What kind of future for the Port of Beirut?

by

Leila J. Sawaya

Bachelor of Engineering, Civil and Environmental Engineering, American University of Beirut, 2000

Submitted to the Department of Civil and Environmental Engineering in Partial Fulfillment of the Requirements for the Degree of

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at the

Massachusetts Institute of Technology

September 2002

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Signature of Author: ____________________________________________

Department of Civil and Environmental Engineering

August 16, 2002

Certified by: ___________________________________________________

Professor Fred Moavenzadeh

Department of Civil and Environmental Engineering

Thesis Co-Supervisor

Accepted by ___________________________________________________

Oral Buyukozturk

Chairman, Departmental Committee on Graduate Studies
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ABSTRACT

The purpose of my thesis is to try to determine whether the port of Beirut can take advantage of his geographical position and redefine its role as either a transshipment hub or a transit gateway. It is obvious that in the present there are various new players that were able to take advantage of their location and of the technological changes to improve the performance of their ports while Lebanon was still trying to recover from its destroying war. The advance in technologies and the move to containerized traffic have rendered old port structures completely obsolete in favor of new ports that were able to cater for the new needs of this century.

The Port of Beirut will be competing with ports on the East Mediterranean coast as well on the Arabian Gulf. A five-force model will be used to assess the level of competition in the field and the ease of entry. This will include studying the characteristics of all the other players, their ports structural adequacy and their services. According to the analysis I will try to define on what basis the port can compete and what he has to do internally and externally to be able to gain a certain niche of the market.

In all cases, the country will need to undertake major reforms in view of the new era of privatization that is being used extensively in the transport sector.

Thesis Supervisor: Fred Moavenzadeh
Title: Professor
Acknowledgments

First of all I would like to thank Professor Fred Moavenzadeh, my mentor for his constant advises and support regarding my work at MIT. Gathering information for my thesis was a rather tedious process but through the help of some great people I was able to obtain the information I needed. Thanks a lot for Professor Ernest Frankel who guided me in the various steps of my thesis. As for the persons I have met in Lebanon, I would like to thank Professor Kamal Shehade, Mr. Rami Semaan, Mr. Jihad Mekkaoui and Mr. Jacques Audi for all the information they provided me.

A great thanks to my new American family: Bassam, Paola, Naz and Christian, for making my stay in Boston a memorable experiencing.

And finally thank you Ray for giving me your full support, understanding and attention during my endless working days and nights and most importantly thank you for loving me and believing in me the way you did.
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Chapter 1

General overview

1.1 Lebanon’s role in history and the strategic location of its port

Lebanon has long been considered through the virtue of its strategic location, the cross roads between the three continents of Asia, Africa and Europe and the gateway to the East. Linking East to West and sea to hinterland, the country has been a junction and focal point of trade routes over the centuries.

Its west-leaning stand and stable political climate in the late 60 early 70’s made it a major banking and trade center that attracted multinational companies that chose Beirut to be their primary place to establish a long lasting footprint in the Middle East. It was the major establishment point of import-export companies that were attracted by the free exchange system. During that period, Beirut was the trading and re-export center for most of the region’s food sector where it stood as a gateway and portal for the food and beverage destined to Syria, Jordan, Saudi Arabia and the Gulf States. Beirut still enjoys that position since 70 to 80% of these high growth markets consumption needs are imported through its port.

Lying on the Mediterranean coast along with several other countries, Lebanon was able to stand out among its neighbors through a combination of a unique set of internal factors that have turned it into a major investment center. First, it had the benefit of a free market economy that is based on a long tradition of liberal investment policies, free enterprise and private initiative that no other countries still enjoy. Second, Lebanon was endowed with a liberal financial environment characterized by a free foreign exchange market, full currency convertibility policies, no restrictions on the inward or outward movement of
capital and banking secrecy. Third, to be able to offer a safe investment climate to foreign investors, the country developed a non-discriminatory legal framework that protected private property and granted Lebanese and non-Lebanese equal rights. Finally and most importantly the basis of all this growth was and still is the local well-educated and multi-talented population (of around 4.5 million) that offered the country a great amount of knowledge in all kinds of field.

After a period of high economic growth at the beginning of the 90’s, Lebanon started experiencing a dramatic economic slowdown coupled with a recession that have been reflected by a major drop in port traffic through the two main ports of the country: Beirut and Tripoli.

Lebanon however is turning into the world’s fastest growing tourist destination endowed with expanded and attractive tourist facilities and a prolific growth in international hotel chains. By being at the center of a regional boom in inbound and outbound tourism, Lebanon has ideally the potential of re-becoming the most ideal location for the largest international travel exchange in the Near East.

The port of Beirut, one of the several ports lying on the Lebanese cost has contributed through history to the rise of the region. “The name of Beirut Port has been mentioned since the fifteenth century BC in the mutual letters of the Pharaohs and the Phoenicians, and during the Roman Era, it was developed into a commercial and economic center. During the Umayyad Era, Port of Beirut became the center for the First Arabic Fleet. As for the Crusaders Era, Port of Beirut had an important role in the maritime trade between East and West. This role had been fortified during the Mameluke Era when it was turned
into a commercial center visited by the pilgrims of the Holy Lands. By the end of the last century, the recent Port of Beirut had been founded."

On the 19th of June of 1887, a decree was issued by the Shah giving the concession of the Port to an Ottoman company under the name of “Compagnie du Port, des Quais et des Entrepôts de Beyrouth”. The concession was later fortified when the company gained from the Customs the sole rights to store and carry all the transit goods passing through the Customs. Constructions works and building of a maritime dam to expand and develop the Port were soon accomplished and the opening of these works were celebrated by the end of 1894 and by the development of several basins. It is under the French mandate, in May of 1925, that the “Compagnie du Port, des Quais et des Entrepôts de Beyrouth” obtained the French nationality and was transferred to a French company. Later during 1960, the company’s name was changed into a concession that was given to a Lebanese company called “Compagnie de Gestion et d’Exploitation du Port de Beyrouth” (GEPB) that worked on expanding the facilities through construction of a fourth basin. The port constituted during that period a major source of revenue for the country.¹

In the early 70’s approximately 3.4 million tons of goods were unloaded yearly at the Beirut docks, 668,000 tons were loaded, and 932,000 tons of transit goods were handled. When the Civil War began, however, the port became a major battleground. Between the start of the Civil War in 1975 until 1983, the port’s best year was 1980, when some 2.7 million tons of cargo were unloaded, 248,056 tons were loaded, and 209,080 tons were handled in transit. The Israeli siege of Beirut led to a drastic drop in port activity in 1982, when goods handled fell to less than two-thirds of the 1980 level. The shipping industry did not fare well in 1983, the last year before the capital was divided into two. Although cargo unloaded recovered somewhat to about 2.5 millions tons, cargo loaded was only
105,640 tons, and transit cargo declined to a mere 87,415 tons. According to Drewry consultants, the container throughput activity at the port decreased also from 57,000 TEU in 1980 to 27,000 TEU in 1985 (compared to 109,000 TEU in Aqaba and 85,000 TEU in Syria in 1985). The port was closed for five months following the division of the city in February 1984, resulting in lost revenues of around US$30 million. The closure was the longest in the port's history. ²

At the end of the year of 1990, the sole rights for the “Compagnie de Gestion et d’Exploitation du Port de Beyrouth” was transferred to the Council of Ministers comprising the Ministry of Transportation and the Ministry of Resources. The committee worked quickly and powerfully to open the Port of Beirut on January 15th of 1991. Since 1993, a temporary administrative committee took over the management of the Port of Beirut under the continuity principle of the GEPB and activity started to pick up again. Of course since then the port has faced difficulties picking up on the lost traffic and adapting to the new marine environment.

1.2 Economic assessment of the port

1.2.1 Imports and Exports at the port of Beirut

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Import</th>
<th>Country of destination</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>18.4%</td>
<td>Turkey</td>
<td>27.2%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>11.4%</td>
<td>Italy</td>
<td>15.8%</td>
</tr>
<tr>
<td>Egypt</td>
<td>11.2%</td>
<td>Greece</td>
<td>11.1%</td>
</tr>
<tr>
<td>USA, Argentine</td>
<td>18%</td>
<td>Egypt</td>
<td>10%</td>
</tr>
<tr>
<td>Yugoslavia, Greece</td>
<td>8%</td>
<td>Cyprus</td>
<td>9.8%</td>
</tr>
<tr>
<td>Turkey</td>
<td>4%</td>
<td>Syria</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other</td>
<td>29%</td>
<td>Other</td>
<td>21.5%</td>
</tr>
</tbody>
</table>

Source: Ministry of Transport Lebanon
Table 1.2: Main Import/Export products

<table>
<thead>
<tr>
<th>Main imported products</th>
<th>Main exported products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric items</td>
<td>Paper and paper products</td>
</tr>
<tr>
<td>Equipment and transport</td>
<td>Textile</td>
</tr>
<tr>
<td>Metallic products</td>
<td>Metallic products</td>
</tr>
<tr>
<td>Food products</td>
<td>Processed agro food products</td>
</tr>
<tr>
<td>Textile</td>
<td>Plants and vegetable product</td>
</tr>
<tr>
<td>Petroleum Oil and Lubricants</td>
<td>Jewelry</td>
</tr>
<tr>
<td>Chemicals</td>
<td></td>
</tr>
</tbody>
</table>

Source: Ministry of Transport Lebanon

Table 1.3: Value of imports and exports

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>1,020</td>
<td>717</td>
<td>716</td>
<td>677</td>
</tr>
<tr>
<td>Import</td>
<td>7,574</td>
<td>7,459</td>
<td>7,070</td>
<td>6,207</td>
</tr>
</tbody>
</table>

Source: Ministry of Transport Lebanon

Lebanon is a major importer (with exports forming only 10% of total trade in 1999). As shown the main export products are agricultural products, chemicals, textiles, jewelry, metals and papers. Imports include construction materials, consumer products, chemicals, machinery and petroleum products.

According to the above statistics, the majority of the Lebanese exports occur to the industrialized countries with the highest figures with Turkey and Italy. Lebanon signed in 1972 a trade agreement with the EU by which Lebanese industrial products have preferential customs rate. The Middle Eastern countries also constitute major final destinations. As for the imports the majority has for original destinations Italy and the USA. A much smaller percentage comes from Asia. For Middle Eastern imports, the majority of the materials come from Egypt. In summary, Lebanon constitutes a major source of imports for the European countries. This trade pattern will play a role in shaping the future of the port.
Table 1.4: Value and Share of Intra-Exports in Total Exports of Individual Countries ($million and %)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan</td>
<td>268</td>
<td>383</td>
<td>412</td>
<td>644</td>
<td>781</td>
<td>17.3</td>
<td>4.8</td>
<td>43.3</td>
</tr>
<tr>
<td>UAE</td>
<td>783</td>
<td>996</td>
<td>1626</td>
<td>1417</td>
<td>1757</td>
<td>2</td>
<td>13.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Bahrain</td>
<td>660</td>
<td>280</td>
<td>367</td>
<td>393</td>
<td>538</td>
<td>10</td>
<td>3.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Algeria</td>
<td>37</td>
<td>174</td>
<td>172</td>
<td>243</td>
<td>231</td>
<td>7.7</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Saudi</td>
<td>1958</td>
<td>3035</td>
<td>2742</td>
<td>4908</td>
<td>6357</td>
<td>23.4</td>
<td>38.4</td>
<td>9</td>
</tr>
<tr>
<td>Syria</td>
<td>140</td>
<td>502</td>
<td>278</td>
<td>304</td>
<td>265</td>
<td>1.2</td>
<td>2.2</td>
<td>7.9</td>
</tr>
<tr>
<td>Iraq</td>
<td>420</td>
<td>955</td>
<td>443</td>
<td>411</td>
<td>515</td>
<td>3.8</td>
<td>3.6</td>
<td>80.1</td>
</tr>
<tr>
<td>Oman</td>
<td>1597</td>
<td>2947</td>
<td>598</td>
<td>682</td>
<td>940</td>
<td>12</td>
<td>5.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Qatar</td>
<td>153</td>
<td>229</td>
<td>281</td>
<td>304</td>
<td>304</td>
<td>2</td>
<td>2.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Kuwait</td>
<td>574</td>
<td>795</td>
<td>296</td>
<td>311</td>
<td>408</td>
<td>8.4</td>
<td>2.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Lebanon</td>
<td>253</td>
<td>255</td>
<td>248</td>
<td>522</td>
<td>295</td>
<td>4.4</td>
<td>3.2</td>
<td>52.4</td>
</tr>
<tr>
<td>Egypt</td>
<td>180</td>
<td>275</td>
<td>533</td>
<td>480</td>
<td>496</td>
<td>-1.8</td>
<td>4.1</td>
<td>15</td>
</tr>
<tr>
<td>Yemen</td>
<td>120</td>
<td>66</td>
<td>77</td>
<td>94</td>
<td>86</td>
<td>2.8</td>
<td>0.8</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: IMF Direction of trade statistics

Table 1.5: Value and Share of Intra-Imports in Total Imports of Individual Countries ($million and %)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan</td>
<td>576</td>
<td>588</td>
<td>720</td>
<td>869</td>
<td>963</td>
<td>7.5</td>
<td>7</td>
<td>23.2</td>
</tr>
<tr>
<td>UAE</td>
<td>503</td>
<td>755</td>
<td>1600</td>
<td>1271</td>
<td>1540</td>
<td>-1</td>
<td>11.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Bahrain</td>
<td>1076</td>
<td>1425</td>
<td>1600</td>
<td>1767</td>
<td>2041</td>
<td>6.3</td>
<td>14.4</td>
<td>41.5</td>
</tr>
<tr>
<td>Algeria</td>
<td>148</td>
<td>189</td>
<td>229</td>
<td>331</td>
<td>361</td>
<td>12.1</td>
<td>2.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Saudi</td>
<td>791</td>
<td>1076</td>
<td>1500</td>
<td>1623</td>
<td>1967</td>
<td>7</td>
<td>13.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Syria</td>
<td>296</td>
<td>119</td>
<td>96</td>
<td>120</td>
<td>119</td>
<td>5.5</td>
<td>0.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Iraq</td>
<td>591</td>
<td>1241</td>
<td>131</td>
<td>303</td>
<td>228</td>
<td>14.9</td>
<td>1.6</td>
<td>33.8</td>
</tr>
<tr>
<td>Oman</td>
<td>492</td>
<td>632</td>
<td>1344</td>
<td>1324</td>
<td>1315</td>
<td>-0.5</td>
<td>10.4</td>
<td>29.8</td>
</tr>
<tr>
<td>Qatar</td>
<td>65</td>
<td>139</td>
<td>326</td>
<td>322</td>
<td>414</td>
<td>6.2</td>
<td>2.9</td>
<td>13.5</td>
</tr>
<tr>
<td>Kuwait</td>
<td>414</td>
<td>815</td>
<td>789</td>
<td>952</td>
<td>1080</td>
<td>8.2</td>
<td>7.5</td>
<td>12.7</td>
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<tr>
<td>Lebanon</td>
<td>107</td>
<td>252</td>
<td>497</td>
<td>580</td>
<td>464</td>
<td>-1.7</td>
<td>4.3</td>
<td>8.7</td>
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<tr>
<td>Egypt</td>
<td>321</td>
<td>171</td>
<td>215</td>
<td>449</td>
<td>692</td>
<td>33.9</td>
<td>3.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Yemen</td>
<td>202</td>
<td>416</td>
<td>163</td>
<td>212</td>
<td>499</td>
<td>32.3</td>
<td>2.3</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: IMF Direction of trade statistics

These trade statistics suggest that the importance of intra-regional trade varies among individual countries. Lebanon contributes to a significant percentage of the trade share due largely to its export activity in neighboring Gulf countries. Lebanon has a diverse export base and sells more products in the Gulf markets than the other Arab countries.
There is clearly a great potential for Lebanon to develop its inter-regional road network to facilitate the flow of goods between these various countries.

1.2.2 Traffic pattern

1.2.2.1 Traffic at the port of Beirut

With the restoration of peace in the country from the early 1990's, port operations have recovered sustained pace of growth, catering for the country’s massive reconstruction program. In 1995 the traffic culminated with 3,345 ship arrivals and general merchandises throughput of 6,7 million tons. The Port of Beirut played its role as Lebanon’s leading port, handling approximately 85% of the country’s international maritime trade. However the traffic has dramatically dropped in the following years (See Graph 1.1) reflecting the country’s economic slowdown and investment slump observed since 1995.

![Traffic Through the Port of Beirut](image)

*Graph 1.1: Traffic evolution at the Port of Beirut*

Despite the declining traffic, the port has witnessed an increased use of containers that matches the worldwide general shift in trade pattern. In 1998 the port handled 290,000 TEU of container throughput. The throughput declined slightly in the following year to 271,000 TEU. The volume at the beginning of this year was estimated to be 299,000 TEU, reflecting somehow the anticipation of the VAT (Value added tax). Thus there is an
expansion of containerized trade and a gradual reduction of the importance of traditional cargo operations. As for passenger traffic, its number has increased significantly in recent years from 1,000 in 1997 to 37,000 in 1999. This is a strong indication of cruise lines to Cyprus and vacation cruise line to the Mediterranean. Official statistics have indicated that the number of ships harboring in Beirut’s seaport during the first four months of the year 2001 rose by 12 percent, compared with the corresponding period the previous year. The volume of cargo loaded and unloaded in the seaport, grew by 17 percent during the same period, while container exchanges increased by ten percent and tourist movement rose 85 percent. There was a clear effort from the Port Authority to encourage the trade. According to statistics, the National trade is mostly predominant in the country with limited transit or transshipment activity, which represented jointly 3.8% of throughput for the period of 1999-2000. Out of these 3.8%, 1.3% represented transshipment traffic and 2.5% transit traffic. Transshipment traffic has remained relatively stable around 63,000 T per year on average. Transit to Jordan used to account for over 90% of the total transit (or 340,000T) in the early 90’s but has decreased to around 55% (or equivalent to 35,000T) in 1999-2000 due to the development of the port of Aqaba. Syria used to be an ideal transit destination but Syrian governmental forces have recently limited transit from Beirut to Damascus to encourage the activities of their own ports. Kuwait, Saudi Arabia, Iran and Turkey constitute also other transit destinations. As for Iraq, the transit traffic has started to pick up again since 1999 to amount to 9% of the total transit through the port. The transit traffic is shown in the following graph:
The transit traffic through the port of Beirut has considerably suffered from the following factors: (i) poor cross-border connections to the hinterland; and (ii) costs incurred with the transit of cargo through Lebanon. The cost and convenience of the inland transport corridors from the port of Beirut, and the border procedures applied with neighboring Syria have affected the distribution of transit flows between Lebanon and its neighbors and within Lebanon itself. The crossing points with the Syrian border are Masnaa in the east and Abboudieh in the north (See Fig 1.1).

1.2.2.2 Cross-border traffic

Cross-border traffic includes import and export to the Arab region as well as transit traffic. According to survey and data analysis, the traffic across the border at Masnaa along the Beirut-Damascus Road, amounts to around 43 trucks in average per day outbound from Lebanon to Syria. Main final destinations are Jordan (33 %), Saudi Arabia (26 %) and Syria (16 %). Trucks are loaded with vegetable, fruits and food products (48
%, steel and construction materials (30 %), wood and paper products (7 %). Of particular note most of the goods are Lebanese products and not imported products. There is no traffic of containers across the border. Should there be any transit cargo, containers are mostly unstuffed in Lebanon, because of the return cost of empty boxes. Some non-perishable goods such as steel plates, quarry products, oil products must be transferred at the border onto another truck. At Abboudieh, along the road from Tripoli to Homs an average of 117 trucks cross the border daily, outbound from Lebanon to Syria, out of which 60 are empty. Although the greater share of trucks are Iraqi most of them are operated by Syrian drivers with Syria as end destination (61 %) and Saudi Arabia, the second ranking destination of goods with 10 % of total traffic. Similar to Masnaa, there is no traffic of containers and no transfer of truckloads at the Abboudieh crossing point. Most products are Lebanese export products including vegetable & fruits (31 %), wood and paper products (15 %), chemicals (14%) and construction materials (10 %). Some trucks are carrying return load of phosphates to Lebanon.\textsuperscript{5}

Cross-border traffic between Lebanon and Syria is governed by the TIR International Convention (International Road Transit convention signed in 1975) that allows for an international transit pass for transport of goods between contracting States. The efficiency provided by TIR system works only with the co-operation and trust given by Customs authorities between Contracting States as well as Customs Authorities, at exit and entry gates, within a country. However nowadays, the movements of goods at the crossing point of Masnaa between Lebanon and Syria are being hindered. Although Beirut used to be the dedicated gateway for Syrian goods and the closest port to Damascus, the flow of goods along the Beirut-Damascus corridor is not fully facilitated. Furthermore, a majority of the transit traffic that used to pass through the ISMED countries (Israel, Syria,
Lebanon and Turkey) is being re-routed to the ports of Syria. Specifically, containers can no longer enter Syria from Lebanon; they have to be unstuffed first. However the transit across Syria is not hindered for goods transiting between Lebanon and Iraq. Cross-border traffic is ruled by the Arab Transit Convention (1959) and the trucks are operating under TIR-like carnets. The bilateral agreement between Lebanon and Syria facilitates passing across Syria by a third country.

Fig 1.1: Map of Lebanon
1.3 Operational analysis of the port

1.3.1 Port logistics and situation

The Port of Beirut was rehabilitated after the war and expanded to encompass 4 docks, 16 quays, container stations, forklifts and an extensive breakwater system.

Container handling is becoming the main activity (~290,000 TEU/year) at the Port and, to date, this activity is carried out anywhere and everywhere in the Port in a disorganized way through lack of a specialized terminal with sufficient space. Furthermore the machinery used for handling have a small storage capacity: Full containers have an occupation rate in the yard of 25 m$^2$/TEU and empty containers have an occupation rate of 12 m$^2$/TEU. These occupation rates in the yard are low compared to those for using a gantry crane (Rubber-tyred Gantry - RTG): 10 m$^2$/TEU. The excessive number of handlers, the illogical storage resulting from the lack of an automatic yard management system, the disparity of the fleet mixing miscellaneous goods and containers together has caused the storage areas to be extended and increased the quay occupation rate. Thus, gradually, the quays and yards of Basins Nos. 2 & 4 have been taken up by the container activity.

1.3.1.1 Infrastructure

Breakwaters in ports are constructed to provide shelter for the land areas and quays from the damaging effects of seawater. Most ports within the Mediterranean require breakwaters, as sea conditions can be quite severe. The Port of Beirut breakwaters are massive. Maintenance requirements are long term and the structures are long life.

Quays are provided in a port for a ship to lie against safely in order to work and unload its cargo. Quays are laid out with a configuration of open space and storage sheds. The quay must have sufficient length and depth for the ship to put out sufficient ropes and to lie safely during low tides.


**Basins:**

**Basins Nos. 2 & 3**

The quays and yards between Basins Nos. 2 & 3 are used if space is lacking in the other yards, if the other quays are busy. Since 1994, the Port of Beirut has implemented a modernization policy for Basin N°4 and undertaken the construction of Basin N°5. Refer to Fig 1.2. These works are now finished and constitute an efficient tool for the Port, even if Basin N°5 is not working at present.

**Basin N°4** comprises quays 11, 12, 13, 14 and 15 and is approximately 1200 m long. Quays 11, 12 and 13 may be used by container ships, but the small area reserved for storage (30,000 m²) and the sheds in this area mean that it is not very efficient. This quay is served by 10 hectares of curved yards, which means that they are not practical to use.

**Basin N°5** is bounded by Quay 15, 280 m long and Quay 16, which is 600 m long. The advantage of Quay 16 is its 16-m draught, which means it can accommodate the largest container ships in activity. These two quays border on a 20-hectare yard, which is perfectly suited for use for modern containers:

- Girders bearing the tracks for over-Panamax gantry cranes,
- Reinforced concrete girders for carrying RTG cranes (rubber-tyred gantry),
- Concrete, self-locking yard paving,
- Yard profile designed to provide efficient drainage of stormwater,
- Rectangular yard, suitable for operation.
1.3.1.2 Superstructure

The container terminal in Basin N°5 is fully equipped for operation:

- Lighting shafts 25/30 m high,

- A refrigeration terminal with block storage to allow easy monitoring of containers placed high up.

- A building at the terminal gate to enable incoming and outgoing traffic to be checked by means of a computer system and housing the police, Customs, guards and the army.

- An integrated administrative building housing the Port Authority, Harbour Master’s Office, Terminal Operator and Customs officials. It is organised using a computer system to reduce container entrance and exit formalities.

- An Integrated Regulation Centre where representatives from the Harbour Master’s Office, pilotage and towing companies will be installed with powerful equipment
(VTMS - VHF radio, etc.) to manage shipping movements efficiently in the port and the bay.

1.3.2 Port operation

Handling operations in the port from the moment the ship comes to shore till the cargo is transported to the yard include the following: ship handling, quay handling and handling on shore in yards. There are around 15 stevedoring companies that have no official contract with the government and that provide very low quality handling work. The staffs employed by the stevedores are mostly temporary, which means they change frequently and are recruited depending on the current need and are therefore not specifically trained for the work.

Quay handling is done by the Lebanese Lighterage Company (“Société Libanaise d’Aconage”), and is carried out as follows:

- A monopoly has been granted to the Lebanese Lighterage Company by Presidential Decree,
- Invoicing by the Lebanese Lighterage Company (“Société Libanaise d’Aconage”) to the Agent is based on an “ad valorem” system, which obliges the Agent to communicate the contents of the container and the value of the goods to this Company in order for it to be able to draw up its invoice. This invoicing base obliges the Agent to carry out time-consuming research into the ship’s documents and creates a risk of theft for the goods while they are stored in the yard, as confidentiality is the rule for this type of traffic.
- The LLC (“SLA”) employs the same type of staff as the stevedores.
Finally handling of containers from ships to yards is performed by the Port of Beirut, which subcontracts it almost totally to private companies. The quality of handling is poor as the transport equipments and the yard handling equipment are obsolete. The subcontractors most of the time have neither the means nor the expertise to provide the port with insurance guarantees.

In conclusion, container operations are not performed to maximum efficiency for a series of reasons relating to technical and organizational problems or to an unsuitable regulatory context:

- The excessive number of participants involved in the handling chain from ship to yard results in the creation of conflict each time there is a transfer of responsibility.

- The large number of participants is a major obstacle to the productivity of operations; a single operator would guarantee optimum efficiency.

- The numerous handling companies share the goods traffic but do not have the financial capacity to equip themselves adequately.

- Cumbersome customs procedures hamper the efficiency of operations.

- The Port does not play its role of operator as it has not developed its equipment fleet or equipped itself with the tools vital for good management

In summary, the Port of Beirut doesn’t seem to be operating efficiently. Studying the port’s competition with respect to the surrounding ports in the Mediterranean and Arabian Sea will allow us to establish a better understanding of where the port stands in the global competition.
Chapter 2

Market competition analysis

2.1 The Middle East and East Mediterranean shipping market at the turn of the century

For centuries, the Arab world enjoyed a lucrative monopoly over European trade with East Asia, which ended when the Portuguese discovered the sea route in the 15th century. Six centuries later, the dynamics of the Middle East container market - a key distribution and wayport zone astride the east-west axial route - are being redefined. New opportunities for investment and private sector involvement in ports are opening up as the region embraces global trends. Egypt is emerging as a transshipment hub as the Suez Canal role is gaining more importance. Iran and Iraq remain well placed to act as gateways to Central Asia (as well as being great economic imponderables in themselves), and their massive potential on both fronts is just beginning to manifest itself. “Underlying all this is the fact that the established hubs in and around the Strait of Hormuz (the UAE ports of Dubai, Khor Fakkan, Salalah and Fujairah) are being challenged by pretenders on the Arabian Sea coastline. A whole new dynamic is appearing at the turn of this new millennium, enhanced by the emergence of the Asian markets and the globalization of the terminal industry characterized by a gradual shift from general cargo trade to containerized trade”. The countries of the Middle East have been since then committing vast resources to upgrading their port facilities aimed at meeting the new global trends and at attracting business from the major shipping lines plying the routes between Europe and Asia. It has been estimated that the investments in port infrastructure undertaken until now in the region have amounted to US$5 billion. The development of Aden (Yemen) and
Salalah (Oman) on the Arabian Sea has increased the transshipment business in the area and strengthened competition. Table 2.1 illustrates the container market in the Middle East and Fig 2.1 shows the various hub ports of the region. On the Eastern Mediterranean coast, other key players in the competition for the transshipment market have also appeared: Damietta (Egypt), Piraeus (Greece), Marsaxlokk (Malta), Ezmir and Mersein (Turkey) and Limassol (Cyprus) (Refer to Fig 2.2). These countries lie on the main international sea routes and have also been competing for the Europe/North America-Asia market. Refer to Table 2.2 for the container throughput. Ashdod and Eilat (Israel) located further north to this route are trying to emerge as transshipment players but their role is currently undermined by the political environment. In addition to becoming transshipment hubs, some of the region's ports are hoping to establish themselves as service centers for the Indian Ocean region by running free-trade zones and putting in place support services. This doesn't mean however that direct call and transit will not have a major role in the area. Indeed some of the ports will compete to become major gateways for the whole region. Aqaba (Jordan) for example has a transit traffic that accounts for 60% of the port’s total traffic. 8 What we are going to witness over the coming years is a competition at various levels: competition to become a transshipment center or a transit gateway. Each country depending on its location, port physical characteristics and internal demand will try to gain a market share of the traffic in the type of port it can develop. What is clear in the general competition, is that ports which are located close to the main centers of population and industry are better placed to act as gateways for import/export traffic and not necessarily as transshipment hubs. In general, the centers of industry and population in the Mediterranean region do not lie on the main trunk route (like Beirut, Haifa, Ashdod, Latakia..), rather they are to the north of the
region and this will play a key part in shaping the nature of container trade in the region's port.

Table 2.1: Middle East Container throughput by country ('000 TEU)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahrain</td>
<td>60</td>
<td>104</td>
<td>75</td>
<td>99</td>
<td>103</td>
<td>110</td>
<td>118</td>
</tr>
<tr>
<td>Iran</td>
<td>20</td>
<td>14</td>
<td>73</td>
<td>174</td>
<td>244</td>
<td>254</td>
<td>326</td>
</tr>
<tr>
<td>Iraq</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>15</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Kuwait</td>
<td>221</td>
<td>236</td>
<td>124</td>
<td>229</td>
<td>246</td>
<td>261</td>
<td>288</td>
</tr>
<tr>
<td>Oman</td>
<td>19</td>
<td>114</td>
<td>168</td>
<td>96</td>
<td>101</td>
<td>109</td>
<td>130</td>
</tr>
<tr>
<td>Qatar</td>
<td>17</td>
<td>13</td>
<td>21</td>
<td>37</td>
<td>45</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Saudi A</td>
<td>819</td>
<td>947</td>
<td>794</td>
<td>1090</td>
<td>1152</td>
<td>1294</td>
<td>1387</td>
</tr>
<tr>
<td>UAE</td>
<td>340</td>
<td>862</td>
<td>1560</td>
<td>3512</td>
<td>3750</td>
<td>4114</td>
<td>4463</td>
</tr>
<tr>
<td>Israel</td>
<td>281</td>
<td>331</td>
<td>554</td>
<td>888</td>
<td>990</td>
<td>1129</td>
<td>1200</td>
</tr>
<tr>
<td>Jordan</td>
<td>42</td>
<td>109</td>
<td>83</td>
<td>109</td>
<td>139</td>
<td>161</td>
<td>170</td>
</tr>
<tr>
<td>Lebanon</td>
<td>57</td>
<td>27</td>
<td>15</td>
<td>258</td>
<td>259</td>
<td>278</td>
<td>300</td>
</tr>
<tr>
<td>Syria</td>
<td>62</td>
<td>85</td>
<td>67</td>
<td>140</td>
<td>150</td>
<td>150</td>
<td>155</td>
</tr>
<tr>
<td>Yemen</td>
<td>7</td>
<td>10</td>
<td>13</td>
<td>13</td>
<td>18</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>1945</td>
<td>2852</td>
<td>3547</td>
<td>6650</td>
<td>7212</td>
<td>7949</td>
<td>8627</td>
</tr>
</tbody>
</table>

Source: Drewry Shipping Consultant

Table 2.2: Major Mediterranean Container throughput in TEU (1998)

<table>
<thead>
<tr>
<th>Country</th>
<th>Import/Export &amp;Transit</th>
<th>Transshipment</th>
<th>Total throughput</th>
<th>Estimated Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>1 261 000</td>
<td>46 000</td>
<td>1 307 000</td>
<td>1 780 000</td>
</tr>
<tr>
<td>Israel</td>
<td>1 122 000</td>
<td>59 000</td>
<td>1 181 000</td>
<td>1 560 000</td>
</tr>
<tr>
<td>Egypt</td>
<td>893 000</td>
<td>695 000</td>
<td>1 588 000</td>
<td>1 900 000</td>
</tr>
<tr>
<td>Lebanon</td>
<td>300 000</td>
<td>-</td>
<td>300 000</td>
<td>400 000</td>
</tr>
<tr>
<td>Syria</td>
<td>155 000</td>
<td>-</td>
<td>155 000</td>
<td>200 000</td>
</tr>
<tr>
<td>Malta</td>
<td>102 000</td>
<td>1 018 000</td>
<td>1 120 000</td>
<td>1 700 000</td>
</tr>
<tr>
<td>Cyprus</td>
<td>55 000</td>
<td>163 000</td>
<td>218 000</td>
<td>650 000</td>
</tr>
</tbody>
</table>

Source: Drewry Shipping Consultant

These tables clearly show that the general shipping trend has been that of a major increase in container use in the region, with the UAE, Saudi Arabia, Israel, Egypt and Malta having the larger share of the market. It can also be seen that Lebanon and Israel have a very small transshipment market compared to Malta and Egypt despite their estimated capacity. The last two years have also seen an increase in the container activity at Salalah (649,000 TEU in 1999), Khor Fakkan (989,028 TEU in 1999) and Mina Zayed (360,774 TEU in 1999)."
The key idea at this point is to understand that the Port of Beirut will be competing with the ports that have access to the Middle East hinterland market because this is the part of the world where Lebanon is foreseen to play a major role in the future. The Gulf region and Iraq represent emerging markets and we expect growth to continue in these places for the coming 15 to 20 years.

Fig 2.1: Middle East Ports in the Red Sea and Arabian Gulf
Fig 2.2: Ports of the East Mediterranean coast
2.2 Future Prospects for the container market in the region

Despite the added capacity that the ports of the Middle East have witnessed over the last years, there will be need for supplemental capacity in the long run. Depending on the average level of utilization in the region, between 3.6 and 10.3 million TEU of extra capacity will be needed in the period 2004-2015 (Refer to Table 2.3). These forecasts were based on models that incorporated GDP growth, container penetration rates and level of transshipment activity. Average container port utilization levels in the region are estimated to be around 62% at the current time.\(^{10}\) There is definitely a high potential for these countries to increase their capacity generation mainly due to the boom in the Asian continent and to the lifting of the Iraqi embargo, but they have to know how to reform to seize these market opportunities. These growth prospects would be feasible if regional peace occurs and a full-leveled competition opens up.

<table>
<thead>
<tr>
<th>Table 2.3: Projected Middle East container port capacity to 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated 1998 total</td>
</tr>
<tr>
<td>Projected additions by 2003</td>
</tr>
<tr>
<td>Sub-total</td>
</tr>
<tr>
<td>Required additions 2004-2015:</td>
</tr>
<tr>
<td>At 80% utilisation *</td>
</tr>
<tr>
<td>At 70% utilisation *</td>
</tr>
<tr>
<td>At 60% utilisation *</td>
</tr>
</tbody>
</table>

Source: Drewry shipping consultant

It is clear that the effect of globalization has definitely made the issue of regional and international competition more critical. Any player willing to enter the arena has to carefully analyze and determine the level and type of competition that is prevailing between the various ports and the markets they serve in order for him to choose the strategy of entry.
2.3 Level of Competition and ease of entry in the market

Most of the ports today are competing on a global level to capture a share of the trade market that is characterized by containers with increased capacities. Globalization has implied that trade barriers had to be phased out leading to countries integration rather than isolation. It also meant that more competition was going to occur between ports of various nations. In the past, each port had one or two direct competitors in the region. This is not the case now as ports in the Middle East are competing with ports as far away as the Mediterranean and the Far East. In other words boundaries are being broken down and are making competition more intense and complex. Each of these ports is striving to serve a larger niche of the market by providing more services and facilities for operators and by trying to capitalize on their assets. Any port that would like to enter the arena would need to make an equalized and leveled competition and offer an extensive transportation and communication network between the various ports. It is clear that the Port of Beirut must offer services that its neighboring competitors can’t offer or can offer but at a lower price. It has to leverage on its strategic location and develop either a value added solution (differentiation strategy) or a low cost strategy that will enable it to survive in this global market.

Five forces will interact to shape the competitive landscape in the ports: rivalry among existing players, threat of new entrants, threat of new substitutes, bargaining power of port users and bargaining power of service providers.

“The collective strength of these competitive forces will determine the ability of the port to earn returns that will render the port investments desirable. The intensity of rivalry will influence prices, the size of the port, the requirements for future expansion, the service improvements and the overall port orientation.” The key is to be able to identify the
factors that will be critical to competition and to identify the strategies that would improve the Port of Beirut performance.

The Five Force Model: The shipping industry in the Middle East and East Mediterranean coast

**Potential entrants**
- New port facilities in the region
  - Egypt: East Port Said, Alexandria, Al Sokhna
  - Israel: Ashod
- Start up of regional load centers

**Rivalry among existing competitors**
- Egypt: Port Said, Damietta, Dekheila, and Alexandria
- Israel: Haifa, Eilat, and Ashdod.
- Jordan: Aqaba
- Syria: Latakia, Tartous
- Saudi Arabia: Jeddah
- Cyprus: Limassol
- Turkey: Izmir

**Bargaining power of service providers**
- Operators
- Contractors
- Labor

**Bargaining power of port users**
- Carriers
- Shippers
- Tenants

**Threat of Substitutes:**
- Other sources of supply
- Substitute products
- Other assembly sites
2.3.1 Competition between existing ports

2.3.1.1 Major Competitors

Egypt has moved to capitalize on its strategic position on the Suez Canal, connecting Europe and the Far East where every container ship on the Europe-Asia route passes through Egypt's catchments area. New terminal projects are being constructed targeting both transshipment traffic and the local growing industrial demand. 1998 has marked the end of public monopoly that was prevailing in the Egyptian companies to open the way to private services in terminal operations, stevedoring and warehousing. The East Port Said Development Company was established to carry out the development of the new port and industrial area and to co-ordinate the development of Egypt's existing container ports at Damietta and Port Said so that trade is maintained at all three ports. The new container hub in East Port Said is planned to cater for 1.75million TEU annually by the year 2015.

As for Alexandria’s port, a 15-year strategic plan has been drawn to convert Egypt’s premier port into a major cruise hub and a multipurpose terminal with warehousing and improved road links. 12 See Fig 2.3 for the ports location.

It is clear that Egypt represents a major competitor to the area not only because of its position but also because of the major improvements that are characterizing its port. Egypt vision about trade growth in general and more specifically about Asia’s future prospect market enabled it to undertake structural changes that meet new global trends. Egypt also benefits from a cheap labor force that gives it competitiveness over the Lebanese and Israeli work force. Most importantly the new Port Said will be located so close to the Suez Canal that carriers will not have to deviate from their main arterial route to load and unload transshipment cargo. Beirut and Egypt will be competing mainly on the traffic bound to Jordan, Saudi Arabia, Dubai, Kuwait and Iraq. Shippers will either choose to transship at one of the Egyptian ports and have their containers feeder to the
final locations or transit through Beirut depending on the most economical route. However Egypt doesn’t benefit of a direct land access to Iraq like Lebanon does and is located farther from Europe than Beirut is.

Fig 2.3: Egyptian Ports

**Israel**: Its location close to Lebanon makes it a major competitor for the Middle Eastern market. However Israel is still politically unstable and this may undermine future growth and trade prospects. Because of the strained relations between Israel and its neighboring Arab countries, the ports in Israel have been mainly used for import and export and not for transit. Israel is endowed with two ports: Ashdod and Haifa. Haifa is a natural port and therefore has a main advantage of deep-sea water. Its terminal handles four times more containers than Beirut. It is equipped with seven gantry cranes and 15 RTGs in the storage area and yard that gives it a competitive advantage. Ashdod has a capacity of 600,000 TEU. However Israel ports suffer from heavy congestion as a result of inadequate infrastructure, short working hours and frequent strikes. Furthermore, businessmen have been even studying the possibility of using Aqaba instead of Haifa, which is expensive and long to import goods especially from the Far East.
It is important to note that now and for the next 5 to 10 years Israel can’t really be considered as a main competitor to Beirut or to the other ports of the region because of the political situation. The moment when peace will establish in the region, the whole Arabian countries will be open to the Israeli market and this will modify the whole degree of competition. Most of the conclusions that will be developed later will consider the pre- and post-peace scenario.

**Jordan**: Aqaba Jordan's only port is strategically located at the north end of the Gulf of Aqaba and within sight of Egypt, Israel and Saudi Arabia (See Fig 2.4). Historically, it has been a vital crossroad connecting trade routes in Asia, the Middle East and Europe. Traffic in the port has been relatively stagnant throughout the last decade. The port is actually underutilized although it has the capacity to handle 30 million tons of goods per year, but now only deals with 12.5 million, a fact that most traders and port officials blame on U.N.-U.S. imposed sanctions on neighboring Iraq, Jordan's largest bilateral trading partner. During its peak activity in the late 1980s, the port was handling 21 million tons annually. Since then Lloyd’s have been inspecting all goods bound for Iraq via Aqaba to ensure that only authorized commodities are being delivered. These inspections have been causing delays to the movement of Iraqi imports and adding costs to the total inland charges through Jordan to Iraq at a time when Aqaba is suffering from the competition of Syrian ports. Many clearing companies left the port of Aqaba and transferred their shipments to nearby ports like Dubai, to be transferred afterwards to Iraq by land. Many Iraqi traders also left Aqaba port for Syria and Turkey due to the committee's procedures at Aqaba, which increased the cost and time for any. However recent developments suggest that Aqaba is embarking on a path that will allow it to reclaim its historic role and once again emerge as an important center for trade, industry
and cultural interchange within the region. Indeed Jordan has launched a special economic zone in 2001, which will transform Aqaba into a world-class center for tourism and commerce and has invested $35 million on new container facilities.  

**Fig 2.4: The Jordanian port**

**Syria:** is endowed with two ports at Tartous and Latakia that are emerging as main competitors to the ports of Beirut and Tripoli in Lebanon specially for the transit traffic bound to Iraq. The Syrian government has announced that goods that used to transit to Damascus from Beirut will only pass through the Syrian ports to encourage their activities. In the beginning of last year, Syria announced its plans to strengthen its relations with Iraq and this has materialized in May of this year by the signature of a bilateral trade agreement that would increase trade between the two countries through the elimination of custom fees. Furthermore Syria possesses a great advantage of having its ports directly linked to the Middle East railway network. In addition to this, last year Iraq has decided to facilitate the transport of goods between the two countries by establishing a railway line between the port of Basra (600km to the South of Baghdad) and the Syrian
ports. However it is to note that until now the Syrian ports are poorly equipped and
don’t possess gantry cranes.

2.3.1.2 Hinterland market access

Lebanon, Israel (Haifa and Ashdod in case peace is achieved), Syria (Tartous and
Lattakia), Jordan (Aqaba), Egypt (Port Said and Damietta) and the UAE will be
competing to gain market share of the Iraqi market given their geographical proximity.
The lifting of the embargo against Iraq will re-open to the East Mediterranean and Gulf
countries a hungry market of 20 million consumers that have been isolated from global
trade for the last 6 years. In view of volumes of imports, Iraq is considered as the main
potential destination in the coming years for transit if normalization of cross border
procedures occurs and if the embargo on Iraq is relieved. Because of the importance of
the Iraqi market, a detailed analysis is viewed as necessary. Resulting of the Iraqi
invasion of Kuwait in 1990, an UN embargo was imposed on the country causing an
almost complete isolation of Iraq from the rest of the world. Its external trade fell to 4
million tons in 1990 after having totaled 14 millions tons a year before. Its main trading
partners were European countries with 14.1%, American continent with 11.8% and
Asia/Australia with 51.6% of the traffic. There is therefore an approximate 30% of traffic
that could be routed through the Mediterranean in destination to Iraq and around 70%
channeled through the Indian Ocean. It has been estimated that around 20 million tons of
goods will be needed to restore the country’s economy and this will mean that around 6
to 7 million tons will be handled in the Eastern Mediterranean countries when the
embargo is lifted. This traffic will either be handled by transshipment hubs and then
taken by feeder vessels to Lebanon, Syria or Israel or will be transported directly to these
latter ports to be transited to Iraq. The choice will depend on the level of capacity of these
ports and the cost advantage they could offer. There is however a probability that this traffic be routed through the Suez Canal to the larger Arabian Gulf hubs and forwarded by feeder vessels to the Iraqi port of Basrah. The trade off would be between the total transport cost and the transport time. The high level of fees levied on the Suez Canal affects in general the distribution of shipping traffic bound to the Middle East, between the Eastern Mediterranean, the Gulf of Aqaba and the Arabian Gulf. Therefore depending on the country of origin, transit flow of goods bound to Iraq and the Gulf will use the most economical route. Other potential transit destinations are Jordan, Saudi Arabia and Kuwait. In the case of regional peace, Beirut, Latakia, Haifa and Ashdod will be competing on an equal basis in terms of location for the transit traffic to the Middle East. It is to note that there is definitely a potential for the Kuwaiti market specially that the costs at the port are among the highest in the region. If Lebanon is able to develop an adequate inland connection with Iraq, then transiting to Kuwait will only an additional day and this in my opinion could be more economical than sailing directly to Kuwait.

2.3.1.3 Ability to serve transshipment trade

Transshipment developed as shipping lines started to operate the new generation of mega container vessels that required adequately equipped hubs, strategically located to feeder to other destinations. The ability of a port to turn into a transshipment hub requires not only that the port be strategically located but also has the ability to safely accept large ships, possess an efficient container handling operation, adequate terminal facilities, deep water, a large amount of back-up areas and also attractive cargo handling charges. Rivalry for transshipment business will be intense between the Port Said, Port of Damietta, Limassol and Malta located on the Mediterranean and Salalah, Aden, Jeddah
and the Dubai port on the Arabian coast because of their strategic location on the main axial route and the structural adequacy of their ports. Marsaxlokk, one of the region premier hubs handles over 1 million TEU and is equipped with 16 gantry cranes. Egypt established its position in the Mediterranean transshipment market as result of its location on the Europe/US/Asia trade route. Its port of Damietta has a container facility with 1,050 m of quay length, 14.5 m of water depth and equipped with 6 gantry cranes. Aden and Salalah are rivaling other ports for the European/Arabian Sea and European/Indian Sub-Continent market and have already drawn some transshipment traffic from Jeddah. Salalah has 1,236m of quay wall, 16.5m of approach channel and is equipped with 9 super post-panamax gantry container cranes, 15 RTGs. Dubai has established itself as a transshipment hub for the Arab Gulf markets and is fighting to maintain its position. The port of Aqaba at the south of Jordan is emerging as a transshipment center for neighboring countries of the region. Israel on the other hand can't compete with the major transshipment ports in the Mediterranean region mainly because of it being located off the main international sea route and transshipment accounts for only 5% of its container throughput activity. The major container hubs will be therefore the ones located on the main sea route separating East and West. Due to its location, Beirut is not likely to emerge as a significant player in the transshipment market specially that its container terminal is not equipped yet to handle a large container volume (no ship to shore gantry cranes and no RTGs). Not only this, Lebanon compared to the other countries on the trade route, is a small country with a population of 4 million and a land area of 10,345 km², compared for example to Egypt with a population of 40 million and a land area of 1,001,449 km². Lebanon doesn't have enough local demand to generate enough shipping services and thus can't justify the presence of ships who are becoming larger and larger...
now and that wouldn’t find any financial justification in transshipping at Beirut. Lebanon in as sense is similar to Puerto Rico who has the same population and same area and that is trying to find economic solutions to incite ships to transship and call at its ports.

2.3.1.4 Regional port capacity and demand

"An imbalance of port capacity within a region will influence the level of rivalry between ports. Excess capacity can cause rival ports to aggressively compete for market share. Sometimes this can lead to destructive pricing." 21 For example the rapid growth in load center capacity in the Eastern Mediterranean has produced intense competition between hubs, with the ports such as Limassol and Damietta being forced to aggressively compete to retain customers through pricing of services that may not cover costs. It is expected that 10 years from now, the capacity in the region will increase to a level that will lead to intense market competition that may reduce port charges.

2.3.1.5 Ability to create competition within the port

The ability to create competition within the port between the various service providers will determine whether the port itself can compete. In Jeddah for example, long term container handling concessions were awarded to 2 contractors. This is not the case in the other ports of the region where one single service provider usually exists because the geographical layout of these ports doesn’t really allow for more than one concessionaire. In Lebanon there are 15 small contractors that provide hauling services but have no official contracts with the government, which render their operations and existence quite obsolete. The absence of real competition is the main factor of port inefficiency.
2.3.1.6 Stakes at risk
The greater the ability of a certain port to attract a share of the traffic the more it will have to compete in order to preserve its market share. Dubai for example was attracting most of the transshipment traffic directed to the Gulf region and it had to compete fiercely with Salalah and Aden to keep its position. As part of its strategy to maintain its position, the port has been acquiring concession and management contracts for other ports (Beirut was one of them) in the region, enabling it to gain control over the ocean logistics chain. Furthermore the higher the investments required to establish a container terminal, the higher the stakes at risk. Maersk Sealand has invested heavily in a new container terminal at Salalah and has clear interests in ensuring the competitiveness of the port as a transshipment center.

In Beirut for example, the local government has expanded in the year 2000 US $150million to construct a new container terminal and has been trying to find a concessionaire that could operate this terminal and increase the ports’ market share. It is important to note that the port of Beirut is one of the building blocks of the country’s economy, which renders the stakes at risk for the port even more important.

2.3.1.7 Ability to control operations
The efficiency of port service providers and port authorities will impact the competitiveness of a port with respect to another. In the Port of Beirut, customs procedures have considerably hindered the port ability to grow and to attract more ships because of the hefty delays. For example, in addition to customs checks at the terminal gate, containers to be delivered to yards have also to be checked by the Customs Authority causing more delays. Customs apply imprecise valuation rules and multi
lingual paper documentation. Adding to this is the congestion and mismanagement in the yard that add up to ship wait time and cost. What is happening in Beirut is that storage costs are cheap thus making it less costly to leave goods in storage for ten to fifteen days rather than storing them in commercial warehouses after customs clearance. In this way a trader defers paying customs duty and port associated fees and gets cheap storage while he pre sells the goods. The border crossing points with Syria constitute also other major hindrance for transit traffic. Indeed trucks are subjected to lengthy checks and can only continue their route if there are enough trucks in line. This of course can cause delays of 1 or 2 days that may be detrimental to importers/exporters. The same has happened in Jeddah where the clearance procedures have prevented the port from being a load center for the Middle East and Red Sea markets. The customs procedures at the port used to take 1.5 to 3 days on average, causing the containers to remain longer in the terminal. 22 In Jordan, unless Lloyd’s stop his inspection operations, the port will continue experiencing major delays and subsequent loss of customers.

Another element that has been hampering the effective operation in most ports and specifically in Lebanon is the presence of an excessive cheap labor force that goes against the argument of automation and implicitly to better efficiency. Since ports are usually a major source of employment, there is often an unspoken political imperative to leave things as they are. This comment applies equally to port and stevedoring, quay and container handling as well as road transport.

2.3.1.8 Government willingness to subsidize operations

Rivalry between ports is sometimes influenced by the availability of public funds to offset losses. 23 Subsidies of ports by local governments are often frequent when they are
considered to be a major source of income to the economy. Almost all of the ports in the Gulf region are subsidized by local governments because of the lack of private funds. These subsidies are preventing a fair and level commercial competition between ports because public funds are seldom used to maximize efficiency. In Lebanon for example most of the funds allocated by the government for the port improvement are not allocated in an efficient manner.

2.3.2 Threat of new competitors

The potential entrance of new competitors will affect the shipping pattern in the area, especially if this leads to the creation of a new regional load center that will change the way cargo are distributed.

2.3.2.1 Capital expenditures for new port facilities

The most important characteristics of seaports, which make them vulnerable to monopoly practices, are the high costs of establishing a port. A new port facility requires the development of a protected area for berthing, sufficient depth for access, and enough area for storage. Most coastlines have a limited number of sites with natural harbors and flat backup areas. Additional sites can be provided through dredging, reclamation of land and construction of breakwaters. These elements are extremely costly and constitute a major barrier to private sector development of new ports. Terminal operating costs such as infrastructure works, port authority charges, plant and equipment costs, labor costs and other support costs are also considerable. The high cost for construction of the roads and rail links connecting the port with the main transaction corridors adds to that barrier. The high costs of entry extend to the cost of constructing special-purpose facilities. Their costs have increased with their throughput. Furthermore, because of the nature of the
growing economies and the rising competition that is appearing in virtually every sector, traditional labor-intensive ports are being gradually replaced by more capital-intensive systems that would allow a more efficient handling of cargos. “An efficient fully equipped container terminal costs between US$40 million and 100 million per berth, exclusive of land and water access”. 24 These facilities have relatively low marginal operating costs making it easier for an existing operator to discourage potential competitors. There are definitely high costs for new port facilities, but certain governments are willing to subsidize the expenses in view of the economic returns of their respective ports. Egypt for example is taking the risks of major port investments because of the future opportunities in market positioning. The Egyptian government is financing the construction of the brand new Al Sokhna port by investing around US$290 million in essential infrastructure works including a railway link. Egypt vision is to build the largest economic zone and logistics hub in the entire Middle East that would be similar to Rotterdam or Singapore, which are distribution centers to their respective regions. According to the Chairman of the port: “Ports are no longer just a place for loading and discharging commodities. Rather they are becoming a place for trading, logistical locations where the investor can have easy access to their strategic storage warehouses, added-value activities such as factory assembly, labeling, packing, repacking and distributing to the region.” 25 In addition to this, a new container terminal at East Port Said is being developed. The upsides of these investments are the large revenues and activities these ports can achieve due to their location directly on the major East-West trade route.

Similar to this, the rapid transformation of the Jordanian port of Aqaba into a regionally competitive hub for investment, trade and tourism is already taking shape with the
adoption and implementation of key economic, social and legislative directives. The Port Corporation of Aqaba is also investing in new berthing and storage facilities at the Container Port and the Industrial Port as well as in new equipments such as cranes and container handlers. However unless traffic with Iraq picks up again, we don’t expect any major activity boost that would represent a threat to neighboring ports.

The Israel Port Authority is planning to invest NIS1 billion in port development projects starting beginning of 2002. 85 percent of the money will go to projects at Ashdod's Jubilee Port and Haifa's Carmel Port. The plans at Ashdod are to provide container terminals for panamax ships with deep-water depth and large operational areas (325 acres). They are to begin operations in 2004 and 2005, respectively, and are expected to open port facilities to greater competition in the prospect of future peace settlement. 26 We can’t forget that Israel unlike the other countries on the Mediterranean coast is considered to be one of the high-industrialized countries in the world, having enough governmental funds to invest in the country’s infrastructure.

In Beirut on the other hand, the government is not willing to finance the development of the railway that would run from Beirut to Tripoli despite the importance of this link for the transit traffic to Iraq because of the tremendous capital cost of this highway. This may affect the future of the port by reducing its ability to handle more traffic. In addition to this, the port of Beirut needs major restructuring in information system and labor reform that could be very costly and probably not affordable by the government. This compares to the ports of Syria, which also require major additions, and improvements that may not materialize because of the poor economy. The situation in Lebanon differs from that of the Gulf countries where funds have always been present to invest in public goods. It is clear that in order for the Port of Beirut to compete, private capital will need to be
injected at some point viewing the current financial situation of the country. It is important to note that despite the high capital costs of new ports, most of the Middle Eastern countries have been relying on national and local governments as well as on private operators to undertake the investment projects in their ports. The safe investment climate that relatively exists in Egypt, Jordan and the Gulf countries has made the task easier in these countries. It is clear that a private port operator in Lebanon couldn’t undergo all these expenses unless he was certain of the economic potential of the port and could obtain a safe investment climate from the government.

2.3.2.2 New distribution patterns

The increased use of containerized ships compared to general cargo has rendered the ports with no adequate and up to date facilities obsolete, thus shifting the traffic to ports that are more specialized. In the Red Sea for example, Salalah and Aden have attracted transshipment traffic that used to be destined to Colombo and Dubai due to massive investments in new facilities. In some instances, the use of overland transit to access the required hinterland may redirect the shipping pattern and provide competition to a port that is more locally sited. Indeed a port that can provide savings on time by allowing a more direct route to goods can win favors of shipping lines specially if the transport costs are not very much affected. In the coming years, if peace is reinstated in the region, challenges will appear to the port of Beirut and the ports of Syria from the port of Haifa because of the shorter distance that exists between Haifa and the population center in Jordan and because of the better structural adequacy of its port. There is also a threat that a bigger proportion of goods in destination to Iraq transit through Latakia rather than Beirut because of the existence of a railway that could reduce transport time. Some ships
may also choose to transit at Beirut and have their goods transported to Saudi Arabia or Kuwait rather than cross the Suez Canal because of the fees and time. It is clear however that the countries, which will move first to develop their road infrastructure and upgrade their railway system, will gain a larger share of the market. In a later analysis I will consider the various shipping alternatives with the various factors that affect them.

2.3.2.3 Natural barriers

Natural barriers that constrain port capacity such as land available for storage and berthing can reduce the threat of new entrants because these barriers are usually hard and costly to overcome. Egypt for example has 12-thousand storage area, making it the most spacious of its kind in the Middle East capable of absorbing wide-scale containers trade. Jordan has no physical barriers for expansion especially after the waterfront exchange it established with Saudi Arabia. The Port of Beirut is limited by land area and plans of extending north and into the sea are being considered. Its location in the economic congested heart of Beirut renders plans for expansion (new storage area for containers) quite difficult.

2.3.2.4 Cost advantages and customer loyalties

The cost advantages that economies of scale and experience provide can enable established operators to retain their position in the port as cost leaders. Any new entrant would have to establish a whole new network of infrastructure in the port, get familiar with the local regulations and eventually limit himself to the unutilized land. Furthermore the quality of service offered can affect the threat of new entrants.
2.3.3 Presence of Substitutes

The third force that will shape the competition is the potential of port users to shift to other global sources. This force becomes more important as sources of supply become increasingly global and available and vertical integration gains more weight in the logistics chain.

2.3.3.1 Other global sources for products moving through the port

If a customer shipping through a certain port can source his products elsewhere, this will impact the level of activity in the port. Various types of fruits and vegetables as well as textiles, which are the main export products of the East Mediterranean countries, can be sourced in Lebanon, Syria, Jordan or Egypt. Therefore if these products increase in price or aren’t handled efficiently in one port, exporters can easily change trading partners and this will seriously impact the level of activity in the port.

2.3.3.2 Magnitude of switching costs for substitution

“There may be significant costs in switching to other products or assembly sites that will impact the ability of port users to substitute globally. The greater this cost, the greater the port bargaining power”. 27 Most ports in the Middle East region are increasing their value by creating industrialized zones in their vicinity to generate jobs and revenues. Most of the activities in these zones are related to the integration of imported intermediate materials with domestic goods to produce a final good destined to foreign markets. These services can sometimes be costly to replicate specially if the local labor force is cheap. Egypt has created in most of its ports an industrialized zone and will benefit from its cheap workforce. In Dubai for example, the large free zone in the port of Jebel Ali allows tenants to import and assemble intermediate products utilizing an inexpensive expatriate
labor force. While this assembly process can be replicated in other free zones, labor cost can’t be as low. The Lebanese labor force is more expensive than the Syrian force, which is often employed in Beirut and other cities to save on costs. It is clear that currently the Port of Beirut has a low bargaining power that may lead to loss of customers. Therefore it is important for the Lebanese government to think of the economic impact of a cost effective industrial zone so as to attract assembly companies and increase its bargaining power.

2.3.3.3 Importance of port costs in total delivered price

The relative port related costs to the total product price will have a significant impact on the final choice of the port. Port related costs include terminal handling charges, customs formalities and other various miscellaneous costs. The higher the percentage that port costs are of total costs, the more the port costs will have an impact on the buyer behavior. For high value commodities like electronics, a change in port related cost would have little effect on the total price in contrast to a change on low value commodities such as food. Shippers will therefore be affected differently by changes in port charges. Lebanon falls in the category of a low value good trader, creating a high sensitivity for importers and exporters when port charges fluctuate.

The port charges at Aqaba are considered to be the lowest compared to other ports in the region. Indicative port handling charges for a 20 ft container are US$84 for Aqaba, US$128 for Latakia, US$175 for Beirut and US$79 for Haifa. Port tariffs in Beirut are higher than in the neighboring ports. The fees in Jeddah are even lower (US$95). The high shipping costs at the Port of Beirut are one of the reasons why the Iraqi’s, formerly the prime customers of the port are not inclined to use Lebanon as a port of call. Transit costs
in Beirut are also relatively high. The transit cost of a container to Iraq for example is 70% higher than in other ports. The container is indeed subjected not only to transit charges at the port but also to charges at each custom checkpoint. Tariff will therefore be an important factor in governing the pace of development of traffic through the ports. The perspective of transit traffic growth will depend on the tariff offered as compared to other competitive ports in the region.

It is clear that importers and exporters of products will have some leverage in determining which port to choose as a transshippment hub or transit gateway. However since their main concern will be cost, they will exercise their bargaining power with the ports that offer the best economic solution.

2.3.4 Bargaining power of port users

The various port users such as shippers, carriers and operators have varying degree of power over the port’s management and operation.

2.3.4.1 Concentration of port user power

The more a port user has control over a large percentage of traffic within the port, the more bargaining power he will have when negotiating with the port management. There are numerous shipping companies serving the Port of Beirut (around 22) having almost all the same share of the market. Therefore we can’t say that these carriers currently have major bargaining power over the Port Authority.

2.3.4.2 Importance of port to the economy

The more a port generates revenues for a country, the more there will be pressure on managers from local governments to retain their customers and to maintain smooth
activities. In Saudi Arabia for example, the economy is heavily dependant on its ports, which handle around 95% of trade with the outside world. The ports constitute the key to the country’s economic welfare. In Lebanon, the Port of Beirut account for 40% of the treasury’s revenue and the government has been trying to increase the port efficiency in order to guarantee more revenues. It is important to note that the Lebanese government currently receives 70% of the port revenues. 29

2.3.4.3 Presence of large value adding tenants

The presence of value adding tenants that employ a large number of personnel and that contribute substantially to the local economy can generate bargaining power for these tenants. Currently there are 15 stevedoring companies that are working in the port, employing a major proportion of the labor force in the port and using their power to prevent the Port Authority from replacing them with more specialized handling companies.

2.3.4.4 Ability to replicate port services

Port users will have strong bargaining power if the service provided by the port can be replicated by other ports. This is what is happening now with the shifting of most carriers from the port of Dubai to the port of Salalah and Aden that can offer the same services but at a cheaper price. Unless the Port of Beirut capitalizes on its position, carriers will easily shift to other ports that may be more equipped to handle larger fleets and more efficient in their operations.
2.3.4.5 Facility investments by ports users

A shipper who has made major investments in port facilities face high switching costs that limit bargaining power. For example in Salalah, the shipping line Maersk Sealand is a major investor in the new terminal along with the Government of Oman. It is therefore very costly and difficult to leave the port facility if there isn’t enough satisfaction from the port activity.

2.3.5 Bargaining powers of service providers

2.3.5.1 Experience and capabilities of service providers

The greater the experience and capabilities of an operator, the more power it will have in dealing with the port. A contractor that has operated in a port for so many years, that has got to know the local language and laws of the country that are quite different from the European and American law, that has assembled and trained experienced local professionals and that has invested a large amount of equipment, will have more leverage power than any other new operator. Large global terminal operators like the DPA and the PSA have a good bargaining position because of their unique international experience and their access to foreign financing and markets. When the DPA backed up from its agreement with the Lebanese government it clearly used its leverage power. For two years now the new container terminal has been laying idle because of the ability of large service providers to back up when conditions aren’t to their benefits.

2.3.5.2 Participation in facility financing

A service provider that participates in the financing of a port activity is in a better bargaining position than one who does not. Port services that are privately operated as
concessions will involve financing from the operator. In Aden for example, the PSA Corporation contributed US$200 million as a private operator to the development of the port. In Al Sokhna for example, the Seattle based stevedoring service will participate in 25% of the port financing. \(^\text{25}\) In the case of Beirut, the willingness of private operators to participate in financing was not very high until now due to the country’s political and economical risks.

2.3.5.3 **Choke points in the port**

Choke points in the port that can cause slow down or stoppage of port operations are often used by employers to extract concessions from the port. The port of Beirut for example has witnessed in the month of May 2002 a labor strike because the issue of privatization was discussed. The recent strike that occurred in Ashdod, Haifa and Eilat created a backup of vessels in the ports. Labor issues will me a major concern when the question of reform will be introduced.

“In conclusion ports no longer operate in an isolated environment. They face the same competitive forces that companies in other industries experience. There is rivalry among existing competitors, continuing threat of new entrants, potential for global substitutes, presence of powerful customers and suppliers.” \(^\text{30}\) Dealing with these forces will be a continuing challenge for the Port Authority. It is important to note that the port competition in the Middle East region takes on a different aspect from a competition that would occur in other ports of the world. This difference is linked to the political environment that has been prevailing in these countries for decades. The strained relations that have started to emerge with the creation of the State of Israel in 1947 have
evolved into war years later and have profoundly marked the whole region. Because of the continuous destructive policy followed by Israel, most of the Arab countries have cut their economic relations with this country. By being isolated from the rest of the Middle Eastern countries and by being present at the same time in the heart of the trading route linking East to West, Israel has changed the very basic game of competition. For the time being and most certainly for the next 5 to 10 years to come, we won’t be able to talk about a level and fair competition in the area. The trade patterns and the role the new players will endorse will be shaped by the whole regional peace process. Countries will have to redefine their policies and markets in function of this whole array of political relations. In an ideal world of peace and cooperation, there would be a range of ports lying on the Mediterranean coast, spanning from Turkey in the north to Egypt in the south that would be competing on a level playing field as transit gateways to the Arab and Asian Sub-continent and as load centers to the European and American markets. Israel would be the gateway to the Gulf countries and to Jordan, Iraq and Syria and it would be competing fiercely with the other ports to serve the same markets. However with one player strategically located on the trade route, and at the same time isolated from the hinterland the whole mechanism of competition is transformed. Israel doesn’t therefore constitute currently a competitor as a transit gateway for the Arab countries. Its role is mainly focused on import and exports.

It is clear from the analysis that the current economical situation in Lebanon has rendered the bargaining power of port users and service providers quite high at the port. Because of the presence of new distribution patterns for containers and the investment in new container facilities at the various ports in the region, service providers have an array of closely located ports they can choose from. It is clear that the port that will offer the more
advantage in terms of cost and efficiency will win the favor of users and providers. The Port of Beirut doesn’t currently have sufficient financial means on its own to raise the funds required to develop and improve the port and therefore has no competitive advantage over other ports with more financial autonomy like Dubai and Israel. Beirut however presents the natural potential of competing as a transit gateway rather than as a transshipment hub mainly due to its location. It will be competing with the ports of Egypt, Syria, Jordan, Dubai and Saudi Arabia not only for hinterland access but also for other criteria such as the presence of an expanding intermodal freight transportation market and port structural adequacy. Compared to most of the ports of these countries, Beirut has still a long way to go in terms of port structural adequacy. There is definitely a potential for transit demand especially thanks to the Iraqi market but Lebanon has to be able to overcome the inefficiencies largely present in its port operation and to orient itself towards establishing best practices in the port management. It has to redefine the future role of its port and develop policies that match this role. Most importantly the government has to be able to think more globally and try to view the economic impact of the port activities in terms of the added value the port related industries could bring. It might also want to look at improving the capacity of its other ports (like Tripoli) that may be beneficial for future expansion given the constrained area around the port.

2.4 The Transit traffic and the comparative advantage of the Port of Beirut

The most important indicator of competition between the mentioned ports would be the degree to which shipping lines have transport options when deciding to transfer goods from one point to another. The number of options depends as have been shown previously on the technical capabilities of a port, the available inland connections and the overland transport costs. Thus the first step in assessing the competitiveness of the Port of
Beirut and its transport system with respect to the other ports is to identify the lowest cost option for transferring goods coming from the Eastern Mediterranean and heading towards the Middle East. I will be considering the countries that represent major potential future destinations for the transit traffic passing through Beirut and establish a cost and time comparison for goods transiting through the other various ports.

For accessing the Iraqi market, there are the most obvious possibilities of transiting through Beirut via Damascus or through Tartous or Latakia. The cost comparison shows that the costs of transiting through Beirut are 30% higher than the ones through Latakia whereas the time of transit in ideal conditions would be lower from Beirut (See Tables 2.4 and 2.5). The border procedures have actually rendered the time to transit to almost double compared to a transit without the Syrian borders. Not only this, transiting through Latakia offers the advantage of using the railway system that goes straight from the port to Baghdad. This definitely constitutes a saving factor in time. It is true that we might argue that the handling equipments in the Syrian ports are not yet adapted to the new containers and the needs of shipping lines, but overall transiting through Syria is not only more economical cost wise but also time wise.

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<tr>
<th>Table 2.4: Cost and time data for traffic transiting from Beirut to Baghdad</th>
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<tr>
<td><strong>Cost Components (per 20' containers)</strong></td>
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<tr>
<td>Terminal Handling charges</td>
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<td>Port dues for cargo in transit</td>
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<td>(15 days fee of storage)</td>
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<td>Custom formalities + *</td>
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<td>Unstuffing of cargo +</td>
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<td>Lift off/ Lift on +</td>
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<td>Various miscellaneous +</td>
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<td>Loading cargo on truck</td>
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<td>Trucking cost **</td>
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<td>Visa on border</td>
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<td>Transit tax at Syria</td>
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<td>Iraq manifest fees</td>
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<td>Total fee if Iraqi truck</td>
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<td>Total fee if Lebanese truck</td>
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**600$ is for Iraqi trucks and 750$ for other trucks

Table 2.5: Cost and time data for traffic transiting through Latakia to Baghdad

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<tr>
<th>Cost Components</th>
<th>Cost</th>
<th>From</th>
<th>To</th>
<th>Distance</th>
<th>Road type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fee if 1 container/truck</td>
<td>$1,250.00</td>
<td>Latakia</td>
<td>Homs</td>
<td>167km</td>
<td>Good condition</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Homs</td>
<td>Baghdad</td>
<td>850km</td>
<td>Flat terrain</td>
<td></td>
</tr>
<tr>
<td>Total fee if 2 containers/truck</td>
<td>$775.00</td>
<td>Total</td>
<td>1017km</td>
<td>Total</td>
<td>&lt;1day</td>
<td></td>
</tr>
</tbody>
</table>

I have to note that there are still other possibilities of accessing Iraq through either the port of Basra in Iraq or through the other ports of the Gulf. Interviews with shipping lines have shown however that turning the whole Arabian Golf would take at least 15 days, which is not comparative to the time of transiting directly at either Latakia or Beirut.

Again when comparing the competitiveness of the Port of Beirut to the port of Latakia or Tartous and Aqaba for the transit traffic bound to Amman, it is clear to us that the cost of transiting at the Port of Beirut in direction to Amman is not economical. It is true that Beirut is closer to Amman than Syria but here again the high taxes and the delays at the Syrian borders offset the closeness of the Beirut Port (See Tables 2.6, 2.7 and 2.8).

Table 2.6: Cost and time data for traffic transiting through Beirut to Amman

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Cost</th>
<th>From</th>
<th>To</th>
<th>Distance</th>
<th>Road type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port dues</td>
<td>$75.00</td>
<td>Beirut</td>
<td>Damascus</td>
<td>105km</td>
<td>Upward slope</td>
<td>~2h30m</td>
</tr>
<tr>
<td>Free out expenses</td>
<td>$175.00</td>
<td>Damascus</td>
<td>Amman</td>
<td>210km</td>
<td>Good condition</td>
<td>~3h</td>
</tr>
<tr>
<td>Land Transport&amp; border expenses</td>
<td>$800.00</td>
<td>Total</td>
<td>315km</td>
<td>Total</td>
<td>~3days</td>
<td></td>
</tr>
<tr>
<td>Syrian Transit taxes</td>
<td>$250.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance formalities fees</td>
<td>$350.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$1,650.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.7: Cost and time data for traffic transiting through Aqaba to Amman

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Cost</th>
<th>From</th>
<th>To</th>
<th>Distance</th>
<th>Road type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port dues</td>
<td>$103.00</td>
<td>Aqaba</td>
<td>Ma'an</td>
<td>118km</td>
<td>Good condition</td>
<td>1h30m</td>
</tr>
<tr>
<td>Free out expenses</td>
<td>$84.00</td>
<td>Ma'an</td>
<td>Amman</td>
<td>210km</td>
<td>Good condition</td>
<td>~3h</td>
</tr>
<tr>
<td>Land Transport&amp; border expenses</td>
<td>$268.00</td>
<td>Total</td>
<td>328km</td>
<td>Total</td>
<td>~4h30</td>
<td></td>
</tr>
<tr>
<td>Syrian Transit taxes</td>
<td>$0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearance formalities fees</td>
<td>$50.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$433.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suez Canal fees</td>
<td>$680.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$1,185.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 2.8: Cost and time data for traffic transiting through Tartous to Amman

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Cost</th>
<th>From</th>
<th>To</th>
<th>Distance</th>
<th>Road type</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port dues</td>
<td>$63.00</td>
<td>Tartous</td>
<td>Homs</td>
<td>96km</td>
<td>Good condition</td>
<td>~1h</td>
</tr>
<tr>
<td>Free out expenses</td>
<td>$21.60</td>
<td>Homs</td>
<td>Damascus</td>
<td>162km</td>
<td>Good condition</td>
<td>2h</td>
</tr>
<tr>
<td>Land Transport &amp; border expenses</td>
<td>$350.00</td>
<td>Damascus</td>
<td>Amman</td>
<td>210km</td>
<td>Good condition</td>
<td>~3h</td>
</tr>
<tr>
<td>Transit taxes</td>
<td>$100.00</td>
<td>Total</td>
<td>Total</td>
<td>468km</td>
<td>Total</td>
<td>~6-7h</td>
</tr>
<tr>
<td>Clearance formalities fees</td>
<td>$70.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$604.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We can notice that the Suez Canal fees render the passage through Aqaba less economical than through Tartous.

As for Syria, Lebanon used to be a major partner of the country. Back in 1895 Lebanon was endowed with a railway system that was one the first in the Arab World and that transported about 250,000 tons of freight between Beirut and Damascus. This line was destroyed during the war and currently as nearly all of this traffic goes by road. Efforts to increase interaction between these two countries have materialized by the construction in 1990 of the Damascus-Beirut highway designed to overcome the traffic jams and facilitate transit trades with neighboring Arab countries, with Syria being at node of this traffic. Syria’s Economic heart Damascus is closer to Beirut than to Tartous or Latakia, so it always made more sense to have cargos transported by land to Syria and thus to improve the transport link between the two capitals. The time required to go from Beirut to Damascus is shorter than the one required to go from Latakia or Tartous. However the cost of transiting at Beirut is higher because of the Syrian tax and the borders formalities.

I have to note that the transit traffic through Haifa or Ashdod was not considered because of the current political situation.

Another interesting market to consider is the Saudi market. Gathering data for this market was very tedious because of the lack of information of the cost components at the borders. According to local shipping lines, transiting through the Suez Canal is a cheaper option than going through Beirut because of the high border fees. However it is estimated
that a truck going to Riyadh from Beirut and passing through Syria and then Jordan would need less time (~6 days versus 10 to 12 days by ship) than a ship to arrive to Jeddah, specially that the land connections to Riyadh are all becoming international thereby reducing the congestion on roads. What are rendering the inland transit less economical are therefore the border procedures.

I didn’t consider the option of transshipping at Egypt and then having feeder vessels taken to final destinations because of the lack of data.

Aside from the transit traffic, the import/ export traffic will be important in the Middle East region. It is understandable that the boom once know in the Gulf region will not be seen again but the emergence of new markets such as Iraq and the continuous need of agricultural products will keep Lebanon a major exporting partner in the Arab region as shown before.

In summary, looking at the data clearly show that the Port of Beirut has no chance of currently competing with the ports of Syria or Aqaba for the Arabian transit market viewing the existing internal and external factors that are making both time and cost higher than the average. There are definitely major reforms that need to be done internally and externally in order for the country to even hope to become a transit gateway.
Chapter 3

Strategies and policies for regional competitiveness

What will take Lebanon to be competitive in the region?

The Port of Beirut is strategically located on the main trading route but this was not enough in itself to turn it into a major load center for the last coming years. Indeed the port suffers from poor structural adequacy, lack of a specialized labor force, poor management, hefty delays, high costs, underdeveloped road networks, a local weak demand and finally a very bureaucratic judiciary system that has been the cause for the stagnation in the port. Thus in order for the port to emerge as a transit gateway and to emerge as a main regional trading partner (major exporter in the region), major internal reforms as well as external political changes have to occur.

3.1 Internally?

3.1.1 Develop its intermodal freight transportation market

The advance in fast technologies coupled with the increased needs of industries have induced a gradual shift in international transport from a segmented modal approach to a more dynamic integrated transport chain. Ports are witnessing a shift in their role from a final end to a node for transferring cargo between ships (modes) to the transport chain (link). The relative importance of ports in the logistical chain is therefore being reduced. Smooth interaction between the port and its surrounding city and countries in terms of transport network requirements will therefore constitute a prerequisite for an effective delivery of integrated logistics services. The port of Beirut potential future will lie on its ability to turn into a major node in the transport chain and ensure an effective transition
from water to land with an efficient inland transport system that could serve an increasing and disputed hinterland. Intermodal transport main objective would be to shorten ocean transport distances and reduce total transport times. Meeting this new global vision will require improving the region's infrastructure. A better infrastructure will attract shippers who will desire that their goods find their way into the hinterland as quickly as possible. The first step would be to provide adequate handling equipments that would speed up the handling process (like high speed gantry cranes), the unloading of containers and then their loading from the yards into the trucks. This phase would have to be supplemented with the use of computer technology that would optimize the handling process. After having introduced improvements to the unloading/ loading process, the second step would be to ensure the presence of an adequate land mode by building underpasses, bridges and other modes of transport to smooth the flow of traffic from the port to the hinterland. Adding to these elements will be the improvements in service frequency and quality, improvements in vessel and truck handling, roadway and equipment utilization, reductions in intermodal storage, effective use of IT and EDI for communication and elimination of physical inspection and hard copy documentation. All these elements will combine to ensure an effective coordination between the shippers and the port and then the ports and the final destination. Land transport is however quite expensive and users will only shift from their current mode to the land mode if the latter can provide them with great savings in time. I have to note that in the case of Lebanon, political factors are highly intertwined into the system and therefore may render the achievements of land improvements rather slow.

Because of the importance of the Syrian market, the Lebanese Government is seeing the necessity of establishing an efficient inland link with the country. Given that the
economic heart of Syria is Damascus, developing the Beirut-Damascus link is of prime importance. A new highway project linking Beirut to Masnaa is now on the launch to tie in with the Arab Truck Road. Parts of this highway are being improved so as to render the truck climbing easier. A road connecting this truck road with the port itself is planned to ease the flow of containers.

Ultimately being able to move freight by rail again would be the ideal way to clear bottlenecks on the Beirut-Damascus road, a possibility that may gain support in the future in light of the resurrection of the Beirut port. It is to note that this link used to exit and was the first railway to be built in the Arab world in 1895.

Another interesting road network to develop that would link Beirut to Syria from the North would be the Beirut- Tripoli link that could be improved by building a highway adapted to trucks. This road will then be tied to the Tripoli – Abboudieh rail-link that is now in rehabilitation under the supervision of the Lebanese government who has allotted a budget of US$25 million to complete the works by the year 2005 and that would serve the north of Syria. This single rail track will tie in with the Syrian railway network at Abboudieh near the border. It is to note that the Syrian railway network is interconnected to the Middle East and central Asia regional network encompassing Turkey and Iraq. It would be even more interesting to rehabilitate the existing rail network that currently exists between Beirut and Tripoli so as to reduce transport time and time lost to unload containers from trucks and to load them back into the railway. Developing the Beirut-Tripoli link is important not for the Syrian market in itself which is mostly located in Damascus but for securing a link to Baghdad through the railway system.

It is clear that the development of a rail system could definitely increase the movement of goods between the producers and consumers and provide a more environmental friendly
solution. However to date, the Council for Development and Reconstruction has no plans of investing in a railway because of the high costs that would be incurred: “Apart from debates and discussions at government level, there aren’t any plans to revive the railways. It is simply too expensive because everything has to be rebuilt.” However the importance of a railway for Lebanon’s traditional role as a regional distributional center that would link the various neighboring countries up to Istanbul has always been recognized by the Arab world. Again going back to Lebanon’s history we notice that from 1906, there was a vision of linking the countries of the Mediterranean strategically. Plans to expand into TransJordan and build a coastal railway northwards from Haifa was being considered. “The system was meant to become the ideal infrastructure for the whole Ottoman Empire. The Germans, who built most of the railways for the Turks, had their own agenda. They wanted a direct link from Europe, through the Middle East to North Africa. The train was meant to be an integral part of the German empire building.” It is clear that being able to implement this global idea would require at first a regional peace that is currently not even close of being achieved. It would make more sense to start gradually by establishing rail links with some countries and lay down the necessary infrastructure in view of further interaction. This concept of linking the countries of the Arab world is comparable to the idea of linking Singapore with Europe. According to the International Union of Railways, India, Iran, Pakistan, Bangladesh, Turkey and Singapore have plans to cooperate in the future to develop railway links in their respective countries in the view of future integration. Lebanon and Syria can compare to Seattle and Tacoma in the US in that they both share common interests and common hinterlands. Seattle and Tacoma had a vision of improving the position of their ports through cooperation that has materialized by the
creation of the FAST corridor that would speed up the flow of goods between the two ports. This project will eventually include the creation of on-dock rail facilities that would tie to the rail network. In short on dock-rail systems are systems where the railheads end as near to the quayside as possible so that the boxes can be transferred from the ship into the yard and then on to the rail. This lessens the need for sizable terminal yards and separate intermodal exchange facilities. An added advantage of this system is the use of the more environmentally friendly transport mode of rail rather than road. It would be ideal to have this concept implemented between Beirut and Syria and the rest of the Arab regions. It is to note that the relations that Tacoma and Seattle have developed can’t compare to the relation that currently exist between Lebanon and Syria and no one can predict what direction it could take in the future.

The other important link to develop is with Jordan. Lebanon and Jordan are currently holding talks on the possibility of linking the two countries by transport mean to facilitate the local import/export traffic as well as the traffic bound to Jordan coming from the Mediterranean. Jordan’s transport sector is one of the pillars of the national economy, due to the strategic location of the country in the region. However, the country only access to the sea is the port of Aqaba on the Red Sea and therefore can’t be expected to turn into a major gateway to Europe. Jordan and Lebanon could reach an interesting complementarity in transport by creating an Aqaba Beirut land axe. The benefit would also be great to Jordan who would be able to save on the fees charged at the entry of the Suez Canal. The inland strait line distance from Amman the economic center of Jordan to Beirut is of 325 km. This line would cross Syria next to Irbid and then travel south to Amman. This road would be beneficial for ships coming from Europe who would bypass the Suez Canal and the bifurcations made at the entrance of the Gulf of Aqaba and...
therefore save on time. The only drawback would be the fact that the road would have to pass most probably in the Golan Heights, which is not currently a safe crossing point for trucks. Another possibility would be to transport goods from Beirut to Damascus via the highway and then link to the Hijaz railway that currently runs strait from Damascus to Amman passing through Mafraq and Az Zarqa. This railway track connects Damascus with Madina in Saudi Arabia via Jordan. Currently the railway is not very effective but Jordan is aiming at expanding it.\textsuperscript{28} It is important to note that using Beirut as the transit port for Jordanian bound goods would only make sense if the border problems are resolved. Otherwise, as has been shown previously, transiting through Aqaba is cheaper than transiting through Beirut.

Iraq on the other hand is a major potential gateway if appropriate infrastructures are laid out between the two countries. Improving the Beirut- Damascus link would be the first step. Then being able to establish a railway link from Damascus to Baghdad would speed up on the transport time. There doesn’t exit currently any railway connecting these two cities. The only rail network is the one going from Homs to Baghdad crossing the Abu Kamal region and is quite effective. On April of 2002, the Prime Minister of Lebanon signed an agreement to expand trade and economic ties between the 2 countries. This new agreement will help enlarge economic and trade cooperation. A Committee was also formed to develop a formula concerning land transportation of passengers and goods as well as transportation of goods by rail, in the framework of the two states' desire to develop their economic and commercial relations. According to customs statistics, total trade between Lebanon and Iraq reached US$79million last year but experts estimated that this figure is actually close to US$400million. The problem with Iraq is that actual
figures are never publicly disclosed. Lebanon hopes that the free trade accord will help it regain Iraq as its top export market.

As for the other countries in the Gulf region, possibilities of land access via Beirut are highly optimistic. Indeed prospects for inland transport may open up with Saudi plan to build a new railway link between the inner cities and another international rail network in preparation for a link to Europe. The interregional line valued at around SR10 billion (US$2.7 billion) will be linking the country’s eastern coast (through Dammam on the Persian Gulf) with the Red Sea (through Jeddah) in the west and Riyadh in the north west. “The railway is vital for the development of phosphate mines in the northern parts of the country, where deposits are said to be around 7.8 billion tons. If implemented, the project is expected to boost overall cargo shipments by 19.5 percent to around 30 million tons and transport more than 20 million passengers annually.” 36 The above link will be supplemented with a Dammam-Jubail-Quriyat (See Fig 3.1) railway that will be connected to the Gulf railway that would run north to Jordan and then continue to Syria. 37 This whole network (that would be for containers and potash use) could be of importance to Lebanon since it could be used to transport goods from the port via Syria and through these lines to the center of Saudi Arabia. The development of these lines could definitely bring value to the transit traffic coming to Beirut by reducing the time needed for the movements of goods.
In general, I have to note that the railway system by its nature will eliminate the border stops and the search procedures at the border of each country. The time saving will therefore be tremendous.

Recently, Jordan, the United Arab Emirates, Syria, Palestine, Lebanon, Egypt and Yemen signed a land transportation agreement, which was an important event in setting the step to further cooperation in the region awaiting future peace prospects. It is clear from the above analysis that Lebanon presents lots of potential for the future but much need to be done for the cross-border procedures.

In other ports of the world, we are witnessing a vertical integration of modal and intermodal service providers to improve on economies of scale and reduce cost. This of course will require that a relatively large shipping operator in Lebanon be willing to merge its shipping services with inland services such as trucking and inland depot.\textsuperscript{38}
3.1.2 Implement customs reform

In the case of Lebanon, land improvement goes beyond infrastructure works, to encompass juridical transport issues such as Customs. Customs are responsible for the collection of cargo-based duties and the enforcement of the general public procedures and policies related to international trade. Customs at the Port of Beirut used to hinder the efficient movement of cargo through their lengthy procedures and excessive regulation thereby adding cost and delay. However their behavior was mainly guided by the Lebanese law and by the interpretation that was made back in the context of the Napoleonic code in 1954. It became obvious that in order for the port to become a major center for transit trade in container traffic its Custom Law had to be changed. Since April of 2001 a new and modern customs law was therefore implemented. It simplifies and expedites custom procedures at the port, adopts international standards for the valuation of goods, applies modern and fair dispute settlement procedures and allows for electronic declaration of goods. This new law has reduced delays and administrative hassles in clearing imported products through customs ports. Application of this law has been facilitated by the adoption of NAJM, a customs clearance automated information system.

The key objective of NAJM is to facilitate Lebanon's international trade and enhance Lebanon's trade competitiveness while maintaining adequate compliance with national laws and regulations.

The key in customs reforms is to change the role of Customs from a ruler or police mentality to that of a trade facilitator and partner. Introducing container scanners will save on the delay caused by opening each one for inspection. It is of importance also to establish a custom training institute that will set the minimum standards of competence within the custom service and that will offer qualifications to personnel.
If efforts are being made in the view of improving custom procedures at the ports, other customs hassles has to be dealt with. Indeed there are numerous custom stops that exist from the port to the final land of destination and that renders the truck driving longer. Trucks have to declare their goods at each border and goods are subjected to search. The ideal would be to establish a "one stop shop" which would be at the port where all controls can be done and paid for in one place. The other solution would be to have more qualified staff at the border so as to speed up the clearance procedures.

3.1.3 Facilitate cross border procedures
Cross-border procedures are considerably reducing the Lebanese product competitiveness not only for the transit market but also for the local regional market and steps should be taken to resolve the issues that are impeding the flow of traffic through the port. Although Lebanon has signed the TIR agreement, there are still cross border hindrance with Syria, who also signed the agreement. The agreement seems not to have been enforced. This situation is directly impacting the ability of ports in Lebanon to compete for transit traffic. The Government should definitely renegotiate the existing bilateral agreements to remedy the situation and to reduce border procedures. This move is essential and urgent given the need for Lebanon to revitalize its port activities by regaining its regional role as a major port of transit. The time lost at the border to pay for the transit fees and container fees as well as the other formalities is a major hindrance for the traffic. The fact that trucks have to wait in line so that other trucks accumulate at the border has caused delays of one to two days. This should be eliminated and trucks should proceed to move as they cross the border.
3.1.4 Develop its free trade zone

Developing a free trade zone or re-export zone will provide an added value to the port through the creation of industries and the generation of jobs that are much needed in the current economy. Lebanon is traditionally a country with a free and open trade regime and its free trade zone was considered to be the strongest and most important trading place in the Middle East until the war destroyed it and stopped its operations. Since the end of the war new strategies to rebuild the area and turn it back to its initial status were implemented. These have led to the reconstruction of the Beirut Free Trade Zone with an area of approximately 100,000 square meters, a warehouse of 6,000 square meters and 3 new buildings. The free zones offer business and financial incentives, including the possibility of a 100 percent foreign ownership, customs exemptions for goods entering and leaving the free zone, long-term low-cost land and building leases, and low-cost utility rates for industries. The ideal would be to have assembly companies that would procure their raw materials at the ports and then assemble them into final products that would be delivered to Arab markets. Efforts were made to develop the assembly of cars however the Turkish competition has rendered the operation not feasible. The integrated industry wide supply chain logistics operation could provide opportunities to Beirut by virtue of the combination of location, labor availability, skill and financial institutions. Of course to attract this type and other value added and high-level employment generating industries, effective free port industrial infrastructure must be developed. By being located in the economic heart of Beirut, the free trade zone could be attractive to investors if there is an efficient road network that would allow the goods to be transported to their final destinations. Therefore the idea is to supplement the Free Zone area with an adequate infrastructure that would render it attractive to companies
(infrastructure including road, water, electric power, sewage, telephone..). The warehouses in the zone could be also effectively used by leasing them to private companies that will ensure a certain revenue stream for the port.

The importance of the free trade zone was captured by Egypt and Jordan, which have both moved to improve on the economic zones around their ports in order to encourage inward investment and the creation of jobs. Economic solutions should always be at the heart of any government decision. The ideal would be for more ships to direct call at the Port of Beirut as the value offered by these zones increases.

The Free trade zone could gain more importance as more agreements are signed with trade partners. Since the beginning of the 90’s, Lebanon has been establishing trade agreements with its neighboring countries. So far Lebanon has signed bilateral free trade agreements with four Arab countries: Syria, Egypt, the UAE and Kuwait and is currently negotiating two more with Saudi Arabia and Bahrain. Lebanon, an observer in the World Trade Organization, a signatory to the Greater Arab Free Trade Are, initialized the Euro-Med partnership agreement this year with the 15-member EU that is aimed at establishing a free trade area in the Mediterranean region by the year 2010. Existing bilateral agreements in the Arab world were easy to sign, but difficult to implement as most of the agreements to date are always more favorable to one country and not to the other.

3.1.5 Implement trade Process reforms

Reforming port processes will play an important role in increasing the efficiency of port operations. The presence of a wide range of disparate activities and of human resources at the port will require an efficient management system to effectively utilize the resources, facilitate the flow of payment between port users and provide accurate information. Port
users are currently demanding more timely information to support their logistics systems and therefore expect the presence of a system that will meet their needs. There need to be a system of integration between the various enterprises within the port such as the Customs, trade professionals, terminal operators, truckers, ship forwarders and traders so as to allow constant coordination between them. The reform will involve introducing control IT systems and creating a paperless port through EDI or electronic data interchange. It will provide real time data on the status of cargos, availability of port facilities and will enable ships and terminals to be part of an integrated office infrastructure. It will also allow for a better utilization of all ports assets and equipments through the ability of balancing the use of key resources. Terminal yard management system will be needed to plan and control operational resources such as the location and status of containers and to transfer real time data to truck drivers whom will know where to pick up and drop boxes and thus facilitate the loading and unloading of their vehicles. Terminal management will also assist in freeing up space and optimizing the use of ground slots for container. This will tremendously reduce ship delays on shore that won’t need to wait for space to free up to unload their containers. Underlying all this is the fact that the system can be a vital source of management information, providing a means of obtaining data on resources deployed, performance, productivity and cost and thus allowing the Port Authority to continuously improve on the port operation. These elements are basic information technology requirements in a terminal that ports wanting to compete globally need to be implementing.

Higher technology can go further with the use of automation of functions at the container terminal and the use of GPS or global positioning system. The latter system is designed to locate moving units such as containers, trailers or trucks and then send the information to
a processing center. Of course these processes are not a necessity for the port of Beirut at
the moment, which has much to do before. Investments in IT technologies have lagged
behind in the port because the high employment rate at the port has caused authorities to
leave things as they are. The use of IT in port management systems is relatively primitive
with little use of EDI or electronic commerce activity. However recently the Port
Authority has constructed a networking platform powered by Cisco Systems
technologies. Established in 1996, BMB Lebanon is the Cisco Premier certified partner
that supplied and installed the Port with the networking equipment. “The system is
designed to improve interoffice communications between the three major departments of
the port: the administration building, the customs and the new terminal container
operator. This installation is part of a plan adopted by the Lebanese government to
increase work efficiency at the Port of Beirut and to stimulate its development as a major
trading center for the Levant region. Before the modernization project, there were a
number of stand-alone local area networks connecting a limited number of users in
different locations. It was too slow – as time passed the workload increased steadily, and
the old systems could not provide us with the bandwidth we needed to keep the port
working swiftly.” 42 The Port Authority has taken a major step forward as the government
has started to adapt its systems to the new e-Economy therefore following the need to
develop port information and control systems and for users to integrate their systems with
those of the ports. Today, efficient information systems make the difference between
being attractive as a trading partner and being relegated to second place. Efficiency
improvements that will result from these reforms will enhance the competitive
environment and will lead to cost rationalizations.
3.1.6 Increase environmental regulations

The growing concern about environmental protection is putting pressure on governments to implement regulations related to investing in environmental friendly facilities. Lebanon should be very strict about this issue given the current degradation of the environment that the country and its seas are witnessing. The government should most importantly eliminate the oil ballast discharge of ships into the sea. Reception tank facilities should be provided to prevent oil from sipping into the sea.

3.1.7 Insure security improvement

A heavy presence of army personnel is available on a 24-hour basis at the port gate and transit shed. Until now the port has benefited from the services of the Lebanese army that has provided a VHF control of vessel movement. The Harbor Master however no longer sees the army necessary and a new equipment Vessel Traffic Management system provided by the port of Marseilles is in the process of being implemented.

3.1.8 Restructure the port

A site visit and personal interviews in the port have shown that berth development has to be maximized and master planning be followed in the port area. Furthermore the areas behind the quays have to be adapted to store containers and have to be clearly defined. What is noticed also is the need for a maintenance workshop that is usually present in every port to repair and maintain gantry cranes, lifting equipments and other machinery. It would be advisable to have it located inside the container terminal so as to minimize the time of maneuvering. Most importantly the Port Authority has to order as soon as possible gantry cranes to cater for the future container growth at the port. It is also
important that all future plans be aligned with the general trend of bigger ships. This will require that dredging be accomplished at the new container terminal to a level that will accommodate bigger ships (depth of around 15m).

3.1.9 Compete on a low cost basis

A port, as any other company has to choose a strategy in which it will be competing. A differentiation strategy implies that the port has to be able to offer value added services that other ports can't offer. This is not currently what the Port of Beirut is following and is not likely to be so for a while, simply because the Lebanese government in the time being doesn't have the means of providing container related infrastructure that can compete internationally specially that tendering for the cranes hasn't even be released yet and the region is still far from reaching stability. Relying on private revenues would make matters more plausible but as I have mentioned before there are high country and economical risks that investors are not willing to face. So by the time the government or a private investor steps in to take charge of the port operations and introduce reforms in them, other ports would have already invested in their port facilities. We don't have to forget that the case of the port of Beirut is not similar to that of the other ports because of the 15 years of war that have caused the port to loose momentum with respect to others. The only way in my opinion the Port of Beirut can compete is by working towards a low cost strategy whereby the fees imposed on ships would be lower or even comparable to the region's standard. Ideally this would give back to Beirut an impetus to regain its historical role but practically there is an array of political issues that may intervene to render the process more difficult.
Currently tariffs at the Port of Beirut are substantially higher than those of other ports in the region (refer to the previous analysis). These include handling charges, stevedoring charges, berthing charges, fees on ship and other miscellaneous costs. In addition to the charges at the port there are the charges at the borders that are relatively high for transit traffic. Transit costs should be highly focused on because of the importance transit traffic could play for the Port of Beirut. The perspective of transit traffic growth will depend on the tariff offered as compared to competitive ports in the region. It is understandable that these costs are high because of the unleveled competition in the region and because of the inefficiencies at the port itself. We can also speculate that Syria could be exercising a pressure on keeping these costs higher than other ports so as to have her own ports benefit from the transit traffic. This is where the issue of transparency comes up and that will be very important if the port wants to compete on an international scale.

Being able to achieve lower port charges will involve introducing efficiency in operations by allowing private operators to provide container-handling services. In fact it all comes back to having an efficient organization at the port, with an efficient management system that would function as a corporation whose goal would be to maximize returns and reduce costs. By improving the internal functioning of the organization, the port would be able to reduce labor cost and increase the efficiency of port operations. Resulting of this, the port handling charges and other charges can balance back to regional levels. Cutting cost can also be achieved by recurring to automation. Transit charges could be ideally increased if agreements are renegotiated between Lebanon and Syria.

In summary the Port of Beirut needs to make fundamental changes to stand a real chance of competing with its neighbors. These changes have to come in line with the Kyoto Convention requirements and with the needs of shipping lines. There is definitely a need
for process reform that would however require institutional reforms to make then achievable.

**Externally?**

Achieving this ambition reform process will eventually require a regional peace settlement between Israel and its Arab neighbors and a redefining of relations between Lebanon and Syria. Both elements are not in sight at the moment and are, in any case, outside Lebanese control. At this point in time, in order for Lebanon to be able to compete according to international standards, a regional stability in the whole Middle East area has to establish itself. In other words, everything is linked to this concept of Arab unity. Currently the Arab world is disintegrated with countries working against each other rather than in parallel. If we think about the situation of the port of Beirut, with its strategic location, its historical role in trade and its skilled labor we develop a high optimism about the future of the port. However the reality is showing us that the country can’t compete currently as a transit gateway like it used to in 1973. Why? Transit tariffs are higher than anywhere else because Syria imposes a transit tax that other countries don’t impose. Therefore Lebanese trucks have to be subjected to taxation whereas Syrian trucks entering the country are not. On another level, truck driver have to obtain entry visas to every country they enter to and this is not always possible because some countries don’t grant visas to other countries due to political reasons. So how can we expect that trucks continue their way in a smooth manner if stops of various types have to occur couple of times along the way?

What the country needs is a global Arab integration that would materialize not only by the signature of fair trade agreements but by their applications by all parties involved.
This integration could be final with the building of a rail network that encompasses all the countries. Only at this moment barriers between countries will be removed and goods will be able to flow easily, creating indirectly competition between ports.
Chapter 4

Paving the road for private intervention

4.1 Institutional reform of the port

"Port reform connotes the changing institutional structure of the port business and the greater involvement of the private sector. Port reform results therefore in changing relationships between the public and private sector."[^43]

The increasing global trend towards containerization coupled with a push towards larger containerships, the need to create major load centers and the pressure for container terminal development has become immense. In addition to this, the steady evolution of markets and the increased use of technological and reengineered processes have caused the ports of various countries to rethink their exiting models and to adopt reforms that would allow them to survive in a globalized economy. Internal problems relative to each country have added up to the above external factors to make reforms necessary. Reforms that would help promote cost-effectiveness, improve efficiency, prevent monopoly use, reduce bureaucracy and politicized administration and finally allow entry to new and broader markets are being adopted. Implementing these reforms will require capital and technology that developing countries usually lack. Yet these countries need the advanced systems to compete with their more developed neighbors. As a result of this, various modes of institutional reform have been introduced by ports authorities around the world to migrate from a state owned monopoly to a fully reformed efficient port in the hope of having access to these reforms processes. Private participation in its various forms has been proven to be the response of most of the challenges mentioned above. Ideally viewed as a component in a national trade efficiency program, the port may be owned
and operated according to a variety of models, from full privatization of ownership and operation to a commercially owned public enterprise or to a joint venture between the public and private sector, with multiple owners and operators. Each of these options represents a varying degree of privatization and may be equally applied depending on the setting of the port and on its political environment. It is to note that whichever model, or combination of models is chosen, guidelines have to be followed when setting the basic framework for port operations. Most of the ports in the Middle East, as most other ports in developing worlds, have been publicly run with little intervention from the private sector because of the vital role ports played in the countries economy. According to Drewry consultants, in 1998, around 78% of the region’s container port capacity was in public hands (ownership/operation). The situation is gradually changing as the forces of competition that are developing in the Middle East and in other ports of the world are increasing the pressure on governments to adapt to international standards.

The Port of Beirut in opposite to most other ports, has experienced through history the governance of the private sector during the Ottoman Empire, when the first concession agreement was signed between the imperial government and a Lebanese company ‘Joseph Moutran and partners” on August 15 1887 (the Company was later know as the “Compagnie du Port, des Quais et des Entrepots de Beyrouth”). In fact this was the first BOT agreement in the world that assigned for the Company the task to construct, administer and manage the port. The concession duration was originally set to 60 years but was extended in 2 stages: first in 1892 to 99 years and second to 103 years in 1925. This concession ended on December 31st of 1990. After that the State took over the port and its management and sub-contracted port operations to private operators. A temporary commission (GEPB) constituted by the Council of Ministers represented the State. This
commission was set as an administrative entity with a commercial and industrial character charged of a public service doted with a financial and administrative autonomy. This entity is still managing the port under laws that date back to the Napoleonic Code, which obviously renders them very obsolete. Because of this outdated Code, anarchy has prevailed in the port. This is only one of the problems that the port is facing, but many leaks in the system have accumulated and have been partially responsible for the stagnation that is prevailing. There is a main concern in the government to introduce institutional reforms specially that the temporary committee has been unable until now to render the port of Beirut a potential competitor in the area because of the following: 44

- The public entity or ‘Gestion’ that is managing the port is controlled almost solely by the President who acts more as a bureaucrat without consulting its board of directors for decisions. There is no sharing or relegation of power to the appropriate groups, as we would witness in effect corporations. This bureaucracy has been paralyzing the decision-making process.

- The Gestion is not subjected to any price cap that would allow it to be efficient. Indeed the revenue sharing scheme stipulates that all the surpluses made by the Gestion should be directed to the State instead of being directed to a fund for future port investment or cost reduction. Obviously since the State didn’t specify the minimum amount of money it would collect, the Gestion had no incentive to make any cost savings. This clearly shows the lack of incentive to achieve cost savings and to establish improvement plans for the future.

- The Gestion sets tariffs without consultation with the port customers and without an effective study of the overall competition in the area. This is why the Lebanese products have remained uncompetitive for this period.
• There is a general state of stagnancy and status quo that prevents the application of any future vision. There are a series of costly tariffs that have rendered the port totally uncompetitive in both transshipment and transit cargo. This has rendered the imported goods extremely costly for the local population.

• Contrary to any corporation, the Gestion doesn’t establish any balance sheet or financial statements that it could present to its board of directors for assessment and evaluation. The lack of yearly financial review eliminates the ability of management to determine what is operating inefficiently and what needs to be changed. No incentive or compensation scheme is present on the staff level that could induce simulation to lower costs.

• The Gestion employs approximately 1100 employees, half of which are unnecessary and lack the required skills. The salary hike that was implemented in 2000 induced a 40% increase in wages that definitely represents a major hindrance to the Port of Beirut competitiveness.

• The Gestion is not by itself a legal entity and therefore doesn’t seem to be liable to any authority.

• The Gestion is in fact directly controlled by the Lebanese government, and is therefore highly politicized and lacks continuity as government changes.

• The services offered by the port such as towage, pilotage and mooring are carried out by a single private family company. Therefore no competition is present in order to obtain maximum savings and efficiency.

It is clear that a drastic institutional reform would be necessary for the Port of Beirut coupled with a new legal framework that would help eliminate its internal problems and allow it to compete on a global level. It is understandable that the government can’t
expect to implement all the strategies mentioned previously (or the process reforms) unless it reforms its institutional framework. Indeed process reform is largely dependant upon institutional reform. The new framework should therefore help achieve cargo and container handling efficiency, meet customers requirements in term of cost through proper tariff monitoring, improve the management of the port organization, reduce government control and political interference, increase the needs of the national economy and finally unlock the value of land, people and capital.

Choosing the adequate model of port reform is not that trivial especially in a country like Lebanon where State control has been present in all sectors along with a high political influence. The extent to which the port can liberalize its polices and move from a totally state owned entity to a privately owned structure is usually highly dependant on the political environment of the country, whether the government is centralized or decentralized, its current economic level, its historical precedence and on the type of strategies and changes the government is willing to introduce. Lebanon is currently witnessing a major shift towards increased private sector participation and therefore ‘privatization’ in most of the utilities especially after the depletion of almost all of the country’s reserves and the dramatic increase in the annual debt. The need to reduce government deficit and introduce private capital were one of the major determinants for the introduction of private participation in Lebanon. The need for internal changes and managerial improvements were also apparent in the port where major structural changes and acquisitions need to be done.

While privatization has shown to be the best answer for promoting port infrastructure development it is hard in practice to undertake this transition. Many ports in the world have undergone various degree of privatization that not all proved to be successful
because of failures of governments to prepare the ground for private participation and for the adaptation of the legal environment. However I can note that unlike most countries in Latin America, Lebanon has already experienced the involvement of the private sector in the operation of its utilities, which should make the transition in the port an easier task. The key is for the Lebanese Port Authority to develop beforehand a clear understanding of the type of port organization it sees favorable to follow since this will determine in a way the level of private sector participation that will be allowed and thus the degree of private ownership. The models available are: landlord port, tool port and service port. Service port and tool ports mainly focus on the realization of public interests. Under a service model, the Port Authority offers the complete range of services required for the functioning of the port. In other words it owns, maintains and operates every asset and cargo-handling operations are performed by labor employed by the Authority itself. In the port tool model, the port owns, develops and maintains the port infrastructure and superstructure and rents out space to cargo handling companies and other operators. Landlord ports have a mixed character and aim at striking a balance between public and private interests. For the case of Lebanon, adopting a landlord model is in my opinion the most appropriate port model that will allow the Government to retain ownership of port assets through a Port Authority and transfer the operational responsibilities of port services to specialized entities. This model reflects the need of a government to maintain control of its foreshore, especially areas suitable for port development. Not only this, but also it doesn’t seem realistic to give to the Lebanese government the role of a service port or a tool port. Why? Because the reality of the country has shown that all government owned entities are not able to function properly and can’t turn into profitable companies. The examples
in the country are numerous and have demonstrated that most public entities are bankrupt and corrupt. Therefore the core of the port functions has to be put in the hand of private entities that have the expertise and capital to invest in port operation and management.

The Port Authority would therefore be given the role of landlord responsible in coordinating and managing the activities conceded or subcontracted to private entities and setting planning functions, focusing therefore on administrative activities that public entities do best. It would be responsible of developing the port basic infrastructure, scheduling the port development projects and ensuring the marketing and promotion of the port. Its board of directors could be made of representatives from the local government of Beirut or the central government (Ministry of Transport, Economy or Commerce). It would take the form of a State- owned corporation operating under the legislation governing joint-stock companies, with the majority of its share capital held by the public sector. Initially it would be under some oversight by the central government so as to monitor that the operators in the port comply with all aspects of the Government port policy, laws and regulations. In the long run however, private participation in the Port Authority will be needed in order for the corporation to adopt efficient business practices. As any public enterprise, it would contract out its operations to independent operators, making partial privatization its goal. 46 By being developed as a corporation it would also enjoy the following functions:

- Be commercially active and responsive to market forces and be able to develop future expansion plans. Its main goal would be customer oriented where cost and efficiency are primordial.
- Carry out development within the port and appoint the necessary engineers and consultants for this purpose.
• Set an independent board with members responsible of administrative decisions within the port.
• Establish more stringent recruitment processes and increase the level of maritime experience.
• Enjoy financial independence to borrow and lend and be self-financing without reliance on the government money.
• Be able to respond to global trends in port technology.
• Be a legal, fully accountable entity.

The model adopted here differs from the Singapore Port Authority because the operational services will not be undertaken by the Corporation but by private entities that could attain better level of efficiencies in the context of a developing country.

The Port Authority or the new corporation should then transfer the core of the port functions (container terminal operations, piloting and towing and silos operations) to private operators through concession contracts. Container terminal operations are becoming the most critical activities in the port and thus will require the presence of an effective port management and of private capital to provide the necessary equipments and facilities. Given the size of the port and the relatively low volume of traffic on its shore, a single operator would be sufficient to cater for the container terminal recently developed.

The concessionaire will be responsible for constructing and rehabilitating the infrastructure if needed and then operating it for a period of 10 to 15 years, thus shifting the financial and operational risks to the private sector. A period of 15 years will be adequate enough for operators to gain return on their investments and for their interests not to diverge significantly from those of the Port Authority. Realistically no investor would want in the time being to lock himself with the Lebanese government for a long
period of time given the instability of the region and the country. The Port of Beirut definitely requires the presence of a concessionaire in order to relieve the government from its current financial burden and operational risks. Piloting and towing functions should be awarded to two or more operators so as to create competition in their services that have been until now complete monopolies. It is important to note here that one of the key elements to adopt for the award of contracts is open competition through a structured international tendering process. The winning bid should be selected on the basis that it offers the highest share of revenues to the government. Transparency should be the main issue to be scrutinized as private entities are getting involved in new areas. Several experiences in Lebanon have shown that the tendering process has not always been transparent rendering the award of contracts biased and function of political implications. Furthermore, the bidding rules and selection criteria should be well set out in the bid documents so that all parties be competing on the same basis. Previous experience with the Dubai Port Authority has shown that the bidding documents were not clearly drafted, leading the DPA to back up. The government doesn’t want this to happen again and must therefore clearly define what it expects from the contracting parties. Transparency needs to be addressed in order for governments to maintain credibility with the private sector. Other port activities such as the free zone area and the warehouses should be leased allowing the landlord port to derive a substantial part of its income from them. The lessees would not be involved in financing any investment related to these lands but simply responsible for superstructure and equipment. Finally stevedoring and trucking operations could be sub-contracted to independent private companies. Allowing several entities to participate in these activities will introduce market competition and will improve the efficiencies of these operations.
Usually contracts of 3 to 5 years should be established with these entities in order to allow for the Authority to keep control on the operations and award new contracts if necessary.

In this kind of scheme, each of the commercial tasks will be performed by a specialized operator thereby increasing efficiency of the sectorized port operations.

In the middle of these reforms, transitioning will involve social and political changes that the government needs to adapt to beforehand. Political changes will include redefining the role of the government to an entity less involved in management and day-to-day port operations and to an authority responsible in ensuring public interest and avoiding monopoly abuse. The government task will be oriented towards ensuring and maintaining a stable economic environment (inflation rate, exchange rate) that is favorable for local and foreign investments. The role of the government will be crucial during the transition phase and infrastructure development will require political leaders who are committed to achieving rapid economic progress. It is to note that in the case of Lebanon the government should completely detaches itself from all the external political influences that usually affects its decisions and completely focus on the commercial value of its port rather than the personnel interests of others. Social changes will involve labor reforms that are usually hard to implement because of labor reluctance to privatization. Therefore the new entity will have from the base to ensure that the government be able to adopt this role and be willing to introduce new laws and regulations.

Finally, a regulatory agency, independent from the Port Authority would be needed to regulate the whole process and to make sure that the assets are properly used. Indeed in the coming years an external leveled competition is likely to arise and therefore more onus would be needed to maintain vigilance and to foster concern about competitive
performance. It is mostly anticipated that a single operator would be awarded the container terminal concession and therefore no intra-competition will be present to prevent monopoly abuse. A program of performance measurement might be undertaken to continuously stimulate the port operator to be internationally competitive. The regulatory agency might see itself as a leader in "dissatisfaction" not as a defender of the status quo. This entity should have on its board people from the chamber of commerce, banks, insurance companies, foreign operators and a State representative who would be isolated from political issues and who would be representing general public interest. It would be beneficial for these people to see the efficiency of the port go up because it will indirectly influence the performance of their respective organizations. Furthermore by having people detached from the political arena there are fewer possibilities that the body be captured by local interest groups or governments. In short, the role of the regulatory body would be to ensure:

- That the pricing of the port services corresponds to the economic reality and that the standards of services be satisfactory.
- The competitiveness of the production of these services in comparison with identical port services in other regions of the East Mediterranean and Middle East.
- That the operator complies with the general principles of a public service.
- The appropriateness of the development policy and port extension planning and scheduling decisions.

To ensure credibility, openness and transparency in the reform process and to attract international participation and long term financial commitments from investors, a sound and precise legal framework for defining public/private partnership is necessary. In particular, prior to any concession agreement, the government should enact a concession
law that would spell out the terms of the process and establish the rules and responsibilities of each party. A Privatization law No 228 has been passed in 2000 in view of the increased need of private participation. This constitutes an important initiative for institutional reform, which will leave options open to the port. Furthermore, governments should put in place a set of regulations describing how the concession law should be applied.

4.2 Labor Reforms

One of the major costs of transferring port services to the private sector is the cost of labor retrenchment. This is a major concern for ports with a large, inefficient labor force and strong unionism like Lebanon. The port is currently employing 1100 employees while it has been demonstrated that only 100 would be sufficient if adequate container handling equipments were provided. Lying off this obsolete workforce has always been a major problem in port reforms and has sometimes constituted a hindrance to privatization solutions. Lebanon has witnessed this issue during the privatization of its local aircraft and is likely to experience the same problems in the port. In May of this year a one-day strike has been witnessed in the port when the issue of privatization was mentioned. Clearly labor reforms are major issues political leader have to deal with before undertaking any other reform. Cooperation from the labor force is highly needed to complete the transfer of public port services to a private sector company. The difficulty of reaching an agreement is related to the numerous work force, its age and the strength of its labor organization, the lack of opportunities for re-employment both inside and outside the port, the current structure and the high level of compensation that will be needed to cover the insurance costs.
It is clear that lying off at least half of this workforce will spur discontent among the unions but is definitely a major step in view of other improvements. The first step in dealing with the excess labor would be to freeze on the hiring for a certain time in order to gradually reduce the workforce. “This has the disadvantage that it requires a long time to reduce the labor force and it denies an organization access to new talent. Where this is applied for a sustained period, it produces an aging and conservative workforce that is isolated from modern technology and management methods. There is insufficient time to make use of this strategy prior to increasing private sector participation, but it can be used afterwards to reduce the size of the residual force.” 47

The second step would be the retirement scheme, as it would allow keeping only the necessary workforce. As has happened during the reform of the local airline, employees with the greatest experience in the company are given the maximum incentive to leave, while those with the least experience are given the least incentives. However this is not always very effective as the retirement scheme is often minimal.

Another way of dealing with the excessive labor force is for the government to try to find new jobs placement for the laid out work force. We can assume for example that cargo employees could be displaced to the other two ports of Lebanon that are more specialized in cargo handling than in container handling.

Finally the main aim of labor reform would be to expose the labor sector to market mechanisms so as to increase its speed of adaptation to market conditions.
Conclusion

The Port of Beirut’s success has historically depended on its location: proximity to the sources of consumption for imports and proximity to international sea-lanes and shipping routes. The port was considered to be doted with an ideal setting just in the middle of the major trading routes. Beirut obviously still enjoys this location but the whole game of competition has now changed. When the Port of Beirut used to be the only transit gateway to the whole countries of the Middle East after the closure of the Suez Canal in 1967, it was considered the ideal place for businesses to flourish because of all the facilities the port and its surrounding cities offered. Fifteen years after the war, the Port of Beirut is barely surviving in the midst of the emergence of the ports of Jordan, Egypt, Saudi Arabia and Syria. While most of these countries used to rely on the inland connections with Beirut to have their goods carried, they all now have their own ports, which are fully equipped to manage the needs of the shipping industry. Beirut lies behind with inefficient facilities and equipments that have rendered the tariffs in the port exorbitant. The port is suddenly losing customers to the ports of Syria and Jordan and even other ports of the Arabian Gulf due to its high fees. Not only this, but the transit traffic through Beirut that used to be favored among other alternatives is also being abandoned because of the high transit taxes. There is obviously the urgent need to undertake reforms that would improve the operations at the port to reach international standards and to couple them with institutional reforms without which process reforms wouldn’t occur. Indeed unless private sector is involved the port can’t hope to compete effectively without the efficiencies provided by private operators and without the capital injected by them. Adopting a landlord port is in my opinion an efficient model for the Port of Beirut because it will open up opportunities to adapt the port infrastructure to
changing requirements of world trade and because this organizational system provides the possibility of competition in the port between the different suppliers.

However institutional reform or private sector involvement should not be an end in itself but a means to achieve specific public interest objectives. To repeat what has already been said: the full basket of benefit from privatization will not occur without a complete vision for trade process reform, involving the Government, the port Authority, Customs, trade professionals, shipping companies, port operators and trading partners.

Beyond this, the political situation in the region will be determinant in shaping the future of the port.
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