Interesting to mention that based on some historical reports and studies indicate that the port of Beirut, especially in 19th century, was similar to a beehive where the Beirut merchant would meet the French, Italian, Maltese, and Austrian merchants, and the merchants of Alexandria, Damietta, Morocco, Tunisia, and Algeria. The Beirut merchant meets the Lebanese mountain merchant, the Damascene merchant, the Aleppo, the Homsi, the Hamwi, and others. (Ya Beyrouth,2012).

Back then the Beirut port trade movement was vigorous, as the Lebanese mountain supplied Beirut merchants with 1,800 quintals of silk, which were exported through the port of Beirut by European and domestic boats. Most of them were exported to Damietta, Alexandria, Morocco, Tunisia, and Algeria, and these boats returned loaded with rice, linen, fabrics, and leather. Example Buffaloes were from Egypt, and (abayas Type of clothing) are from Tunisia. Moreover, it carries from the ports of the morocco some European goods that Beirut and the cities of the Levant need, and fezzes from Austria. The estimate total amount Beirut imported annually in the early 19th century was at about 200

thousand piasters (currency back then). And because of the development of trade in Beirut, and the significant increase of its port, specialized ports have appeared in and adjacent to the port itself, including: the Cedar Port, the Watermelon Port, the Wood Port, the Wheat Port, and the Onion Port. (Ya Beyrouth, 2012).

As a result of this tremendous economic development and prosper of the city of Beirut and its ports, European countries were intense to establish their headquarters there, by opening consulates that did not even exist., the French Ministry of Foreign Affairs In the year 1822 AD opened a consulate in Beirut, and by that the city became a significant economic and commercial centre, and the average number of English vessels in the port reached approximately 150 ships per year.

Back in time the famous Beirut castle which was located near the port considered one of the basic features of Beirut Port. And there is a very interesting confession that I liked to shed the light on from the traveller "Muhammad Bayram al-Tunisi", in his book "Safwat al-I'thabar fi Depository of Lands and Countries," referred to the port of Beirut, describing it by saying: "So I landed there, and the anchorage was very difficult, after the ship had docked." and he continued to describe that "when he was on the beach and riding the vessels with the sea disturbance, after finishing, they left for the customs and praised the people working there for their good behaviour. and because there was none of the vessels to ride, they continued to the customs walking on their bare feet, where a man directed him (the traveller) to a house for travellers, near the side of our road which was a home of one of the franks and looked similar to the majestic homes of Europe. The house was

spacious, and the food was great, and they spent that night there." (Ya Beyrouth,2012).

Beirut port was the centre of many official Ottoman institutions, it included the building of the post office in addition to the building of ottoman bank and others. However, interest in the port of Beirut gradually grew. In 1863 AD, the company (Massageri Mar Yateem) presented a project, accompanied by maps, to improve the port and presented it to "Ahmed Qaysarli Pasha", the governor of the state of Sidon, to which Beirut belonged, and the expenses of this project were estimated at six million three hundred and one. The cost of this project was estimated at six million three hundred and seventy-one thousand and three hundred francs. However, it was not realized until 1880 AD, after the Municipality of Beirut and the Beirut-Damascus Road Company missed out to obtain the concession for this project in 1879 AD. After extensive communications, a royal decree was issued on June 19, 1887, AD, under which Bishop Yusuf Effendi the resignation for the project to incubate and evolve the Port of Beirut for a period of sixty years until July 19, 1947, AD. It stipulated that the concessionaire had to start work after two years and complete it in five years, provided that the length of the pier was 1200 meters. and the Ottoman government reserved the right to purchase this project after thirty years, and the Royal Decree required ships entering the port to pay entry and pier fees or to pay fees if these vessels did not bear up at the pier. In 1888 AD, the firm of the Ottoman for Beirut port, its quays and warehouses founded with a capital of five million francs. This company was French, which annoyed the English, who publicized rumours that this project was worthless because there was no railroad line between Beirut City and the Levantine port.

(Ya Beyrouth,2012).

1.4 Development of the port during the nineteenth century

Work on the expansion of the port began in 1889 AD and was carried out by the firm (Wezi, Tounen and Louzi), but the project encountered various complications, forcing this company to borrow a sum of five million francs from the Beirut-Damascus-Hauran Railway Company to carry on its work. After the completion of the port expansion project in 1894 AD, disputes arose between the port company and the Ottoman government and the Ottoman Ministry of the Navy. One of the reasons for these disputes was the issue of the entry of Ottoman warships into the port and the disputes between the port company and the customs administration over the fees for porters and warehouses and the determination of the boundaries of the port company's area. There was also a dispute over the increase in entry fees to the port, which affected the movement of exports and imports, causing them to shift to the other nearby Levantine ports. Also, the long distance between the end of the Beirut/Damascus railroad line and the port of Beirut was one of the reasons for the disagreements between the two sides and affected the port's commercial traffic. In fact, this crisis between the two sides was quickly resolved. In fact, the port expanded its pier and berths from Ras al-Shamiya to Ras al-Madwar and began to receive more and larger ships, including convoys of pilgrims. The arrival of the "Sultan Abdul Hamid II" at the end of the 16th century prompted Muslim pilgrims to make the pilgrimage to the Holy Land via this route, which led to an extension of the railroad project to the quay of the port. Regardless, the Port of Beirut experienced noticeable development before and after the First World War, which had a direct impact on the economic life of

Beirut, Lebanon, and the Levant. Some Beirut residents still remember the landing of private seaplanes in the Port of Beirut before Bir Hassan Airport was established in what is now known as Sports City. (Ya Beyrouth,2012).

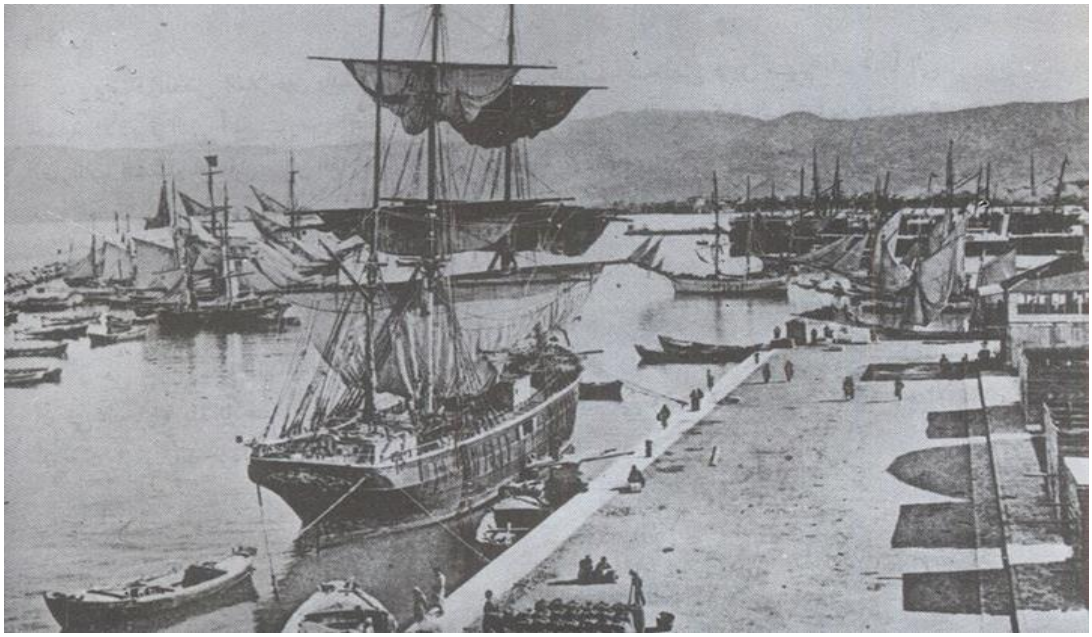


Figure2: The figure shows the expansion phase of Beirut Port back to the 19th century. (House of knowledge for millions, 2022).

2. Port of Beirut: The present

2.1 The port of Beirut today

The port of Beirut is an important maritime gateway and serves as Lebanon's main hub for trade and logistics. Located on the Mediterranean coast, it has long been a bustling centre for the import and export of goods, connecting Lebanon to international markets and facilitating trade vital to the country's economy. And through its road to success and progress back to the seventies of the twentieth century, the port of Beirut was the most important station for international trade with the surrounding Arab countries, and it has retained this commercial advantage to this day. And today the port is declared to be one of the 10 most

important ports on the Mediterranean and is considered the gateway to the Middle East. The port was transformed from a local port into a regional port and transshipment centre for the region through self-financing.

Figure 3: Represents a panoramic view of Beirut Port located on the Mediterranean Sea. (portdebeyrouth).

Today, the Port of Beirut is the first and basic in Lebanon and the eastern basin of the Mediterranean and the most important seaport for Arab-Asian countries. Surprisingly, The Port of Beirut handles 300 international ports and the number of ships that dock there annually is estimated at 3,100. It handles most of Lebanese imports and exports, and incoming goods account for 70% of the volume of goods entering Lebanon. It also ranks first in combined revenues at 75%, in addition to its role as the main centre for re-export and transit trade.

2.2 The specifications of the port

The Port of Beirut consists of four docks with a depth of 20 to 24 metres and 16 berths, on which covered and open warehouses are distributed. The area of the

docks is about 660,000. Work has begun on the project to rehabilitate and expand the port and establish a fifth dock to receive containers, whose borders extend to the mouth of the Nahr al-Kalb, as well as the wheat dumps and the free zone. The port is equipped with the most modern unloading and loading facilities and offers the best conditions for storage. The free zone in the port has an area of 81,000 square metres and work is underway to expand it to an area of 124,000 square metres or to construct new buildings, including an important building with the latest methods for displaying jewellery, antiques, and carpets, which has an area of 18,000 square metres. (portdebeyrouth).

2.3 Rehabilitation & expansion

Despite Lebanon's small area of 10,452 square metres, its strategic location on the Mediterranean has made the country and its capital Beirut the pearl of the Middle East. Despite all the social and economic turmoil and wars that the Lebanese capital Beirut went through, it remained a turning point and a centre of attraction for all countries from all over the world that use its port for global trade exchange. One of the periods in which the port flourished was in the early 1990s, when a phase of development and reconstruction took place. The Port of Beirut was rehabilitated and expanded to include 4 docks, 2 new quays (15, 16) and a new container terminal with a capacity of 700,000 TEU/year. The container terminal was put into operation in February 2005. It is equipped with 6 ship-to-shore gantry cranes (reach 60 m) and 18 rubber-tyred gantry cranes. (portdebeyrouth).

2.4 Infrastructure

- POB facilities Warehouses

- Free Zone
- Logistic Free Zone
- Parking
- POB Equipment General Cargo
- Container terminal

2.5 The free zone

Laws of the free zone: The regulations in force in the free zone are based on the decisions of the Lebanese Council of Ministers of 26. 8.98. Their main purpose is to facilitate the transportation of goods to and from the free zone and to simplify transactions and procedures.

2.5.a Regulations & procedures

Some of the regulations in the free zone:

- Goods, regardless of their nature or origin, may be brought into the free zone, except for goods whose movement is prohibited by law under Article 219 of the Customs Law.
- Transit by sea is exempt from customs declaration.

Procedures to be followed by the investor:

To obtain an investment license in the free zone, the person concerned (trader, industrialist, or service specialist) fills out a special form containing the following information: the name of the company or institution, the type of goods it trades or manufactures, or the services it offers.

The following supporting documents are attached to this form:

- A certified copy of the commercial register
- Certified copy of the commercial register
- A copy of the company's system (only for companies)
- A copy of the identity card

Once the form and its attachments have been submitted, the competent department shall examine the form and notify the person concerned of its decision within two weeks of the date of submission. In the event of acceptance, the administration will set a date by which the beneficiary must sign the contract and then deliver the requested space.

2.5.b Buildings & equipment

The free zone consists of four modern buildings. Three of them are industrial buildings. Buildings no. 5 and 6, each covering an area of 4000 m2 and containing 52 warehouses with an area of approximately 200 m2 each, 16 of which are located on the first floor with a height of 6.5 m and the rest distributed between the first and second floors and with a height of 4.5 m, and 5 warehouses with an area of 70 millimetres. Building no. 2 covers an area of 4000 m2 and comprises 38 warehouses, each with an area of approximately 200 m2, 12 of which are located on the first floor with a height of 6.5 m and the rest distributed between the first and second floors and with a height of 4.5 m. These three buildings have been designed and built according to the latest designs so that goods can be easily and conveniently transported to and from the warehouses. Each of these buildings equipped with two elevators for the transport of goods, each with a capacity of

three tonnes. and the first and second floors have a wide corridor running through them, giving the forklift trucks plenty of room to move. In addition to the emergency exits and escape stairs, each building equipped with two of these. The warehouses with electrical panels and independent lighting devices and contain electronic fire detection devices linked to a central control room. (portdebeyrouth).

2.5.c Duty Free

Duty-free building: Building No. 3 built on an area of 2800 square metres and designed for the establishment of duty-free stores. Its design considered the most beautiful of its kind, mainly because of the artistic accents that dominate the technical design. The building consists of four floors with a height of 4.5 metres for each floor. The exterior walls made of white stone and the roof covered with a transparent dome made of aluminium and polycarbonate, which lets in natural daylight. The design inspired by the stores that surround the central courtyard, which also features luxurious staircases, water basins and internal waterfalls. Two panoramic elevators ensure to whom is there to be gratified with the view of the centre of the courtyard even more. (portdebeyrouth).

All stores equipped with independent systems for lighting, air conditioning, fire detection and extinguishing, as well as general ventilation for the common departments, an external emergency staircase and two elevators for the transport of goods with a load of 1.5 tons each. The building includes forty-six stores divided into different areas from 75 square meters to 150 square meters and from 225 square meters to 300 square meters to meet the different needs and

requirements of the retailers. And the buildings distributed as follows:

- Seven shops on the ground floor.
- Seven shops on the first floor
- Ten shops on the second floor
- Twenty-two stores on the third floor

3. Tariffs of the Port of Beirut

3.1 Tariffs on Berthing and Mooring dues.

Table no. 1 – Dues on vessels

Kind of vessels	Category 1 Up to 75 meter		Category 2 Between 76 & 125 M		Category 3 Between 126 to 175 M		Category 4 Exceeding 175 M	
period	$/meter/day	Min dues	$/meter/day	Min dues	$/meter/day	Min dues	$/meter/day	Min dues
1st – 5th day	1.5	300	2.25	500	3.25	750	4	1000
6th – 15th day	2		3.50		4.50		6	
Daily, after 15th days	4		7		9		12	
Mooring inside the docks	1	150	1.50	250	2	350	3	550
Mooring outside the docks within the sheltered area	0.5	75	1	125	1	175	1	225
Cleaning fee in case of vessels repairs	3		3		3		3	

Figure 4: This table explains that the Vessel units mooring inside or outside the port are subject to the following charges per linear meter and per day or part of a day, calculated for 24 hours of actual berthing or mooring. (portdebeyrouth, Tarif)

After fulfilling the dues listed in Figure 4. Some considerations are made:

i. Ships flying the Lebanese flag as well as wooden and sailing boats pay 50% of the applicable tariffs. Tankers for oil, gas and oil derivatives are exempt from this exemption.

ii. Cruise ships and passenger ships receive a 50% discount on the fees listed

in Table Fig.4

iii. Excluded from the above cleaning and mooring fees are: Military vessels, Lebanese government vessels not engaged in commercial business, and vessels waiting outside the docks due to overcrowding in berths suitable for their operations. (portdebeyrouth, Tarif).

3.2 Tariffs on container handling

Ref.	Description	Shipping agent or receiver US$/Container							
		20				40			
		Basic tariff	1st additional Port Charge	2nd additional Port Charge	New tariff	Basic tariff	1st additional Port Charge	2nd additional Port Charge	New tariff
C1*	Discharging /loading full container from/to vessel.	30	2.45	3.9	**36.35**	40	3.27	5.2	48.47
C2*	Transport of full/empty container from quay to container yard/vice versa.	6	0.49	0.78	**7.27**	10	0.82	1.3	12.12
C3*	Lift off or lift on (including stacking and stowing) of full container.	16	1.31	2.08	**19.39**	21	1.72	2.73	25.45
C4	Lift off or lift on (including stacking and stowing) of empty container.	8	0.65	1.04	**9.69**	11	0.90	1.43	13.33
C22	Selecting empty container.	23		2.76	**25.76**	30		3.6	33.6

Figure 5: In the following table we listed some of the data related to the Fees for container operations from the ship to the yard and vice versa: unloading, loading,

transportation, loading, and unloading are determined by the shipping agent or the owner of the goods. (portdebeyrouth, containers handling).

3.3 Dues & cargoes

Type of Cargo			Port dues including storage for the period of 9 first days together with the delivering and receiving operation to and from outside the port (C9)	
			US$ / container	
			20	40
Local consumption or temporary admission	CN1*	Goods of industrial warehouse Consignments of goods for industry Consignments of goods for agriculture, Sugar, rice, flour	150	225
	CN2	Alcohol, fireworks, arms and ammunitions, cigarettes, and tobacco	750	1500
	CN3	Transit goods, free zone, export, re export and re import.	35	50

Figure 6: The following table lists the port dues on containerized cargoes according to the type of cargo and the penalties of exceeding the due duration. (Portdebeyrouth, dues on cargoes)

The dues on cargoes are reflected in the port of Beirut through several articles to be listed:

- Article 14: Beirut Port Administration and Investment charges a local consumption fee for goods delivered in containers $300 for a 20-foot container and $550 for a 40-foot container.
- Article 15: The rate for the highest item in Table No. 5 applies to the container

containing more than one item, and samples and advertising publications are excluded.

- Article 16: The full container principle is abolished for goods transported in containers that are unloaded in port warehouses, including containers with only one load.
- Article 17: For goods exported or re-exported by sea, a 27 discount is granted on the fee mentioned in clause CN3.
- A charge of $10 for a 20-foot container and $15 for a 40-foot container will be assessed for full and empty containers not covered by special agreements that are received by sea and parked within the port premises and then shipped by sea for a period not exceeding 9 days. In case of exceeding the previous mentioned period, the containers are subject to the transit charges listed in item CN3 of Table No. 5 from the first day of their deposit. (Portdebeyrouth)

3.4 Tariffs on Free zone

➢ Fees on general cargo:

Location	Local consumption or temporary entry		Transit, export, re-export.	
	Including storage ($ /ton)	Direct delivery ($/ ton)	Including storage ($ /ton)	Direct delivery ($ /ton)
Private warehouses	..	25	..	8
Logistical and industrial warehouses	..	20	..	6
Public warehouse (4)	50	..	12	..

Figure 7: In the following table we list the general goods located in free zone warehouses, and how they are subjected to charges depending on the destination according to article 11 (portdebeyrouth, article11).

- Article 12: Port charges are levied on goods in private warehouses and in public warehouses when they are removed from the warehouse. For goods in logistics and industrial warehouses, port charges are levied when they are brought into the warehouse.
- Article 13: The local consumption tax referred to in the Table is levied on goods imported by sea by logistics and industrial companies except for vehicles.
- Article 14: Goods entering the logistics or industrial warehouse by land or via the airport are not subject to charges on import, nor on re-export by land (local consumption, airport, land transit). However, the export duty specified in above Table is levied on subsequent export by sea.

➢ Container handling

Code	Description of the process	20ft ($)	40ft ($)
C2	Transport full or empty container	**7.27**	**12.12**
C3	Download or upload a full container	**19.39**	**25.45**
C4	Download or upload an empty container	**9.69**	**13.33**
C9	Upload and download a container to or from local.	**30.30**	**48.47**
C10	Send a container the steelyard and return it to the yard of containers.	**49.46**	**61.58**
C11	Empty a container in a public warehouse (entire process)	**66.43**	**85.82**
C12	First custom inspection process including the seal.	**25.24**	**31.30**
C12+	Second custom inspection	**15**	**18.00**
C22	Selection of an empty container to be filled for export	**25.76**	**33.60**
C27	Cleaning a container	**16.80**	**25.76**
C29	Try an empty reefer as a prelude to fill for export (handling with power supply for two hours max)	**45.72**	**63.05**

Figure 8: The following table determine the tariffs of container's handling in the free zone according to article 19. (Portdebeyrouth, article 19).

In addition to the free zone, it is important to mention the Logistics Free Zone in the Port of Beirut that was officially opened on July 12, 2007. The establishment of the Logistics Free Zone at the Port of Beirut considered an important event in the history of the port and responds to an economic need expressed by various parties in Lebanon's transportation sector.

i. The logistics depositories receive the goods imported from abroad within the free zone, where they are reconfigured and repackaged to facilitate their commercialization, and then they are sent in transit, shipped abroad again or, if necessary, made available for local consumption. Investment in this zone is open to private companies involved in shipping, transit, or international trade in general. And for today, several large firms have rented space in the free zone and constructed modern depositories there for this objective.

ii. Fees and Costs: When the Beirut Port Administration and Investment set the new tariff for the free zone, it considered all practical, commercial, and competitive conditions in the area, so that the new tariff was simple, clear and competitive with other international tariffs. In addition, the Beirut Port Administration and Investment granted an incentive discount of 50% on the occupancy rights stipulated in the tariff, whether for industrial warehouses, duty-free stores, or open yards. (portdebeyrouth).

III. The impacts of Beirut Port explosion

1. Pre-explosion: The MV Rhosus

On 23 September 2013, a Russian cargo ship named MV Rhosus, flying the Moldovan flag, left the port of the Georgian city of Batumi with a cargo of 2,750 tons of ammonium nitrate bound for the city of Beira in Mozambique. After arriving at the port of Istanbul, the ship made a two-day stop before setting sail again on October 3. During the voyage, the ship had to stop in the port of Beirut on November 21 due to problems with the engine. According to safety protocols the port control authorities must inspect the ship, and after fulfilling the duty it was found that the ship suffered from significant deficiencies that hindered its voyage and that it's not possible to sail. There were eight Ukrainians and one Russian citizen on board. With the help of the Ukrainian consul, the five Ukrainian seafarers were released and returned to their country, while four crew members, including the captain, remained on board to look after the ship. (Aljazeera, 2020) (The arrest news, 2015)

Regarding the circumstances of the ship's arrest, the website "ShipArrested.com," a network that deals with legal cases in the shipping sector, explained that the shipowner went bankrupt shortly afterwards and then abandoned his ship, which brought creditors onto the scene. They filed various lawsuits against him, and the party that had chartered the ship lost interest in the cargo, while the rest of the ship's crew could not disembark due to immigration restrictions. Then the creditors also obtained three arrest warrants against the ship's sponsors. The lawyers campaigned for the crew to be returned to their country on humanitarian

grounds. Due to the danger posed by the materials still on board the ship, the emergency judge in Beirut allowed the crew to return home after being stuck on the ship for almost a year. In 2014, following a court order, the port authorities unloaded the ship's dangerous cargo and brought the materials ashore, as it was too dangerous to keep the ammonium nitrate on board the ship. There they stored it in warehouse no. 12 in the port, where it remained for more than six years.

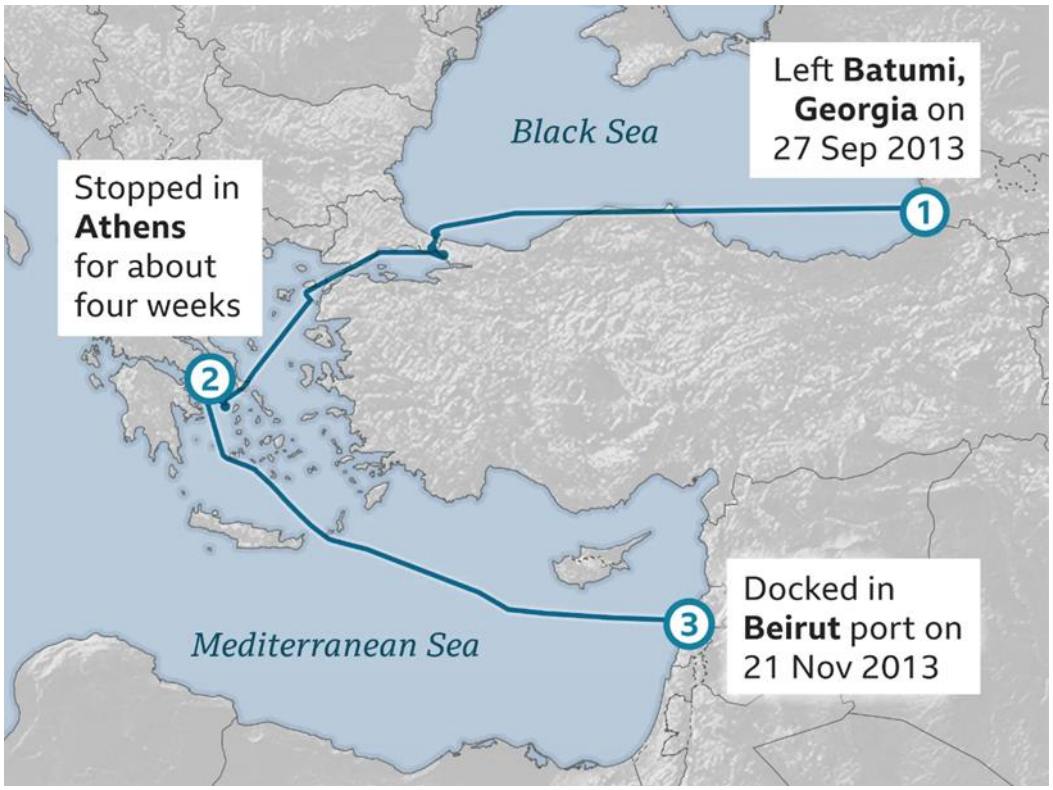


Figure 9: the following map shows the voyage of the MV Rhosus, which transported the ammonium nitrate. It left Batumi in Georgia on September 27, 2013 and stayed in Athens for about four weeks before docking in the port of Beirut on November 21, 2013. (Maritime Transport, BBC)

According to a 2015 report for the industry newsletter Shippingarrested.com, written by Lebanese lawyers representing the crew of the MV Rhosus, the Rhosus suffered "technical problems" during its voyage through the Eastern

Mediterranean and was forced to dock in the port of Beirut. Furthermore, the lawyers added that the Rhosus was inspected by port officials and "banned from sailing". Most of the crew members were repatriated, except for the Russian captain Boris Prokoshev and three others, who are said to be Ukrainians. In an interview conducted by BBC News with Mr. Prokoshev (the captain of the ship), he said that the Rhosus only stopped in Beirut because its owner had money problems. The captain said he had been told that the ship had to take on an extra load of heavy machinery to finance the passage through the Suez Canal. He added that the engines turned out to be too heavy for the cargo and when the ship owner failed to pay the port fees and fine, the Lebanese authorities confiscated the ship along with the ammonium nitrate. (BBC, 2020)

2. Ammonium Nitrates

What is ammonium nitrate and how dangerous is it?

Almost 3,000 tonnes of ammonium nitrate - settled six years ago from a ship off the coast of Beirut and then stored in a warehouse - are being blamed for the explosion that rocked the port area of the Lebanese capital on Tuesday, 7th of August 2020.

- What is Ammonium Nitrate?
- Ammonium nitrate is a crystalline white solid that is produced in large industrial quantities. It is used as a source of nitrogen for fertilisers but is also used in the production of explosives for mining. Professor Andrea Sella from the Department of Chemistry at the University of London explained that ammonium nitrate is not readily found in soil as it is produced synthetically by reacting ammonia with nitric acid. Ammonium nitrate is produced all over the world and

is cheap to buy. However, the storage of ammonium nitrates can be problematic and has been associated with serious industrial accidents in the past.

- How dangerous is Ammonium Nitrate and the gases produced?

On its own, ammonium nitrate is safe to manage. But if you store a large amount of the material over an extended period, it starts to decompose. The big problem with this is that it absorbs insignificant amounts of moisture over time and eventually turns into a giant rock. This makes it even more dangerous, because when a fire hits it, the chemical reaction is much more intense. So, when ammonium nitrate explodes, toxic gases can be released, including nitrogen oxides and ammonia gas. (BBC, August 2020)

Figure 10: A huge mushroom cloud rises in Beirut, Lebanon, on August 4, 2020 (NBC News)

3. The day of the tragedy of the explosion

On August 4, 2020, at 18:07 pm local time, an explosion strikes the port of Beirut. This explosion was described as one of the most powerful explosions in the world after Hiroshima and Nagasaki. In addition, the explosion in Beirut was the third largest and the most powerful in terms of the amount of ammonium nitrate it contained, after the explosions that occurred in the past in Texas and France. (The Sun. 2020)

The tragedy was considered one of the most devastating explosions in the world killing more than 204 people and injuring over 6,500 and displaced over 300,000 families from their homes. The results and investigations showed that injuries to the upper extremities, head and neck account for a significant proportion of injuries caused by explosions. In fact, 134, or about (45.9%) of the victims admitted to this tertiary care centre had upper extremity injuries and 126, or about (43.2%) of the victims had head and neck injuries. These results could be explained by the fact that many victims saw the first firecrackers detonate before the large explosion and were therefore injured either directly to the face or extremities after trying to protect their face from the large explosion. The results of the study also stated that the number of patients with penetrating and blunt trauma was extremely high, as 218 which approximate to (78.4%) of this sample had a secondary type of blast injury. (CNN, 2020)

Figure 11: Shows Firefighters evacuate a wounded man. (NBC News 2020)

4. AUBMC case study

The American University of Beirut Medical Centre (AUBMC) did a case study. The aim of this study was to describe the pattern of injury and discuss how did it occurred and will also describe the various steps taken by the medical centre to avoid the displacement effect and work under such difficult circumstances. This retrospective study included all patients who were injured by the explosion. The sample included patients admitted to the American University of Beirut Medical Centre due to blast injuries and included patients of all ages and different nationalities.

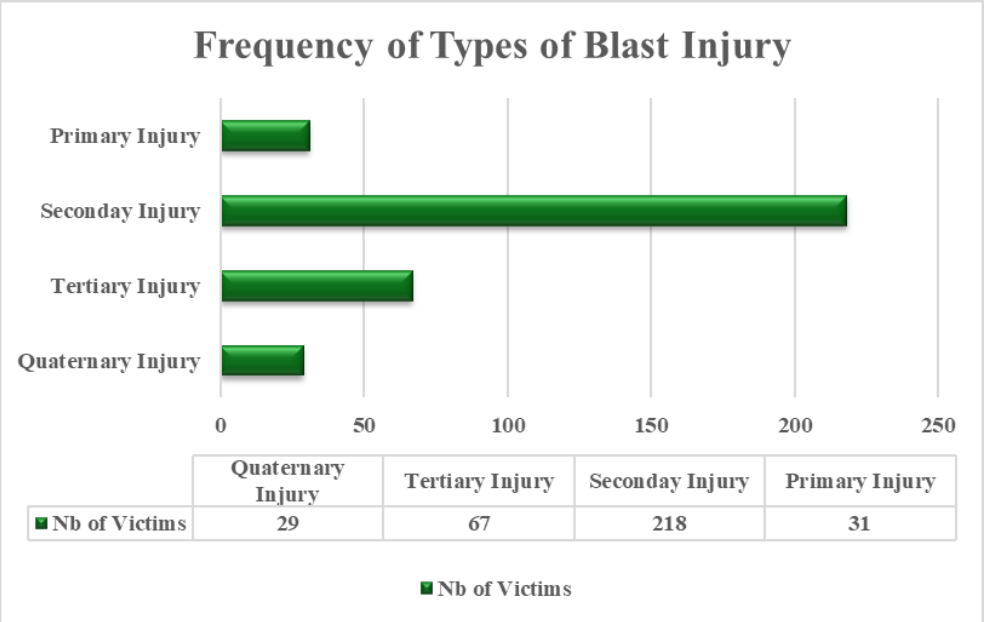


Figure 12: The following Bar graph describing the frequency of blast injury types incurred on Beirut Port explosion victims (N=292 victims). 31 (11.2%) had damage of hollow organs with primary injury, 218 (78.4%) had penetrating injuries or secondary type of injury, 67 (24.1%) had tertiary injury due to being thrown away by blast wind, and 29 (10.4%) had quaternary type of blast injury according to the study done by AUBMC (August 2020)

Figure 13: The following image shows wounded people receiving treatment in the parking lot of Al Roum Hospital. (NBC News, 2020)

Unfortunately, the tragic events of August 4, 2020, still haunt the Lebanese public today, even though 4 years have passed since the Beirut port explosion, leaving many people with physical and mental scars that are slow to heal.

5. The impacts of the explosion

5.1 Infrastructure impact

According to an analysis by Strategy, the impact of the explosion on Beirut's infrastructure was immense and the economic damage was estimated at over 3.1 billion dollars. The reconstruction of public infrastructure, including the port, roads, and water infrastructure, is estimated at 15 billion dollars.

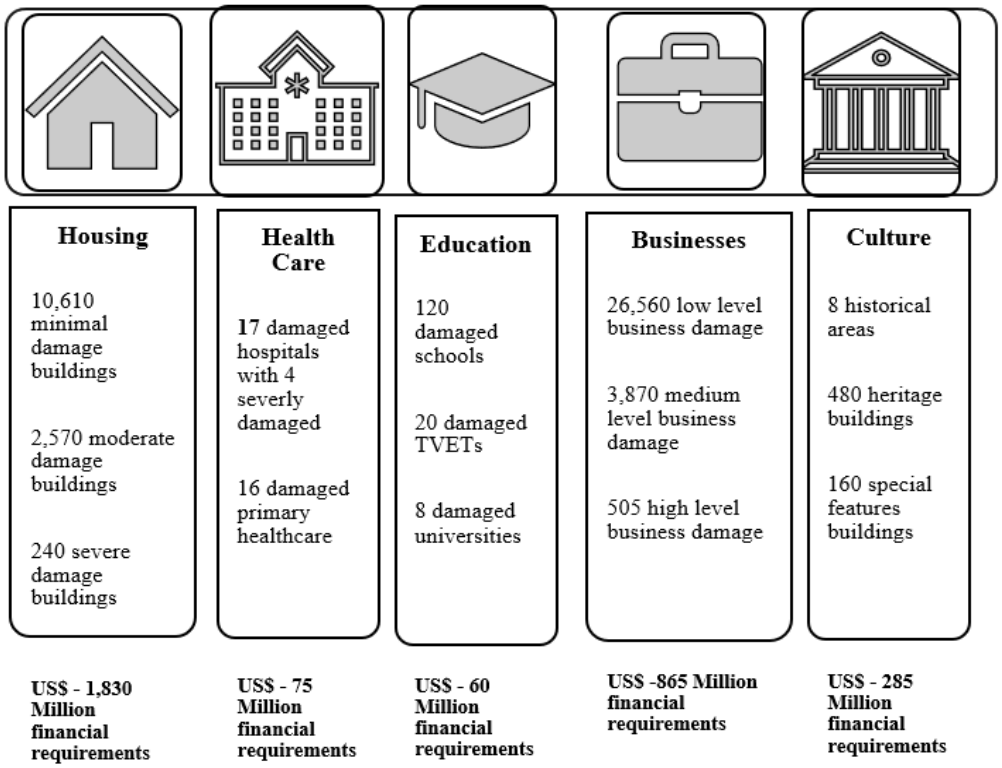


Figure 14: The following table shows the economic damage to infrastructure caused by the port explosion. At 1.8 billion dollars, the economic damage to the residential buildings in the immediate vicinity of the explosion accounts for the largest share of the total damage to infrastructure. More than 2,500 buildings

were severely or moderately damaged. (Consultancy.uk 2020)

5.2 Economic Impact

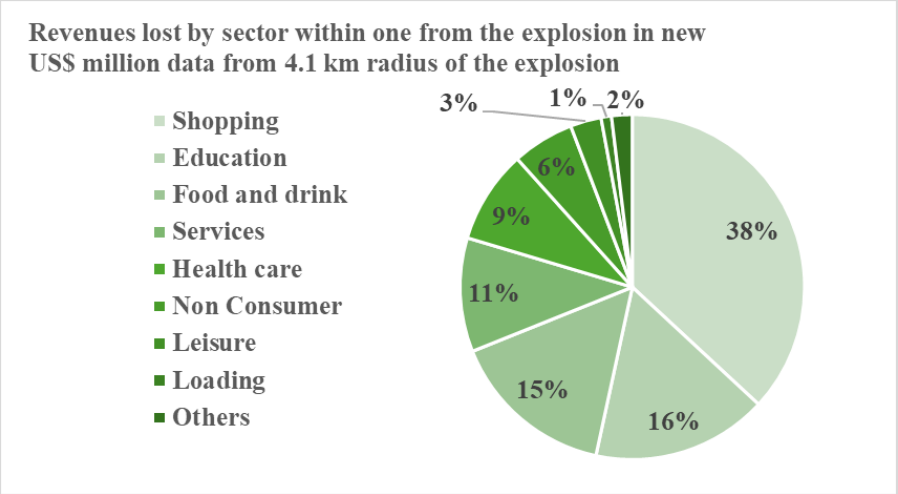


Figure 15: The Following Pie Chart states the revenues lost according to each sector due to the explosion from a radius of 4.1 km. which estimated by a total of 920 million $US. And as it shows, the shopping sector like malls and physical stores was the most affected by 38% which estimated a revenue loss of 349.6 million $US, followed by the education sector of 16% revenue loss and then by the food and drink sector of 15% revenue loss.

The number of jobs affected is around 150,000, with around 100,000 of these jobs being put on hold due to the need to rebuild and return to pre-explosion activities. (Consultancy.uk 2020)

5.3 Social Impact

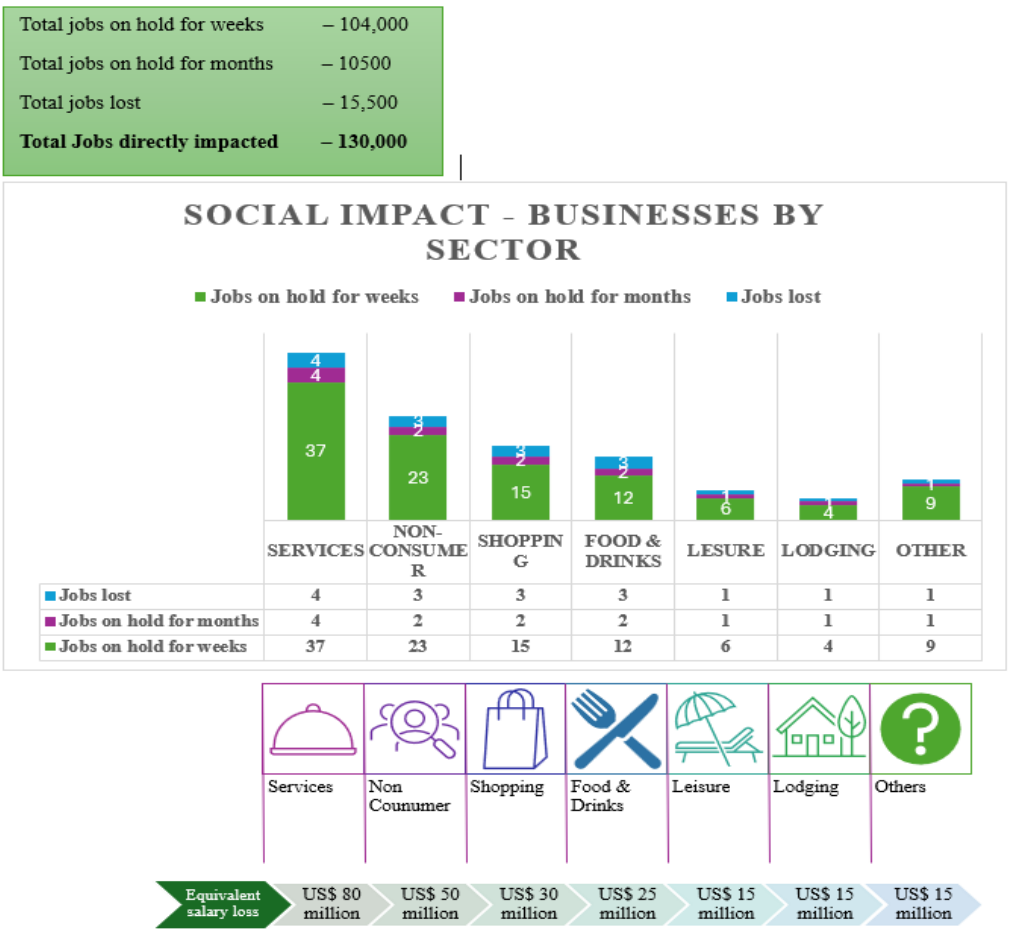


Figure 16: Fig: The following chart clarifies how Beirut Port Explosion had a devastating social impact on the economic sector. The explosion caused widespread destruction and led to the closure of numerous businesses, from small stores to large companies where 130,000 jobs got directly impacted imposing the businesses sector for an equivalent of US$ 230 million salary losses in total. This disruption led to significant job losses recording 16% of employees who lost their instability in an already weak economy. Damage to the port, a major hub for imports and exports, further strained supply chains and increased costs for businesses that rely on imported goods. The explosion also undermined investor confidence and deterred potential investment, which is crucial to economic recovery. The combined effect of these factors has deepened the

economic crisis, driving many businesses to the brink of bankruptcy, and increasing the vulnerability of the local economy. (Consultancy.uk 2020)

5.4 Health sector impact

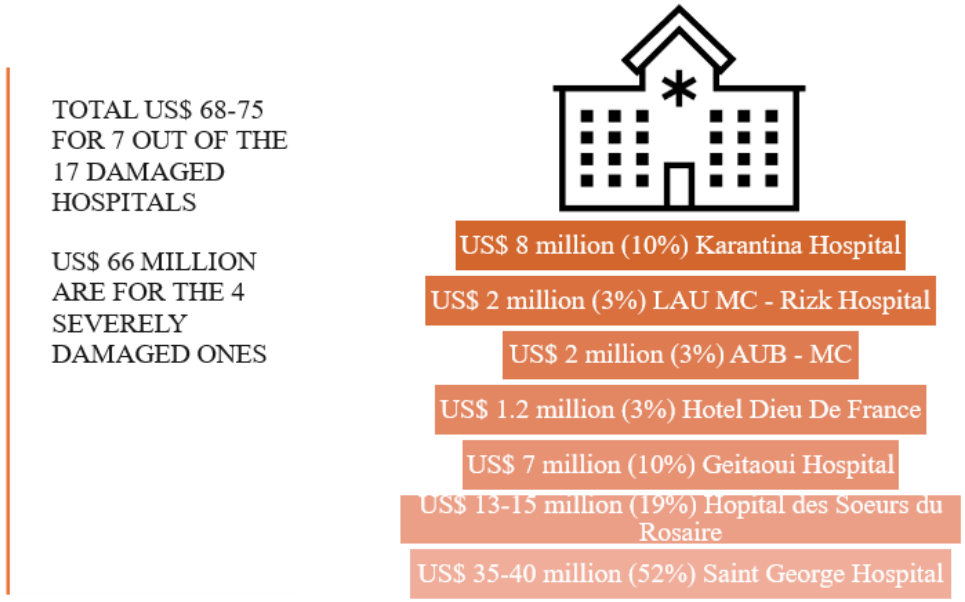


Figure 17: Fig: The following figure shows how the explosion had a devastating impact on Lebanon's healthcare sector. The explosion severely damaged several hospitals and healthcare facilities, as shown in the illustration, limiting their operational capacity at a critical time. Major medical centres, such as the Saint George Hospital College Medical Centre, were no longer operational, resulting in a significant loss of hospital beds and essential medical services with total losses estimated between 35 to 40 million $US. The destruction of medical supplies, including COVID-19 protective equipment and essential medicines, put additional strain on the healthcare system. Furthermore, the damage to infrastructure hampered emergency response and exacerbated the crisis by delaying medical care for thousands of injured people. This exacerbated the existing challenges of a healthcare system already under pressure from economic instability and the COVID-19 pandemic. (Consultancy.uk 2020)

5.5 Onsight impact

Grain imports are a cornerstone of the Lebanese economy and play a crucial role in ensuring food security, livelihoods and maintaining economic stability. Lebanon's dependence on grain imports, particularly wheat, underscores the critical importance of efficient supply chains, sound economic policies and robust infrastructure.

As a country with limited arable land and limited agricultural production, Lebanon is highly dependent on these imports to meet the nutritional needs of its population and support various sectors of the economy. The collapse of the silos: On August 4, 2020, the day of the explosion, over 70% of the city's infrastructure was damaged in the blink of an eye. The grain silos, which were only a few metres away from the warehouse where the detonation was triggered, were hit hardest at the epicentre of the disaster, preventing the shockwaves from reaching the populated areas on the west coast of the city with full force. The concrete cylinders facing the east had collapsed at the scene, while ones facing the west remained partially standing.

In 2022, The last of the unstable grain silos at the port of Beirut collapsed on Tuesday morning two years after the deadly explosion severely damaged the structures. According to Emmanuel Durand who is a French civil engineer volunteered to work with rescuers and supervise over the structure said that he silos that collapsed on Tuesday were the last of the structurally unsafe northern block, and the Grains that had been fermenting and roasting in the sun for two

years went up in flames last month, weakening the silos and beginning the process of collapse on the second anniversary of the explosion. (Washington post 2022)

Figure 18: Shows the destruction of the grain silos in the Port of Beirut after the explosion (Photo courtesy of Emmanuel Durand, 2020).

The port of Beirut's capacity to handle wheat and other bulk commodities has collapsed to about one-fifth or less of what it was before the massive explosion of grain silos and other facilities. The Port of Beirut was able to handle about 10,000-15,000 tonnes of wheat and other bulk cargo daily before a massive explosion on August 4 destroyed the country's only grain silos and turned the warehouses and other port infrastructure into a field of rubble. The economy was already in crisis before the blast, which slowed grain imports as the nation struggled to find hard currency for purchases. Abdallah Alwardat, the country director of the World Food Programme (WFP), told Reuters he did not see

Lebanon heading for a food crisis, although he said his organisation was keeping a close eye on the situation and was ready to intervene if necessary. However, the limited transshipment of 1,500 to 3,000 tonnes per day was restored, allowing the WFP to unload a shipment of 12,500 tonnes of wheat flour, equivalent to Lebanon's needs for half a month. On the other hand, a day after Tuesday's devastating explosion, Lebanese Minister Raoul Nehme claimed to Reuters that Lebanon needs reserves for at least three months to ensure food security and that he is looking for other storage locations. and he continues to say that there is no bread or flour crisis and that we have enough supplies and boats on the way to meet Lebanon's needs in the long term. "He also said that the grain reserves in Lebanon's remaining silos amount to "a little less than a month," but that the destroyed silos had only held 15,000 tonnes of the grain at that time, much less than the capacity, which one official put at 120,000 tonnes. " (Reuters, 2020)

6. The grain silos

6.1Port of Tripoli: the lifeline

How could a small country like Lebanon cope with such an enormous impact on its economy from the destruction of the grain silos? What immediate measures were taken to prevent such a catastrophe? Knowing that there is no chance to import grains through Beirut Port due to the explosion.

The port of Tripoli is the lifeline of salvation:

Since Beirut's port district has been a heap of rubble, the main entry point for imports that feed a country of more than 6 million people is no longer accessible. Ahmed Tamer, the director of the Port of Tripoli, said that Lebanon's second largest facility (the Port of Tripoli) has no grain storage, but cargoes can be

moved to warehouses 2 kilometres away. Officials at the port of Tripoli in northern Lebanon want to extend operating hours to 24 hours a day to fill the gap left by the shutdown of the Beirut port after the August 4 explosion that killed 171 people and injured more than 6,500. The Tripoli port is preparing to temporarily replace the destroyed Beirut port, although its capacity is much smaller than that of the main facility in the capital, which was considered the main gateway for imports in a small country that gets most of its supplies from abroad.

Immediately after the explosion, seven ships bound for Beirut changed course for the port of Tripoli, Lebanon's second largest port, to unload their cargo. The Supreme Defence Council recommended said that the port of Tripoli be quickly equipped to secure commercial operations, including import and export. Also, Agence France-Presse quoted the director of the port of Tripoli, Ahmed Tamer, as saying: “The port can temporarily stand in for the port of Beirut until its health is restored and the work cycle resumes.” The Tripoli port, which has an area of three million square meters, accepts all goods, including wheat, except petroleum products. Past a week from the explosion, the director of the Port of Tripoli, Ahmed Tamer, has held a series of meetings to promote movement at the port. Local and foreign officials are touring the port's departments and stations while its employees work 18 hours a day under tight security measures. Before the Beirut port explosion, it was common for Tripoli port to receive two million tons annually, while its capacity reached five million tons, meaning it was only operating at “forty percent of its capacity”, Tamer said. It receives 80,000 containers a year, while its capacity is 300,000. For months, a workshop

has been taking place at the Port of Tripoli to expand the port and increase its operational capacity, which essentially aims to make the port a primary port for the transportation of necessary goods to Syria, especially during the reconstruction phase, given its geographical proximity to Syria. According to Mr. Tamer the director of Tripoli port, “to increase the port's operational readiness and expand the scope of its services, the economic zone must be activated, as well as transit to neighbouring countries, including Syria.” Following the explosion of Beirut Port, a proposal was made to build rubble in Tripoli Port on an area of 36 thousand square meters, as the Lebanese feared a shortage of bread in a country that is already suffering from high prices after the collapse of the rubble of Beirut Port. Tamer expressed the view that “a country that has no wheat waste is being targeted and is vulnerable to famine.” Back on Tuesday, 2020, the Executive Director of the United Nations World Food Program, David Beasley, inspected the port of Tripoli. He announced that 17,500 tons of flour would be brought to Lebanon saving a nation from a catastrophic crisis of starvation.” (Aawsat 2020)

6.2 Imports/exports & Revenues

Month	No of Ships	Import goods	Export goods	Transit goods	IM trucks	EX trucks	IM cars	EX cars	Loaded container IM	Loaded container EX	Total goods	Total Income
Jan	51	128,252	60,417	7,726	495	430	74	2	2,670	2.867	188,669	1,920,968,000
Feb	40	63,709	32,727	11,100	488	468	0	0	1,091	858	96,436	1,223,008,000
March	37	100,360	22,896	1,186	405	447	81	11	1,424	955	123,256	1,089,784,000
April	32	80,421	20,426	285	411	373	115	2	1,664	846	100,847	1,028,361,000
May	35	132,212	27,176	898	402	405	86	1	1,868	1,231	159,388	997,887,000
June	34	150,102	46,194	9,338	308	442	113	0	2,497	2,376	196,296	1,150,725,000
July	45	105,913	42,654	19,258	368	414	128	1	2,909	1,535	148,567	1,713,991,000
Aug	**85**	**197.740**	**53,661**	**6,693**	**341**	**303**	**176**	**0**	**4,438**	**2,036**	**251,401**	**2,426,023,000**

Sep	65	165,700	101,539	14,500	401	457	68	5	2,131	1,178	267,239	2,676,109,000
Oct	77	168,303	55,744	42,131	475	445	166	39	2,552	2,063	224,047	2,141,172,000
Nov	52	184,720	38,887	24,270	539	562	4	0	1,811	1,034	223,607	2,483,371,000
Dec	73	275,725	67,466	15,132	711	647	224	4	4,585	2,849	343,191	2,542,318,000
Total	626	1,753,157	569,787	152,517	5,344	5,393	1,235	65	29,640	19,828	2,322944	**LBP 21,393,717,000**

Figure 19: The following table shows the official numbers for the numbers of exported and imported goods and the income movement back in the year 2020. We can see a sharp vision of how there was a significant increase in the imports traffic in the port of Tripoli in August the month where the Beirut explosion occurred and wrecked Beirut port forcing to switch to Tripoli port. (Port of Tripoli 2020)

- Ships: In June 2020 the number of ships in Tripoli Port entering the port recorded 45 ships, while after the explosion in August, the number of ships recorded 85 ships entering the port due to the switch from Beirut Port to Tripoli which was a lot of pressure on port with smaller surface and capacity to handle.
- Imports of goods: Before August 2020, imported goods in the port of Tripoli recorded 105,913, only to rise sharply in August to reach a value of 197,740 imported goods. One of the main reasons for this increase was the large capacity and need for grain imports due to the destruction of the grain silos at the port of Beirut.
- Imported containers: Due to the suspension of the import and export of containers through the port of Beirut as a result of the explosion, we note that the import of containers from abroad has increased very sharply, as many commercial and industrial companies have handled their imports from abroad through the port of Tripoli, and we can see an increase from 2,909 containers in July 2020 to 4,438 containers in August 2020.

• Total income: Following the explosion of the port of Beirut in August 2020, there has been a sharp increase in the revenues of the port of Tripoli. In July 2020, revenues amounted to LBP 1,713,991,000, which was approximately ($ 1,142,660 million). After the explosion, they increased sharply and amounted to LBP 2,426,023,000 in August, which was equivalent to ($ 1,617,349 million) and LBP 2,676,109,000 in September 2020, which was equivalent to ($ 1,784,072 million).

What the reasons for such a sharp increase in revenues scored in Tripoli port after the port explosion of Beirut?

The explosion in the port of Beirut caused severe damage to the harbour, resulting in the disruption of shipping, import and export traffic through the port, and the inability to accommodate the amount of cargo coming from abroad. Due to this crisis, traders and investors were forced to shift their trade and shipments to Tripoli Port.

According to "Mr. Hassan Dannoui", who is the acting chairman and general manager of Tripoli's special economic zone, he explained that "although the port of Tripoli is relatively small compared to that of Beirut, its logistical infrastructure and services were advanced enough to cope with the immediate increase in the volume of goods, and while Tripoli's only had to receive the majority of Lebanese imports for a short period of time, the port was able to handle the role of filling in for Beirut for several months rather than just a week without compromising in the quality of services. And he continued to say that most of the cargo and bulk shipments continue to dock at Tripoli's port even after the port of Beirut continued its operations and stated that before the

explosion, Tripoli received 50-60 percent of all the general cargo that came to Lebanon, but now they receive 80-90 percent of it after the explosion of Beirut Port" which is related to This is due to the increasing strategic and logistical importance of the port of Tripoli. (Aljazeera 2020)

7. Impact of the explosion on trade flow

Before the explosion, the port of Beirut handled around one million TEUs and almost six million tonnes of cargo annually from 3,000 ships. With the investment of new container terminal and a growing fleet of container handling equipment have enabled the port to expand its capacity and importance to the regional supply chain. Kris Kosmala who is a supply chain expert said that "The closure of the port will cause fiscal and economic pain for Lebanon". In addition, other ports in the region will be forced to take on the burden of the trade that Beirut once handled.

The damage caused by the explosion is so extensive that not only have the port's facilities been destroyed, but access to the sea and the city has been completely lost, which meant that the port will no longer be unable to handle cargo, containerized or otherwise.

However, some reports suggest that the damage to the container terminal is limited. Vincent Flamant of Aqaba Container Terminal in Jordan, when asked by Port Technology International, said he believed the terminal could be up and running again "within a few days" and that the Port of Tripoli could handle most of the cargo that Beirut could no longer handle. (Port technology 2020)

According to Lloyd's List Intelligence the port of Beirut is the busiest in Lebanon and is important for the import of grain, cars and various types of goods. In 2019, 610 ships called at the port, 150 of which were full container ships.

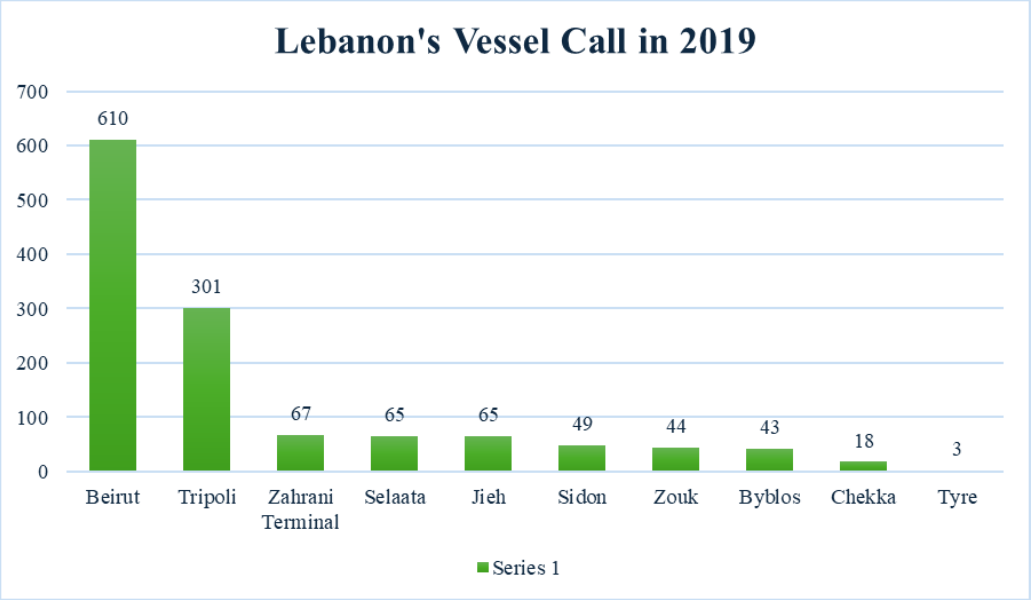


Figure 20: The following chart shows that the port of Beirut was the most frequently called port in 2019 with 610 incoming ships. (Lloyd's List 2020).

We can submit the reason behind the attraction to Beirut Port is due to being one of the top ten seaports in the Mediterranean and is considered the gateway to the Middle East. The port has been transformed from a local port into a regional and transshipment centre for the region through self-financing, in addition to its being lying at the centre of three continents: Europe, Asia and Africa, playing the role of a passage for fleets of ships between East and West (IAPH 2014). Moreover, one of the main reasons why the port of Beirut is so attractive is that it covers an area of 1,200,000 m² and consists of a passenger terminal, a free zone, a general cargo terminal, a silo storage area and a container terminal. (Marine in sight 2022)

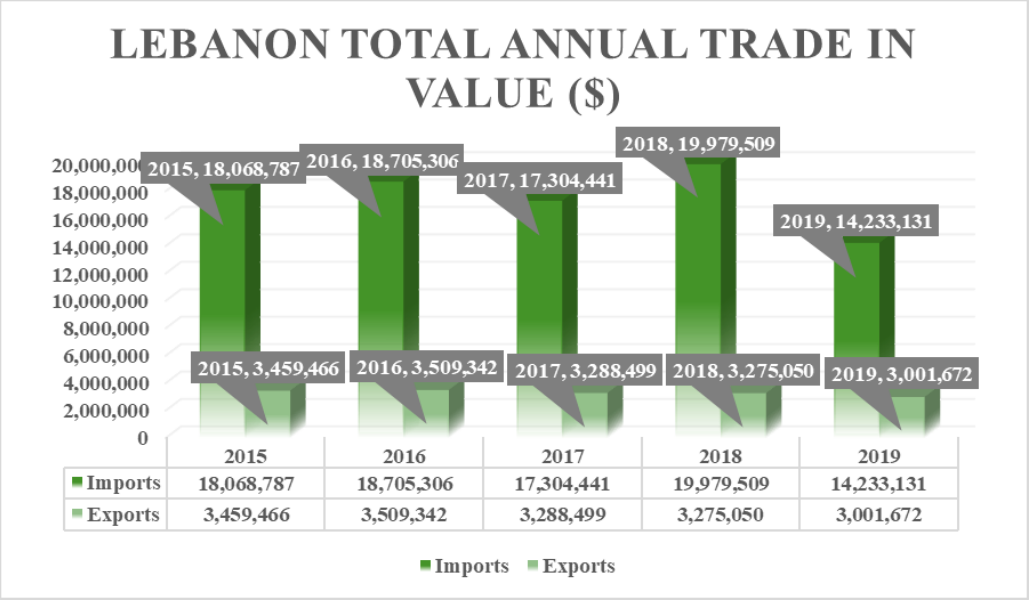


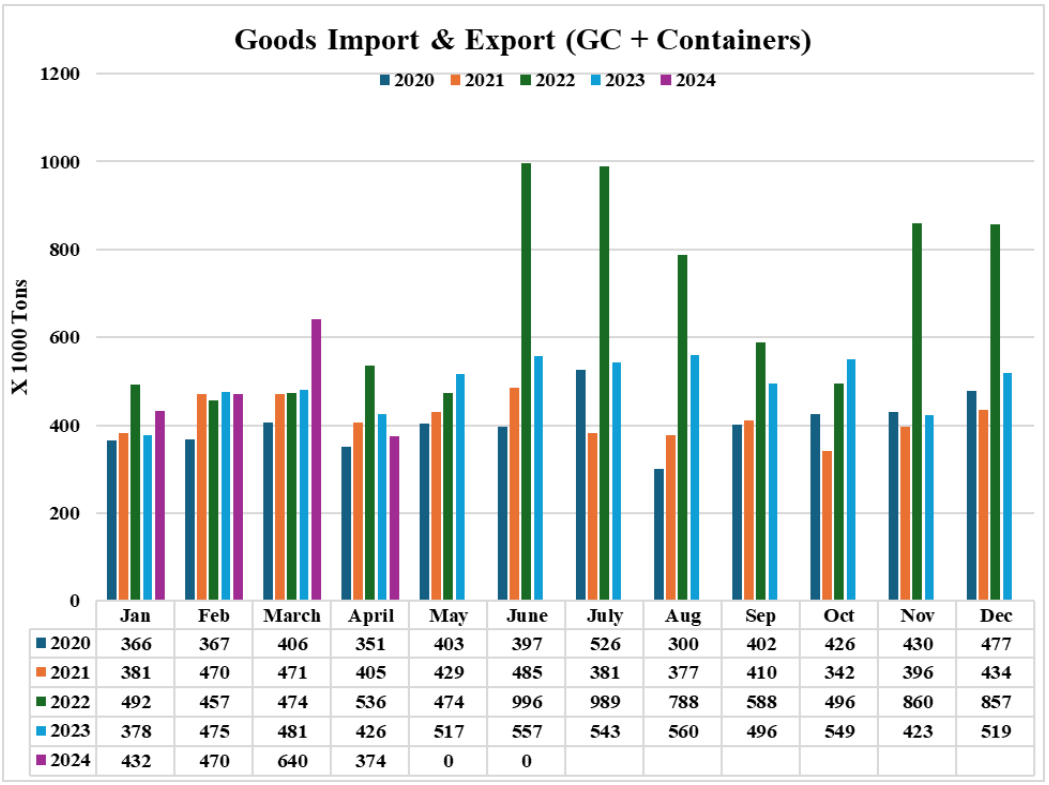
Figure 21: The graph shows Lebanon's total annual trade in value in USD from 2015 to 2019, divided into imports and exports. (Lloyd's List 2020).

- Imports:

in terms of imports, we can see that the value of imports increased significantly from USD 18,068,787 million to USD 19,979,509 million from 2015 to 2018, only to fall sharply in 2019 and scores USD 14,233,131 million, due to the Covid pandemic that has hit the world, and which has affected trade flows.

- Exports:

as for Lebanon's exports from 2015 to 2019, there are no significant changes, and the value of exports is stable, which is due to the lack of production in Lebanon and shows that the Lebanese trade balance is always in deficit, as imports exceed exports.

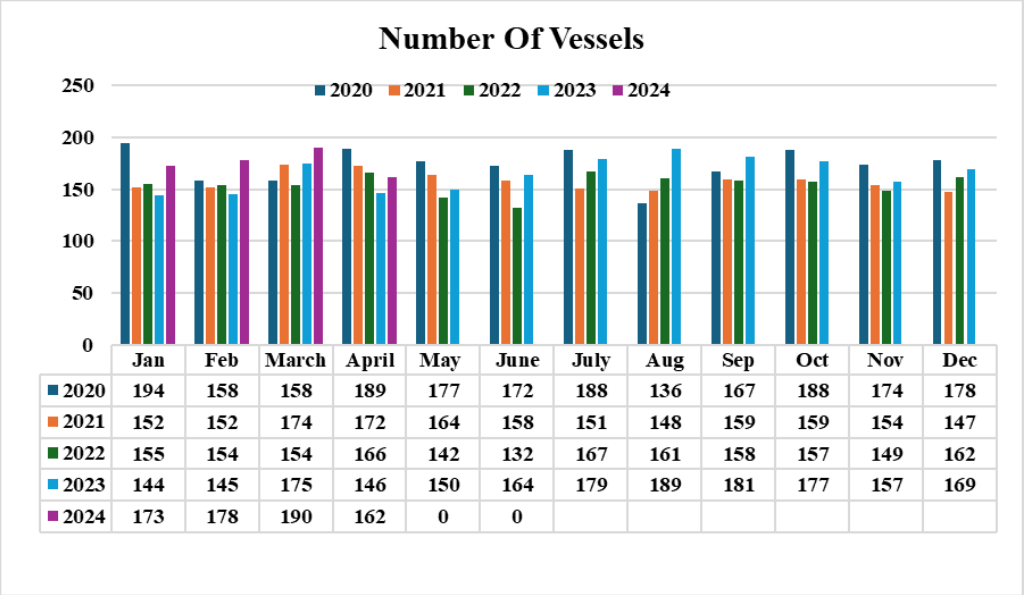


	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
2020	366	367	406	351	403	397	526	300	402	426	430	477
2021	381	470	471	405	429	485	381	377	410	342	396	434
2022	492	457	474	536	474	996	989	788	588	496	860	857
2023	378	475	481	426	517	557	543	560	496	549	423	519
2024	432	470	640	374	0	0						

Figure 22: The following graph shows the impact of the explosion of the Beirut port on import and export transactions in 2020 and the recovery in the coming years from 2021 to 2024. (Port de Beyrouth 2024)

Analysis:

- In August 2020, after the explosion in the port, we can see that exports and imports of goods have fallen sharply, reaching 300,000 tons of goods, after 526,000 tons of goods in July 2020.
- In 2021 we notice a slight recovery and increase in the transaction of goods, but in 2022 there was a significant increase in the containers traffic of goods, especially from June to August in the summer season, which refers to the recovery of the port and the repairs carried out that have helped the port to resume its transactions successfully.



	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
2020	194	158	158	189	177	172	188	136	167	188	174	178
2021	152	152	174	172	164	158	151	148	159	159	154	147
2022	155	154	154	166	142	132	167	161	158	157	149	162
2023	144	145	175	146	150	164	179	189	181	177	157	169
2024	173	178	190	162	0	0						

Figure 23: The following graphs shows the number of vessels entering the port in the individual months from 2020 to 2024. (Port de Beyrouth 2024)

Analysis:

- Before August 2020, the number of vessels calling at the port of Beirut was significantly high ranging between 158 to 194 vessels. However, after the explosion in August 2020, the number of vessels dropped drastically to 136 ships, due to the destruction of the main harbour in the port and the inability of ships to settle in the port.
- In the years (2021 – 2022), the number of ships calling at the port increased slightly, but not significantly
- 2 years after the explosion, in 2023, we can see a significant increase in the number of vessels, especially in the summer period between June and September. The highest number of 189 ships entering the port was recorded in August 2023
- In our last year, the number of ships continues to increase in 2024, which is due to the progress of the repair work and the utilisation of the port.

In conclusion, resilience is one of the building blocks of the paradigm that guides our efforts to cope with disaster situations. Indeed, along with the cedar tree which is the symbol and slogan of eternal life, Lebanon is known for its ability to bounce back quickly from adversity. The resilience of the Lebanese people is often compared to that of the mythical Phoenician bird, also known as the phoenix, which never dies but rises from the ashes to survive another day. (Brill 2022). The fact that the port rose from the ashes two years after the disaster and resumed operations is a true example of resilience and adaptation.

IV. World Bank Plan: Rebuilding a better Lebanon.

1. Servery and Census of the damages of Port of Beirut

On August 4, 2020, a catastrophic devastating explosion in the port of Beirut strike the city of Beirut, more than 200 people were killed, thousand were injured and around 300,000 people were displaced from their homes. Directly after the explosion, the World Bank, collaborated the European Union (EU) and with the United Nations (UN), and several other partners. they launched a Rapid Damage and Needs Assessment and named it the (world bank group) to assess the impact of the disaster on the infrastructure and property population and delivery service in Beirut District. The estimated damages caused by the explosion property damage of between 3.8 and 4.6 billion US dollars, with damage to the Port of Beirut amounting to around 350 million US dollars. The explosion also led to losses, including changes in economic flows, estimated at between 2.9 and 3.5 billion US dollars.

Before the explosion, Lebanon was already struggling with several crises. These included:

(i) The effects of the Syrian conflict, which resulted in forcing Lebanon host the largest refugee population estimated in the worldwide.

(ii)an economic and financial crisis that led to systemic macro-financial failures, such as risks to deposits and impairments in in the banking sector, a collapse and deterioration in the exchange rate, an unrestricted debt default, a severe economic contraction and triple-digit inflation rates.

(iii) The impact of the COVID-19 pandemic. Also, Poverty in Lebanon is likely to worsen and exceed half of the population back in 2021 according to the world bank survey. (World bank 2020)

To add to the previous conflicts in the country's long-term structural vulnerabilities, we have the weak public monetary management and the inadequate infrastructure, the deteriorating social indicators, and the large macroeconomic imbalances. These vulnerabilities are accompanied with an important level of corruption and weak governance. Internationally, Lebanon is only sub optimally integrated into the global economy and GVC, contributing to low productivity because of the continuous migration of its highly skilled workforce to foreign labour markets.

The world bank in contribution to Lebanon and the Lebanese people has developed with the international community a campaign called "REBUILDING A BETTER LEBANON" according to the principals of inclusiveness, accountability and transparency and based on the results of the 3RF. (W.Bank)

According to the needs classified by the RDNA, a single platform for coordination, exchange of expertise and communication, was established within the framework aiming to improve reconstruct the port of Beirut.

2. The aims of the note

The note sets out the main principles of the reform of the border protection authorities and port's administration.

Building on this, the note describes how:

(i) improvements to customs and other border agencies

(ii)collaboration between the private sector and compliance agencies can make trade through the port of Beirut safer, more transparent and efficient.

The Lebanese port sector needs urgent and massive smart change. Defining and implementing an optimal governance framework for the Port of Beirut will be possible if all actors in the Lebanese port sector significantly change the way their mindset work. The August 4 explosion has spotted the risks that a no-reform scenario entails and the gaps in the governance of the current institutional framework.

The recent model of the port sector, with its lack of accountability and unclear leadership, was one of the fundamental factors that contributed to the dramatic catastrophe, and ignoring this could delay meaningful change and trigger existing vulnerabilities. Another factor was the lack of operational coordination between the trade compliance authorities and the port administration, got worsened by limited use of automation and outdated procedures. Therefore,

reconstruction must depend on the creation of a solid institutional framework that prevents such a catastrophic event from happening again, that helps Lebanon overcome its current economic crisis.

Creating an optimal institutional framework for the port sector helps to build trust in the public institution that manages the port it should begin with identifying and enabling the conditions for successful port sector reform.

- The following note describes the administration of frontier jurisdiction and optimal practices to support the port sector in Lebanon.
- The first section describes the current structure of the ports sector and its performance.
- The second part examines variety of models for managing a port and the main reasons for recommending the chief port model in Beirut.
- The closing section recommends a roadmap for the reform and reconstruction of the port of Beirut developed by experts' group from the donor community under the coordination of the World Bank.

3. Governance of the port

The management of the port sector in Lebanon is a mix of clingy structures and institutions that do not allow for a sensible strategy. A port is not a rigid structure that provides a service to traders, in fact it is a place where many private and public actors interact and play a role in providing essential services to the economy as a gateway worldwide. The current administration is not conducive to efficiency. Several key government agencies for border management, transportation and trade have overlapping mandates, pursue different strategies,

and operate under outdated procedures and regulations. Therefore, there is an urgent need for an inclusive strategy for the port sector that links the various operations, objectives, and development plans.

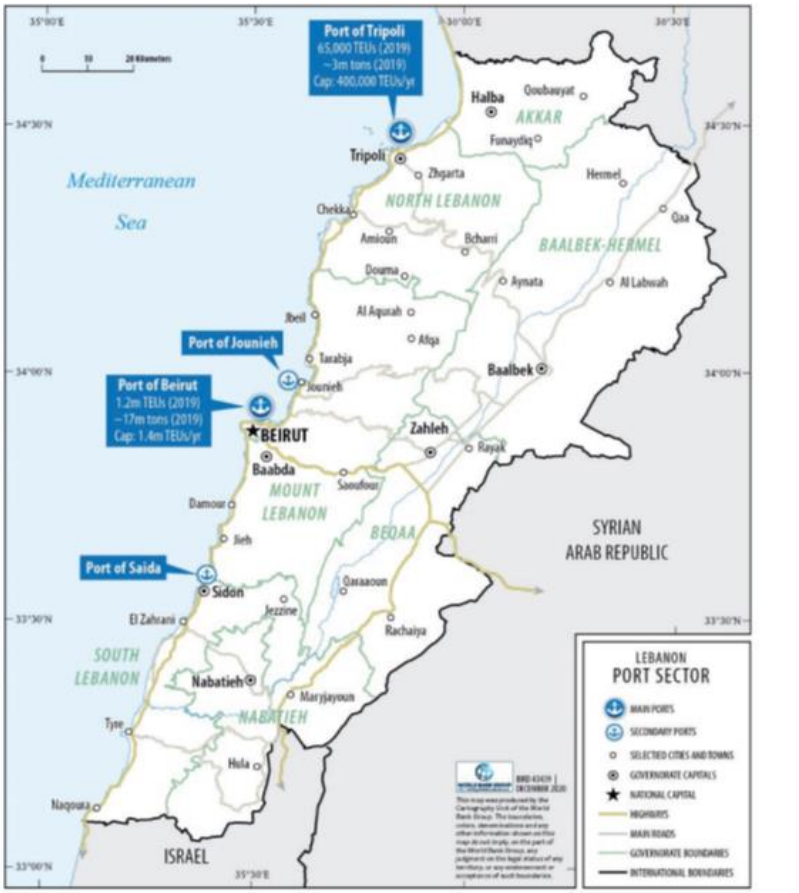


Figure 24: The figure shows the Lebanese port sector. Lebanon's main gateways to the world are the port of Beirut, the port of Tripoli and Beirut International Airport. Not to mention that Port of Beirut is Lebanon's most important commercial port and a hub for maritime trade in the Mediterranean region. (Lebanese Customs)

The port of Beirut is the most significant gateway for Lebanon's foreign trade, especially for imports, and plays a regional role. As the two figures show, the port of Tripoli plays a more modest role, with 14% and 22% of imports and

exports in tonnage, but only 5 in value. However, the port of Beirut handles 78% of the country's imports and 48% of its exports (2019) in terms of tonnage, and a very similar ratio in value: 73% and 46% respectively.

International Airport of Beirut does not have a significant role in terms of volume of imports and exports but has more significant role in terms of value. Concerning the role of the ports in the economy, both ports have a regional role with transit traffic to Iraq and Syria and for the transshipment of goods. And s for volumes of transits they have increased in both ports in the recent years.

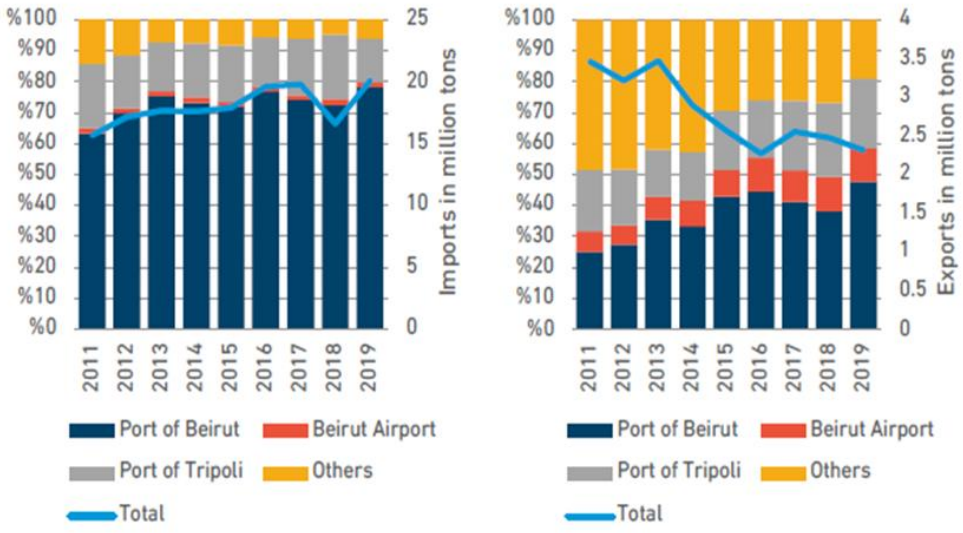


Figure 25: the graphs show Lebanon imports and exports in million tons by the Clearance Customs office. (Lebanese customs)

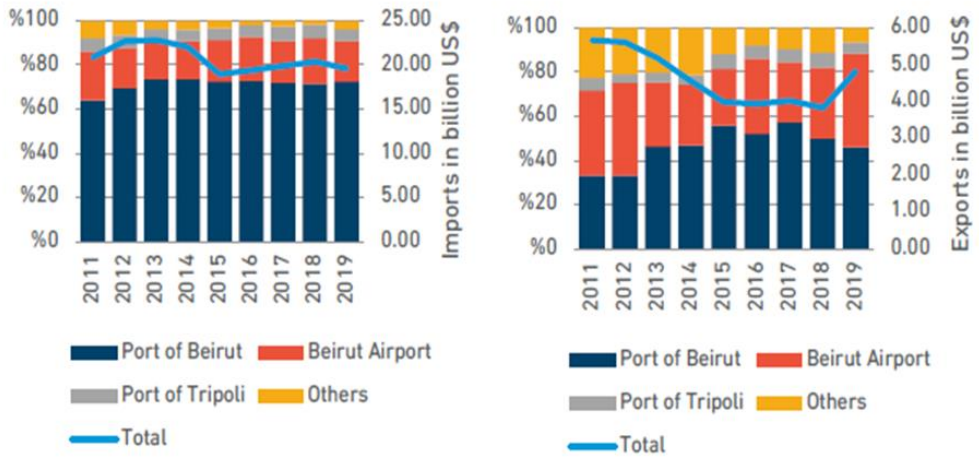


Figure 26: the graphs show Lebanon imports and exports in USD billion dollars by the clearance Customs office. (Lebanese customs)

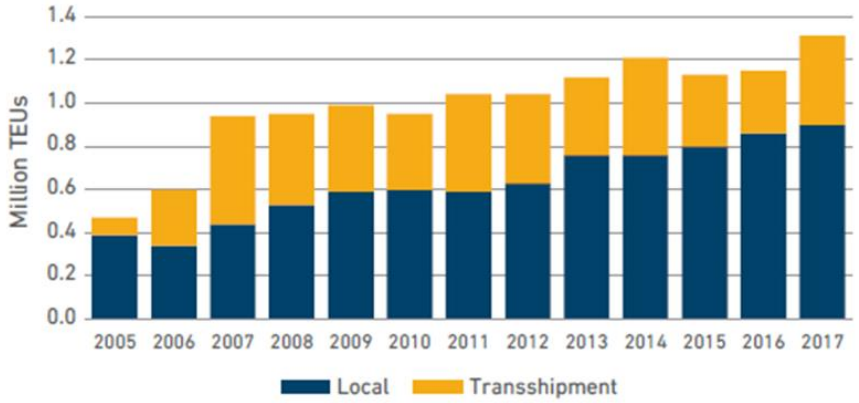


Figure 27: the graph shows the Container traffic at the Port of Beirut in million TEUs between the year 2015-2017 (Port of Beirut)

4. Port and trade performance

4.1 from an operational perspective

	Call Size Jan 2017-Jun 2018	Call Size Jul 2018-Dec 2019	BMPH Jan 2017-Jun 2018	BMPH Jul 2018-Dec 2019
Port Said	1,343	1,102	53.7	55.3
Beirut	1,011	1,031	48.3	45.9
Mersin	972	871	46.8	54.8
Haifa	1,120	1,024	43.8	44.0
Piraeus	1,116	1,020	43.0	47.9
Damietta	750	744	35.8	34.8
Tripoli	347	126	29.7	48.7
Limassol	425	343	24.9	25.7

Figure 28: The following table shows the productivity of the port in Berth Move per Hour (BMPH) (HIS Markit).

The container terminal performance in the Beirut Port compared to pre-explosion, shows the productivity of the container terminal of the port of Beirut was comparable to the leaders in the eastern region of the Mediterranean. Among the leaders in throughput in the Eastern Mediterranean, the Port of Beirut was in second place behind Port Said (table). This is because the container terminal is operated by the private international operator BCTC. After the explosion in August, both the shipping companies and the operator of the container terminal realized that productivity had fallen by around 50% due to maintenance problems with the cranes. The spare parts of the cranes were destroyed completely in the explosion and the currency crisis is making it difficult for the operator to finance the purchase of new spare parts.

4.2 Port operations on the landside

The situation is more problematic for land-based port activities. Cross-border trade is extremely expensive and time-consuming for Lebanese merchandisers and traders.

Country	TAB rank	TAB score	Time to export (hours)	Cost to export (USD)	Time to import (hours)	Cost to import (USD)
OECD high income	26	94	15	170	12	122
MENA Region	117	62	119	683	167	775
Greece	34	94	25	330	2	0
Cyprus	50	88	20	350	17	385
Jordan	75	79	59	231	134	396
KSA	86	76	48	392	104	731
Tunisia	90	75	15	575	107	740
Libya	129	65	144	625	175	697
Lebanon	153	58	144	580	252	925

Figure 29: The following table shows how Lebanon performs on the Doing Business indicator (Doing Business 2020).

The Lebanese government has not made any changes or investments for a long time, so neither the time nor the cost of importing or exporting goods has significantly decreased for traders. As a result, Lebanon ranked 153rd out of 190 countries on the TAB indicator in 2020, worse than many other countries in the area that also use port data to calculate TAB.

5. Criteria for selecting the best port governance model for POB

5.1 Tasks and principles that should apply to the POB

Port authorities must fulfil three complementary and distinct missions: a statutory, a catalytic, and a facilitative mission.

- Statutory missions include:
  - implementation of environmental protection regulations
  - Relationships of city ports
  - Developing and managing the port's infrastructure
  - Protection of Environment
  - Coastal management
  - Safety transportation
- Catalytic mission's states:
  - enabling environment for participation of the private sector in the legal and regulatory framework.
  - financing transportation and logistics facilities that are unlikely to access private or alternative sources of funding.
- Facilitative mission:

integrate the port into the broader national logistics chain to ensure the smooth provision of transportation services across different modes of transport.

5.2 Port management models

Over time, four main categories of ports have emerged worldwide, classified in the table below. Each model depends on the diverse ways of involving private and public parties in port operations and each category has its strengths and weaknesses as shown in below (figure 30).

	Infrastructure	Superstructure	Port Labor	Other
Public Service Port	Public	Public	Public	Mainly public
Tool Port	Public	Public	Private	Mainly public
Landlord Port	Public	Private	Private	Mainly Private
Full privatised port	Private	Private	Private	Mainly Private

Figure 30: The following table indicates the port management models (World bank)

	Strengths	Weaknesses
Public Service Port	• Ports are profitable and generate revenue for the government. • same organization is responsible for the development of the superstructure and cargo handling.	• Lack of access to sophisticated private expertise in port's sector waste of resources and underinvestment due to government interference and dependence on state's budget.
Tool Port	• Investment in port infrastructure and equipment is provided by the public sector, avoiding duplication of facilities.	• The port authority and the private company share cargo handling services which leads to conflicts.
Landlord port	• Private terminal operators are better able to meet the needs of the market, including competitive selection to achieve the best value for money.	• Risk of overcapacity and misjudging the right time for capacity expansions due to pressure from various private operators.
Fully privatised port	• There is No direct financing state of port development. • Maximum flexibility in terms of port operation and investment.	• The government has limited possibilities to control monopolistic behaviour

Figure 31: the above table indicates the strengths and weaknesses of the port management models (World Bank)

5.3 Choosing a governance model

Which model of port management is preferred depends on the specific needs and circumstances of a port. However, looking at the current organization of the Port of Beirut, its institutional structure and its governance record, the conflict today revolves around the port owner and the fully privatized port models. Beirut Port has a variety of users operating in different cargo sectors. Terminal operators concentrate on their own core processes and rely on public services in addition to utilities provided by public service providers.

So, what is the best model applied to the port of Beirut?

Because Lebanon relies on a limited number of ports of strategic importance as Beirut, the formula of full privatization of ports raises some critical questions. The port sector in Lebanon is in urgent need for accountability and transparency with clear and unambiguous roles and responsibilities that operates under the landlord-port model which is sensible decision in the Lebanese situation. The landlord-port model offers the opportunity to plan the development of the sector in a way that meets the country's long-term needs while protecting the public interest. The landlord-port model urges to mobilize the operational capabilities and investment capacity of the private sector. The authority of the public port owns the land and infrastructure and owns licences, leases and concessions to one or more private operators. The concessions are granted according to explicit public procurement and rules application so that the port can use all the commercial services it needs to fulfil its mission.

To establish successful outcome, it of the Landlord-Port model requires capacity

building at ministerial and port level to ensure that both have the necessary expertise to fulfil their roles and that they are aware of the laws, decisions, orders and institutional and regulatory frameworks same as their roles and responsibilities. (World Bank)

6. Proposal for a roadmap for the reform & reconstruction of the POB

The reform of the port sector aims to establish a transparent and sound framework, including the adoption of laws and regulations that will allow the Port of Beirut to:

i. attracting private sector investment by creating a favourable environment
ii. supporting the development of national economic
iii. cost-effective services delivery

Because of the Beirut port exneedon trauma, building and restoring trust is an essential case and to restore trust it needs to establish new independent port authority aiming to focus 1st and for most on safe port operations and strict governance of the port.

Therefore, the following table plots the proposed guidelines for reforming Beirut port sector in Lebanon also considering the health and safety measures.

Landscape setting	➢ **Professionalization of the role of public port policy in addition to the separation of commercial and technical regulatory functions in the government department.** ➢ **Governance Establishment** ➢ **Public disclosure of board meetings** ➢ **determination and appointment of port board members with nominations from public and private sector associations.** ➢ **Within three months of the end of each financial year, make public the annual independent audit of the port's accounts.** ➢ **Transparency in setting port tariffs.**
	➢ **translucent definition of the professional criteria of the port manager board members qualifications, responsibilities and accountability.**
Change management	➢ Upon approval of the framework, investment, financial and operational aspects need to be considered in the implementation phase: • Development of sound management practices based on an accounting system Reconstruction of basic infrastructure until the Beirut Port plan is updated, depending on a nationwide strategy for the port sector.
Port reform supplement	➢ Promote institutional reforms of customs and border management agencies to enable integrated digital trade and trade facilitation reforms: • Promote the digitalization of port processes by establishing a modern, secure and interoperable Maritime Single Window. • Support the structural reforms of the Lebanese Customs and improve the current institutional, legal and regulatory framework in line with international best practices. • reducing clearance times for traders and logistics service providers by Promote integrated border management. • Time and cost reduce of trade through Lebanese ports by promoting the alignment of border authorities • Redesigning the processes and procedures of the trade and transport control authorities operating in the port to improve their performance.

Figure 32: guidelines for reforming the port of Beirut sector (World Bank)

7. Reconstruction & reform of POB

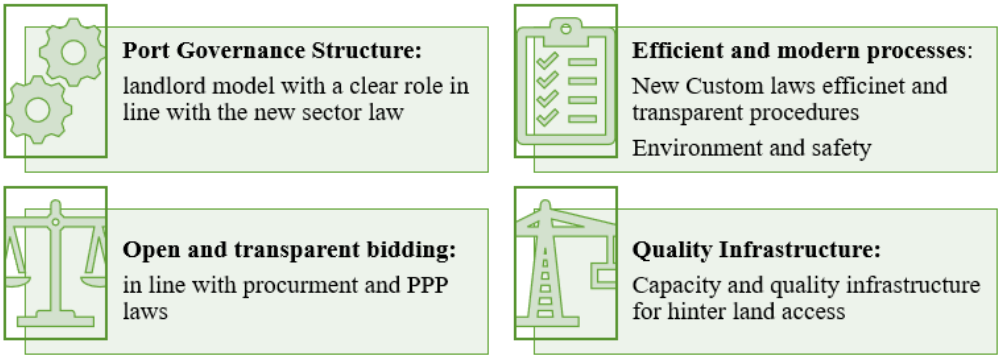


Figure 33: The following model illustrates the reconstruction of Beirut port is based on four building blocks. (World Bank)

The key building blocks for a port governance structure that meets global standards are a well-developed law for the port sector anchored in a clear transportation strategy for Lebanon. However, considerations and concentrations should be taken into account to ensure that a port sector law also creates a flexible business framework that allows port's authority to compete successfully in domestic and foreign transportation markets, and such a law can regulate the organizational and financial relationships between public entities such as municipalities and port's authority.

8. Proposed port administration and management structure

One of the most urgent priorities identified by the donor community expert group under the arrangement of the World Bank is the development and implementation of institutional reform of the port sector.

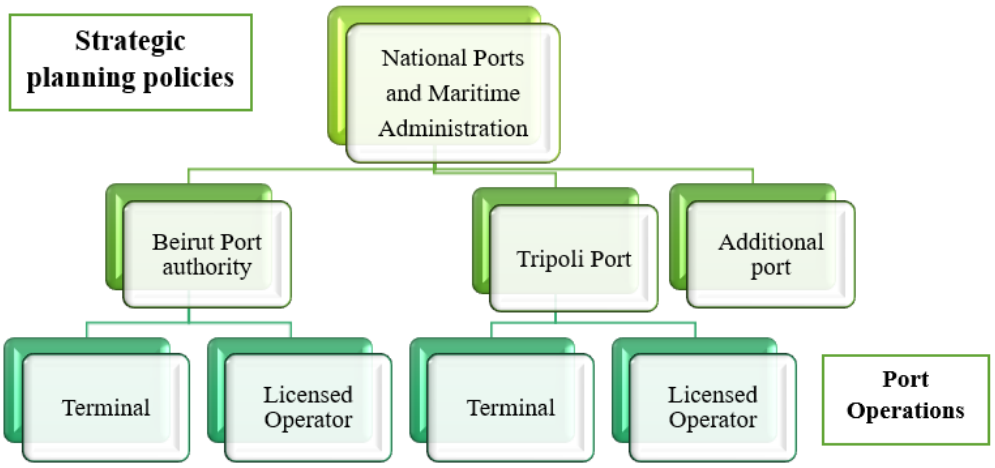


Figure 34: as shown in Figure (34), the development and establishment of a new legal framework based on the landlord model includes a new governance model in which the Beirut port authority and other ports should operate.

The execution of reforms in the port sector should be harmonized by measures aimed at improving the management of processes at on land and at sea and enhancing the environment for commercial agencies operating around and in ports. Trade facilitation reforms can be used to encourage public policies outside the narrower trade and transport sector, such as e-governance programs or anti-corruption measures.

It is optimistic to say that some of the essential changes have already been introduced. For example, a new customs law has been drafted and the restructuring of the customs administration into an organization based on the principle of "one head, one authority" has been pushed forward. These changes in border management and trade authorities are a crucial prerequisite for the adoption and implementation of important trade facilitation measures. Without them, repetitive inspections by different authorities, overlapping regulations, and

the submission of redundant documentation will resume to be the opaque reality faced by traders in their daily operations at the Port of Beirut.

For the reconstruction of basic infrastructure and private sector participation in the reconstruction and operation of the container terminal, cargo and grain terminals, logistics and free zone areas, it will be crucial to ensure competitive bidding in line with the reformed public procurement and PPP laws. The explosion has drawn the ire of the public as it reveals a combination of corruption and negligence. As part of the overall reconstruction effort, several governance reforms have been prioritised, including:

i. modern public adoption of procurement law

ii. an anti-corruption establishment commission and adoption of legislative measures in coordination with the new anti-corruption law

9. Ensuring quality infrastructure

The port sector in Lebanon is in need for an optimal strategy that serves the community in the best way possible and enables better trade. Before rebuilding Beirut port's infrastructure, it is important to plot a national transportation strategy that includes the ports and corridors in Lebanon and a financing plan that balances private and public investments.

What does “Building better” means?

it means rethinking the location and size of the Port of Beirut and rebalancing the roles and investments in the Port of Tripoli and other logistics infrastructure such as rail network and dry ports, taking an economic corridor submission to

set Lebanon to benefit from upcoming opportunities in the area.

A sight for a domestic maritime strategy in Lebanon is being developed to prepare the guiding principles for the revision of the Beirut Port Master Plan. The United Nations Economic and Social Commission for Western Asia is currently preparing a study that will review the 2018 Master Plan for the Port of Beirut, considering the changes caused by the tragic explosion, and propose basic guidelines for possible changes to the Master Plan to improve the port's capacity, performance and competitiveness. The review will optimize traffic flow of traffic within the Beirut Port and provide recommendations for the design of the port. The assessment will consider new and future technologies and their impact on the grand plan.

According to the domestic strategy and the approval of the role of Beirut Port, the master plan will be adapted to dig its way for its reconstruction.

After four months from the tragic event of August 4, 2020, in the Port of Beirut, there is still a need to reconcile the immediate actions required for Lebanon’s necessary imports with the opportunity this catastrophe presents to “rebuild better” Lebanon's port system and support trade and economic growth. To ensure that this transformation is informed and representative of Lebanon as a whole, it will be essential to continuously consult with stakeholders that include government organizations, donor community and diplomatic organizations, the civil society, the private sector, think tanks and academia. Stakeholders consulted so far on port sector reform and the roadmap for reconstruction are listed in figure 35 below.

Public sector stakeholders	Private sector stakeholders	Associations & organizations	Civil Society	International donor groups
• Ministry of Public Works and Transport •Administration of Lebanese customs • Ministry of Economy and Trade • Harbor master of POB • Authority of POB • Authority of POT • Ministry of Agriculture • Council for Development & Reconstruction • Institute of Finance • Court of Accounts	• Fast Bollore •Mediterranean Shipping • Beirut Container Terminal Consortium • Sealine • Gulftainer • CMA CGM • Maersk Company	• Association of Lebanese Industrialists • Beirut Trade Association	• Lebanese American University (LAU) Professor & Transport Specialist Doctor. Nabil Nehme	• European Union - Integrated Border Management (IBM) Project • European Bank for Reconstruction and • Proparco Development Agence Française de Développement and Expertise France • United Nations Office for Drugs and Crimes • Deutsche Gesellschaft für Internationale Zusammenarbeit • United Nations Economic and Social Commission for Western Asia
• General Inspection •Higher Council for Privatization				• United Nations Office for Project Services • European Investment Bank • United Nations World Food Program • Department for International Development – UK
				• Belgium Embassy in Beirut • Embassy of Netherlands in Beirut

				• France Embassy in Beirut • Netherlands Enterprise Agency (RVO) • International Maritime Organization • Italian Embassy in Beirut • Customs of Italy • Rotterdam Port • Antwerp Port • United States Export Control & Related Border Security (EXBS) Program • World Customs Organization • Marseille Port • World Bank

Figure 35: The table Listed a group of stakeholders consulted for the construction plan and reform of Beirut port. (World bank 2020)

10. Road map implementation

As part of the global effort to better rebuild the Port of Beirut, the World Bank-coordinated Donor Expert Group proposes the following action plan listed in the below table for the port going forward in the support of Lebanon to implement this ambitious plan.

1.Response to immediate needs *On going*	• Site clearance and safe damage waste management (including hazardous material) based on the principles and strategy developed by the EU • Removal of damaged vessels and dredging of the channels and basins • Stabilization of the damaged structures including quays • Operational support for grains handling and continuity of food supply • Response to other immediate and short-term needs including the rehabilitation of buildings and temporary facilities
2. National strategy for economic corridors and ports/maritime cluster *12 month horizon*	• New national ports and corridors vision • National maritime strategy under the coordination of the Lebanese Armed Forces Border Control Committee • Transport and corridor strategy
3. Port sector institutional reform *Principles ready for decision*	• Reform principles and road map presented above • Port sector law • Enacted port law in decrees and regulatory texts • Financial modeling, cost accounting and port tariffs reform
4. Trade Facilitation and Customs processes and procedures *Principles will be ready for decision by Jan 2021*	• Lebanese Customs Administration structural reforms • Updated trade facilitation and border management gap analysis and development of reform maps • Time Release Studies (TRS) at the ports of Beirut and Tripoli • Port security including compliance with International Ship and Port Security Code (ISPS Code) • Lebanese electronic Single Window Blueprint (eSW) • Optimization of port processes and digitalization of document flows and information (NSW) • Introduction of inspection selectivity at the port for low risk cargoes and traders via the establishment of risk based clearance • Maritime Single Window (MSW) set-up • Port Community System (PCS) set-up
5. Master planning and physical infrastructure development *12 month horizon*	• Vision and guidelines for maritime cluster and new Masterplan for PoB • New Masterplan for PoB • Technical and environmental and social studies for the priority infrastructures identified in the strategy and Masterplan
6. Capacity building *Postponed to implementation phase*	• Peer secondment at PoB • Preliminary online trainings to port stakeholders • Training of the new port authority and port community • Joining of the International Association of Ports and Harbors (IAPH) for knowledge transfer and familiarization with international policy development e.g. in context of IMO • Support to the Integrated Border Management (IBM) Central Training Centre • Implementation of the SOPs and KPIs on Customs procedures /goods clearance to improve efficiency and effectiveness, in line with international standards and good practices for trade facilitation and supply chain security
7. Investment program and PPP *Following the completion of the port sector institutional reform implementation phase*	• Reform road map and port sector law for alignment with the PPP legislation • Container terminal concession • Preparation of investment plans and identification of potential PPPs in the PoB and from the broader transport strategy

Figure 36: The table lists a Proposition of the Donor Group Action Plan for the Reform and Reconstruction of Port of Beirut. (world Bank 2020)

11. Beirut Port Reconstruction and Development Plan in 2024

On 13th of march 2024, the Ministry of Public Works and Transportation and the Beirut Port Management and Investment Authority presented the special offer for

the Beirut Port Reconstruction and Development Plan at the Port Hall under the auspices and in the presence of Prime Minister Najib Mikati and with the participation of the French Ambassador to Lebanon, Hervé Magro, in the presence of the Ministers of Public Works and Transportation Ali Hamieh, of Economy Amin Salam, of Industry George Bouchikian and of Tourism Walid Fayyad, the Head of the Public Works Committee Sajih Attieh, the Director of the Port of Beirut Omar Itani and a number of political and administrative figures as well as the heads of the agencies and departments working in the port.

The director of the Port of Beirut, Omar Itani, confirmed that the port "was able to overcome the liquidity crisis it went through as a result of the economic collapse, the corona pandemic and the strikes that hit the country at the time. He added: "In terms of revenue, the Port of Beirut was able to achieve around $150 million US new as total revenue in 2023, after reaching its lowest point in 2020 with around 182 billion pounds, which was equivalent to 9 million US dollars at the time, then gradually rising again as the port achieved around 140 billion pounds and $5 million in 2021, so the Port of Beirut became financially healthy again. The port also continued to achieve record figures in terms of containers, as the number of standard containers handled by the port reached almost 90,000 containers in August, knowing that this figure has not been reached by the port since 2019, with the total number of standard containers gradually increasing from 500,000 containers in 2021 to almost 800,000 containers in 2023. In addition, almost 900 ships were handled in 2023, compared to 731 ships in 2021." (NNA 2024)

With regard to general cargo traffic, he said: “In collaboration with ARTELIA and EGIS, all the necessary plans have been drawn up to get the port back on track by

studying the following projects: Organization of a new traffic plan within the port and at its entrances, a new and large entrance No. 9, restoration and maintenance of the docks, deepening of the third basin, cleaning of the fourth basin, a new distribution of the shipyards with the allocation of the RORO area, definition of the area for the production of electricity from solar energy, organization of the areas of the silos and the passenger terminal." (NNA 2024)

The Minister of Public Works, Ali Hamieh, said with complete transparency and clarity that the reconstruction and development of the port of Beirut will be based primarily on the revenues that the port has begun to generate. (NNA 2024)

V. Case study: The impact of POB explosion on a trading business company

Case Study:

The aim of this study is to shed light on how the explosion of the Beirut port in recent years has affected a Lebanese trading company in terms of shipping and importing containers through the Beirut port, shipping and customs clearance costs, and how the company has been able to withstand this challenge and what alternatives there were to the Beirut port to continue the company’s trade and the run of its business.

All information mentioned in this study is based on the data of the questions posed to Mr. Amer Iskandarani in cooperation with the shipping company ATS NETWORK to its owner (Mr. Ali Assi), who manages the shipping and customs clearance of containers for Skyline.

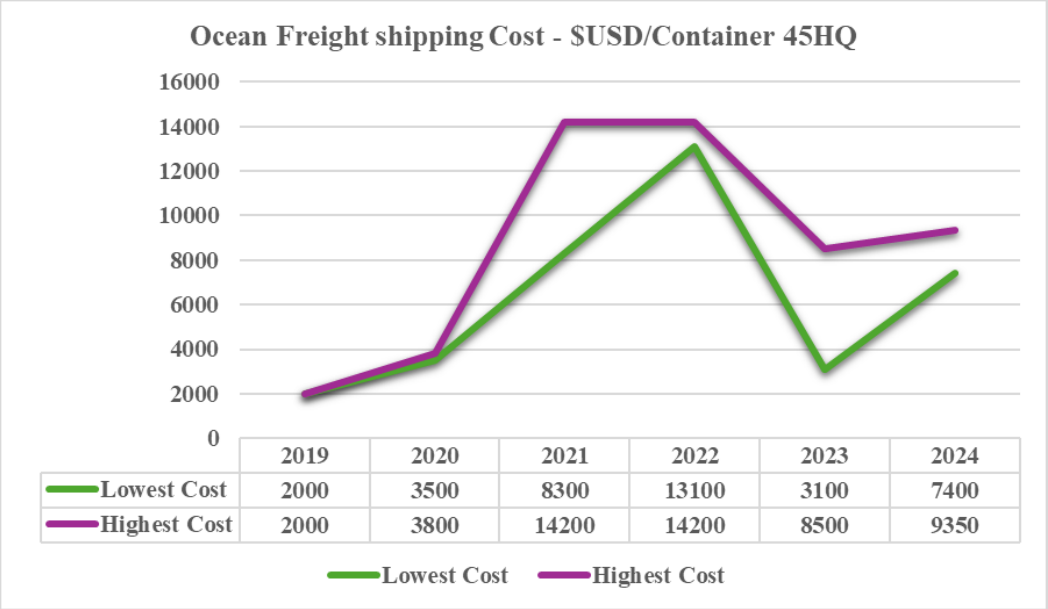
1. Skyline Office Furniture is a Lebanese trading company specialized in the sale of all types of office furniture. It is in the Beirut-Jnah area, was founded in the year (1984) and is owned by Mr. Amer Iskandarani. The establishment imports all kinds of office furniture from China, such as office desks, executive chairs, office chairs, filing cabinets, lockers, office sofas and more. The containers are usually shipped from China via the port of Beirut.

2. In an interview with the owner of Skyline Office Furniture Company Mr. Amer Iskandarani, he clarified some details about container shipping of office furniture.

- Shipping route from China: By sea
- Port of shipment from China: Port of Nansha, in Guangzhou
- Type of imports: Office furniture
- Main port of destination in Lebanon: Port of Beirut
- Type of shipment: By container
- Size of container: 45 HQ (86 cubic metres) – FCL (Full container load)
- Estimated transit time by sea: via the fast route 20 days or sometimes via the slow route 30 days
- Documents required for shipment from China to Lebanon: invoice, packing list, certificate of origin and bill of lading
- Tracking system: CMA – CGM – BL number
- Freight volume of the shipment through: CBMs
- Calculation of CBMs: Multiplication of shipments H*W*L

1. In terms of shipping cost

Skyline Office Furniture ships 2 to 3 containers 45HQ per year from China to the port of Beirut by ocean freight. However, the cost of shipping, like the stock market, changes from year to year depending on the various economic and political instabilities in the country and worldwide.



	2019	2020	2021	2022	2023	2024
Lowest Cost	2000	3500	8300	13100	3100	7400
Highest Cost	2000	3800	14200	14200	8500	9350

Figure 37: the following table shows the sea freight costs paid by Skyline Office Furniture for shipping a 45HQ container of office furniture from the Chinese port to the ports of Beirut and Tripoli.

Question: Why is the cost of shipping a container from China constantly changing and not stable?

- We can attribute the change in costs to various international and global crises. In 2019-2020, you will notice a slight increase due to the coronavirus pandemic and China's strict preventive measures. However, between 2021-2022, the cost of shipping by sea freight increased like crazy, from 3800 USD per container in 2020 to 14200 USD per container in 2021-2022. One reason for this was still the Covid-

19 pandemic crisis, which led to a shortage of fuel and an increase in fuel prices, as well as a shortage of equipment and thus an increase in taxes and customs duties. The increased demand for imported goods from China during the coronavirus crisis, especially for raw materials, medical supplies, and food, was also an important and serious reason for the unprecedented rise in shipping prices. The crisis between China and America was also a reason. Whenever a ship sailed from China to America during the pandemic, it was grounded for an extended period of time. The ship stayed in the ports of America for a long time before returning, which led to a shortage of ships and was a major reason for the rise in costs.

- But why did the shipping cost rise again in 2024?

The main reason for the increase in shipping prices this year is due to the Red Sea crisis.

Houthi attacks on merchant ships in the Red Sea led to a 90% drop in container traffic in the region between December and February (Bloomberg). The attacks affected 65 countries, according to the assessment, and forced 29 shipping companies to reroute their routes, leading to cost increase and global trade disruption. (Aljazeera 2024). “The threat to transit through the Red Sea adds to pressure on global shipping caused by drought-related disruptions to the Panama Canal. The economic impact of these attacks is far-reaching. Longer sailing times and higher fuel costs have a multiplier effect, impacting global trade routes and supply chains.” (Bloomberg)

As for shipping from China to Lebanon, cargo ships used to sail from Chinese ports through the Indian Ocean, but due to the crisis in the Red Sea, ships are

forced to change their routes and instead sail through the Pacific Ocean to Africa to enter the Mediterranean and reach the ports of Beirut and Tripoli. For this reason, shipping costs continue to rise, reaching $9350 USD per container 45HQ as shown in the table above.

2. In terms of customs clearance

i. Deterioration of the Lebanese currency:

The Lebanese currency is the Lebanese pound (LBP). The official exchange rate is pegged to the US dollar (LBP 1507.5 per 1USD), the exchange rate on the black market which has deteriorated since 2019 - has reached new heights in recent days, reaching a record LBP 15,000 per dollar in 2021 and the exchange rate has recorded a decline of almost 40%.

(Export Planning 2021)

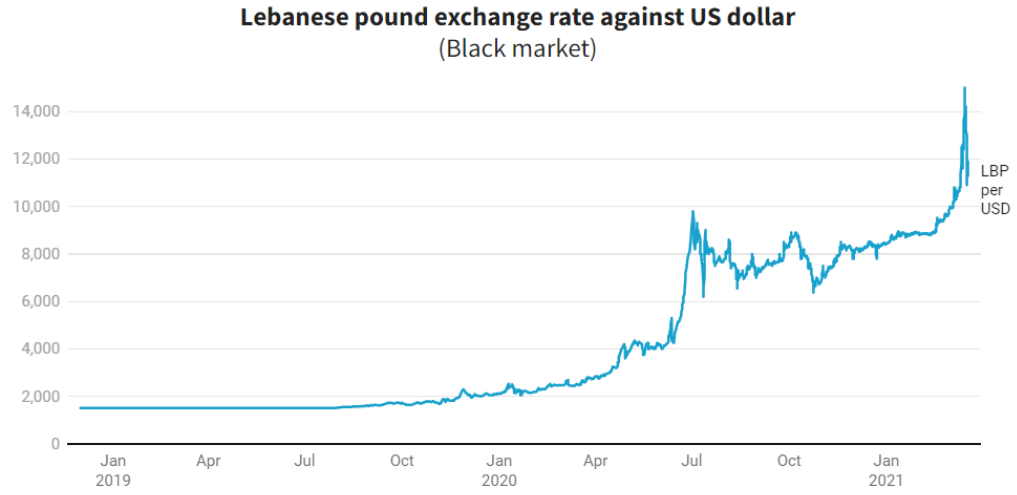


Figure 38: The graph shows the peg to the dollar was started in 1997 and maintained its official exchange rate (1,507 LBP per 1USD) till the end of 2019, leading to a sharp devaluation and increase in its exchange rate per USD to reach (15,000 LBP per USD) in 2021. Reasons related to three crises that strike in Lebanon: an economic and financial crisis due to a sudden stop in capital inflows,

which led to defaults in the banking system and affected the currency exchange rate, the health crisis and finally the explosion on August 4, 2020, in Beirut Port

The exchange rate of the Lebanese pound against the dollar has continued to deteriorate rapidly in 2022 and has risen insanely. It was between 20,000LBP per 1USD at the beginning of the year and reached 45,000 LBP per 1USD at the end of the year in the black market. (Anbaa 2022)

In 2023, the exchange rate in the black market increased to reach (89,500 LBP per 1USD), and since then the Lebanese authorities have taken a decisive step towards unifying the exchange rate to (89,500 LBP per 1USD) officially in all the Lebanese sectors.

Question:

So, after the deterioration of the Lebanese currency at what rate did you have to pay for custom clearance after the container reaches the Lebanese ports?

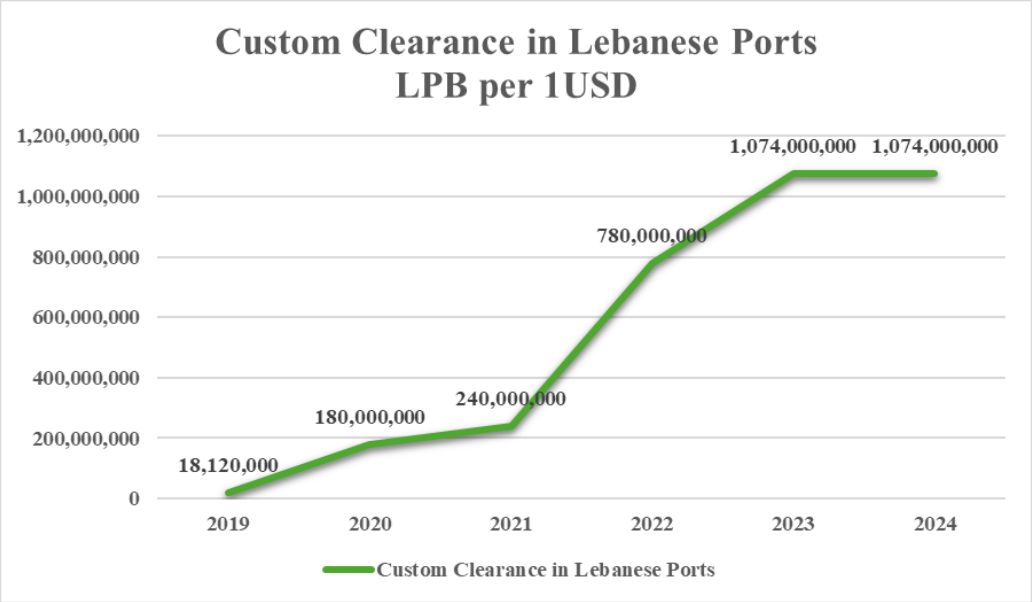


Figure 39: The following table shows how much customs clearance Skyline Office

Furniture paid per 24HQ container in the years between 2019 and 2024. (Amer Iskandarani, ATS Network)

The ATS network has determined that the customs clearance of a 45 HQ container shipped to the ports of Beirut and Tripoli incurs a fixed cost of USD 12,000, which changes when paid in LBP due to the depreciation of the Lebanese local currency.

- 2019: The Lebanese currency was still fixed at a rate of 1,510 LBP per 1 USD and the cost to custom clear of the container was 18,120,000 LBP = 12000 USD

- 2020: During the coronavirus pandemic and the banking crisis in Lebanon and the dollar shortage in the Lebanese market and after the explosion of Beirut port on August 4 2020, the dollar exchange rate collapsed for the first time in history and recorded an increase to 15,000 LBP per 1USD. So, Skyline paid 180,000,000 LBP = 12000USD for the customs clearance of the container in 2020.

- 2021: The exchange rate rises to 20,000 LBP per 1USD for customs clearance per container 45HQ 240,000,000 LBP = 12000 USD

-2022: The exchange rate continues to rise and reaches 65,000 LBP per 1USD, with 780,000,000 LBP = 12000 USD paid per customs clearance per container 45HQ

- 2023-2024: The Lebanese government sets the exchange rate for customs clearance in the Lebanese port at 89,500 LBP per 1USD, so that today 1,074,000,000 LBP = 12,000$ are paid per 451HQ container.

3. Resilience & backup plan

The alternative plan to continue after the explosion in the port of Beirut:

We see that the crisis of the deterioration of the Lebanese exchange rate against

the dollar began in 2020, the year in which the devastating explosion in Beirut occurred. As a trading company that imports its goods from China through the port of Beirut, **what was the alternative plan that you have adopted to continue to survive?**

- "After the explosion in the port of Beirut, the situation in the city was paralysed. Most of the commercial and industrial businesses and residential buildings around the port were severely damaged. However, our company is in the Jnah area southern Beirut. So, our gallery was not severely damaged. We only had to deal with broken glass."

"Regarding the shipment of goods from China, after the port of Beirut stopped accepting ships for a certain period of time, we were able to ship directly through the port of Tripoli as an alternative plan in cooperation with the company ATS Network, which handles shipping and customs clearance for our containers shipped from China." It is worth noting that despite the enormous scale of this explosion and the severe damage caused to the port and the city, shipping in the port did not come to a standstill for any length of time and our trade was not directly affected by the explosion in terms of shipping goods as we immediately moved shipping through the port of Tripoli, but the explosion did have an economic impact on our business as the buying and selling movement came to a standstill. and this is a natural thing for a certain period, until we as Lebanese people get used to the crises, the economic and social disasters, and the wars that Lebanon and its people have been experiencing for years. We have gotten used to crises and are able to get through them and get back up quickly, and that is what distinguishes us as a country and a people."

- **Were there any difficulties you faced in container handling and shipping through the Port of Tripoli? And why didn't you ship previously through this port?**

"No, on the contrary, we had no difficulties with the shipment via the port of Tripoli. Rather, customs clearance was faster than at the port of Beirut, because in the past the pressure on the port of Beirut was greater than on the port of Tripoli, but the costs remain the same and do not change, as customs clearance is set by the Lebanese state, as is the global shipping price for containers. The reason why we did not ship through the port of Tripoli in the past is because the port of Beirut is considered an important strategic location in the Middle East due to its location and was called by most countries due to its great importance, but also because it has a large capacity and the number of employees there is much larger than in the port of Tripoli. However, after the port explosion crisis and the trend to dock only through the port of Tripoli, it became an important destination for investment and became known worldwide to many companies that were unaware of its existence. This had a positive effect on the port of Tripoli in that, thanks to the solidarity of global shipping companies, the port was able to become a state by expanding and opening employment opportunities for many young people. Shortly after the port exploded, it was able to cover its debts and expenses."

- **Since 2020 you were still shipping through Port of Tripoli?**

"That is right, we have been shipping via the port of Tripoli since 2020 after the explosion until now. Our last container 451HQ was shipped via the port of Tripoli in July 2024. We paid 12000$ = 1,074,000,000 LBP, at an exchange rate of 89,500

LBP per 1USD, and the shipping cost was 8000 USD, so the total cost of the container is 20,000 USD."

- **Are you willing to continue shipping in the future through Port of Tripoli?**

"No! Because there were delays in customs clearance for our last shipped containers. Instead of taking 3 to 5 days to get the goods from the port to our gallery, it now takes more than 15 days for them to be cleared and delivered. The reason for this is that after the explosion of the port of Beirut, the pressure was transferred to the port of Tripoli in terms of its capacity, even after the expansion of the port. So, we are shifting back to the port of Beirut." (Amer Iskandarani).

Conclusion

In conclusion, we can briefly say that the explosion crisis in Beirut has proven that Lebanon and the Lebanese people are a symbol of steadfastness. Despite all the tragedies that the Lebanese people have suffered from the explosion in psychological, health and economic terms, and despite the loss of many victims, they hold on to the culture of life and continuity. It is clear to us that the consequences of the devastating explosion in the port of Beirut, the extent of the destruction of its facilities and offices, the casualties it suffered, the temporary suspension of international shipping and the inability of the Lebanese state to restart the port because it collapsed economically but managed to withstand it by quickly resuming its activities only six months after the explosion.

Finally, although the World Bank has proposed a large and comprehensive plan to rehabilitate the port of Beirut, this plan has not been implemented and is still under consideration. The question that arises is how the port of Beirut could rise again. This leads us to the conclusion that the Port of Beirut was able to rehabilitate itself, without the help of internal or external parties. The Port of Beirut was able to cover all its expenses and debts with its revenues, and to this day it is still rehabilitating itself from its revenues.

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