نقابة ملاحة الأردن
JORDAN
SHIPPING ASSOCIATION

Strategic Analysis of the Maritime Sector in Jordan

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EnConsult THE Envision Consulting Group الرؤية للإستشارات الإقتصادية والإدارية

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List of Acronyms

Acronym	Meaning
ACT	Aqaba Container Terminal
ADC	Aqaba Development Corporation
ALV	Aqaba Logistics Village
APC	Aqaba Ports Corporation
APM	AP Moeller
ARC	Aqaba Railway Corporation
ASEZ	Aqaba Special Economic Zone
ASEZA	Aqaba Special Economic Zone Authority
BOT	Build, operate and transfer
CFS	Container freight station
DC	Distribution center
EPC	Eilat Port Company
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GCR	Global Competitiveness Report
GDP	Gross Domestic Product
ICT	Information and Communications Technology
JD	Jordanian Dinar
JMA	Jordan Maritime authority
JHRC	Jordan Hijaz Railway Corporation
JSA	Jordan Shipping Association
JSSGC	Jordan Silos and Supply General Company
JSLTC	Jordan Syrian Land Transport Company
LCL	Less than Container Load
LSCI	Liner Shipping Connectivity Index
MENA	Middle East and North Africa
MIT	Ministry of Industry and Trade
MoT	Ministry of Transport
PPP	Public Private Partnership
LTRC	Land Transport Regulatory Commission
PTC	Public Transport Corporation
QIZ	Qualifying Industrial Zone
SPDC	Sokhna Port Development Company
SSEZ	Suez Special Economic Zone
SWOT	Strengths / Weaknesses / Opportunities / Threats
UNCTAD	United Nations Conference on Trade and Development

1. EXECUTIVE SUMMARY

1.1 The Jordanian Economy

Nominal GDP grew at an average annual rate of 15.2%, from 2005 to 2010, while real GDP increased at an average annual rate of 6.6%, for the same period. Between 2010 and 2011, the real GDP grew by 2.3% in 2010 and 2011, a major decline over the 6.6% average of 2005 to 2010. The fall in the GDP growth points to a general sluggishness in the economy, which is attributed to decreasing money supply and a general pessimism and uncertainty over the prospects of the economy.

The net inflows of foreign direct investment (FDI) amounted to JD 1,187.8 million in 2010 compared to JD 1,671.5 million in 2009, which equates to a 29% drop. This decline was the result of both the decrease in FDI inflows and FDI outflows.

One major economic challenge that needs to be addressed is the chronic unemployment problem afflicting the nation. The unwaveringly high unemployment rates have fluctuated between 15.3% and 12.3% over the last ten years.

Although Jordan has decreased the number of start-up procedures to register a business between 2006 and 2010, it still requires a larger number of procedures than its regional competitors. Jordan also lowered the number of days it takes to start a business. In addition, Jordan has a high number of annual taxes imposed on businesses as compared to its neighboring countries.

Over the last few years, the Jordanian economy has witnessed a drop in its performance, which was reflected in various global ranking indices. For example, in the Global Competitiveness Report Jordan fell 6 places between 2010/2011 and 2011/2012.

1.2 Competitiveness Strategy Paradigm

The strategic analysis is comprised of a competitiveness strategy paradigm whereby Porter's Diamond Model and the SWOT were utilized in order to allow for a full and comprehensive assessment of the maritime sector in Jordan.

1.2.1 Porter's Diamond

The following is a summary of the key conclusions of Porter Diamond's determinants, including factor conditions; demand conditions; related and supporting industries; strategy, structure and rivalry; and the government role.

<u>Factor Conditions</u>

Jordan offers only one sea port situated in the Gulf of Aqaba called the Port of Aqaba; it is divided into three main areas operating under the government-owned Ports Corporation under the supervision of Aqaba Development Corporation (ADC).

The ADC recently signed a contract with Al Ma'abar Company for the construction of the new port of Aqaba after selling the current area of the Main Port; it is expected to house three new terminals: general cargo and RORO, grain, and ferry.

The majority of respondents to the Maritime Cluster Questionnaire rated the location of the Port of Aqaba as offering average connectivity to the regional and international maritime networks. In addition, most respondents, or 62.5%, believed the quality of human resources to be either poor, 37.5%, or inadequate, 25%.

The lead time for Jordanian exports from shipment point to port-of-loading, which is regarded as high relative to neighboring countries, increased from 2 days in 2006 to 3.2 days in 2009; meanwhile the lead time for imports remained the same in the same period. However, it is important to point out that the waiting time at the Port was found to be negligible.

Demand Conditions

The global demand for phosphate and potash is expected to increase by 2.9% and 5.0%, respectively, by 2014. Considering that the two resources combined accounted for 75% of Jordan's exports through Aqaba in 2010, the global projections bode well for the maritime sector in Jordan.

Based on the Maritime Cluster Questionnaire, the interviewed stakeholders generally viewed Jordan's economic performance as either positively or negatively affecting demand: in fact, 62.5% of the interviewees rated this factor as strong while 25% rated it as weak. Moreover, the majority of the respondents at 62.5% deemed the impact of the recent economic downturn on the maritime sector as either strong, 37.5%, or very strong, 25%.

In terms of imports, Saudi Arabia and China represented the two largest sources of imports into Jordan in 2010. As for exports, the United States and Iraq almost equally commanded the largest share of Jordanian exports in 2010. According to the stakeholder interviewees, the main origins of demand for *maritime* imports into Jordan are the Far East, Europe and the United States, while the key sources of demand for exports are the Far East and the United States.

When asked to assess whether the Port of Aqaba will see a rise in demand due to the situation in Syria, the general belief was that demand will consequently grow. This is due to the possible closure of the Port of Tartous and/or the border crossing through Syria being disrupted or closed.

Related and Supporting Industries

The ADC is developing the Aqaba Logistics Village (ALV) in order to meet the required complementary logistical service needs of the maritime sector. It is partly operational (one phase of three).

As one of the supporting industries of the maritime sector, the trucking sector suffers from fragmented ownership of trucks; thus, this issue needs to be addressed. Moreover, the road network in Jordan, which plays a crucial role in complementing the maritime cluster, is adequate. However, fuel costs in Jordan are relatively high;

this is a significant factor that weakens the supporting industry impact especially since the government, due to budget shortfalls and inflexibilities, is considering raising fuel prices.

Firm Strategy, Structure and Rivalry

It can be deduced from the questionnaire that political stability and limited markets were the most challenging followed by high employee turnover, which was perceived as challenging to moderately challenging.

When asked whether there exist any monopolistic practices in the sector by any entity/organization, the majority of respondents at 75% deemed this to be true.
In fact, it was believed by many the ACT operates a monopoly and thus controls key decisions of maritime activities and services.

According to the respondents of the Maritime Cluster Questionnaire, the Port of Aqaba faces the most competition from Syrian ports, specifically Tartous Port, followed by Haifa Port and Sokhna Port.

The high price of diesel, both in absolute and relative terms, facing the Kingdom is prohibitive and thus renders the Port of Aqaba an expensive transit destination, in terms of the final price to the importer, for goods destined to Syria and Iraq.

Government Role

The Jordanian Government still struggles with 4 main issues:

- High dependence on foreign aid
- High budget deficit
- Regressive taxation system
- Frequent cabinet changes and inconsistent policies

Regarding port services, many restrictions still remain, specifically pertaining to cargo handling, pilotage, towing and the tying of vessels. In order to attract strategic investment, exclusive rights are given to a restricted number of companies.

Trade liberalization agreements of Jordan specifically play a key role in impacting the respondents' business as they reduce direct trade obstacles among countries, thereby increasing trade. However, according to the respondents, customs tariffs imposed on their imports were higher than those of neighboring countries which decreases the competitiveness of the port of Aqaba.

Lack of accurate and correct information and data, typically among the desirable roles of a government that promotes competitiveness, has also been cited as a deficiency.

1.2.2 SWOT Analysis

Among the strengths of Jordan's maritime cluster are: the country's relative stability as compared to neighboring countries, and thus the stability of Jordan's transport

infrastructure; expected increased capacity of maritime trade as a result of the development of the new port; adequacy of supporting infrastructure, namely the road network; negligible waiting times; and growing global demand for phosphate and potash.

The maritime sector's weaknesses comprise the difficulty in attracting quality human resources; higher price of maritime services at the Port of Aqaba relative to competing ports including customs tariffs, port handling fees, storage service costs, and compulsory Suez Canal fees than in neighboring countries as well as longer trips; fragmented ownership of trucks; high price of diesel; and the problematic floating *Jerash* oil storage VLCC, which leads to substantial delays and consequent demurrage fees for shipping companies and high petrol fees; as well as potential environmental damage and high clean-up costs in the case of an oil spill.

There exist several opportunities for the Jordan maritime sector to exploit including taking advantage of the situation in Syria as Jordan has previously gained from regional conflicts; reducing port prices and port handling fees to attract cargo destined for Syria (in case the borders are not closed) and Iraq; Aqaba Container Terminal's expansion program, which is expected to boost maritime trade; as well as the upcoming phases of the Aqaba Logistics Village, which are likely to improve the overall quality of the maritime industry.

However, some maritime sector threats to be aware of are as follow: loss of demand to substitute ports, e.g. Port of Sokhna and Port of Haifa; possible delay in establishment and operation of the future new port; inconsistent government policies; and the likely increase in the price of diesel fuel.

1.3 Recommendations

It is of critical importance to develop a national strategy for the maritime sector so as to align all stakeholders in the private and public spheres under the same vision, even if the government reshuffles its cabinet; and to reduce the prices of maritime services at the Port of Aqaba so as to compete with neighboring ports.

To resolve the problem of low quality human resources, training of the maritime sector workforce should be further developed, improved in terms of relevance, and increased in scope; and financial incentives offered in order to both improve levels of certification of staff and to appeal to a greater quality workforce.

The Port of Aqaba should aim to attract the excess Israeli demand, which is presently unmet by the Port of Eilat, provided of course that the security situation is permissible, technical barriers are reduced, and national sentiments are not offended.

In order to solve the matter of the fragmented ownership of the trucking sector, which is considered a supporting industry, a trucking organization should be formed (one that specifically targets the needs and issues of trucking owners).

Finally, it is recommended that the use of *Jerash* VLCC be restricted as a storage unit and to instead develop a strategic oil storage facility for the Port of Aqaba. This will ultimately increase the efficiency of the oil terminal, further improve the environmental and safety aspects of the Port of Aqaba as a whole, and reduce the petrol costs to consumers in Jordan.

2. INTRODUCTION

Despite being situated in a politically volatile region, the Port of Aqaba has made significant progress in maritime development, increasing its capacity to almost 25 million freight tons, effectively 60% of its capacity. While sea shipping activity in the Port of Aqaba decreased during the period of 2006-2009, it recovered slightly during 2010, owing to an increase in annual exports by 40% in 2010.

The Government of Jordan has sought further expansion of the infrastructure facilities in Aqaba. The recent deal with the UAE investor, Al Ma'abar Co., paved the way for the construction of a new port at the southern tip of Aqaba to replace the existing one.

Maritime activity in Aqaba depends on the attractiveness of the port as a destination for international shipping lines. Among the notable container shipping lines currently utilising the Port of Aqaba are international companies such as PIL, APL and Maersk. International shipping lines are represented by local shipping agents that handle the logistics of delivery to and from Aqaba.

Locally, the shipping agents are represented by the Jordan Shipping Association (JSA), which was initially established as the "Shipping Agents Committee" on October 11th, 1978. It was officially registered, in December 2010, as the Jordan Shipping Association.

The mission of the JSA is to promote the development and growth of maritime shipping via the Kingdom's national Port of Aqaba. This is done by mobilizing business skills and concepts in public and private sector partnerships; providing high quality services; partnering with the Government to create an attractive business environment for ship owners/operators /charterers; and assisting members to following the highest professional standards.

The JSA commissioned the Envision Consulting Group (EnConsult) to conduct a strategic analysis of the maritime sector. The aim of the analysis is to investigate the competiveness of the maritime sector in Jordan, utilizing the cluster analysis promulgated by Michael Porter of Harvard University. The analysis is based on five main components:

- Factor conditions
- Demand conditions
- Firm strategy, structure and rivalry
- Related and supporting industries
- The role of government

Based upon the cluster analysis, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is conducted to complement and summarize the findings while underscoring the strategic issues. Moreover, the SWOT is used in future endeavors of JSA as a basis for setting targets and strategic plans. The analysis is utilized in the development of the conclusions and recommendations for the JSA.

3. METHODOLOGY

3.1 The Report Process

The strategic analysis of the Jordan maritime cluster is based upon desk research of Jordanian and international statistical data, and incorporates the views of major stakeholders, including shipping agents and traders. The analysis follows four basic steps:

Figure 1: Report Methodology

The methodology takes into account research findings on the macro economy and the maritime sector of Jordan. Additionally, the report utilizes the Porter Diamond analysis[1] and SWOT (strengths, weaknesses, opportunities, threats) analysis.[2] The report concludes with strategic recommendations for the sector as a whole.

In addition to national and sector specific data, answers to the Maritime Cluster Questionnaire are used to complement and better inform the research. Therefore, the results of the questionnaire are interspersed throughout the analysis instead of being presented as a standalone document or section.[3]

3.2 Interview Questionnaire

EnConsult developed an interview questionnaire based on the key components of Porter's Diamond. The aim was to attain a more comprehensive assessment of the maritime cluster, including its factor and demand conditions; strategy, structure and

[1] See Annex 1 for a detailed presentation of the Porter Diamond.

[2] See Annex 2 for a detailed presentation on SWOT Analysis.

[3] See Annex 3 for a copy of the Questionnaire.

rivalry among firms; related and supporting industries; and finally the government role and impact on the sector.

As for factor conditions, EnConsult queried the stakeholders about several issues, the most important of which included the following: the average number of vessels that the respondents' organization handles on an annual basis; average waiting time prior to unloading and reloading; the respondents' opinion of the relocation of the proposed new port and how it would affect business and the Port of Aqaba; and finally their professional evaluation of the availability of quality human resources.

Regarding demand conditions, the interviewees were asked about the origin of demand for imports and exports; the specific factors that affect demand, e.g. fuel prices, Jordan's economic performance; and the impact of both the recent economic downturn and the political situation in Syria on the maritime sector in Jordan.

Moreover, the key issues addressed concerning the strategy, structure and competition of the stakeholder's firm/organization comprised the following: the ports that are considered to be major competitors and what gives these ports a competitive advantage in the market relative to the Port of Aqaba; whether the respondents have access to information about trends in the maritime sector; and the largest challenges that the respondents' organization currently face.

As for the related and supporting industries, EnConsult posited a question about which complementary services the interviewee's firm utilize.

Finally, concerning the government's role in the maritime sector, the interviewees were asked about the registration procedures and how long they take; the policy restrictions on new entry to the maritime sector, if any; the restrictions on cross-border entry of non-Jordanian service providers, if any; and the respondents' opinion of the government's responsiveness of the firms' needs in the market.

4. The JORDANIAN ECONOMY

4.1 Jordan Economic Indicators

Economic Growth: Nominal GDP has grown at an average annual rate of 15.2%, from 2005 to 2010, to reach JD 18.8 billion in 2010. Real GDP has grown at an average annual rate of 6.6%, between 2005 and 2010, reaching JD 10.0 billion in 2010.

The real GDP has grown by 2.3% in 2010 and 2011, a significant drop over the 6.6% average of 2005 to 2010. The decline in the growth of the GDP indicates an overall sluggishness in economic activity, which is attributed internally to the fall in money supply and a general pessimism and uncertainty over the prospects of the economy. Externally, foreign direct investment has fallen (FDI reached JD 1.2 billion in 2010, its lowest level since 2005); tourism receipts have decreased by 17.7% to reach JD 1.5 billion in the first nine months of 2011, compared to JD 1.9 billion in the same period last year; and remittances of workers has declined by 4.5% in the first nine months of 2011 relative to the same period of last year. In 2011, inflation has decreased significantly since the 2008 level of 13.9%, to show negative inflation in 2009 and a more stable level of 5% in 2010 and 2011.[4]

The transport sector is an important contributor to economic activity in Jordan. The table below shows the percentage of the direct contribution of the transport sector to the GDP in million JDs.

Table 1: Contribution of the Transport Sector to the GDP in Million JDs (2005-2009)

Year	Transport Sector Contribution to GDP (Million JD)	Percentage
2005	815.29	9.11%
2006	955.53	9.07%
2007	965.50	8.00%
2008	1,155.90	7.18%
2009	1,331.45	7.63%

Source: Department of Statistics. Statistical Database 2009.

Public Debt: The central government gross national debt increased at an average annual rate of 44.7% between 2005 and 2010, to reach almost JD 12 billion in 2010. Furthermore, pubic debt is projected to reach JD 15 billion by 2012.[5] The external public debt has decreased slightly, from approximately JD 5 billion in 2005 to JD4.6 billion (an average annual drop of 1.8%) when compared with 2010. Domestic debt, which makes up the majority (66%) of all debt, currently stands at JD 9.1 billion while external debt accounts, which makes up the remaining 34% of all debt owed, stands at JD 4.5 billion.

[4] Central Bank of Jordan, "Monthly Statistical Bulletin," October 2011

[5] EnConsult own estimate based on Draft Budget Law 2012

The slight decline in external debt was not sufficient to compensate for the significant increases in domestic debt. Thus, total debt in Jordan witnessed an increase at an annual average rate of 13.5% between 2005 and 2010.[6] Moreover, public debt continued to grow reaching JD 13.6 billion by October 2011. The growth in public sector debt represents one of the main challenges for the national government. In fact, the debt is a constant impediment for the government, limiting its investments in national projects and initiatives.

Trade: Although Jordan imports almost twice the amount it exports, its exports are increasing at a faster rate than its imports, by 2.2% per annum.[7] The exports level in Jordan increased at an annual average rate of 11.6% in the period 2005 to 2010, reaching almost JD 5 billion in 2010. On the other hand, imports increased at an average rate of 9.4% per year during the same period, reaching JD 9.7 billion in 2010.

In 2010, "Animal and Vegetable Oils, Fats and Waxes" comprised the majority of Jordanian exports, followed by "Miscellaneous Manufactured Articles"; the latter category largely consisted of apparel and clothing exports, which benefited from the Qualified Industrial Zone (QIZ) and Free Trade Agreement (FTA) with the US. However, benefits from QIZs and the FTA have been continuously declining since the start of the Global Credit Crisis as US demand for garment imports decreased.

On the other hand, the majority of imports were "Manufactured Goods and Machinery", which made up nearly one half of all imports during 2005-2010.[8] Furthermore, imports of "Mineral Fuels and Lubricants" increased in 2009. It should be noted that the increase does not represent an actual increase in importing activity but merely reflects that the increase was in terms of value, which was driven by rise in the price of oil during the same period.

Table 2: Selected Jordanian Economic Indicators Pertaining to the Current Account, 2005-2010

	2005	2006	2007	2008	2009	2010
Current Account (JD Million)[9]	-1,610.6	-1,223.8	-2,038	-1,445.2	-799	-931.4
Trade Balance (JD Million)	-3,556.3	-3,584.7	-4,574.2	-5,084.4	-4,448.8	-4,721.8
Services Balance (JD Million)	-147.8	-44.8	22	249.6	525.2	632.3
Foreign Direct Investment (JD Million)	1,407	2,512.7	1,859.1	2,005.7	1,722.9	1,208

Source: Central Bank of Jordan, "Monthly Statistical Bulletin," Aug 2011

[6] Ibid

[7] EnConsult own estimate based on Draft Budget Law 2012

[8] Central Bank of Jordan, "Monthly Statistical Bulletin," October 2011

[9] Includes (exports minus imports) net transfer payments and net factor payments.

Foreign Direct Investment: According to Central Bank of Jordan, the net inflows of foreign direct investment (FDI) equaled JD 1,187.8 million in 2010 compared to JD 1,671.5 million in 2009. This decline was an outcome of both, the decrease in FDI inflows by JD 514.9 million to stand at JD 1,208.0 million, and the drop in FDI outflows by JD 31.2 million to stand at JD 20.2 million.

The main FDI transactions are represented by the purchases of land and real estate by Arabs and foreigners in the amount of JD 351.3 million; reinvested earnings of JD 271.0 million; investments of non-residents in newly registered companies of JD 91.8 million; and the increase in non-residents' shares in the equity of public shareholding companies and other companies by JD 31.7 million and JD 105.2 million.

After reaching their highest level ever at US$ 12.3 billion in January 2011, foreign reserves dropped to US$ 11.3 billion as of the end of September (note that foreign reserves had reached US$ 10.6 billion in June 2011).[10] Reasons behind the significant drop in the reserves include:

- Inflow of FDI reached its lowest level in six years, amounting to JD 561 million during the first half of 2011 compared to JD 656 million in 2010, which reflects a drop of 14.4%.[11]
- Remittances of Jordanians working abroad (primarily in the Gulf) decreased by 4.5% in the first nine months of 2011 relative to the same period of last year. Current remittances stand at JD 1.6 billion while remittances equaled JD 2.21 billion in 2010 and JD 2.4 billion in 2009.[12]
- Tourism income dropped by 17.7% in the first nine months of 2011 reaching JD 1.5 billion, compared to JD 1.9 billion in the same period last year.[13]

Unemployment: Among Jordan's pressing needs is to effectively address the Kingdom's chronic unemployment problem. The persistently high unemployment rates, which have been hovering between 15.3% and 12.3% over the last decade, indicate a severe case of structural unemployment, or a mismatch between the skills of workers seeking employment and the demand in the labor market. Please see Figure 2 below illustrating the fluctuations of the unemployment rate between 2000 and 2011.

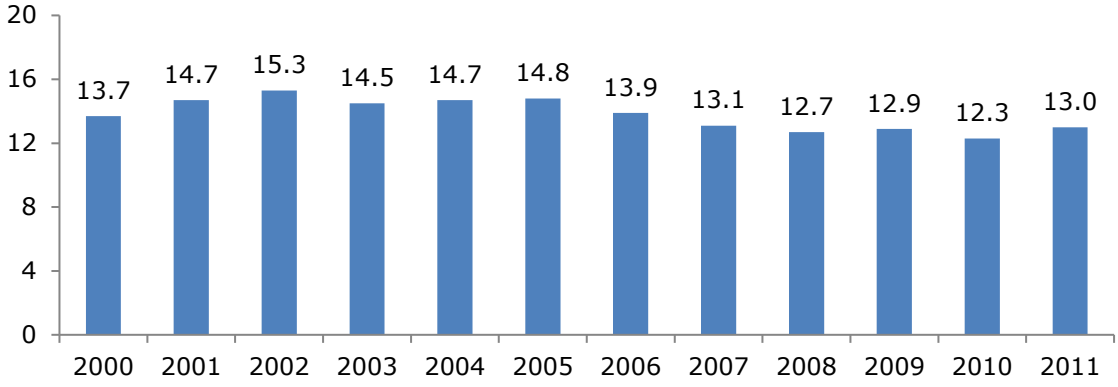
[10] 2012 Budget Address of the Minister of Finance to the Parliament, Dec 2011, www.MOF.gov.jo

[11] Ibid

[12] Ibid

[13] Ibid

Figure 2: Unemployment Rate in Jordan (%), 2000-2011



Source: Department of Statistics, Jordan in Figures, 2010

4.2 Business Environment:

In order for Jordan to increase its competitiveness in any sector, the business environment aspect has to be improved in order to make the Kingdom more lucrative for foreign and domestic businesses. One of the key business environment aspects is start-up procedures needed to start up a new business.

Start-up Procedures to Start a Business

Start-up procedures include the number of procedures required to start a business. These include all actions required to obtain permits, licenses, verifications and notifications to start operations. The table below illustrates the number of start-up procedures required to register a business in a few regional countries.

Table 3: Start-up Procedures to Register a New Business (Number)

Country/Year	2006	2007	2008	2009	2010
Egypt	10	7	6	6	6
Lebanon	6	6	5	5	5
Jordan	10	8	8	7	7
Israel	5	5	5	5	5
Syria	12	13	8	7	7
Saudi Arabia	13	7	7	5	5

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that in 2006, Jordan required 10 start-up procedures to register a new business. However, by 2010, Jordan decreased the number of procedures to 7 in order to increase the Kingdom's competitiveness and facilitate doing business in the country. While Jordan has reduced the number of start-up procedures between 2006 and 2010, it still requires a larger number of procedures than its regional competitors, as illustrated in the table above. Jordan and Syria both required the highest number of procedures in order for an investor to start a business, followed by Egypt, which required 6 start-up procedures. Lebanon, Israel and Saudi Arabia required the least number of start-up procedures in 2010, which equaled 5 procedures.

Another important factor that needs to be examined in order to evaluate the business environment in a country is the time needed to complete all the required procedures in order for a business to operate legally. The table below represents the number of calendar days needed to start operating a business within Jordan, Egypt, Lebanon, Israel, Syria and Saudi Arabia.

Table 4: Time Required to Start a Business (Days)

Country/Year	2006	2007	2008	2009	2010
Egypt	19	9	7	7	7
Lebanon	46	46	11	9	9
Jordan	16	13	13	12	12
Israel	34	34	34	34	34
Syria	43	43	16	15	13
Saudi Arabia	39	15	12	5	5

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that between 2006 and 2010, the majority of countries in the above table decreased the number of days required to start a business with the exception of Israel, which maintained its regional high of 34 days. Saudi Arabia was the region's best performer reducing the time required to start a business from 39 to 5 days, or by 87%. At 12 days required, Jordan maintains a relatively high number of days in comparison to its regional neighbors yet it still showed an improvement on its 2006 value of 16 days.

Taxation

The tax system of Jordan should act as an incentive to growth rather than a hurdle to new businesses. In comparison to regional economies, Jordan has a relatively high number of taxes required on businesses annually. The following table illustrates the total number of taxes paid by businesses, including electronic filing. The tax is counted as paid once a year even if payments are more frequent.

Table 5: Number of Tax Procedures (Number)

Country/Year	2006	2007	2008	2009	2010
Egypt	41	36	29	29	29
Lebanon	19	19	19	19	19
Jordan	26	26	26	26	26
Israel	34	33	33	33	33
Syria	19	19	19	19	19
Saudi Arabia	14	14	14	14	14

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that between 2006 and 2010, Jordan has maintained the same median number of taxes required by businesses at 26. In addition, Saudi Arabia, Syria and Lebanon also maintained the same number of taxes required by businesses, as shown in the table above throughout the same time period. Israel, which required the highest number of taxes throughout the period, has only decreased its tax requirement from

34 to 33 between 2006 and 2010. Egypt showed the largest decrease in the number of taxes required by business over the period, as the number declined from 41 in 2006 to 29 in 2010.

The table below reflects the time, in hours per year, required to prepare, file, and pay (or withhold) three major types of taxes: the corporate income tax, the value added or sales tax, and labor taxes, including payroll taxes and social security contributions.

Table 6: Time to Prepare and Pay Taxes (Hours)

Country/Year	2006	2007	2008	2009	2010
Egypt	596	711	711	480	433
Lebanon	180	180	180	180	180
Jordan	101	101	101	101	101
Israel	230	230	230	230	235
Syria	336	336	336	336	336
Saudi Arabia	79	79	79	79	79

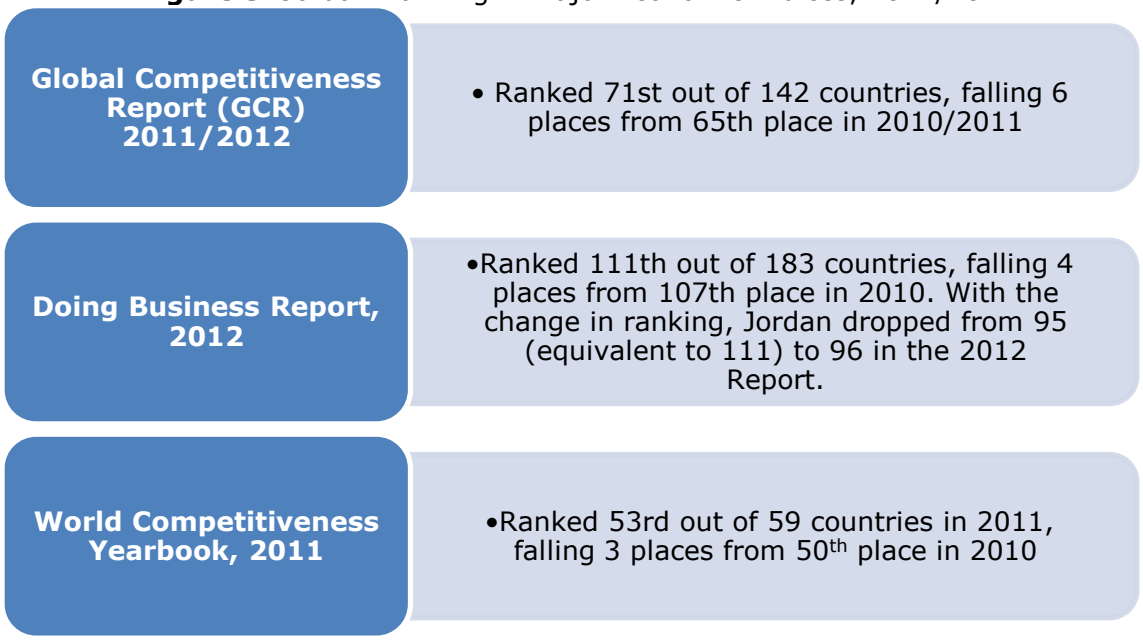
Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that between 2006 and 2010, Jordan had the second lowest time required to prepare and pay taxes, at 101 hours per year, after Saudi Arabia, at 79 hours per year. In 2006, Egypt required the most number of hours to prepare and pay taxes (596 hours); however, by 2010 they reduced this number significantly to reach 433 hours. Although Egypt improved significantly over the past 4 years its tax preparation and payment is still the longest process when compared to the countries in the table above. Saudi Arabia had the lowest number of hours needed to prepare and pay taxes, which is a significant factor in the rapid economic growth that Saudi Arabia continuously witnesses.

4.3 Competitiveness Rankings

The last few years have proven strenuous for the Jordanian economy. The decline in economic performance was reflected in Jordan's drop in international ranking indices, as seen in the following table.

Figure 3: Jordan Ranking in Major Economic Indices, 2011/2012



According to the Global Competitiveness Report (GCR) 2011/2012, the Jordan ranking for transportation infrastructure has been weakening as shown in Table 7 below. In fact, the overall ranking fell 8 spots, from 134 in 2008/2009 to 142 in 2010/2012. More specifically, the quality of railroad infrastructure and port infrastructure has declined 65 places and 18 places, respectively, between 2010 and 2012. Nonetheless, the quality of roads has improved during the same period, amounting to an increase of 5 places. The table below identifies the rankings of the transport infrastructure in Jordan.

Table 7: Transportation Infrastructure, as per Global Competitiveness Report Rankings, Jordan 2008/2009-2011/2012

	Rank	Quality of Roads	Quality of Railroad Infrastructure	Quality of Port Infrastructure
2008/2009	134	38	91	46
2009/2010	133	42	84	52
2010/2011	139	52	42	45
2011/2012	142	47	107	63

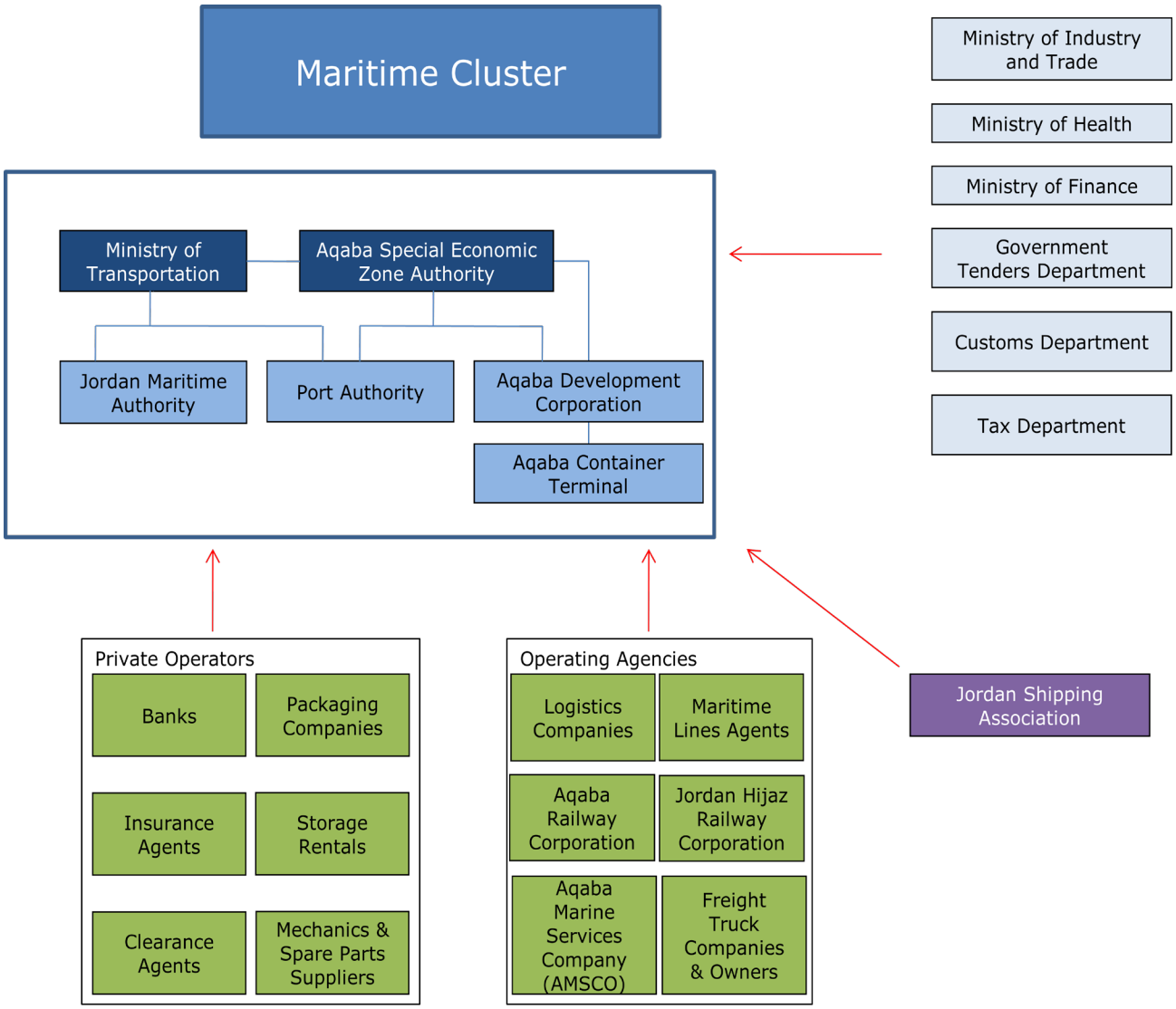
Source: Global Competitiveness Report 2011/2012

When compared to other nations, Jordan actually has one of the best transportation infrastructures of the non-oil producing MENA nations. In terms of overall infrastructure, the Kingdom is ranked 35th, far above Turkey's rank of 40, and Syria's rank of 95.[14]

[14] Global Competitiveness Report 2011/2012

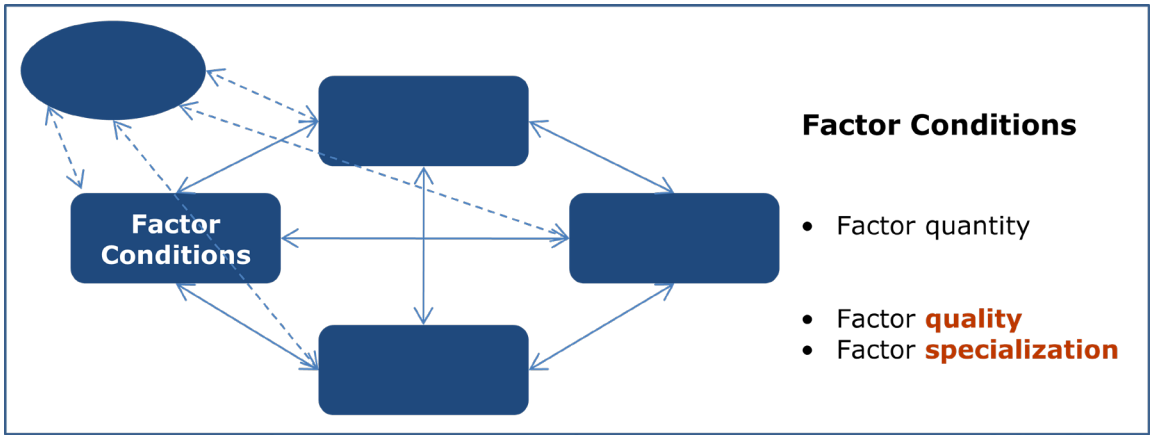
5. COMPETITIVENESS OF THE MARITIME CLUSTER

Figure 4: Maritime Cluster Map



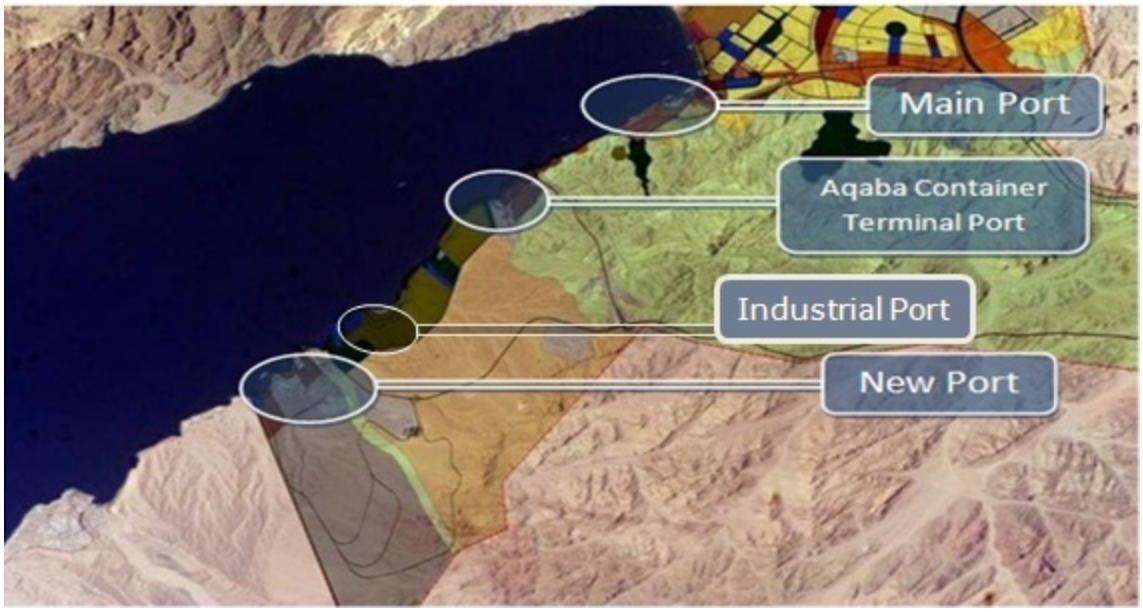
5.1 The Porter Diamond

5.1.1 Factor Conditions



Jordan has only one sea port situated at the head of the Gulf of Aqaba, the Port of Aqaba; it is divided into three key ports – Main Port, Aqaba Container Terminal (ACT) and Industrial Port – operating under the government-owned Aqaba Ports Corporation under the purview of Aqaba Development Corporation (ADC). The diagram below illustrates these three ports in addition to the new port.

Figure 5: Aqaba Ports



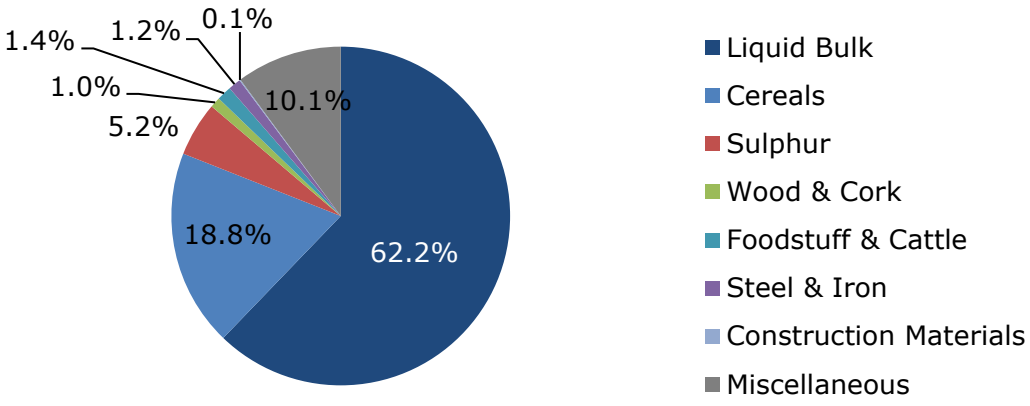
Source: Aqaba Ports Corporation

The Main Port, located in the north shore of Aqaba, is comprised of 12 berths with a total length of 2,120 meters. It is used to handle general bulk cargo, grain, phosphate exports, RORO and lighter traffic, including 6 deep water berths handling vessels up to 70,000 dead weight tonnage[15] (DWT), 14.4 meter draft. Each berth

[15] Dead weight tonnage is defined as a vessel's cargo-carrying capacity measured in tons.

has a 35 meter wide apron, a transit shed, a semi-covered shed, and an open storage area.[16] Essentially, the Main Port handles the majority of shipments to and from Aqaba based on the type of imports, which are chiefly dominated by liquid and dry bulk shipments (such as cereals, phosphate, and wood), as seen in the figure below.

Figure 6: Imports through Aqaba, 2011*



** Most recent data available is from January to September 2011*
Source: Aqaba Ports Corporation, 2010

The Aqaba Complex currently holds two silos with a storage capacity of 150,000 tons: the first silo, established in 1992, has a storage capacity of 50,000 tons and the second one has a storage capacity of 100,000 tons. The Jordan Silos and Supplies General Company owns a complex in Aqaba that handles grain storage. In addition, the Aqaba Complex contains equipment for measuring the temperature of storage and grain sterilization. The development additionally features sieves and scales to determine the weight of the grains entering the silos.

Based on interviews with several stakeholders of the maritime sector, including board members of the JSA, it was found that the Port of Aqaba lacks sufficient facilities to store sugar and cereal.

The middle port contains seven berths, amounting to 1 km in length. These berths are used for handling containers, rice, livestock, cement, vegetable oil and passengers. The Mo'ta Berth is 150 meters long with a capacity of 53,000 tons and is primarily used for rice and livestock importing/exporting.[17]

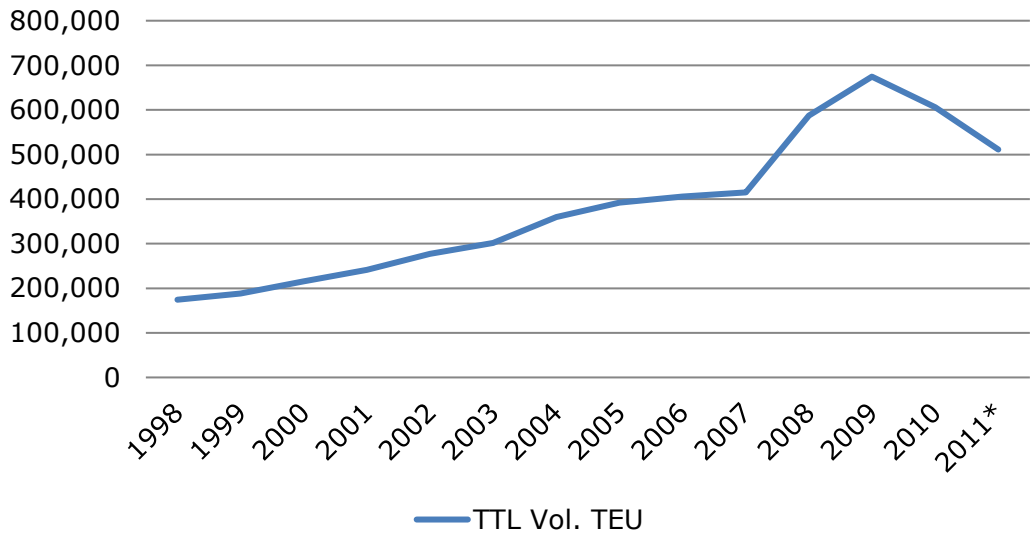
The ACT is managed by AP Moeller-Maersk (APM) Terminals. ADC concluded a 25-year Joint Development Agreement (JDA) with ACT in 2006. Under the contract, APM Terminals operates, manages and markets ACT in addition to executing the master

[16] "Main Ports," Aqaba Ports Corporation, Retrieved from http://www.aqabaports.com.jo/En/PortMap.aspx?CategoryID=1, on March 13, 2011

[17] "Middle Port," Aqaba Ports Corporation, Retrieved from http://www.aqabaports.com.jo/En/PortMap.aspx?CategoryID=2, 13 March, 2011

plan, which anticipates achieving a major increase of throughput capacity through a combination of physical and operational improvements[18]. Currently, the terminal encompasses an area of 500,000 m2 with 4 berths (3 containers and 1 RORO). Since ADC awarded the management contract to APM Terminals in 2004, ACT throughput has almost doubled to reach 605,000 tons of cargo at the end of 2010, as seen in Figure 6 below. The operational annual capacity of the terminal is 750,000 TEU. Due to the success of the endeavor, ADC has commissioned plans to allow ACT to reach 2.8 million TEUs in its current location with the potential to add extra container berths in southern port areas in the long term[19].

Figure 7: Annual Container Volume ACT (Total Volume), 1998-2011*



** Most recent data available is from January-October 2011*
Source: Aqaba Ports Corporation

The third of the Aqaba ports is the Industrial Port located at the southern tip of Aqaba. With its 4 berths, the Industrial Port is responsible for handling potash, sulphur, fertilizer, ammonia, chemical products and dry bulk materials. Moreover, the Port contains a timber berth that is 80 meters long with alongside depth of 7 meters and can accommodate vessels to 14,000 DWT.[20]

In addition, the Industrial Port houses the oil jetty, a four-dolphin berth, which is used for export and import of oil and oil products, and has the capacity to manage tankers with up to 406,000 DWT. The main users of the Aqaba Oil Terminal, where the oil jetty lies, include the Jordan Petroleum Refinery Company (JPRC), National

[18] Aqaba Development Corporation, Aqaba Container Terminal retrieved on January 1, 2011 http://www.adc.jo/Public/English.aspx?Lang=2&Site_ID=1&Page_ID=1924&Menu_ID=27&M_ID=4&M_Title=Major+Investments&T=1

[19] Ibid.

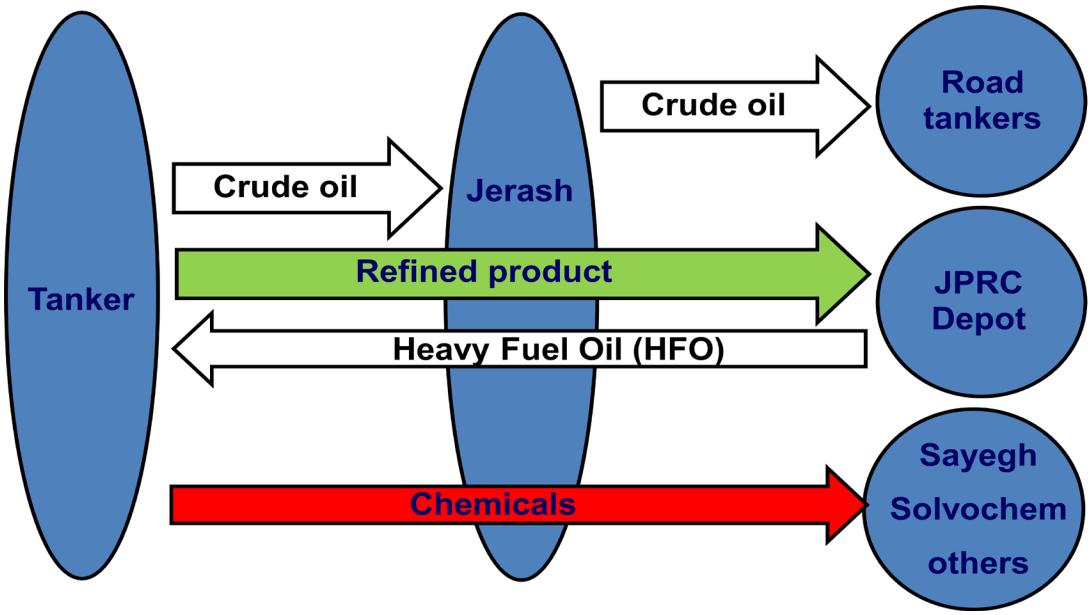
[20] "Southern Port," Aqaba Ports Corporation, Retrieved from http://www.aqabaports.com.jo/En/PortMap.aspx?CategoryID=3, 13 March 2011

Trading & Investment Group Ltd (Sayegh), Solvochem Holland BV Co., Jordan Bromine Company Ltd and Aqaba Bulk Chemicals.[21]

The Terminal's throughput for the year 2009 stood at 4.8 million tonnes of crude import, 0.4 million tonnes of gasoline imports, 0.5 million tonnes diesel imports, 0.2 million tonnes HFO exports and 0.06 million tonnes of chemical imports. The oil berth was built in 1988 for the purpose of exporting crude oil from Iraq in very-large crude carriers (VLCC). It was also used for the import of crude oil and refined products following the 1990 invasion of Kuwait and the 2003 invasion of Iraq.[22]

It is important to note that the VLCC *Jerash*, which was built in 1976, currently provides up to about 270,000 tonnes temporary floating storage for the import of crude oil. The following figure illustrates the product flows between a tanker and the VLCC *Jerash*.

Figure 8: Product Main Flows



Source: "Aqaba Oil Terminal Development." Aqaba Development Corporation. Presentation provided by the Jordan Shipping Association.

Thus, it can be seen that there are three methods of unloading crude oil, refined products and chemicals off the tankers: 1) road tankers, 2) Jordan Petroleum Refinery Company Depot or 3) Sayegh, Solvo Chem Oil-Field Services and others. However, two things must be noted: 1) the crude oil is first unloaded onto the VLCC *Jerash*, after which, on average, delays of 21 days are faced by shipping companies before the crude oil is then transported to road tankers, and 2) the oil jetty double banks with the VLCC *Jerash*. These delays incur substantial demurrage fees for the

[21] "Aqaba Oil Terminal Development." Aqaba Development Corporation. Presentation provided by the Jordan Shipping Association.

[22] Ibid.

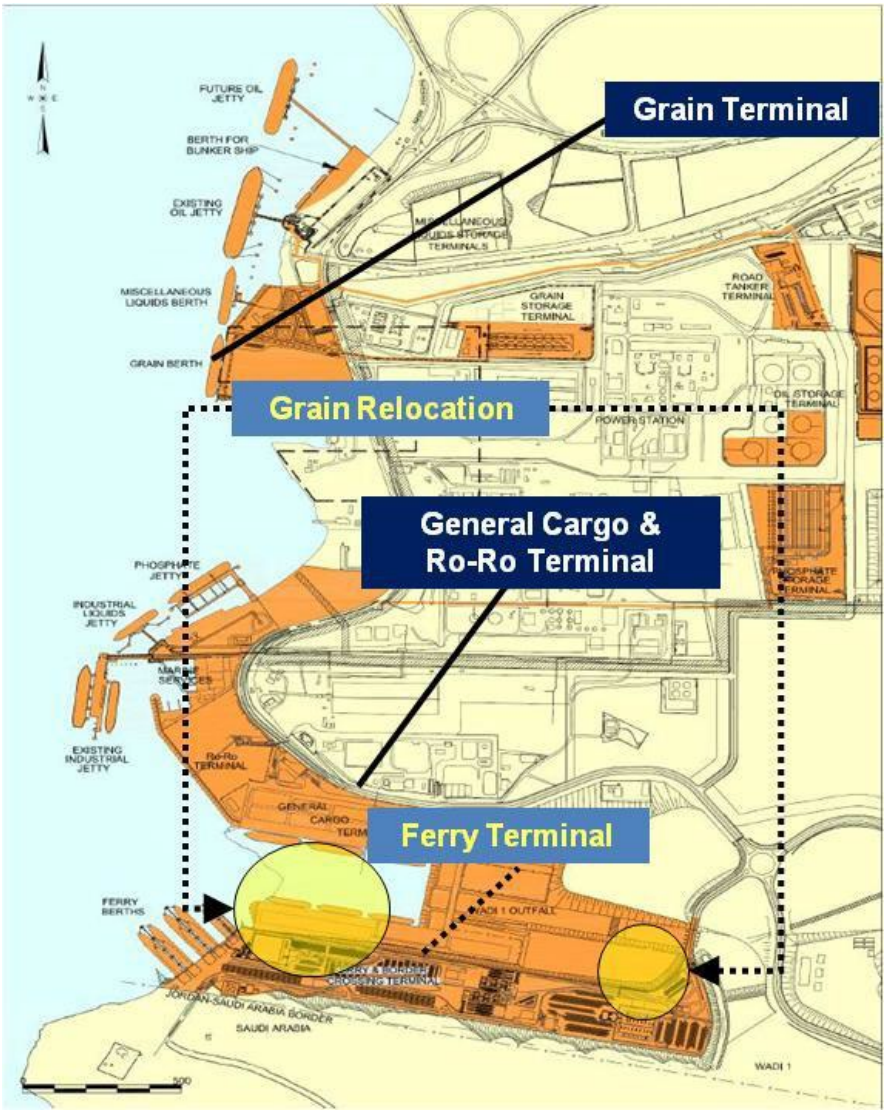
shipping companies, which eventually get passed down to consumers in Jordan in the form of higher gasoline prices.[23]

The ADC recently commissioned a contract for the construction of the new port of Aqaba after selling the current area of the Main Port to Al-Ma'abar Company, which plans to develop the Mersa Zayed project. The new port situated at the southern tip of Aqaba will comprise 3 distinct new terminals, which will be positioned in a large basin created by foreshore dredging:

1. The General Cargo and RORO Terminal will consist of a new multi-user, multi-purpose General Cargo Terminal. It will replace the existing General Cargo berths in the Main Port and will accommodate other cargo displayed by other port developments to handle to liquid and dry bulk operations;
2. The new Grain Terminal will replace the existing grain facilities at the Main Port; it will handle the import of grains for the Jordan Silos and Supply General Company (JSSGC) and any potential future users as well as the transshipment of grain to other markets
3. The new Ferry Terminal will accommodate passenger travel into Aqaba.

Figure 9: New Port Development Project

[23] "Aqaba Oil Terminal Development." Aqaba Development Corporation. Presentation provided by the Jordan Shipping Association.



Source: Aqaba Development Corporation

The surveyed stakeholders felt that the relocation of the proposed new port would moderately affect business and the Port of Aqaba. More specifically, one interviewee felt it was still too early to judge while another believed that we do not in fact need an additional port. Moreover, one respondent claimed that due to the lack of action taken to shift the Port of Aqaba to the south, the Aqaba Ports Corporation would have to lease the port from the new buyer, Al Ma'abar. Only one respondent felt that the new proposed port would only help increase business on the condition that road transportation fees do not rise.

<u>Ship Conditions</u>

Regarding the conditions of the ships that the interviewees use for their respective services (e.g. new, old, and poor condition), of those that responded, one firm claimed that it uses vessels that are less than 20 years old and another said it utilizes new container and RORO vessels. In terms of the average number of vessels

handled on an annual basis, the respondents gave a range of between 70 and 135 vessels handled by their respective agencies. In other words, shipping agents are flexible and can work with ships of different ages.

Connectivity

The United Nations Conference on Trade and Development (UNCTAD) ranks the annual connectivity of countries through its Liner Shipping Connectivity Index (LSCI). The index is calculated by UNCTAD based on five components of the maritime transport sector: number of ships, container-carrying capacity, maximum vessel size, number of services, and number of companies that deploy container ships in a country's port(s). For each component, a country's value is divided by the maximum value of each component in 2004 (index year); the five components are then averaged for each country, and the total average is divided by the maximum average for 2004 and multiplied by 100. The index generates a value of 100 for the country with the highest average index in 2004, which can be seen in the table below.[24]

Table 8: Liner Connectivity Index, 2004-2011

Destination	2004	2005	2006	2007	2008	2009	2010	2011
Jordan	**11.00**	**13.42**	**12.98**	**16.46**	**16.37**	**23.71**	**17.79**	**16.65**
Egypt	42.86	49.23	50.01	45.37	52.53	51.99	47.55	51.15
Iraq	1.40	1.63	4.06	2.61	1.20	5.11	4.19	4.19
Israel	20.37	20.06	20.44	21.42	19.83	18.65	33.20	28.49
Lebanon	10.57	12.53	25.57	30.01	28.92	29.55	30.29	35.09
Saudi Arabia	35.83	36.24	40.66	45.04	47.44	47.30	50.43	59.97
Syria	8.54	11.84	11.29	14.20	12.72	11.03	15.17	16.77

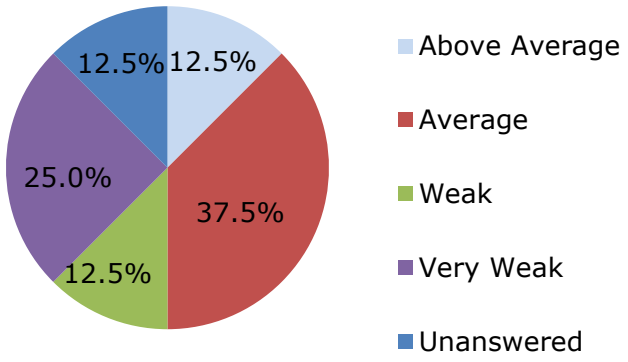
Source: UNCTAD trade statistics

Jordan's liner connectivity has clearly improved over the last seven years reaching a record high in 2009 of 23.71, before dropping back to 16.65 in 2011, a figure closely matched by that of Syria. Jordan however is greatly behind other regional neighbors like Lebanon and Israel who benefit clearly from access to the Mediterranean. Nonetheless, Jordan's opportunity is realizing the lack of connectivity of Iraq, which at 4.19, is lowest among its neighbors.

Based on interviews with various stakeholders in the maritime sector, 3 out of 8 respondents, or 37.5%, rated the location of the Port of Aqaba as offering moderate connectivity to the regional and global maritime networks. Meanwhile, another 3 respondents believed the connectivity was either weak, 12.5%, or very weak, 25%. The chart below illustrates the ratings of the interviewees.

Figure 10: Connectivity of Port of Aqaba to Regional and Global Maritime Networks

[24] UNCTAD Liner Shipping Connectivity Index annual 2004-2011, retrieved from http://unctadstat.unctad.org/TableViewer/Summary



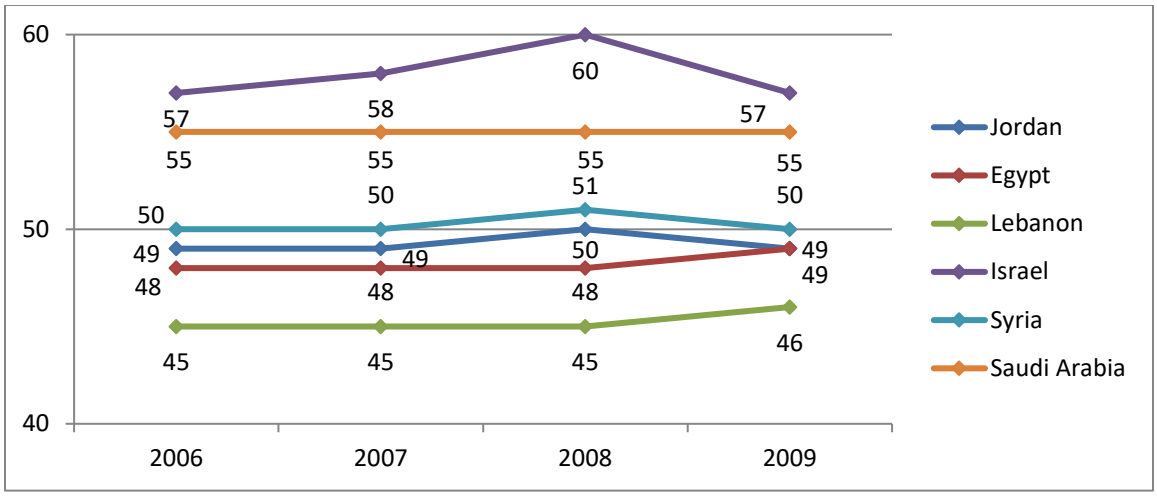
Source: Maritime Sector Interviews

The location of Aqaba is clearly an impediment to increasing connectivity. Entering the Gulf of Aqaba from the Red Sea while on route between Asia and Europe, adds almost two days to the respective journey time of ships. The result is that most of the container shipping lines servicing Aqaba are regional ones.

Human Resources

Labor Force Participation Rate: The labor force participation rate is of key importance when assessing a country's economy. This is defined as the proportion of the population aged 15 and older that is economically active; in other words, it constitutes the people who supply labor for the production of goods and services during a specified period. The following chart illustrates the total labor participation rate in Jordan compared with the five neighboring countries – Egypt, Lebanon, Israel, Syria and Saudi Arabia – as a percentage of the total population aged 15 and older.

Figure 11: Labor Participation Rate, Total (% of Total Population Aged 15+), 2006-2009



Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

In comparison to the Kingdom's five regional countries presented in the above figure, on average over the period 2006-2009, Jordan achieved a better total labor participation rate than Egypt and Lebanon. However, it fell short of achieving the rates of Israel, Saudi Arabia and Syria. During the same period, Jordan's total labor participation rate remained relatively steady at 49%, only increasing once to 50% in 2008.

When examining the labor participation rate of females for the same countries, it appears that Israel, again, outpaced its neighboring nations in terms of labor participation rates, fluctuating between 51% and 54% in the period 2006-2009. Jordan, Lebanon and Egypt achieved roughly the same rates as one another, averaging between 22% and 23% over the same period; nonetheless, they managed to exceed the rates of Syria and Saudi Arabia, which stabilized at 21% effective of the year 2007. See the table below for the labor participation rates of Jordan and its five benchmarked countries.

Table 9: Female Participation Rate (% of Total Population Aged 15+), 2006-2009

Country/Year	2006	2007	2008	2009
Egypt	23	23	23	22
Lebanon	22	22	22	22
Jordan	**22**	**23**	**23**	**23**
Israel	51	52	54	52
Syria	20	21	21	21
Saudi Arabia	20	21	21	21

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Conversely, the labor participation rates of males far surpassed those of females in the region. For example, while females in Jordan realized a rate of 23% in 2009, males attained a rate of 74% in the same year, more than three times as much. While Jordan achieved higher male labor participation rates than Egypt, Lebanon, and even Israel, it achieved lower rates than those of Syria and Saudi Arabia, which

remained steady at 80% in the last few years. Moreover, even though Israel's female population in terms of its labor participation rates fared much better than Egypt, Lebanon, Jordan, Syria and Saudi Arabia, its male population's rates dropped behind those of its Arab counterparts.

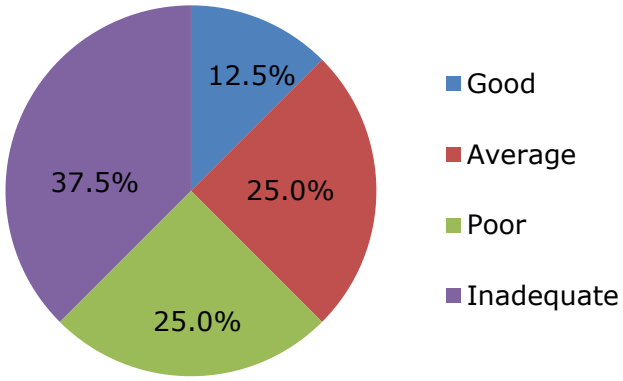
Table 10: Male Participation Rate, (% of Total Population Aged 15+), 2006-2009

Country/Year	2006	2007	2008	2009
Egypt	73	73	73	75
Lebanon	71	71	70	72
Jordan	**74**	**75**	**75**	**74**
Israel	63	64	66	63
Syria	79	80	80	80
Saudi Arabia	80	80	80	80

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

The majority of respondents, or 62.5%, perceived the quality of human resources as either poor, 37.5%, or inadequate, 25%. One of the executives surveyed noted that the Port of Aqaba is not capable of accepting direct shipping lines. The figure below illustrates the respondents' ratings.

Figure 12: Availability of Quality Human Resources in the Maritime Sector



Source: Maritime Sector Interviews

Average Port Fees

The interviewees of the Maritime Cluster Questionnaire noted that they are charged port fees according to the Aqaba Container Terminal rates, which are illustrated in the tables below.

Table 11: Loading and Unloading Rates[25]

[25] "Aqaba Container Terminal Container Service Chargers". Aqaba Special Economic Zone Authority.

	Up to 20' ft	Over 20' ft
Full Containers – Loading/Unloading	JD 32.5	JD 49
Empty Containers – Loading/Unloading	JD 32.50	JD 49.00

Table 12: Storage Rates[26]

	Up to 20' ft	Over 20' ft
Full Containers – Import/Export/Transit/Transshipment (per container per day)		
Free days[27] (2010)	9	9
Free days (2011)	8	8
Free days (2012)	7	7
After the free days from (1 to 10) days (per day)	5.00	10.00
After the free days from (11 to 20) days (per day)	10.00	20.00
Thereafter (per day)	20.00	40.00
Empty Containers – Import/Export/Transit/Transshipment (per container per day)		
Free days	7	7
After the free days from (1 to 10) days (per day)	3.00	6.00
After the free days from (11 to 20) days (per day)	6.00	12.00
Thereafter (per day)	12.00	14.00

The rates for over-dimensional containers[28], break bulk[29], hazardous cargo containers[30] and rolling equipment are as follows:

- Storage rates for over-dimensional containers are double the above rates of full containers.
- Storage of break bulk cargo (import, export, transit and transshipment) will be charged at a rate of JD 1 per m³ per day. For break bulk cargo, the free days for storage do not apply. Rates will be charged from the day the cargo is discharged (for import or transshipment) and for export cargo, rates will be charged from the day the break bulk enters the port until the vessel departs.
- Storage of hazardous cargo containers (import, export, transit and transshipment) will be charged at a rate of JD 15 per day, payable by the consignee except transshipment payable by shipping line/agent. This charge is also applicable to any containers leaking or spilling cargo. The terminal reserves the right to relocate and conserve leaking or spilling containers within the terminal, which will be charged at a rate of JD 75 to the shipping line, excluding cleaning cost.

[26] Ibid.

[27] Free days refers to the period that containers may stay in the terminal without charge after being discharged from a vessel or before being loaded onto a vessel

[28] Over-dimensional container signifies a container carrying over-dimensional cargo beyond the normal size of standard containers and needing special devices like slings, shackles, lifting beam, etc.

[29] Break bulk refers to any cargo that is not loaded in a container

[30] Hazardous cargo containers refers to any material of hazardous nature or components as per the IMDG Code issued by the International Maritime Organization

- Storage of rolling equipment and vehicles (import, export, transit and transshipment) will be charged at a rate of JD 20 per day.[31]

Gross Revenue per Container

Among the respondents, only two offered data on the approximate average gross revenue per container. One responded as follows:

1. 20' containers average gross revenue
   a. Import: JD 110.0 per container
   b. Export: JD 45.0 per container
2. 40' containers average gross revenue
   a. Import: JD 150.0 per container
   b. Export: JD 50.0 per container

Another respondent answered that the approximate gross revenue would be US$ 80 for 20' and US$ 100 for 40' per inward container.

Lead Times

The lead time for Jordanian exports from shipment point to port of loading is considered high in comparison to regional neighbors as seen in the following table.

Table 13: Lead Time to Export, Median Case (Days)

Country/Year	2006	2009
Egypt	N/A	1.3
Lebanon	2.4	3.4
Jordan	2.0	3.2
Israel	5.3	2.0
Syria	N/A	2.5
Saudi Arabia	4.3	2.3

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that the benchmark lead time was set by Egypt at 1.3 days whereas Jordan is second to last with an average lead time of 3.2 in 2009, an increase of 1.2 on its 2006 level. Moreover, only Jordan and Lebanon have deteriorated in lead time, whereas Israel and Saudi Arabia have improved tremendously since their 2006. Furthermore, Jordan's direct competitor, Syria, has a better lead time at 2.5 days.

As for imports, Jordan's lead time to import from port of discharge to arrival point has maintained its 4.6 median days in 2009.

Table 14: Lead Time to Import, Median Case (Days)

Country/Year	2006	2009

[31] "Aqaba Container Terminal Container Service Chargers". Aqaba Special Economic Zone Authority.

Egypt	N/A	3.1
Lebanon	2.4	2.2
Jordan	4.6	4.6
Israel	8.7	2.0
Syria	N/A	2.5
Saudi Arabia	6.6	6.3

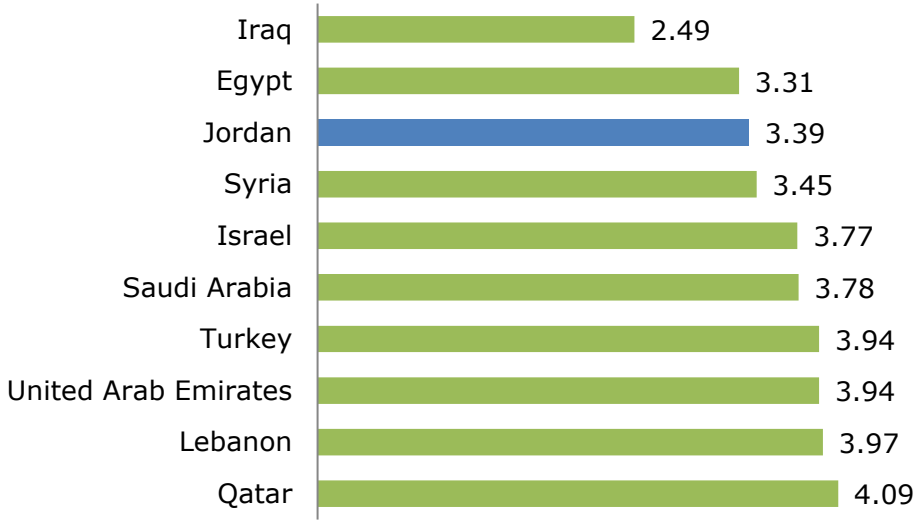
Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Note that Jordan lags behind its regional partners in lead time to imports, achieving more than double the times regions best Israel at 2.0 days. More worryingly, all of the countries reported data for 2006 have bettered their lead times with the only exception of Jordan.

One of the main reasons for the high lead times is non value-added time such as waiting times in the Port of Aqaba. Respondents explained that the average waiting time prior to unloading and reloading for bulk cargo can take between 24 and 48 hours; overall however, it depends on the berth availability. The majority said the waiting time was negligible, provided that the firms commit to their berth window. Some claimed that the only problem they faced regarding the waiting time was during the recent strikes at the Port of Aqaba.

The timeliness of shipments in reaching their destination within the scheduled or expected time has been measured by UNCTAD in its logistical performance index. In the index, the higher the score, the more efficient countries are in the timeliness of their shipments. The below figure illustrates the results for the MENA region.

Figure 13: Timeliness of Shipments, 2010

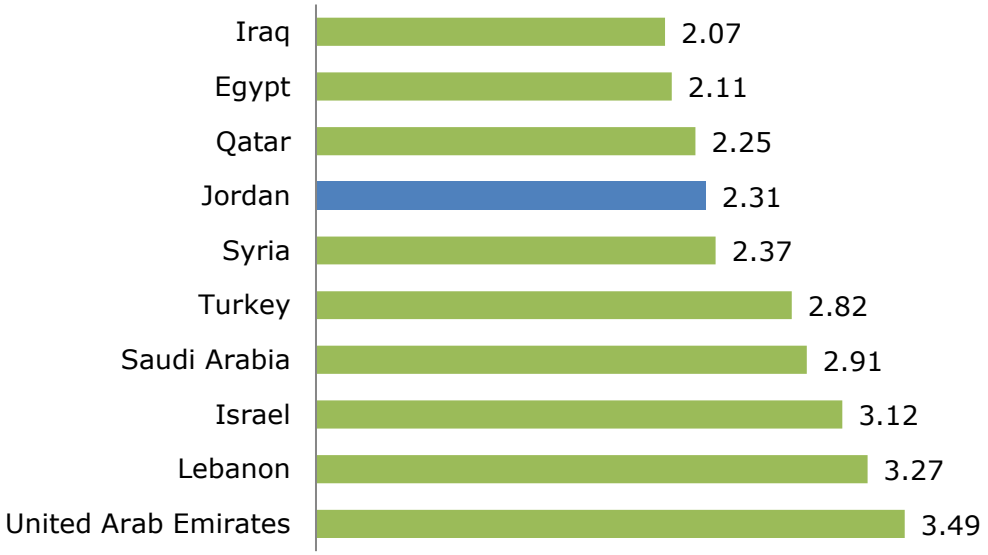


Source: World Bank. "International LPI Ranking."
http://www1.worldbank.org/PREM/LPI/tradesurvey/mode1b.asp

Note that Jordan has the third lowest score of the MENA region at 3.39 lagging behind its close competitors of Syria and Israel yet still faring better than Egypt. Qatar, Lebanon, the UAE, and Turkey have set the benchmark with scores close to 4.00.

Efficiency of the clearance process (i.e. speed, simplicity and predictability of formalities) by border control agencies, including customs have been also measured by UNCTAD. The following figure shows the results.

Figure 14: Customs Efficiency, 2010

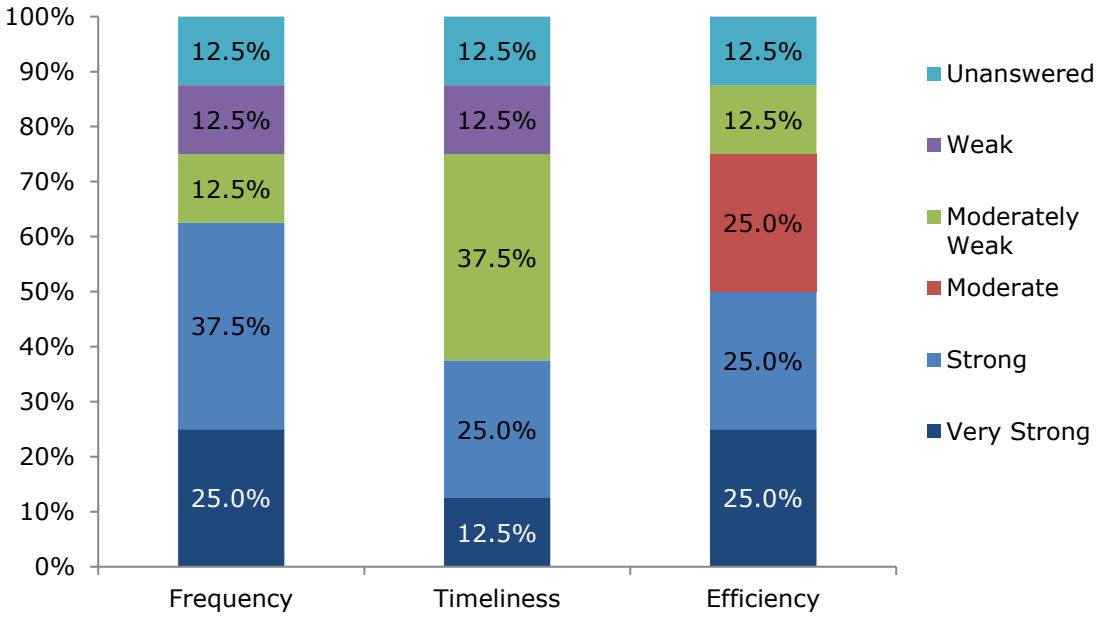


Source: World Bank. "International LPI Ranking."
http://www1.worldbank.org/PREM/LPI/tradesurvey/mode1b.asp

Note that Jordan at 2.31 achieved a mediocre score when compared to its regional competitors. Jordan's direct competitors, Syria, Saudi Arabia and Israel, all achieved better scores of 2.37, 2.91, and 3.12, respectively.

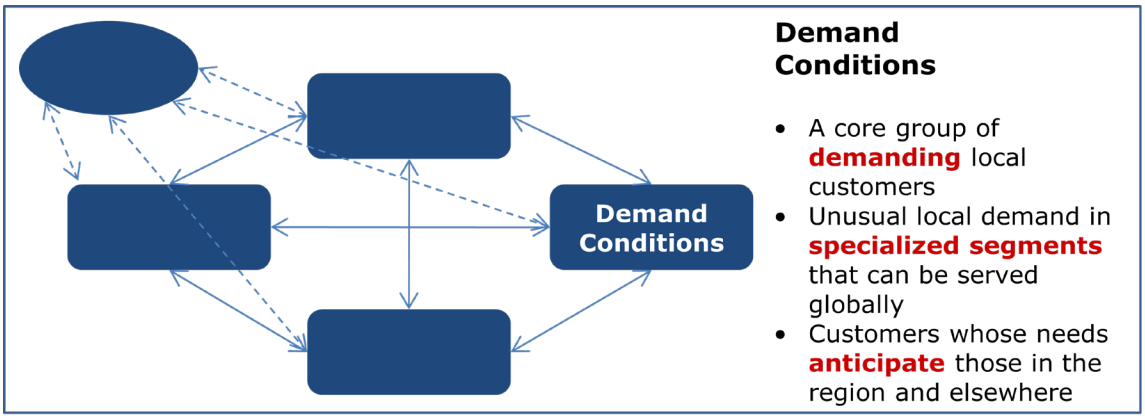
Moreover, when asked to rate the level of inspections at the Port of Aqaba, the respondents believed the frequency of inspections to be either very strong (25%) to strong (37.5%). However, when it came to the subject of timeliness, the majority at 50% felt that this was moderately weak (37.5%) to weak (12.5%). As for efficiency, the majority, or 50%, deemed this factor as very strong (25%) and strong (50%).

Figure 15: Rating of Level of Inspections at Port of Aqaba



Source: Maritime Sector Interviews

5.1.2 Demand Conditions



The shipping industry in Aqaba is mainly based around bulk carriers, tankers, container ships and specialized cargo ships. [32] Non-Jordanian ships comprise most of the shipping into Aqaba utilizing local agents representing their shipping line (thus working as a facilitator for cargo retrieval by its owners). Of these shipping lines Maersk, APL and PIL are the most famous lines currently using of the Port of Aqaba.

Maritime activity in the Port of Aqaba declined during the period 2006-2009, and only increased marginally during the year 2010 due to an increase in exports from

[32] In this industry, defining ownership is a delicate task. Most analysts consider a shipping company 'Jordanian' if the company is owned by Jordanian interests. This is irrespective of the location of the company's headquarters and independent of the flag under which the firm's ships are registered.

the Port of Aqaba, by 40% over exports in 2009. Notably, the number of ships coming to port reached a peak at 3,024 ships in 2008.[33]

Table 15: Aqaba Port Traffic, 2006-2011*

Year	2006	2007	2008	2009	2010	2011*
No. of Ships (Tourist and Passenger Ships)	2,884	2,941	3,024	2,900	2,902	2,390
Import (Ton)	10,144,463	10,297,422	9,165,077	8,302,396	8,795,570	7,400,840
Export (Ton)	7,020,391	7,495,028	7,787,184	5,898,943	8,055,688	6,709,272
Total (Ton)	17,164,854	17,792,450	16,952,261	14,201,339	16,851,258	14,110,112

** Most recent data available is from January to September 2011*
Source: Aqaba Ports Corporation, "Yearly Statistics," 2006-2011

Moreover, while traffic volume is increasing, the gap between exports and imports containers has been widening over the last few years in terms of container shipping. The table below illustrates container traffic for the last few years in Aqaba.

Table 16: Imports and Export of Containers, 2006-2011*

	2006	2007	2008	2009	2010	2011*
Imports containers (TEU)	203,879	212,175	298,435	335,000	302,400	261,976
Imports (20)	64,476	71,745	93,297	90,974	88,302	72,612
Imports (40)	69,701	70,215	102,569	122,013	107,049	94,682
Exports containers (TEU)	201,792	202,487	286,589	339,525	303,259	248,312
Empty cont. (TEU)	161,703	158,614	238,745	294,965	246,283	200,593
Empty (20)	46,471	48,356	65,679	75,077	61,379	44,633
Empty (40)	57,616	55,129	86,533	10,994	92,452	77,980
Full container (TEU)	38,336	43,681	47,844	43,566	56,494	47,697
Full (20)	18,450	19,987	24,926	19,242	29,296	25,301
Full(40)	9,943	11,847	11,459	12,162	13,599	11,198

** Most recent data available is from January to September 2011*
Source: Aqaba Ports Corporation

Note that imports of 40" foot containers is highest between all type of containers in 2010, while the lowest figure is that of full 40'' foot export containers in 2010. In essence, container traffic through the Port of Aqaba is currently dominated by import traffic.

One of the principal problems facing the maritime sector in Jordan stems from a low volume of container export traffic. This is a result of global shipping lines trying to use as much feeder service into Aqaba due to the lack of economies of scales on the route as a result of the lack of connectivity of the port. Long shipping journeys incur

[33]Aqaba Ports Corporation, "Yearly Statistics," 2006-2010

heavier costs on Jordanian exporters in an international marketplace where a short order-to delivery cycle is required[34].

In addition, passenger activity through the Port of Aqaba, including both arrivals and departures, has steadily grown at an annual rate of 4% between 2000 and 2010, reaching 914,937 in 2010; the year 2006 witnessed a peak in this period, amounting to a total of 1,375,411 passengers. Moreover, the year 2010 saw the greatest number of tourist arrivals over the past decade, reaching a record of 74,438.

[34] Diehl. N, Kardoosh, M. (2005) What Constrains Services Trade in Jordan: Weak Infrastructure, Regulatory Barriers or Both? http://www.erf.org.eg/CMS/uploads/pdf/1182872315_ERF13AC_TP_Marwan- Kardoosh.pdf

Table 17: Passenger Travel through Aqaba, 2000-2011*

Passengers	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011*
Arrivals												
Tourists	13,436	10,663	4,613	2,948	10,781	20,494	44,208	53,744	41,270	47,478	74,438	48,575
Nuwaiba-Aqaba	280,240	319,402	302,438	315,701	423,514	427,278	630,092	527,519	564,535	393,353	353,003	273,490
Total Arrivals	293,676	330,065	307,051	318,649	434,295	447,772	674,300	581,263	605,805	440,831	427,441	322,065
Departures												
Tourists	13,760	10,630	4,746	2,900	10,760	20,430	44,084	53,715	40,191	47,531	74,121	47,013
Nuwaiba-Aqaba	331,106	333,648	334,881	356,067	434,479	453,520	657,027	569,584	551,845	435,252	413,375	288,983
Total Departures	344,866	344,278	339,627	358,967	445,239	473,950	701,111	623,299	592,036	482,783	487,496	335,996
Total Passengers	638,542	674,343	646,678	677,616	879,534	921,722	1,375,411	1,204,562	1,197,841	923,614	914,937	658,061

** Most recent data available is from January to September 2011*

Source: Aqaba Ports Corporation

Transit traffic, which used to account for more than a quarter of the port's total cargo tonnage in the early 1990s, now accounts for only 4.1% of total cargo tonnage, as of 2011. Overall, in the period 2006-2011, the total Jordanian cargo, including exports and imports, fluctuated: it increased slightly between 2006 and 2007, only to then decline in 2008 and 2009. After 2009, however, total Jordan cargo began to recover, rising to reach 18.4 million tons in 2011. The table below shows the comparison of Jordan and transit cargo handling through the Port of Aqaba.

Table 18: Comparison of Jordanian and Transit Cargo Handling via Aqaba, 2006-2011 (Tons)

Year		2006	2007	2008	2009	2010	2011
Jordan Cargo (Ton)	**Import**	9,489,770	9,910,739	8,823,357	7,858,317	8,196,357	9,579,500
	Export	6,872,776	7,364,436	7,676,441	5,751,729	7,880,504	8,823,100
	Total	16,362,546	17,275,175	16,499,798	13,610,046	16,076,861	18,402,600
Transit Cargo (Ton)	**Import**	654,693	386,683	341,720	444,079	599,213	629,000
	Export	147,615	130,592	110,743	147,214	175,184	152,000
	Total	802,308	517,275	452,463	591,293	774,397	781,000
Total (Ton)		17,164,854	17,792,450	16,952,261	14,201,339	16,851,258	19,183,500

Source: Aqaba Ports Corporation, "Yearly Statistics," 2006-2012

Moreover, Jordan's position as a transit hub in the MENA region has fluctuated. Transit goods traffic through the port of Aqaba reached a peak in 2004 of about 1.12 million tons, or about 6% of the total cargo handling in the port during that year. It continuously declined until 2009, when momentum started to increase. In general, there has been a clear drop in the amount of

transit goods bound for some neighboring countries, while there has been a great increase to other destinations. For example, the amount of transit goods destined for Iraq, through Aqaba, declined from 858,880 tons in 2003 to 70,021 tons in 2009 (a reduction of 91.8%).[35] On the other hand, transit goods destined to Saudi Arabia, Kuwait and Syria via Aqaba increased by 1,102.8%, 87.1% and 94.2%, respectively, when comparing transit good shipments between 2003 and 2009. [36] The table below illustrates these fluctuations, in detail.

Table 19: Transit Goods Imported via Aqaba by Destination, 2003-2011** (Tons)

Destination	2003	2004	2005	2006	2007	2008	2009	2010*	2011**
Iraq	858,880	946,033	589,511	460,519	144,536	113,603	70,021	95,347	99,882
Syria	5,864	27,013	36,236	32,852	59,964	47,218	70,530	48,218	25,079
Saudi Arabia	74,125	86,792	137,809	107,668	133,366	138,014	138,701	129,279	116,674
Lebanon	4,512	10,435	5,252	3,395	1,745	3,736	2,357	1,945	1,603
Kuwait	10,171	15,575	18,538	19,870	26,661	19,607	19,756	11,495	17,294
Yemen	-	521	84	8	350	-	345	273	-
UAE	15,922	14,585	20,634	18,480	8,096	6,771	4,699	3,693	4,883
Palestine	2,037	1,710	77	-	-	40	-	-	-
Israel	-	-	117	18	-	-	414	796	206
Others	4,987	9,930	10,112	11,883	11,965	12,731	137,256	248,618	205,695
Total	**976,498**	**1,125,941**	**818,370**	**654,693**	**386,683**	**341,720**	**444,079**	**539,664**	**471,316**

** The 2010 data was incomplete: the only data available was for January-November 2010.*

***Most recent data available for 2011 is for January-September.*

Source: Compiled from Statistical Yearbook, 2007, and Annual Report, 2009, Ministry of Transportation, Department of Statistics, Amman, Jordan, Aqaba Ports Corporation

Although the Port of Aqaba is struggling to make a name for itself as a transit hub in the region, other ports are achieving greater results, in this area, namely the Port of Tartous in Syria. Instead, the Port of Aqaba is viewed as a destination port.[37]

[35] Please note that, as the data in 2010 and 2011 were incomplete, a comparison between previous years to these particular years could not accurately be made.

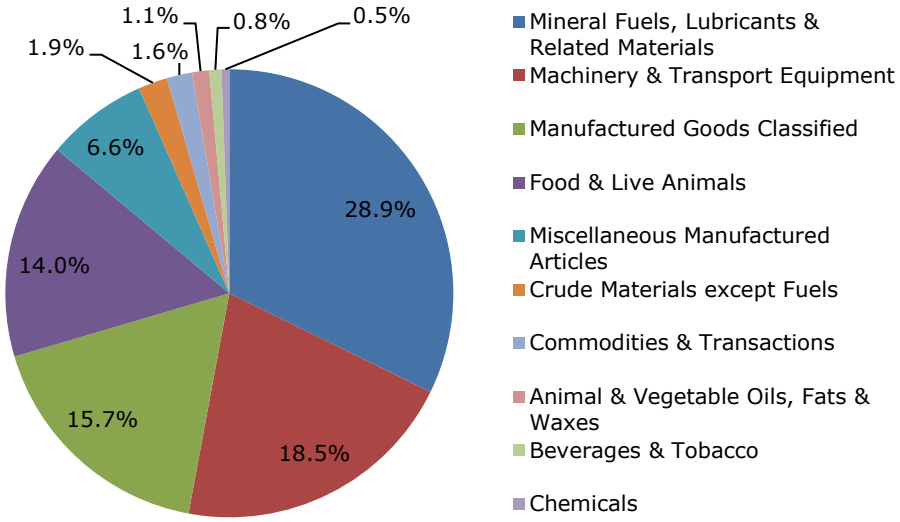
[36] Statistical Yearbook, 2007, and Annual Report, 2009, Ministry of Transportation. Department of Statistics. Amman, Jordan

[37] Interviews with stakeholders.

Types of Imports and Exports

The types of commodities that are imported into Jordan largely consist of mineral fuels, lubricants & related materials (28.9%), machinery & transport equipment (18.5%) and manufactured goods classified (15.7%). Of all imported commodities, mineral fuels, crude oil and petroleum products make up the majority at 13.6% and 11.6%, respectively.

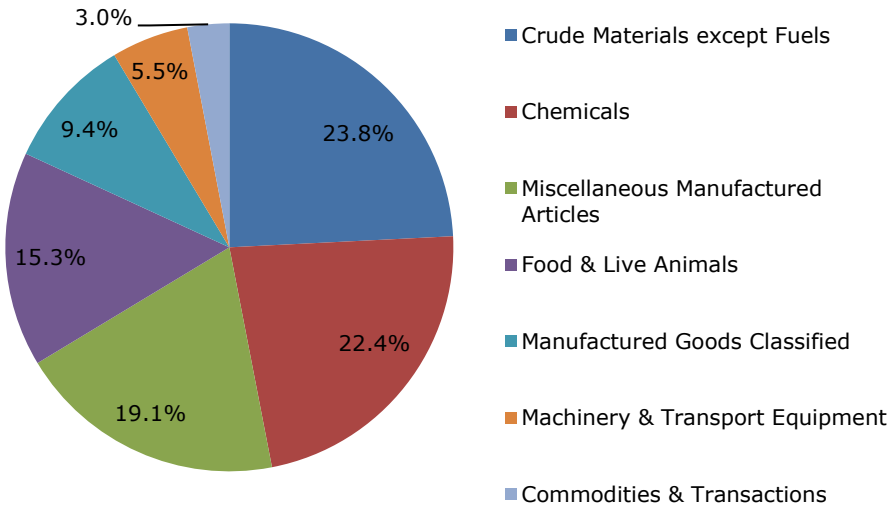
Figure 16: Imports by Commodity, 2011



Source: Central Bank of Jordan, Monthly Statistical Bulletin, April 2012

The majority of domestic exports in the Kingdom of Jordan in 2011 comprise crude materials, inedible, except fuels at 23.8%, followed by chemicals at 22.4% and miscellaneous manufactured articles at 19.1%. Among the crude materials, potash exports make up the largest share at 12.4%, followed by phosphate exports at 9.4%. Meanwhile, fertilizers constitute the largest part of chemicals at 5.6%. Finally, the clothing component formed the majority of exported miscellaneous manufactured articles at 14.8% in 2011.

Figure 17: Domestic Exports by Commodity, 2011



Source: Central Bank of Jordan, Monthly Statistical Bulletin, April 2012

Phosphate and Potash

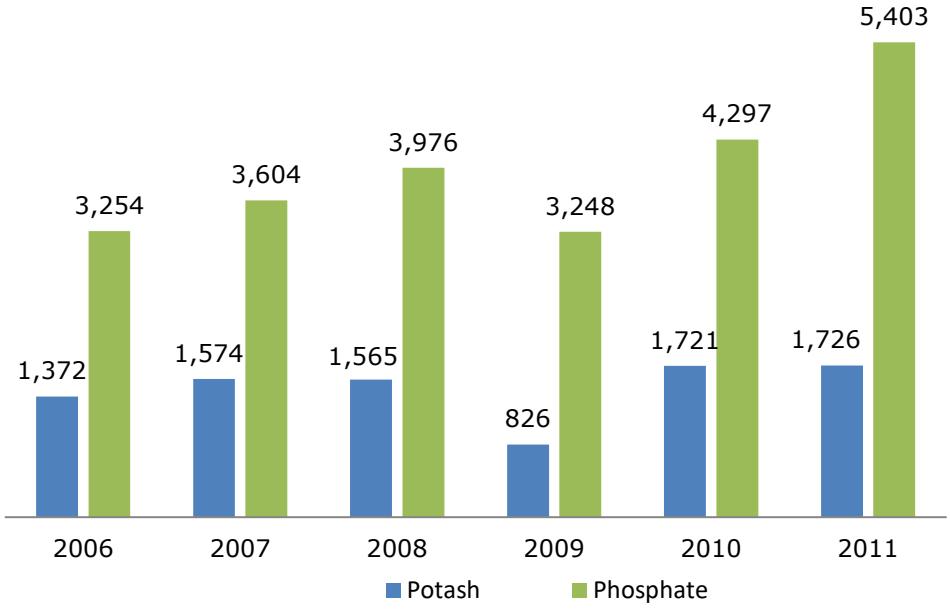
Jordan's two main natural resources of potash and phosphate are of significant importance to maritime activity in Jordan. The two resources combined accounted for 79% of Jordan's exports through Aqaba in 2011, as seen in the table below.

Table 20: Phosphate and Potash Exports through Aqaba (Thousand Tons), 2006-2011

Year	Phosphate and Potash Exports	Percentage of all Aqaba Exports
2006	4,626.8	65.9%
2007	5,177.9	69.1%
2008	5,541.2	71.2%
2009	4,073.6	69.1%
2010	6,018.0	74.7%
2011	7,128.4	79.4%

Source: Central Bank of Jordan, Monthly Statistical Bulletin, January 2012, "Aqaba Port Activity", http://www.cbj.gov.jo/pages.php

Figure 18: Phosphate and Potash Exports (Thousand Tons), 2006-2011



Source: Central Bank of Jordan, Monthly Statistical Bulletin, January 2012, "Aqaba Port Activity", http://www.cbj.gov.jo/pages.php

Note that the two resources dominate export activity in the Port of Aqaba, averaging around 72% over the last 6 years. However, these resources are clearly susceptible to international economic volatility as seen from the drop in export value for 2009 after the onset of the international financial crisis. Potash suffered the most with a decline of 47.3% in 2008-2009 while phosphate dropped by 19% in the same period. The two commodities recovered their losses in 2009 with record performances over the last five years.

In terms of international demand, the Food and Agriculture Organization (FAO) of the United Nations expects in increase in demand as seen in the following table.

Table 21: World Demand for Fertilizer Nutrients, 2010-2014 (Thousand Tons)

	2010	2011	2012	2013	2014
Phosphate	39,148	40,445	41,594	42,791	43,876
Potash	26,655	28,542	29,882	31,218	32,413

Source: Food Agriculture Organization Fertilizer Outlook, 2010

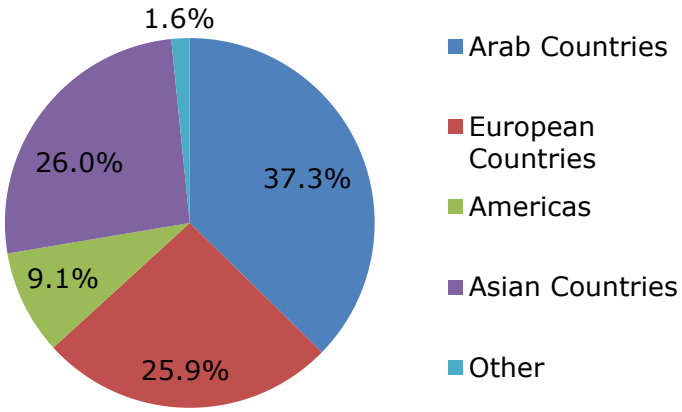
The increased demand will reflect positively on the Port of Aqaba through increased shipping and handling activities.

Sources of Import and Export Demand

Kingdom's Imports and Exports

Both Jordanian imports and exports are dominated by trade with fellow Arab Countries. In terms of imports, Arab Countries comprised around 37.3% of all imports into Jordan, followed by European Countries, including the European Union and others, at 25.9%. Among the individual countries, Saudi Arabia and China were the two largest sources of imports at 22.8% and 10.0%, respectively in 2011.

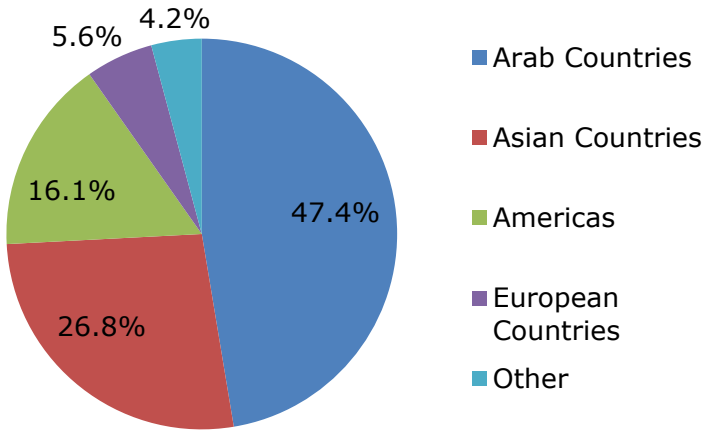
Figure 19: Geographic Distribution of Imports, 2011



Source: Central Bank of Jordan, April 2012, Monthly Statistical Bulletin

As for the geographic distribution of domestic exports, Arab Countries dominated at 47.4% of the total, followed by Asian Countries at 26.8% and the Americas at 16.1%. It is important to point out that, as individual countries, the United States and Iraq almost equally commanded the largest share of Jordanian exports at 15.4% and 15.0% in 2011.

Figure 20: Geographic Distribution of Domestic Exports, 2011



Source: Central Bank of Jordan, April 2012, Monthly Statistical Bulletin

Imports and Exports through Aqaba

The chief origins of demand for maritime imports into Jordan are the Far East, Europe and the United States. In the Far East, China holds the largest share, comprising 50%-80% of total imports.

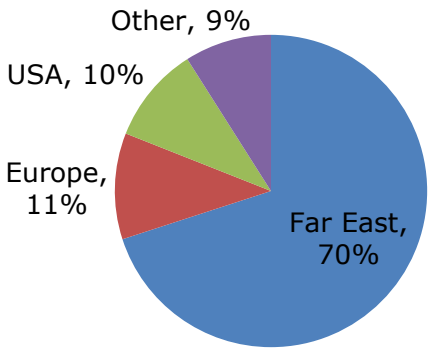
Among the respondents, the principal sources of demand for exports are the Far East, the US and other, including the United Arab Emirates, Pakistan, South Africa and Sri Lanka.

With regards to the origins of exports and imports, one respondent provided a detailed account of the sources of imports according to type as follows:

- Grain/Maize: North and South America
- Chemicals: Europe, Japan and China
- Industrial Goods: Europe, USA, China, Korea, and Japan
- Steel: Black Sea
- White Goods: China, South East Asia and West Mediterranean
- General Merchandise: China
- Timber and Paper: Black Sea and South East Asia
- Crude Oil: Saudi Arabia
- Vegetable Oil: South East Asia

According to another respondent, the origin of his organization's imports is as illustrated in the figure below.

Figure 21: Origin of Imports through Aqaba



Source: Maritime Sector Interviews

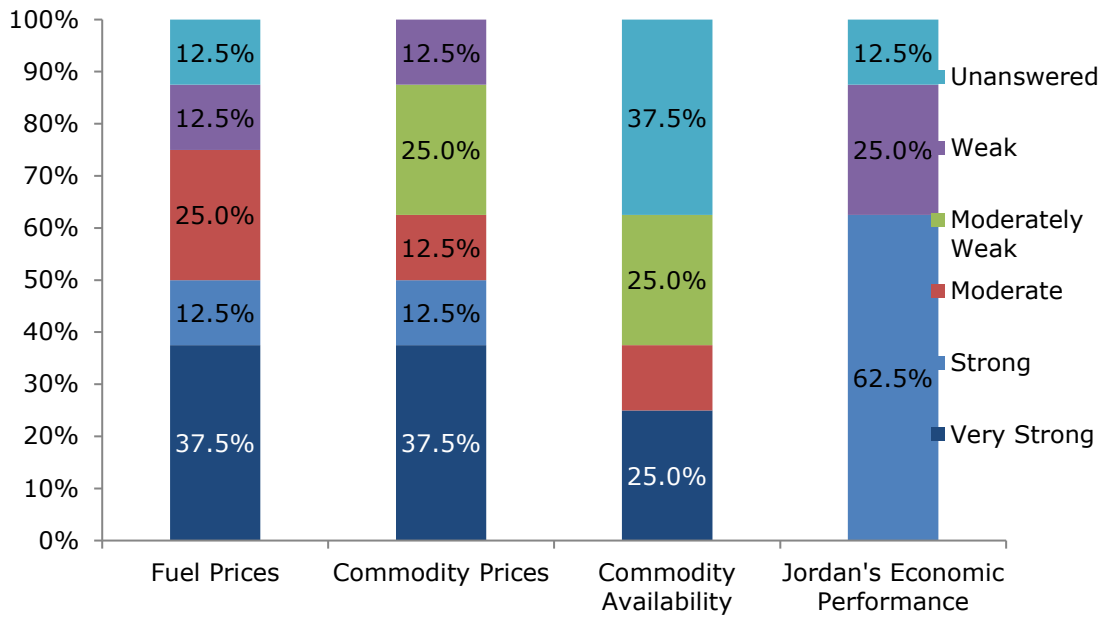
In addition, one of the interviewees claimed that the majority of their cargoes imported to Jordan originate from the Far East with China holding 80% of the share, followed by Europe and the US. It is important to note that port statistics do not offer the loading ports from which cargoes originate. The percentage that was provided is based on a market survey conducted by the interviewee's firm. Also, in terms of type, the majority of imports are containers, followed by bulk and RORO. Crude oil, grain and sulfur are imported in bulk.

Further, a respondent stated that the majority of imports and exports originate from the Far East, mainly China, at 50-60%; and Europe, North America and rest of world at 40%.

Factors Affecting Demand

The interviewed stakeholders were also asked to rate certain factors affecting demand, including the prices of fuel and commodities, availability of commodities as well as Jordan's overall economic performance. The rankings are illustrated in the figure below.

Figure 22: Specific Factors Affecting Demand in the Maritime Sector



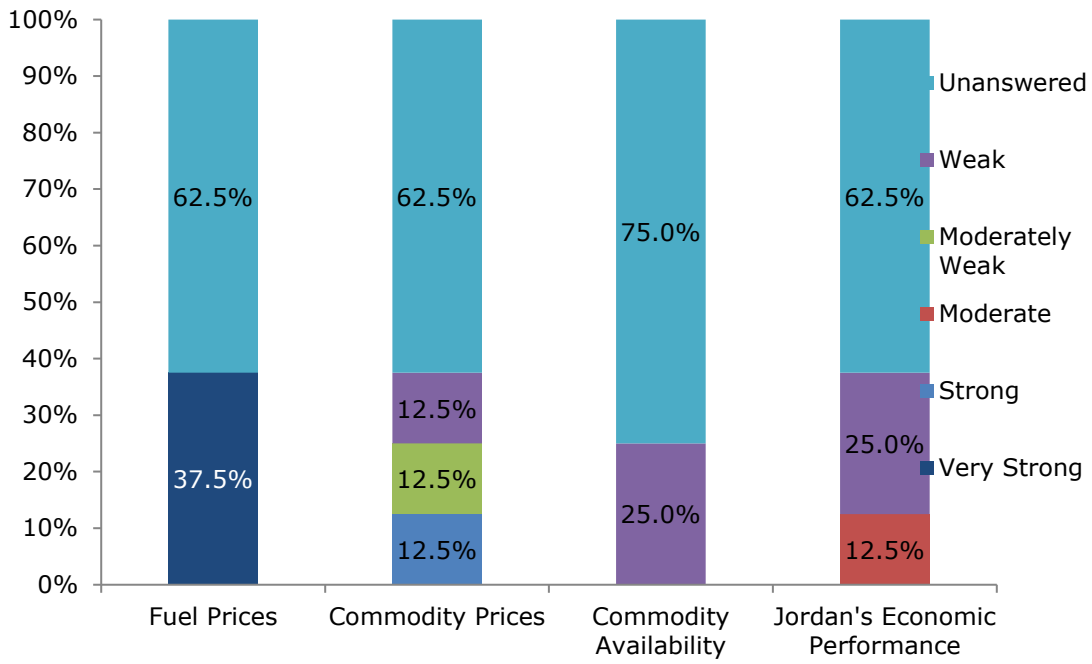
Source: Maritime Sector Interviews

One can deduce that the interviewees were generally divided in terms of the extent to which fuel prices and commodity prices impact demand. However, it appears that they did view Jordan's economic performance as either positively or negatively affecting demand: in fact, 62.5% of the interviewees rated this factor as strong while 25% rated it as weak.

Factors Affecting the Price of Shipments

Similarly, the interviewed stakeholders were also asked to rate the same possible factors affecting the price of shipments, including the prices of fuel and commodities, commodity availability and Jordan's economic performance. The rankings are shown below in Figure 21.

Figure 23: Specific Factors Affecting Price of Shipments



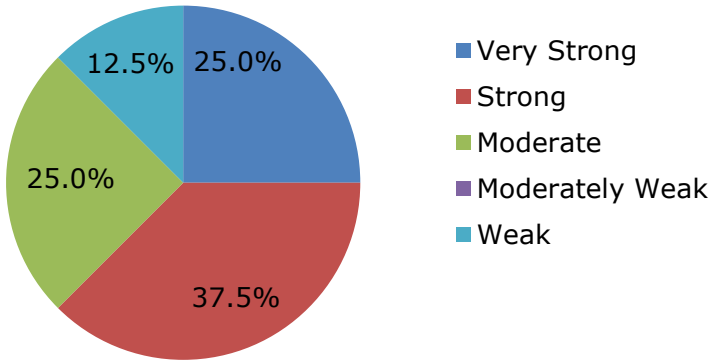
Source: Maritime Sector Interviews

As the majority of the respondents left this section blank, it is difficult to analyze how to best determine the specific factors that affect the price of shipments. Nonetheless, from the graph above, one can deduce that the price of fuel is one of the determinants to the overall price of shipments.

Impact of the Recent Economic Downturn

Around 62.5% of the respondents perceived the impact of the recent economic downturn on the maritime sector as either strong, 37.5%, or very strong, 25%. Meanwhile, one interviewee believed that the connection was actually very weak and further claimed that the global economic crisis benefited the Middle East by specifically introducing new container services while Europe and the US suffered. Please see the chart below presenting the respondents' ratings.

Figure 24: Impact of Recent Economic Downturn on Maritime Sector



Source: Maritime Sector Interviews

Empirical evidence however clearly illustrates the decline in port traffic witnessed in 2009 after the onset of the international financial crisis of 2008. As observed in table 15, the port of Aqaba recorded its lowest traffic in the last 5 years at 14,201,339 tons in 2009, a 19.4% decrease on the 16,952,261 tons handled in 2008. The Port of Aqaba however recovered in 2010 by registering an 18.5% increase on 2009 with 16,851,258 tons handled, a figure matching pre crisis levels. The main reason for the post financial crisis decline is the economic volatility of Potash and Phosphate which struggled in 2009.

Situation in Syria and Demand in Port of Aqaba

In addition, the interviewees were asked to comment on whether the Port of Aqaba will see increased demand due to the situation in Syria and if the Port of Aqaba has the capacity to handle such demand. Although there was a mix of responses, the general belief was that demand will consequently grow. One interviewee claimed that the Port would in fact witness a surge in demand if the Arab League imposed sanctions on Syria, but excluded Jordan.

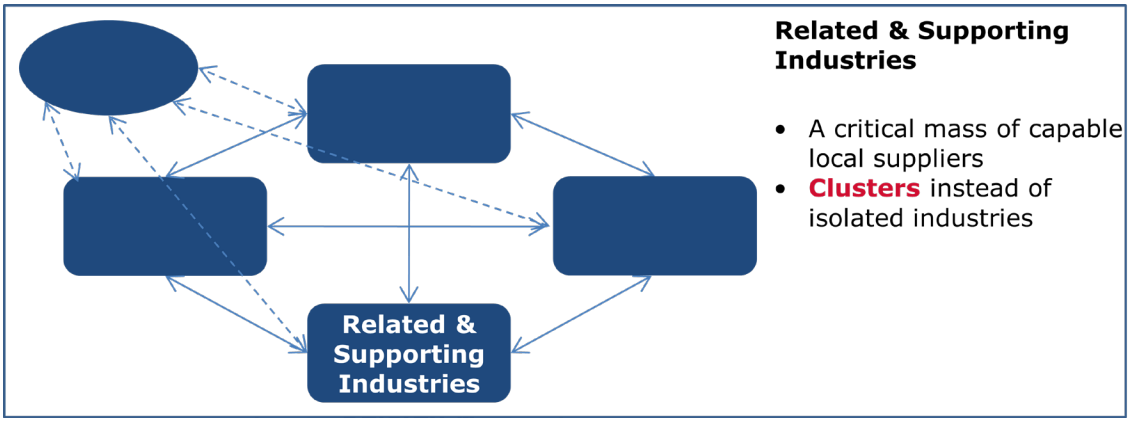
One respondent asserted that the flow of movement to the Port of Aqaba will eventually increase and that traders will return to using the Port of Aqaba rather than the Tartous Port. Another interviewee explained that owing to Syria's current state of affairs, imports from Turkey and Syria are now being directed toward Aqaba; however, this has translated into an increase in the consumer prices of commodities. For example, where Tartous Port previously charged US$ 50, Aqaba Port charges US$ 80, effectively an increase of 30-40% in terms of costs. Moreover, another respondent affirmed that cargo shipments to Aqaba have already begun; also, containers have seen an increase.

On the other hand, one respondent stated that demand would not increase; nonetheless, most cargo imported to Jordan via Syrian ports would be rerouted to Aqaba at an extra cost due to additional fees at the Suez Canal, longer trips and higher port costs in Aqaba.

Recent interruptions in Syria have made more difficult for Jordanian cargo destined to Turkey. On average 3,000 cargo trucks from Jordan use Syria as a transit route to Turkey and Europe every month[38]. The government of Jordan has been forced to negotiate with Iraq to re route of all Jordanian trucks destined to Syria to Iraqi highways instead. However, the current political crisis in Iraq has delayed the approval of the Jordanian request[39].

Due to the situation in Syria, the Port of Aqaba will see a rise in demand but Jordan must increase its level of competitiveness in order to accommodate the additional demand. Moreover, the government needs to mobilize and offer more incentives in terms of handling and storage similar to ACT which has already given a 25% discount as an incentive.

5.1.3 Related and Supporting Industries



Aqaba has not truly succeeded in creating supplementary industries around the Port of Aqaba over last few years. Aside from the phosphate industry, limited projects have broken through to generate supplementary services to enhance the overall maritime cluster in Aqaba. As a result, the ADC has recently attempted to fill the gap in supplementary services by realizing the need for complimentary logistical services. One such development is the Aqaba Logistics Village (ALV).

The ALV will cover a 500,000 square meter area to be constructed along three phases, which began in 2007. The ADC granted a build, operate and transfer (BOT) model concession to the Agility/Kawar Consortium to develop, manage and operate the facility along the three main phases as follows:

1. Phase 1, the 1st container freight station (CFS), a distribution center (DC) and a service center on ALV North will be developed.
2. Phase 2 will include two new DCs with a total area of 20,000 square meters, company headquarters and the ALV Logistics Institute, all within the same building.

[38] Omari, Raed. (2012) Iraq to OK Jordanian freight transit by month's end. Jordan Times

[33] Ibid.

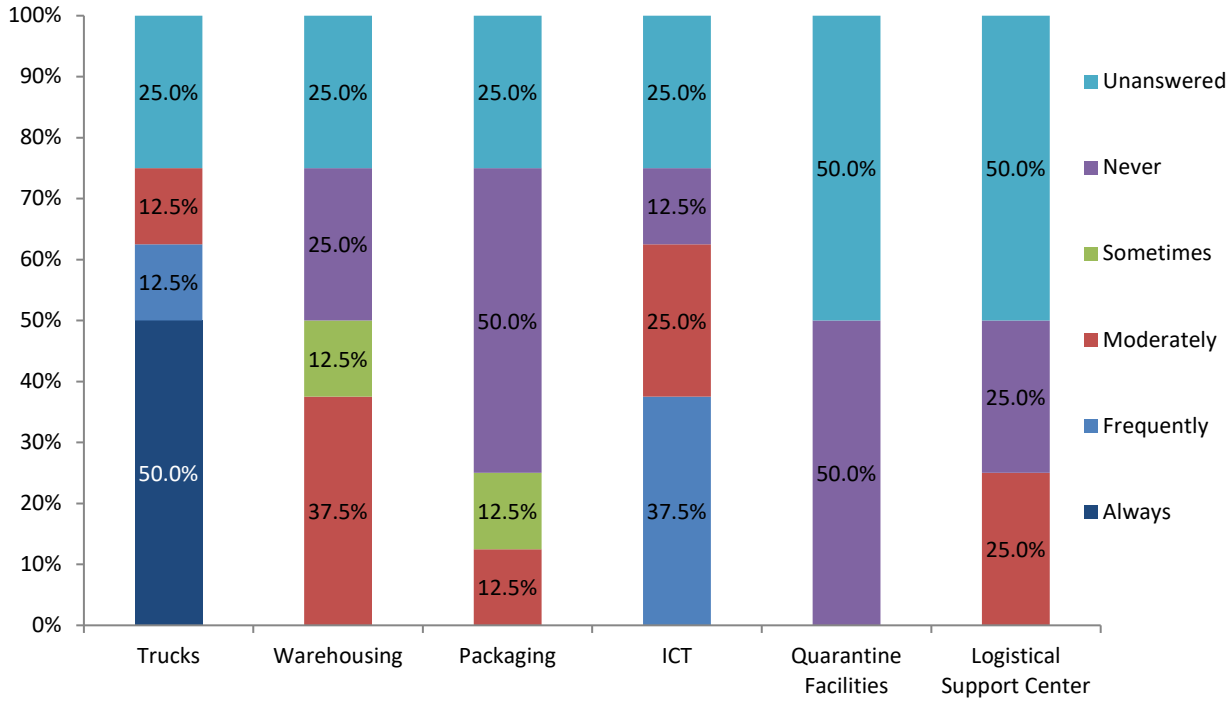
3. Phase 3 will integrate three DCs with an area of 10,000 square meters, a supplementary CFS and developed land plots for investors, in related logistics services.

The CFSs will handle, exclusively, all the Less than Container Load (LCL) business coming to Jordan through the Aqaba Container Terminal. The direct investment in the ALV is expected to amount to US$ 70 million over the 25-year duration of the concession. The ALV will eventually incorporate 2 CFSs, 6 DCs, container yards, container maintenance facilities, a washing facility and truck staging areas, in addition to making available and managing dedicated plots of land, for development by investors. [40]

Complementary Services

The maritime stakeholders were requested to rate the following complementary services: trucks, warehousing, packaging, ICT, quarantine facilities and Logistical Support Center. The below diagram illustrates their ratings in terms of frequency of use from always to never.

Figure 25: Rate of Complementary Services in Terms of Frequency



Source: Maritime Sector Interviews

It is evident from the ratings that, out of all the possible complementary services, trucks were the most frequently used service among the respondents, followed by

[40] Aqaba Logistics Village Development Phases. Last retrieved 09-01-2012 http://www.alv.jo/DevelopmentPhases.aspx

ICT. In fact, 62.5% of the interviewees noted that they moderately (12.5%), frequently (12.5%) or always (50%) utilize trucks. As for ICT, 50% of respondents made use of this supporting service either frequently (37.5%) or moderately (25%). In addition, at least 37.5% of those that answered employed warehousing services either moderately (37.5%) or sometimes (12.5%). On the other hand, among the respondents who replied to this question, quarantine facilities were never utilized.

According to 2009 data, there are 64,754 small trucks, 99% of which are owned by private firms and 1% by individuals; 17,239 large trucks, 7.8% of which are owned by individuals; 33,431 mid-size trucks, 34% of which are also owned by individuals.[41] It is important to note that the Jordanian trucking fleet is significantly old, which could be explained by the dominance of the sole owners and operators.

In addition, there exist 6,313 tanker trucks, which transport a range of bulk liquids and gases; ownership of the fleet is divided between private firms at 30% and individuals at the remaining 70%. The following table gives additional details on the number and usage type of cargo trucks.

Table 22: Number of Cargo Road Transport Vehicles Operating in Jordan, 2009*

Vehicle Category	Usage type	2009	2008
Small Trucks	Private	64,386	81,273
	Public	368	4,420
Mid-Size Trucks (4-10) Ton	Private	22,027	7,498
	Public	11,404	8,054
Large Trucks more than (10) Ton	Private	3,732	2,349
	Public	13,507	9,768
Tanker / Truck	Private	1,912	1,846
	Public	4,401	4,162
Truck (1)	Private	65	66
	Public	1,238	1,241
Truck (2)	Private	666	643
	Public	18,480	16,450
Trailer	Private	461	423
	Public		
Semi Trailer	Private	20,712	18,487
	Public		
Total		163,359	156,680

Source: Driving and Vehicles Licensing Department. 2009. Amman, Jordan.
**Please Note: The huge difference in the number of vehicles for the small and mid-sized trucks between the years 2008 and 2009 was due to the adaptation of different categorization of cars by the Driving and Vehicles Licensing Department.*

[41] Driving and Vehicles Licensing Department. 2009. Amman, Jordan

Over the last five years, the number of truck loads from Aqaba Port declined steadily, while the truck loads discharged into the port increased sharply and even doubled during the same period, owing to the rise in demand for phosphate, in international markets.

Table 23: Truck Road Transport via Aqaba Port in Tons and No. of Trucks, 2010

Year	No. of Trucks Loaded from Port	Weight (Tons)	No. of Trucks Discharging Phosphate in Port	Weight (Tons)
2010	234,440	5,640,226	62,802	2,099,640
2009	285,112	5,963,298	34,825	1,146,148
2008	290,496	6,952,087	47,665	1,772,638
2007	302,623	7,410,812	39,605	1,249,995
2006	304,943	7,520,973	31,994	948,558

Source: Aqaba Port Statistics, 2010

Moreover, the railway system, a crucial element in the entire transport infrastructure network, plays a significant role in supporting the maritime cluster. Currently, two state-owned railway corporations, Aqaba Railway Corporation (ARC) and Jordan Hijaz Railway Corporation (JHRC), operate and manage the railway system. As illustrated in the table below, Jordan features 294 kilometers of rail lines, as of the year 2009.

Table 24: Rail Lines (Total Route-km) [42]

Country/Year	2006	2007	2008	2009
Egypt	5,195	5,195	5,063	5,195
Lebanon	N/A	N/A	N/A	N/A
Jordan	293	293	251	294
Israel	905	958	1,005	1,005
Syria	2,043	2,043	2,139	1,801
Saudi Arabia	1,020	1,412	2,758	1,020

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

It is important to note that trains are rarely utilized in Jordan for transporting individuals; rather they are mainly used for transporting bulk products such as phosphates. The amount of phosphate transported by both trains and trucks decreased between 2003 and 2007, particularly for trains. This drop corresponded to the fall in phosphate demand over the same period. While it is expected that the demand for trucks will persist, the demand for trains will drop substantially, mainly due to main loss of the trains sector's primary function.

The road network in Jordan plays an equally vital role in complementing the maritime cluster. It offers connections to all governorates, cities, and neighboring countries. The road network in Jordan, which totals approximately 8,000 km, is

[42] Rail lines are defined as the total length of railway route available for train service.

well-developed as compared to that of other regional countries. It consists of a primary road of 3,440 km (including a four-lane highway connecting Aqaba to Amman), a side road of 2,127 km, and a rural road of 2,435 km.[43] The following table derived from the World Bank indicators show the percentage level of total roads in Jordan and neighboring countries. [44]

Table 25: Roads, Paved (% of Total Roads)

Country/Year	2006	2007	2008	2009
Egypt	48	48	48	49
Lebanon	45	45	45	46
Jordan	49	49	50	49
Israel	57	58	60	57
Syria	50	50	51	50
Saudi Arabia	55	55	55	55

Source: World Bank Indicators. World Bank. http://data.worldbank.org/indicators

Furthermore, since 2002, the Ministry of Public Works and Housing commenced implementation of its 25-year plan with the objective of developing an extensive road network around the Kingdom, including building ring roads around major cities and development areas such as Amman, Salt and Irbid. Investments on road improvement and development are projected to amount to more than US$ 1.8 billion over the next 25 years.[45]

Finally, the Aqaba Port Marine Services Company (APMSCO) was established in December 2006 through an agreement with the Aqaba Development Corporation (ADC) and Lamnalco Jordan Company (LAMJO), a joint venture between Lamnalco Limited, Cyprus and Jordan National Shipping Lines Company. Commencing operations in March 2007, APMSCO was created to provide world class marine services in the Port of Aqaba and be the port of choice in the region. APMSCO's mission is to offer marine services of the highest international standards.

Moreover, APMSCO has contributed to the modernization process of the Port of Aqaba and its transport infrastructure, complementing this dynamic development program through the provision of competitive and cost effective services to the customers of Aqaba Port.[46] Among the marine services offered by APMSCO are:

- Provision of pilots, tugs and mooring teams to facilitate any movement of shipping within the port of Aqaba at rates set by ASEZA.
- Launch transport to and from vessels off the port or in the anchorage area at rates agreed to by ASEZA.

[43] European Union. "Technical Assistance to Support the Ministry of Transport in Up-grading the Three-Year National Transport Strategy (2009-2011) and Capacity Building of MoT." http://www.mot.gov.jo/files/Jordan%20strategy%20final%20version_0.pdf

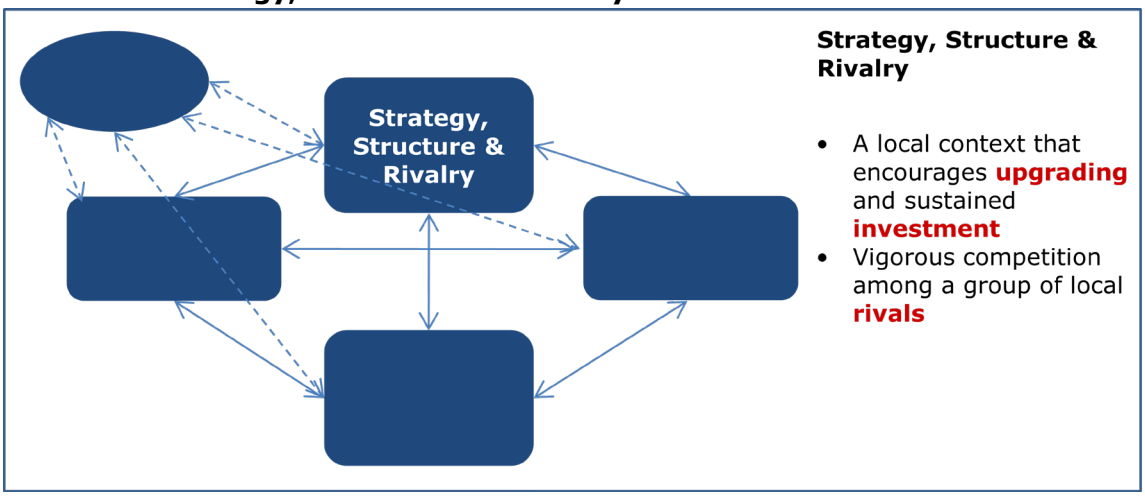
[44] Ministry of Transport Annual Report, 2009, Ministry of Transport. Amman, Jordan

[45] Jordan Investment Board. "Transportation Sector." http://www.jordaninvestment.com/IndustrySectors/TransportationSector/tabid/102/language/en-US/Default.aspx?SkinSrc=%5BL%5DSkins/jiben/PDFSkin

[46] Aqaba Port Marine Services Company. http://www.apms.jo/eng/Home/AboutAPMS/tabid/55/Default.aspx

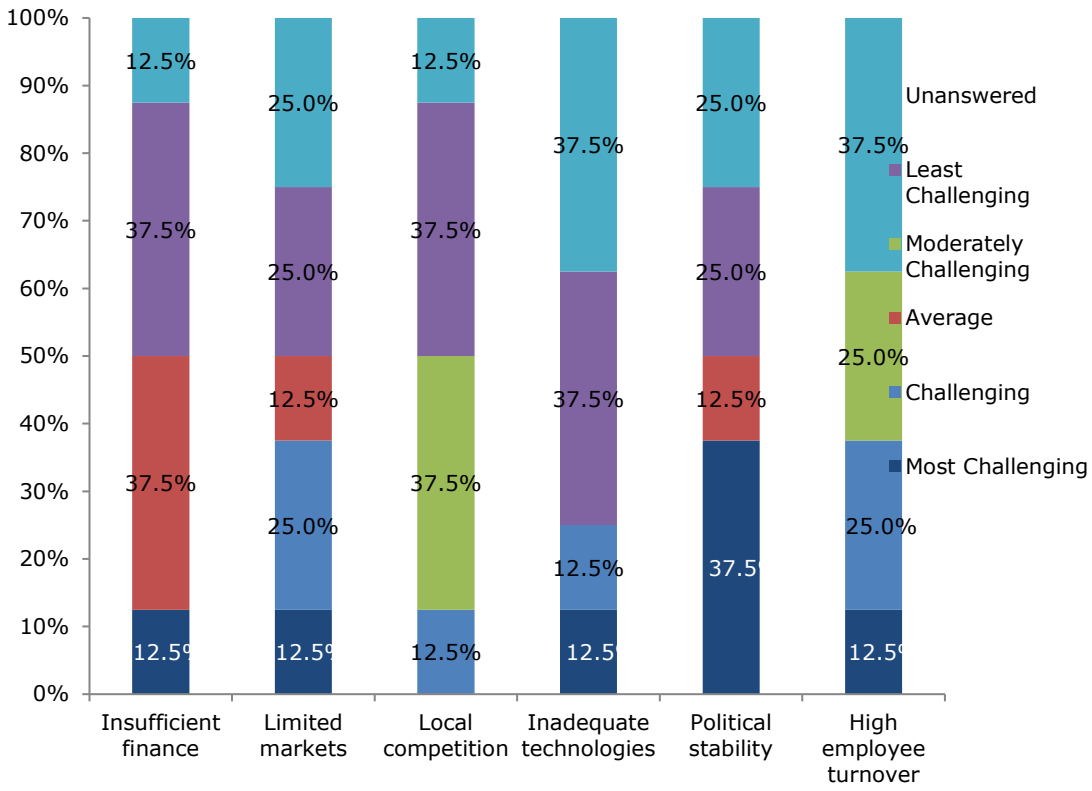
- Diving assistance capabilities, which can be requested by ships as and when required. For example, ships may request diving support to clear obstructions from their propellers, or clean out "sea-chests" via their agents.
- Divers can also contribute to cleaning the marine environment within Aqaba.

5.1.4 Firm Strategy, Structure and Rivalry



In the diagram that follows, the interviewees rated the largest challenges their organization face on a scale of 1-10: the rate of 1-2 was deemed least challenging, 3-4 as moderately challenging, 5-6 as average, 7-8 as challenging and 9-10 as most challenging.

Figure 26: Ranking of Challenges Facing Surveyed Firms in the Maritime Sector



Source: Maritime Sector Interviews

Based on the aforementioned rankings of the sector's challenges, it can be inferred that political stability and limited markets were the most challenging followed by high employee turnover, which was perceived as challenging to moderately challenging. More specifically, 37.5% of respondents found political stability to be most challenging; another 37.5% of respondents claimed limited markets was most challenging (12.5%) to challenging (25%); similarly, high employee turnover was perceived as most challenging by 12.5% and challenging by 25% of the interviewees. On the other hand, the least challenging factors comprised inadequate technologies, local competition and insufficient finance.

When asked the question if there exist any monopolistic practices in the sector by any entity/organization, the majority of respondents at 75% believed this to be true. The respondents cited the operation contract with APM Terminal, the Aqaba Port Marine Services Company, and the Aqaba Logistics Village as monopolies that affect how the sector operates. Moreover, few respondents believe the lack of representation by any of the members of the JSA in government bodies have caused the development of such monopolies.

The government clearly enjoys a monopoly over marine sector services in Aqaba. The consensus among the respondents is that there is a need to introduce private sector operations in Aqaba to the various aspects of the marine sector. Introduction of private operators should in part allow for more competition within the sector, a

measure that is bound to bring increased efficiency as clients tend to have more options to choose from.

It was further asked whether the respondent's organization enjoys access to information about trends in their sector. Half of the respondents stated that they do in fact receive information about maritime sector trends. The other half answered that statistics are available but are simply vague. It was explained that Aqaba Port's Corporation provides vague statistics for all cargo with the exception of containers while Aqaba Container Terminal (ACT) offers inadequate statistics. In fact, one respondent clarified that what is specifically needed is information on the origin of shipments from ACT. Furthermore, one interviewee claimed that statistics were not available for the Main Port.

Competition with Other Ports

Within the region of the Middle East and North Africa, the Port of Aqaba faces the most competition from several neighboring ports. According to interviews conducted with various stakeholders, including shipping agents and commercial traders, it was concluded that the major competitors to the Port of Aqaba are overwhelmingly the Syrian Port of Tartous and, to a lesser extent, other ports, including Haifa Port, Sokhna Port and Um Qasr Port. The table below shows a brief overview of regional ports' loading and unloading totals compared to Aqaba.

Table 26: Regional Ports Loading/Unloading Totals, 2007-2010

	Eilat	Ashdod	Haifa	Sokhna	Tartous	Latakia	Aqaba
2007	2,535	16,232	21,456	4,907	12,584	7,821	17,793
2008	2,578	15,852	22,558	4,516	12,939	8,062	16,952
2009	1,758	14,916	19,813	4,918	14,123	9,562	14,201
2010	2,322	18,534	21,837	7,459	13,439	8,716	16,851

Source: Israel Ministry of Transport, Syrian Ministry of Transport, Egypt Maritime Authority

However, when it comes to comparisons of regional ports one must take into account Aqaba's small coast line and access to the Red Sea whereas other ports operate on the Mediterranean or might have larger coastlines. There are also several considerations that have to be taken into account when reviewing competition of these regional ports as follows:

1. **Egypt**: Of all Egyptian ports, the Sokhna port is the closest competitor to Aqaba in size and operations. The Port of Sokhna is one of 15 ports that handle Egyptian exports and imports. The port's strategic position outside the Suez Canal offers it a great advantage in attracting shipping lines on the Europe to Asia route. Similar to Aqaba, the Egyptian government set up the

Suez Special Economic Zone (SSEZ), which is poised to become a major commercial and industrial area in Egypt. In order realize the true potential of the Port, the Egyptian government established the Sokhna Port Development Company (SPDC), a private sector company to operate the port making it the first port in Egypt to be privatized. The new established company awarded DP World the contract to operate, manage and market Sokhna Port in addition to executing the Master Plan, which anticipates achieving a drastic increase of throughput capacity through a combination of physical and operational improvements. The Port of Sokhna has since become Egypt's most modern and first automated port in Egypt across all departments, including marine operations, customs, security and information systems, which have clearly reflected on its performance noted by the 51% increase in cargo activity between 2009 and 2010. It is difficult to classify the Port of Sokhna and the Port of Aqaba as close competitors due to the following several factors:

a. The size of the Egyptian economy with a gross domestic product of US$ 218 billion is significantly larger than that of Jordan and thus has a much larger trade volume
b. The Port of Sokhna benefits from its geographic proximity to Cairo and its strategic position outside the Suez Canal, thus offering it a great advantage over other ports for Egyptian imports and exports.

2. **Israel**: The three main ports of Israel serve different, unique purposes to the country. The Port of Haifa is Israel's largest port and handles most of the container traffic into the country. The Port of Ashdod was constructed to supplement Haifa due to limited room for expansion at Haifa, and as such serves the same purpose to the country. The last and smallest of the Israeli ports is the Port of Eilat which is mainly directed towards vehicle imports and chemical exports to Asia. During February 2005, the Israeli government began its port reform program with the disbanding of the Israel Port Authority and creation of four government-owned companies, among them the Eilat Port Company (EPC). The State of Israel owns 100% of the shares of the EPC and intends to sell them to a private sector port operator[47]. Israeli ports are not considered direct competitors to Aqaba for the following reasons:
   a. The Israeli economy with a gross domestic product of US$ 245 billion in 2011 is significantly larger than that of Jordan and thus is expected to have a larger trade volume.[48]
   b. Due to years of conflict with its bordering neighbors, Israel's only route for trade was maritime shipping. As a result, Israel's seaports handle 98% of the country's import and export cargo.[49]
   c. Products transiting through Israel could possibly face boycotts from certain Jordanian merchants.

[47] Israel Government Companies Authority, retrieved from. http://www.gca.gov.il/NR/rdonlyres/33310CC6-E040-4394-A335-95D48C0DDBB6/0/TASCIL_EilatPortPrivatization_140311.pdf

[48] International Monetary Fund, World Economic Outlook Database, September 2011: Report for Selected Countries and Subjects. Data for the year 2011

[49] Israeli Port Authority

d. Israeli border inspections are strenuous and lengthy. Moreover, cargo has to be moved on to different vehicles at border which increases shipments time and costs.
e. The Port of Eilat is significantly smaller than Aqaba's and lacks the proper infrastructure to be considered a competitor.

3. **Iraq**: Currently the major port operating in Iraq is the Port of Um Qasr is inadequate to meet increasing Iraqi demand. The current capacity of Iraqi ports totals approximately 19 million tons/yr, while the country imports 30 million tons/yr of goods. The immediate requirement for the Iraqi government is increasing the port's capacity by 2 million tons/year through the construction of four containers berths each with a capacity of 500,000 tons/yr[50].This shortage of capacity is presently being met by the ports of Aqaba and Tartous. The government of Iraq realized the urgent need for the development of a new deep sea port that could handle the country's demand and add excess capacity for transit purposes. In 2009, the government presented plans for Al-Faw container terminal that could eventually comprise 50-100 berths with an initial cost of £4 billion estimated for the phase. Early plans envisaged the construction of 15 berths over a two year period. Ultimately, investments in the entire project, including associated infrastructure, housing, railways and facilities could reach £10-14 billion[51]. Due to the lack of capacity, Um Qasr doesn't present direct competition to Aqaba. The Al-Faw project however if successful will provide direct competition to the port of Aqaba for transit goods into Iraq and Syria.

4. **Syria**: As for Syria's two ports, Latakia is the smaller and less equipped of the two, leaving Tartous as the major hub for maritime traffic. All of these factors have positioned Tartous as the closest competitor to the Port of Aqaba for maritime trade. During the last five years, the Port of Tartous witnessed a steady increase in its traffic, as the amount of goods handled increased by 14% during the period 2005-2009. The transit goods comprised a significant portion of the amount of goods handled through this port (transit goods amounted to 16.5% of the total handled goods in the year 2009, as opposed to the Port of Aqaba, which did not exceed 4.2% during the same year).

Table 27: Quantity of Goods Handled by Tartous Port, 2005-2009 (Tons)

Year	No. of Ships	Loaded Goods	Unloaded Goods	Total	Transit	Transit (%)
2005	2,456	2,731,719	9,643,274	12,374,993	2,759,819	22.3%
2006	2,638	2,993,933	9,772,854	12,766,787	1,944,981	15.2%
2007	2,764	2,947,534	9,635,560	12,583,094	1,679,415	13.3%
2008	2,776	2,172,362	10,766,513	12,938,875	1,886,044	14.6%
2009	2,919	1,697,466	12,425,541	14,123,007	2,336,088	16.5%

[50] Iraqi National Investment Commission. http://iraqcomattache.org/i/files/docs/Investment_Opportunity_Al-Faw_Port.pdf
[51] Ibid.

Source: Tartous Port General Company, Statistics 2009

The majority of transit goods coming through the Port of Tartous are directed to Jordan and Iraq, representing 99.3% of the total transit goods handled by the Port of Tortuous in 2009. The following table shows the development of the quantity of transit goods handled by the port, during the last five years, and their destinations.

Table 28: Quantity of Transit Goods Handled by Tartous Port According to Destination, 2005-2009 (Tons)

Country	2005	2006	2007	2008	2009
Iraq	1,282,247	625,905	263,293	460,278	717,185
Jordan	1,471,226	1,295,084	1,381,649	1,375,892	1,603,327
Other Countries	6,346	23,992	34,473	49,874	15,576
Total	2,759,819	1,944,981	1,679,415	1,886,044	2,336,088

Source: Tartous Port General Company, Statistics 2009

It is clear that Tartous is benefiting substantially more from Iraqi transit goods than Aqaba is. The following table shows the development quantity of transit goods handled by both Aqaba and Tartous towards Iraq.

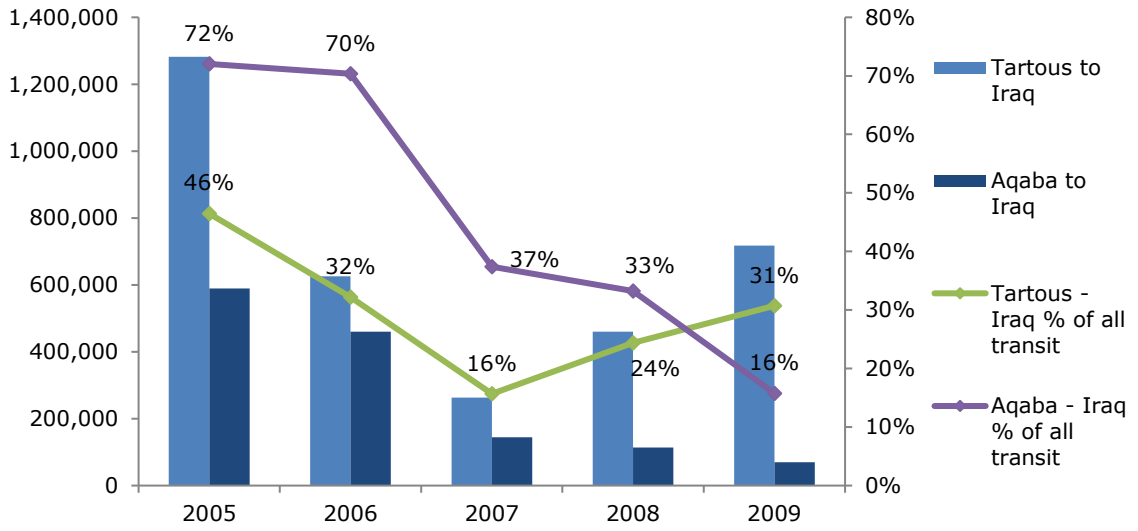
Table 29: Quantity of Transit Goods Handled by Aqaba and Tartous Ports Destined to Iraq, 2005-2009 (Tons)

	2005	2006	2007	2008	2009
Tartous to Iraq	1,282,247	625,905	263,293	460,278	717,185
Tartous - Total Transit	2,759,819	1,944,981	1,679,415	1,886,044	2,336,088
Tartous - Iraq % of all transit	**46.5%**	**32.2%**	**15.7%**	**24.4%**	**30.7%**
Aqaba to Iraq	589,511	460,519	144,536	113,603	70,021
Aqaba - Total transit	818,370	654,693	386,683	341,720	444,079
Aqaba - Iraq % of all transit	**72.0%**	**70.3%**	**37.4%**	**33.2%**	**15.8%**

Source: Tartous Port General Company, Statistics 2009

In terms of tonnage, Tartous has always had an advantage over Aqaba in terms of transit goods to Iraq. While both Jordan and Syria witnessed steep declines in transit cargo after 2005, the recovery of Tartous in recent years however has increased whereas Aqaba's continued its decline. The figure below highlights the change over the last few years.

Figure 27 Iraqi Transit: Tartous vs. Aqaba



Source: Tartous Maritime Authority. Aqaba Ports Corporation.

Note that the drop in percentage of Aqaba is staggering over the last few years in terms of percentage of Iraqi Transit which was at a record high of 72% to reach 15.8% at the end of 2009. On the other hand, Tartous' decline was steep initially yet by the end of 2009, it had only a 15.8% decrease on its 2005 value compared to the 56.2% lost by Aqaba over the same period.

It is clear that Iraqi merchants prefer the Port of Tartous over the Port of Aqaba due to the former's lower costs. One of the major determinants that bring down the cost of shipments from to Tartous to Iraq is the relative cheap value of diesel fuel used by cargo trucks, as seen in the following table.

Table 30: Pump Price for Diesel Fuel (US$ per Liter)

Country/Year	2010
Egypt	0.32
Lebanon	0.77
Jordan	0.73
Israel	1.87
Syria	0.45
Saudi Arabia	0.07

Source: World Bank Indicators, World Bank, http://data.worldbank.org/indicators

Note that Egypt and Syria have substantially lower diesel prices at US$ 0.32 and US$ 0.45, respectively, than Jordan's price of US$ 0.73. Due to political unrest in 2011, Syria increased subsidies on diesel to decrease the price to US$ 0.39 per liter and then decreasing it again to US$ 0.31. Many respondents however cited that the recent political troubles of Syria have increased costs on their cargo through the higher insurance fees demanded.

It can be deduced from Figure 26 below that the price of services plays a key role in giving a competitor an edge in the maritime market relative to the Port of Aqaba. This therefore points to the fact that the Port of Aqaba charges high prices for its use of maritime services and facilities. In addition, among those respondents who answered the ranking of the quality of services and trademark as factor affecting competitive advantage was roughly divided. Finally, among the stakeholders who responded, the location of the port was perceived as a very strong factor influencing the competitive advantage of a port.

Figure 28: Ranking of Factors of Competitive Advantage

Source: Maritime Sector Interviews

With respect to container handling fees (defined as moving goods from quays to storage facilities appropriated in the port, stack them inside the storage facilities then re-load on the trucks or vice versa within the port's borders) of Aqaba's competitors, the ports of Tartous and Aqaba charge the same amount.

Table 31: Container Handling Fees: Aqaba vs. Competitors (US$)

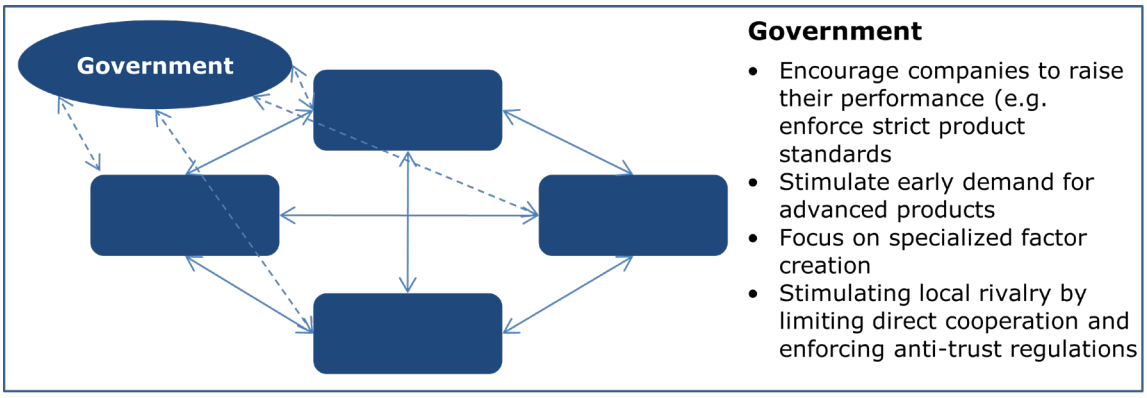
	Up to 20' ft	**Over 20' ft**
Aqaba Full Containers – Loading / Unloading	50	75
Tartous Full Containers – Loading/ Unloading	50	75
Jeddah Full Containers – Loading/ Unloading	75	112
Ashdod Full Containers – Loading/	128	146

Unloading		
Haifa Full Containers – Loading/ Unloading	128	146
Sokhna Full Containers – Loading/ Unloading[52]	-	-

Source: Jordan Shipping Association, Tartous International Container Terminal, Saudi Ports Authority

The container handling fees charged by Jeddah Islamic Port proved to be higher than Tartous and Aqaba but still lower than Ashdod and Haifa. However, it should be noted that the Israeli Finance and Transportation Ministers signed into agreement the ports user rates reform, regulations to reform the service fees charged by Israel's ports. Although the reforms will take a full 10 years to implement, the changes to the port fees took effect on October 1, 2010. The new port fees in Israel (Ashdod and Haifa) are expected to drop to US$ 36 for 20' container and to US$ 39 per 40' container by the end of the 10-year reform period. In addition, the new fee structure will provide incentives for the ports to operate 24 hours a day, by offering up to US$ 20 off per container for ships entering the ports between 11 PM and 6 AM.[53]

5.1.5 Government



Challenges facing the Jordanian Government

Government Overreliance on Grants and Aid: One of the most significant issues related to the Jordan government's financial management of resources is the state's high dependence on grants and aid.[54] In fact, Jordan has been receiving foreign aid via grants or loans since the early 1950s; the majority of this assistance is dedicated directly towards balancing the budget. In the period 1999-2009, Jordan received JD 5.6 billion in aid (loans and grants), equating to an average of JD 560 million per

[52] Please note that upon calling DP World Sokhna, the commercial manager, Mr. Ayman Badawy, claimed that he could not provide an average container handling fee, as the Port deals directly with 15 shipping lines.

[53] "Finance and Transportation Ministers Signed Regulations to Reform Ports Fees." Israeli Ports Development & Assets Company Ltd. 12 Apr 2010. http://eng.israports.co.il/IsraelPortsCompany/newscompany/press%20release/2009/Pages/FinanceandTransportationMinisterssignedregulationstoreformportsfees.aspx

[54] Mansur, Y. 2008. "Overcoming Barriers to FDI in Jordan." The Fraser Institute / International Research Foundation Publications.

year or JD 112 per person per year (assuming an average annual population size of 5 million during the period).[55] This situation however changed in 2009 as preliminary data showed that public revenues declined by JD 567.5 million to stand at JD 4.52 billion, effectively 25.3% of GDP. This drop corresponded to a fall in domestic revenues and foreign grants by 4.2% and 53.6%, respectively. Moreover, the relative importance of foreign grants to domestic revenues decreased by 8.4% as compared to the preceding year, standing at 8% in 2009.[56] Most recently, in 2010, grants totaled JD 401.7 million and in 2011, aid reached JD 2 billion, as stated previously.

High Budget Deficit: The high budget deficit is one of the most serious and growing dilemmas facing the government of Jordan.[57] The 2010 budget deficit of the central government (excluding independent government organizations and other non-central government allocations) amounted to JD 1.4 billion or 7.9% of nominal GDP for 2009. According to a budget analysis offered by the Central Bank of Jordan, if foreign grants are removed, the deficit in 2009 rises to JD 1.8 billion or 10% of the nominal GDP.[58] After foreign aid, the 2010 budget deficit reached 5.6% of the GDP while the 2011 deficit further increased to 6.2% of the GDP, or JD 1.3 billion, even after accounting for the generous aid given to the government.[59]

Allocation of Government Budget:[60] A key fiscal issue arises from the government's over-allocation of the budget to current expenditures. In fact, the magnitude of this ineffectiveness can be seen in that 80% of government spending goes to pay salaries and retirement benefits, a mere 10% on capital expenditures and the remainder on debt servicing.[61] Since the fiscal inflexibility in the government budget remained a difficult challenge to overcome, and domestic revenues could not meet current expenditures, the allocations to capital expenditures were scaled back and completely relegated to foreign aid.[62] Consequently, as foreign aid is an unreliable source of funding, the likelihood that the government would be able to plan or even execute such plans, specifically in relation to major projects, is low to nonexistent.

Regressive Taxation System: In general, as sales tax revenues comprise the majority of tax proceeds, the existing taxation system is considered to be regressive. Jordan is one of a few countries where the sales tax rate is higher than the income tax rate, which is progressive under the current income tax law; more specifically,

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[55] 2008. *Annual Report*, Central Bank of Jordan

[56] 2009. *Annual Report*, Central Bank of Jordan

[57] Mansur, Y. and Husamy, N. "The Impact of Energy Prices and Pricing Policy on the Jordanian Industry Part I", *Geopolitics of Energy, June-July 2009 Issue*. Canadian Energy Research Institute.

[58] 2010. *Monthly Statistical Bulletin*, September 2010, Central Bank of Jordan

[59] 2012. Budget Address of the Minister of Finance to the Parliament, Dec 2011, www.MOF.gov.jo

[60] 2006. "The Jordan National Agenda, 2006-15," National Agenda

[61] 2006. "National Agenda," National Agenda Steering Committee

[62] Budget Address of the Minister of Finance to the Parliament, Dec 2011, www.MOF.gov.jo

the sales tax is 16%[63] while the highest income tax bracket is only 12%.[64] As a result, a major burden is placed on those in the lower income levels, who spend the majority of their salaries on daily living expenses.

Inconsistent Cabinets and thus Policies: There exists a lack of consistency in administrations and cabinets and in this manner across all sectors of the economy. Since 2000, the Cabinet of Jordan has been reshuffled nine times; moreover, the average life of a cabinet is less than one year and, in some cases, can be as short as less than three months. Successive ministers tend to negate their predecessors' actions, fault their approaches, and change mid-management; thus causing disruptions in the continuity of reform, contributing to an erratic legislative environment and enabling a loss of institutional memory. The noted inconsistency consequently breeds a lack of accountability in the nation and within the government. As such, maritime regulation policies face frequent ad hoc policy decisions that are not based on a clear-cut and comprehensive strategy within the sector as a whole. As pertaining to the governmental agencies in the maritime domain,

Regulations of the Maritime Sector

Regarding the regulatory aspect of maritime activity, the Ministry of Industry and Trade (MIT) has established the Jordan Maritime Authority (JMA), in order to regulate the maritime sector and to separate maritime activities from port activities. The JMA is also responsible for the registration of vessels flying the Jordanian flag. A number of incentives are offered including (1) exemption from income tax for shipping management companies registered in Jordan, (2) a 10% reduction on berthing fees, and (3) an exemption from anchorage and waiting fees, collected by the Port of Aqaba.

Registration procedures for the maritime sector require a new maritime company to register at the MIT and subsequently apply for the Jordan Shipping Association (JSA) membership to be able to exercise maritime operations in Aqaba. It would be additionally required to obtain recommendations from three various shipping firms in Jordan that are also members of the JSA. Required documents comprise the following:

- Company registration documents at the MIT
- Certified copy of an office lease contract for the main and branch offices of the company
- Copies of letters of appointment for company employees
- Copies of official identity documents
- Copy of the Financial Guarantee of the Aqaba Ports Corporation
- Letter from the Maritime Authority

[63] Mansur, Y. May, 2009. "Proposed Income and Sales Tax Law," Jordan Times

[64] June 2009. "Economic Update, Jordan Tax Regime," Oxford Business Group, Retrieved from http://www.oxfordbusinessgroup.com/economic_updates/jordan-tax-regime-change, on December 1, 2010

It is important to note that one respondent claimed that the registration process tends to be efficient except when dealing with other regulatory authorities such as the Ministry of Environment, Jordan Standards and Meteorology Organization and Jordan Atomic Energy Commission.

The time required to complete the registration process depends on how fast the applying company can meet and provide the requirements for membership such as office space, employees, financial guarantee, etc. One respondent clarified that registration can be accomplished in a period of three weeks at the maximum.

With regards to cross-border restrictions, Jordan is a member of the UN Liner Code, which manages the cargo division by apportioning shares between conference carriers of the departure and arrival countries (typically 40%).[65] A conference carrier is a member of an association known as a "conference," whose purpose is to standardize shipping practices, eliminate freight rate competition, and provide regularly scheduled service between specific ports. Jordan only allows open conferences that are subject to competition law. Additional restrictions are impressed upon foreign shipping companies in Jordan whereby containers may not enter the country if discharged in ports of other countries. In order to establish commercial presence, Jordan, although relatively open, still requires that a foreign company be represented by a local agent, in the role of a branch or subsidiary. In addition, the Aqaba Special Economic Zone exempts maritime companies from the limits on foreign ownership in the rest of the country.[66]

As complemented by the aforementioned information regarding Jordan's membership in the UN Liner Code and further asserted by the interviewees' statements, there are evidently no resrictions on the cross-border entry of foreign service providers into Jordan's maritime sector.

Regarding port services, many restrictions still remain, specifically pertaining to cargo handling, pilotage, towing and the tying of vessels. In order to attract strategic investment, exclusive rights are given to a restricted number of companies. Private ownership is largely limited in the cargo handling activity where its equity share is not permitted to exceed 50%.

Nonetheless, when inquired about whether there are policy restrictions on new entry into the maritime sector in Jordan, the majority of the respondents (75%) replied that there are in fact no policy restrictions, as demonstrated in the pie chart below. However, one respondent who stated "no" noted that the prerequisites are available with each authority related to shipping. Another interviewee clarified that there however should be restrictions and limitations in terms of the permissible number of agencies.

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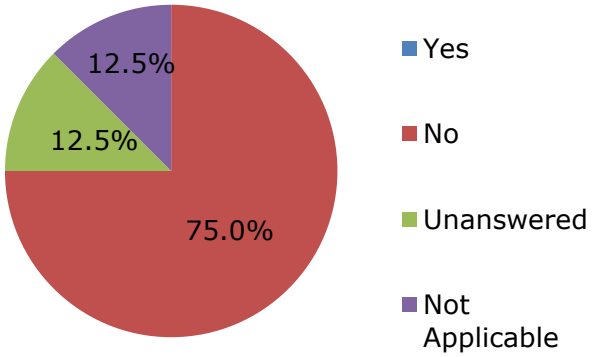
[65] Marouani, Mohamed Ali and Munro, Laura. "Assessing Barriers to Trade in Services in the MENA Region." OECD Trade Policy Working Paper No. 84 http://www.oecd.org/dataoecd/62/30/42180530.pdf

[66] Ibid

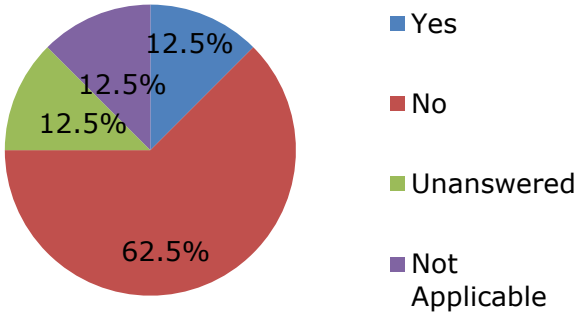
Figure 29: Policy Restrictions on New Entry into the Maritime Sector



Source: Maritime Sector Interviews

Furthermore, according to the majority of respondents (62.5%), the government/regulatory agency do not provide any pricing guidelines for their respective businesses. Consequently, pricing structures of agents are set individually based on their pricing mechanisms. One interviewee noted that pricing guidelines are limited to the port tariffs and customs tariffs, and that shipping rates and other shipping related costs are determined by the liners that the agents represent in Aqaba. See Figure 29 below.

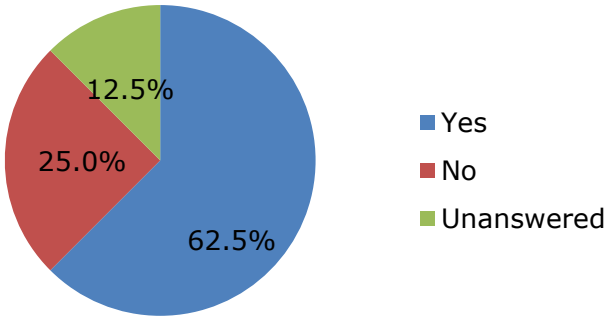
Figure 30: Government/Regulatory Agency Provision of Pricing Guidelines



Source: Maritime Sector Interviews

Additionally, according to the interviewed stakeholders, the majority, or 62.5%, of respondents asserted that the customs tariffs imposed on their imports were higher than those of neighboring countries. Nonetheless, as commented by one interviewee, customs tariffs depend on the commodity in question as some customs tariffs are higher for certain commodities while others are lower for other commodities. However, in general Jordan is considered to be a high customs tariffs business environment.

Figure 31: Higher Customs Tariff in Jordan than Abroad

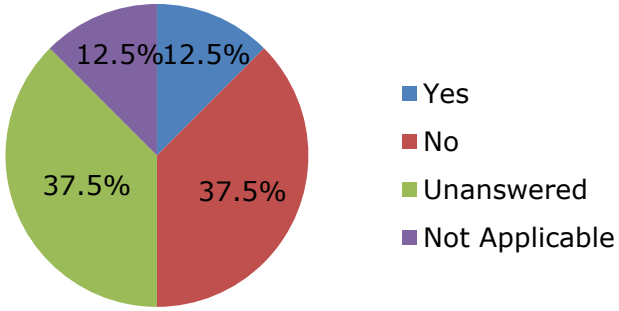


Source: Maritime Sector Interviews

As suggested by the members of the JSA, it is of increasing importance that Jordan Customs, the government body responsible for promoting investment, enhancing the competency of national industry to improve the national economy, providing national treasury with revenues and monitoring the movement of passengers, commodities and means of transport crossing the borders of the Kingdom, improve their coordination with the ACT in order to avoid any future failures caused by the accumulation of containers at the port of ACT.

Of the respondents that answered the question regarding whether the regulator, through licenses or otherwise, limits companies from growth, 37.5% claimed that the government does not attempt to restrict companies' growth. One interviewee claimed that the regulator does not significantly limit companies from growth, but rather growth limitations arise from fierce competition, sluggish economic activity and political instability. Please see Figure 31 for the breakdown of the interviewees' responses.

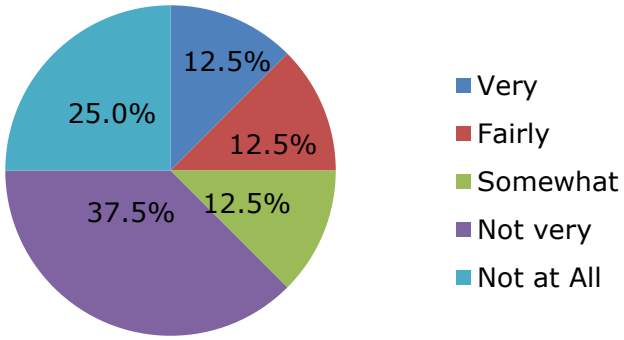
Figure 32: Regulatory Limits on Companies from Growth



Source: Maritime Sector Interviews

In terms of how responsive the government is to the interviewed organizations' needs, the majority at 62.5% were of the opinion that the government was either not very (37.5%) or not at all (25%) responsive to their respective needs; these respondents who felt this way believed that the government used to be responsive. One interviewee noted that the government is usually in fact responsive but they are not, it is due to the lack of resources. The below chart illustrates the breakdown of the responses.

Figure 33: Government's Responsiveness to Interviewed Firms' Needs



Source: Maritime Sector Interviews

Trade Liberalization Agreements

The following table presents the key trade agreements that the Jordanian government has signed with relevant parties throughout the world.

Table 32: Jordan's Main Trade Liberalization Agreements

Agreement	Date Signed	Date of Entry into Force
Greater Arab Free Trade Agreement (GAFTA)	19 Feb. 1997	1 Jan. 1998
Jordan-EU Association Agreement	24 Nov. 1997	1 May 2002
Jordan-US Free Trade Area Agreement	24 Oct. 2000	17 Dec. 2001
Jordan-EFTA Free Trade	21 June 2001	1 Jan. 2002
Agadir Agreement	25 Feb. 2004	6 July 2006
Jordan-Singapore Free Trade Agreement	16 May 2004	22 Aug. 2005
Jordan-Canada Free Trade Agreement	28 June 2009	Under negotiations

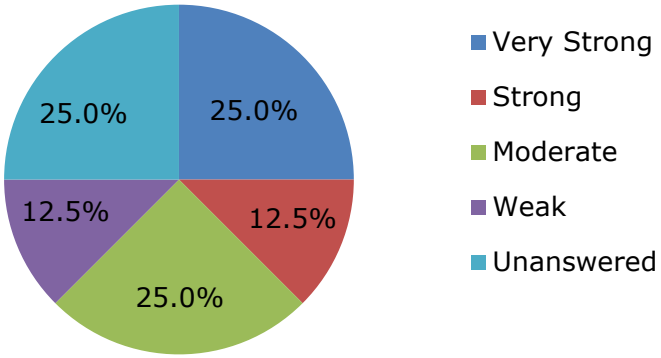
Source: Ministry of Industry and Trade. http://www.mit.gov.jo/Default.aspx?tabid=695

Note: Please see Appendix 4 for additional extensive agreements.

When asked the question to what degree do trade liberalization agreements signed with other governments influence business, 37.5% believed this to be either very strong (25%) or strong (12.5%). Only one interviewee felt that trade agreements

had no effect on business while another interviewee, who did in fact find them to be influential on his business, asserted that such pacts need to be more efficient. Figure 33 below presents the respondents' ratings.

Figure 34: Impact of Trade Agreements on Business



Source: Maritime Sector Interviews

According to one of the respondents, Free Trade Agreements specifically play a key role in impacting the respondent's business as they reduce economic obstacles between countries, thereby increasing trade and thus higher imports and exports to and from that signing nation. Moreover, transportation agreements signed between the Jordanian government and neighboring countries also influence the respondent's business as improved logistical solutions and transportation routes render it more attractive for traders to utilize the Aqaba corridor for their trade with these countries. Finally, the Jordanian government's agreement with the US Military to use Aqaba as a transportation corridor for the drawdown operation from Iraq greatly influenced the respondent's business as it was one of the main players in offering logistics and port operations for this particular operation.

5.2 SWOT Analysis

In view of the SWOT profile, the SWOT matrix was prepared to develop strategies. Strength-Opportunity strategies pursue opportunities that are an appropriate fit to the maritime sector's strength. Meanwhile, Weakness-Opportunity strategies seek to overcome weaknesses in order to pursue opportunities. Furthermore, Strength-Weakness strategies identify ways that the Sector can utilize its strengths to reduce its vulnerability to external threats. Finally, Weakness-Threat strategies aim to establish a defensive plan to prevent the sector's weaknesses from making it prone to external threats.

5.2.1 Strengths

- As the Port of Aqaba is Jordan's only port, it commands the country's premier access point. And despite the drop in ranking in the Global Competitiveness Report (GCR) of Jordan's port infrastructure, the port infrastructure still manages to meet international standards.

- Moreover, amid the Arab Spring, Jordan's geopolitical situation is relatively stable compared to regional countries. For example, while many neighboring countries have faced general nation-wide protests that interrupted business and trade activities, such as Egypt and Syria, Jordan's transport infrastructure has remained intact.

- As previously noted, the new port project is expected to increase the capacity of maritime trade through its development of three additional terminals, including ferry, grain, general cargo and RORO terminals.

- The maritime cluster's supporting infrastructure in terms of the road network is adequate. It offers sufficient connections to all governorates, cities and neighboring countries. When compared to other regional countries, its ranking in terms of percentage of roads paved outpaces that of Syria, Saudi Arabia and Israel.

- The port handling times in terms of waiting times at the Aqaba Container Terminal (ACT) are steadily improving as indicated by the respondents, the majority of whom said the waiting time was negligible, on condition that the firms commit to their berth window.

- International demand for phosphate and potash is anticipated to increase by 2014 by 2.9% and 5.0%, respectively. This is likely to grow export demand through the Port of Aqaba given that potash and phosphate account for 75% of exports through the Port.

- The majority of the respondents (62.5%) of the Maritime Cluster Questionnaire claimed that there were no policy restrictions on new entry into the maritime sector; thus indicating that the market is freely open to newcomers.

- The ongoing development of the Aqaba Logistics Village (ALV) by the Aqaba Development Corporation (ADC) is expected to accommodate the maritime sector's needed supplementary services.

5.2.2 Weaknesses

- One of the maritime sector's principal weaknesses lies in its difficulty in attracting quality human resources. According to the respondents of the maritime questionnaire, the majority perceived the quality of human resources: 37.5% deemed it poor and 25% deemed it inadequate.

- Among the interviewees, it was believed that the Port of Aqaba charges higher customs tariffs, port handling fees, storage service costs, and additional fees at the Suez Canal than in neighboring nations. Routes through the Port of Aqaba would additionally entail longer trips as they require passing through the Suez Canal.

- The overall price of services was considered by half of respondents as giving rivals a competitive edge in the maritime market relative to the Port of Aqaba. This rating thus points to the Port of Aqaba's higher prices for its use of maritime services and facilities relative to competing ports.

- An additional weakness identified by the respondents of Maritime Cluster Questionnaire is poor connectivity of the Port of Aqaba. This is mainly the result of the Port's geographic location, which has rendered Aqaba a destination port for most shipping lines rather than an en route stop.

- The lead time to export has also proven to be a disadvantage for the sector. As previously mentioned, the lead time to export in Jordan rose from 2 days in 2006 to 3.2 days in 2009, which is effectively an increase of 60%.

- Moreover, when compared to its regional competitors, Jordan achieved mediocre scores in 2010 for its timeliness of shipments and customs efficiency in the maritime sector. Therefore, there is much room to improve in these capacities.

- Furthermore, the high price of diesel, both in absolute and relative terms, facing the Kingdom is prohibitive and thus renders the Port of Aqaba an expensive transit destination for goods destined to Syria and Iraq.

- Another weakness within the maritime industry is the fragmented ownership of trucks. In sum, there are too many sole owners operating in the sector. Moreover, there exists an oversupply of trucks, which complicates the complementary services offered to maritime merchants, agents and traders going through Aqaba.

- As a monopoly, ACT controls key decisions regarding the maritime sector's activities and services. In fact, many respondents claimed that the ACT delivers only limited information regarding the origins of shipments into the Port of Aqaba, pricing mechanisms, and business development. They also declared the operation contract with APM Terminal, the Aqaba Port Marine Services Company, and the Aqaba Logistics Village as monopolies that impact how the sector operates.

- An additional weakness that needs to be mentioned is the pollution problem that arises from the presently floating *Jerash* oil storage VLCC. Key stakeholders in the maritime industry have reported that, in the case of an oil spill and consequent environmental disaster, the clean-up cost could amount to US$ 1 billion. Moreover, the delays caused by the unloading of crude oil from the VLCC *Jerash* to the road tankers leads to significantly high demurrage charges incurred by the shipping companies, which then get passed onto consumers. Thus, the *Jerash* VLCC issue must be addressed

immediately in order to avoid environmental problems, provide safety for the terminal and the Port of Aqaba as a whole, and ultimately increase the oil terminal's efficiency and rectify the high petrol consumer prices.

- Finally, the recurrent change in cabinets has affected maritime regulation policies in that the sector faces frequent ad hoc policy decisions that are not based on a clear-cut and comprehensive strategy. This has resulted in a lack of consistency and accountability and if this continues will further harm the sector.

5.2.3 Opportunities

- As identified by the vast majority of the interviewees, there exists great potential in taking advantage of the political situation in Syria. In fact, Jordan previously benefited significantly from the Iran-Iraq War and the first and second Gulf War. Currently, Iraq's port infrastructure remains inadequate to handle the country's demand, thus reducing its maritime connectivity to the rest of the world. Hence, Jordan's opportunity lies in recognizing the lack of connectivity of Iraq's Um Qasr Port, which struggles to attract international shipping lines. If Jordan exploits this particular weakness of Iraq's by reducing prices and port handling fees to attract cargo destined for Syria and Iraq, this would ultimately establish Aqaba as a regional transit hub.

- The prospective expansion program of the ACT to reach 2.8 million TEUs from its current capacity of 750,000 TEU would pose a great opportunity for the maritime sector in Jordan. The increased capacity would allow Aqaba to compete regionally with other ports. For example, it would be opportune to utilize the under-capacity of the Port of Eilat for Israeli cargo destined to Asia as Aqaba's higher capacity can easily handle excess Israeli demand that is not being met by the Port of Eilat, thereby stimulating transit traffic.

- Additional opportunities lie in the upcoming phases of the ALV. As previously identified, the ALV is expected to absorb all container freight stations that operate from the ACT. By offering a wide range of logistical complementary services offered, including stuffing, picking, packing and assembly, to leasing plots of developed land for investor-owned and managed facilities, the ALV, once operational, is expected to enhance trade through Aqaba.

5.2.4 Threats

- The maritime sector is sensitive to the political conditions of neighboring countries. This means that if we do not exploit the situation in Syria for example, two events will take place: 1) if prices remain the same, Jordanian imports that previously came through Syria will become relatively more expensive should they be re-routed to the Port of Aqaba due to its higher port fees, custom tariffs and the price of diesel; and 2) loss of all the demand to a third substitute port, such as Sokhna Port or Haifa Port.

- In addition, the sector as a whole is overly sensitive to the performance of the economy. In fact, as demonstrated by the questionnaire responses, 50% of the stakeholders believed that economic performance posed a strong impact on overall maritime demand. Any further turbulence in the global economy, similar to the gravity and extent of the Global Credit Crisis in 2008, would possibly shock the maritime sector.

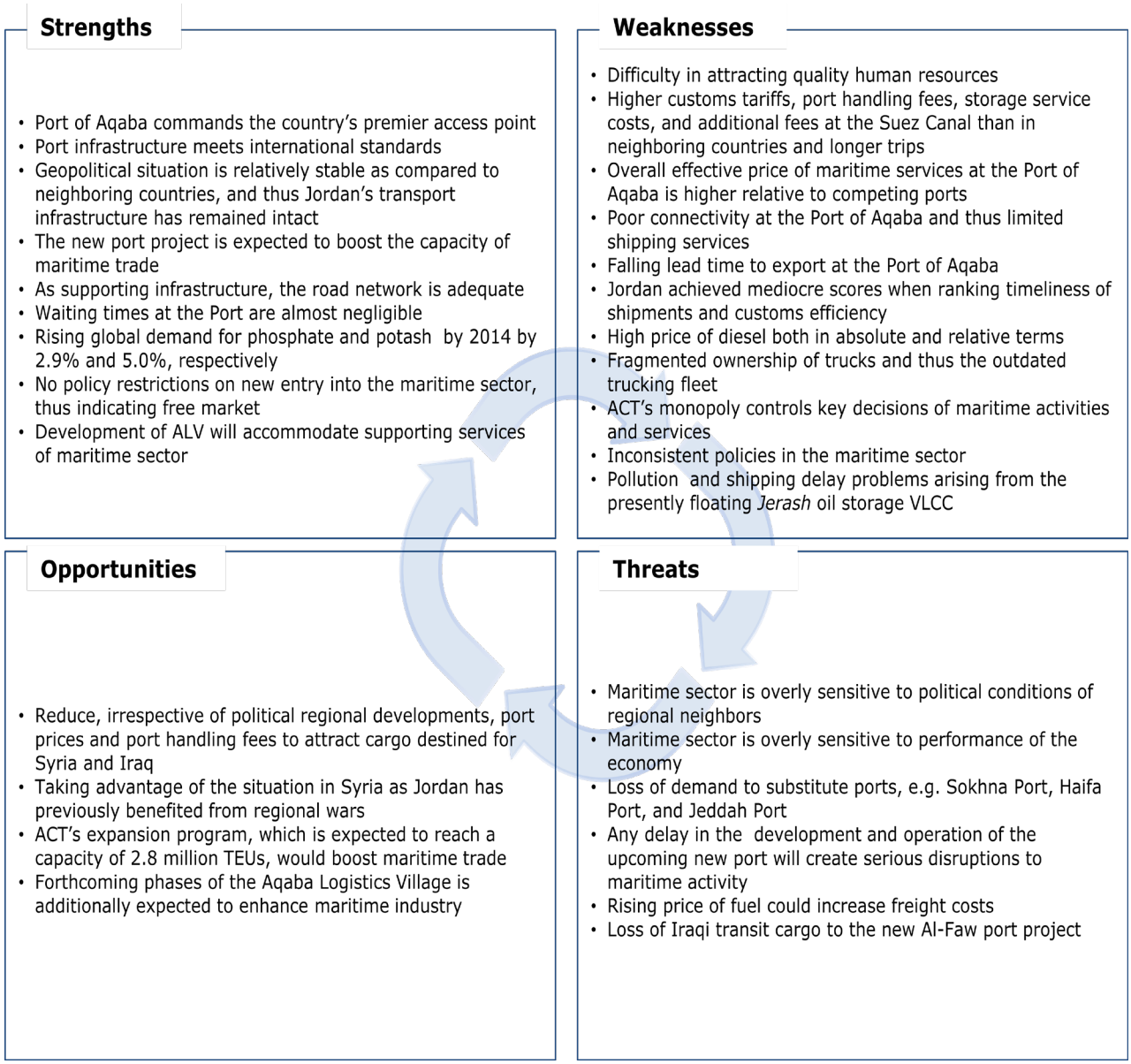
- Successful completion of the Iraqi Al-Faw project is bound to bring in a new regional mega port in the Persian Gulf that is directed at attracting all Iraqi cargo through its facilities. This is directly threatening to Iraqi transit cargo going through Aqaba as the new port will cut distances and costs for Iraqi merchants.

- The Jordan Government is contracted with Al Ma'abar to hand over the Main Port area by this year. However, no ground has been broken on the development of the new port. Any delay in the development and operation of the new port will cause serious disruptions to maritime activity and thus prices.

- The rising price of fuel could also act as a serious threat to the maritime industry in Jordan as it carries the potential to escalate the costs of freight.

The figure below presents the SWOT matrix of the maritime sector in Jordan.

Figure 35: SWOT Matrix of Maritime Cluster in Jordan



6. RECOMMENDATIONS

The recommendations for the maritime cluster in Jordan that are posed in this section are based on a number of factors and sources, including the data previously presented, analyses conducted using Porter's Diamond and the SWOT, in addition to the surveyed stakeholders, including shipping agents and traders. The recommendations that are shown below correspond to each of the conditions of Porter's Diamond.

Factor Conditions

- In order to address the issue of the low quality of human resources, it is recommended that training for human resources be increased in the sector. Another recommendation for workers at the Port of Aqaba is to offer financial incentives in order to start and complete various levels of marine certification. Comprehensive training and adequate financial incentives can additionally help to attract quality human resources.

- Furthermore, it is recommended that the Port of Aqaba enhance the quality of its services and facilities. For example, tourist facilities could be further improved similar in nature and style to those of competing ports.

- It is of utmost importance to restrict the use of the *Jerash* VLCC as a storage unit by introducing a strategic oil storage facility for the Port of Aqaba. This will ultimately increase the efficiency of the oil terminal and further enhance the environmental and safety facets of the Port of Aqaba as a whole. Finally, it will help reduce the gasoline costs to consumers in Jordan.

- Additionally, it is recommended that silos for the storage of sugar and cereal be developed at the Port of Aqaba.

Demand Conditions

- With the planned increased capacity, the Port of Aqaba would be able to handle the surplus maritime demand in Israel. Therefore, it is recommended that the port aim to attract the excess Israeli demand that is not currently being met by the Port of Eilat and is instead forced to reroute to other Israeli ports, thus increasing journey time and costs.

Related and Supporting Industries

- A key recommendation regarding the related and supporting industries is the formation of a trucking organization. More specifically, it is advised that a trade association be developed for the trucking industry that seeks to address the issue the trucking sector's fragmented ownership. Such an organization will, in turn, resolve the problem of the antiquated trucking fleet.

- An additional recommendation is to increase investment in the trucking sector by reducing customs tariffs and costs of spare parts, and regulating the sector itself to avoid more disruptions in operations and strikes.

Government

- It is suggested that the maritime sector develop a national agenda, strategy or vision for the maritime sector and ensure that all stakeholders in the private and public sectors follow one single plan, even if the government undergoes cabinet changes. Producing such a strategy will facilitate the development and application of clear, stable and consistent government policies.

- It has been evident that the lack of expertise in maritime matters has resulted in imposing monopolistic practices on the maritime players over the past few years. Therefore, an additional recommendation for the sector is to consult Jordan Shipping Association (JSA) through a permanent regulatory committee comprising the Ministry of Transportation (MOT), ASEZA, ADC, Port's Corporation, ACT and Jordan Customs, in all matters pertaining to or relating to maritime and port issues. This can be achieved by having a permanent seat reserved for members of the JSA Board of Directors on the Board of Directors of the aforementioned entities. Moreover, if JSA is not the chosen consultant party, then it is advised that a neutral regulator be appointed to resolve any potential crises facing the maritime stakeholders in Jordan.

- The JSA should be consulted regarding any future contractual agreements conducted through ADC or ASEZA that affect the maritime sector as a means to provide JSA expertise and advice. Moreover, JSA should have access to all current abiding contracts signed by the Government of Jordan through ADC or ASEZA impacting the maritime sector.

- In addition, it is suggested that Jordan Customs improve their relationship with the ACT, including increasing coordination with the ACT in order to avoid any future failures caused by the accumulation of containers at the port of ACT.

Firm Strategy, Structure and Rivalry

- In order to enhance the competitiveness of the maritime sector, it is recommended that organizations seek greater cooperation with each other and that stakeholders seek increased alignment.

- As it stands, the overall price of maritime services at the Port of Aqaba is higher relative to competing ports. Thus, the re-evaluation of port charges is recommended to make Aqaba a competitive destination for ocean carriers from all parts of the world.

- In addition, allow private investment at the commercial port of Aqaba, including investments in berths, stevedores, warehousing and supporting services, in order to improve competitiveness and thus efficiency.

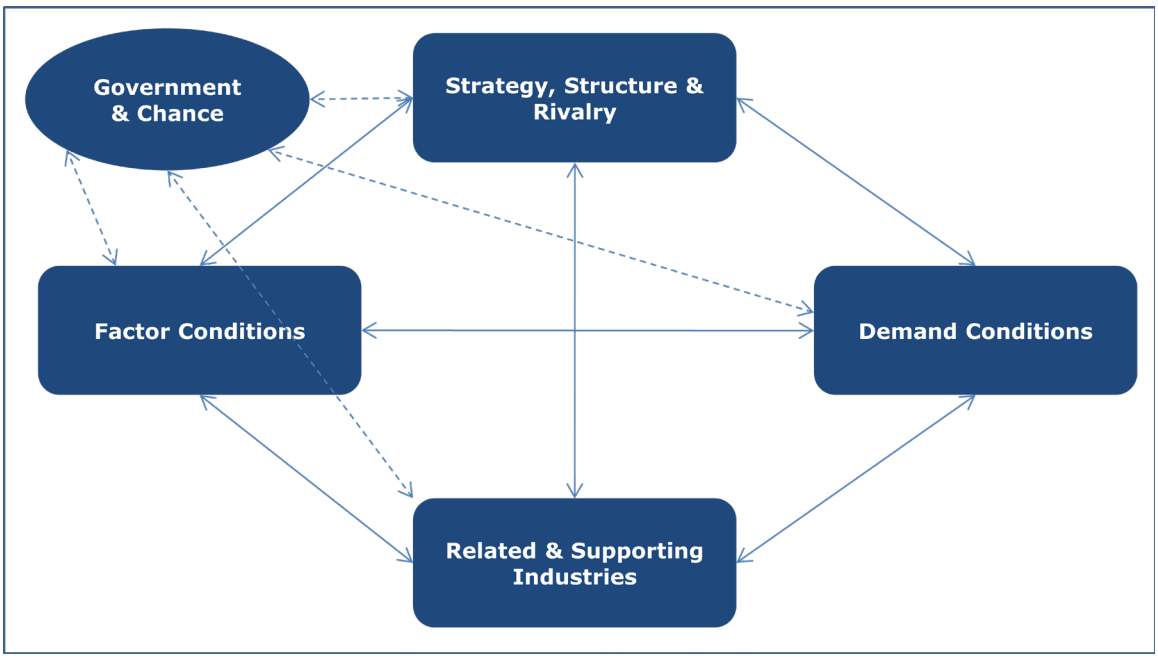
Annex 1: Definition of Porter's Diamond

The competitiveness analysis was undertaken using a variety of tools, amongst which is the "Porter Diamond", as illustrated in Figure 35 below. Michael E. Porter introduced the concept of "clusters", or groups of interconnected firms, associated institutions, specialized suppliers, service providers and related industries, where the competitiveness level of one firm is linked to the competitiveness of other firms, and factors, in the value added chain.

Porter contends that clusters can affect competition in three ways: by increasing the productivity of the companies in the cluster, driving innovation in the industry and stimulating the creation of new businesses in the industry. Moreover, as claimed by Porter, the competitive advantage of a cluster is the outcome of four interlinked determinants and activities in and between firms in a cluster, which may be influenced in a positive way by government.

A cluster analysis is considered more comprehensive than an industry or sector analysis in that the former involves all contributors to the value chain, which may or may not be part of the industry. Such contributors may include banks, training institutes, research centers, and professional associations among others.

Figure 36: Porter's Diamond Model



The key determinants that are examined in this paper are classified into 6 broad categories:

1. **Factor Conditions**
    - Porter highlights that the principal (or specific) factors of production may be created, and not simply inherited. The following specialized

factors of production are necessary to compete in a given industry: human resources, natural resources, intellectual capital, physical capital and infrastructure. However, many industries require specific resources in order to minimize the impacts of factor disadvantages.

2. **Demand Conditions**
    - This component describes demand for products and services produced in a country. Demand conditions in the home market can assist firms in establishing a competitive advantage whereby firms adjust their production strategies to meet the conditions of their main markets. The more demanding the home market is the greater incentive a firm has to develop and innovate more rapidly.
3. **Related and Supporting Industries**
    - Domestic suppliers and supporting industries can produce the most cost-effective inputs, which are needed for innovating and exporting. In addition, these industries also assist in the upgrading process, thus providing an incentive for other firms in the chain to improve their own production process.
4. **Firm Strategy, Structure and Rivalry**
    - A firm's internal structure, priorities and management structure are all vital components in generating competitiveness. It is direct competition that represents the primary incentive of firms to strive for increased productivity and innovation. As stated by Porter, "the more localized the rivalry, the more intense, and the more intense, the better." [67]
5. **Government**
    - Although not a factor in the model, Porter does recognize the role of the government insofar as the government impacts a firm's supply and demand conditions. In addition, the government influences the extent of competition among firms.
6. **Chance**
    - Unexpected occurrences are beyond a firm's expectations or control. And can impact a firm's competitiveness both positively and negatively. Chance plays its role by altering the four main conditions in the diamond model.

Ultimately, these factors interact to bring about the conditions for increased innovation and competitiveness.

[67] Porter, M.E. (1990, 1998) "The Competitive Advantage of Nations", Free Press, New York, 1990.

Annex 2: Definition of SWOT

A SWOT analysis is employed as a strategic assessment tool in order to evaluate the Strengths, Weaknesses (or Limitations), Opportunities and Threats. In particular, the SWOT is basic, clear-cut paradigm that analyzes what the sector can and cannot do in addition to its potential opportunities and threats.

For the purposes of this paper, the SWOT was used to assess the maritime sector in Jordan. The aim of the SWOT analysis is to facilitate formulation and selection of appropriate strategies. The strengths and weaknesses are internal to the system and the opportunities and threats are external to the system, as defined below:

Internal Environment

- ***Strengths***
  - Strengths are defined as the characteristics of a sector that give it an advantage over others.

- ***Weaknesses***
  - Weaknesses are defined as the characteristics that place the sector at a disadvantage relative to others, thus preventing the sector from achieving its full potential. Moreover, such traits can ultimately inhibit the competitiveness and, thus, the growth of the sector.

External Environment

- ***Opportunities***
  - Opportunities are chances that can improve performance of the maritime sector environment. These arise when the sector can benefit from conditions in its environment to efficiently plan and execute strategies that enable the sector to become more productive and therefore grow. For example, opportunities may arise from market, competition, industry/government and even technology.

- ***Threats***
  - Threats develop when conditions put at risk the reliability and productivity of the sector.

Annex 3: Maritime Cluster Questionnaire

Questions on Factor Conditions:

- What are the conditions of the ships that the organization uses for its services? (e.g. new, old, and poor condition)

- What is the average number of vessels your organization handles on an annual basis?

- What are the average port fees (handling, storage, unloading, loading) per container?

- What is the approximate gross revenue per container, on average?

- What is the average waiting time prior to unloading and reloading? What solutions does your organization propose to overcome waiting times?

- How would relocation of the proposed new port affect your business and Aqaba?

- Rate the location of Port of Aqaba in terms of connectivity to the regional and global maritime networks (1 = high and 5 = not at all) _____

- Rate the availability of quality human resources (1 = excellent and 5 = poor) _____

Questions on Demand Conditions:

- Generally speaking, where does most of the demand for imports and exports originate from?

- Rate the specific factors that affect demand. (1 = strong and 5 = weak)

Factor	**Score**
Fuel prices	
Commodity prices	
Commodity availability	
Jordan's economic performance	
Other (please specify)	

- Rate the specific factors that affect price of shipments. (1 = strong and 5 = weak)

Factor	**Score**
Fuel prices	

Commodity prices	
Commodity availability	
Jordan's economic performance	
Other (please specify)	

- Rate the impact of the recent economic downturn on the maritime sector. (1 = high and 5 = not at all) _____

- Do you think the port of Aqaba will see increased demand due to the situation in Syria?

- If yes, do you think the port of Aqaba has the capacity to handle the increased demand?

Questions on the Organization Strategy, Structure and Rivalry:

- Which ports do you consider as your major competitors?

- Rate the factors that give these ports a comparative advantage in the market relative to the Port of Aqaba. (1 = strong and 5 = weak)

Factor	**Score**
Trademark	
Location	
Price of services	
Quality of services	
Other (please specify)	

- What is the ranking of each of the following factors that determine your organization competitiveness compared to similar organizations in the region? Ranking scale 1 – 10, with 1=least challenging.

Factor	**Score**
Price	
Destination offerings	
Quality of shipping lines	
Method of transportation	
The composition and pricing of transit/storage packages (Inc. accommodation, transport, visa services and food)	
Other (please specify)	

- Does the organization have access to information about trends in their sector?

- Is your organization registered with any professional association? If yes, how does the association support your work?

- Rate the largest challenges that your organization currently face. (1- 10, with 1=least challenging)

Factor	**Score**
Insufficient finance	
Limited markets	
Local competition	
Inadequate technologies	
Political stability	
High employee turnover	
Other (please specify)	

- What are the changes that your organization suggests in order to enhance their sector?

- What is the port of Aqaba market share of goods exported and imported into Jordan?

- What is your pricing strategy (per container, per ton, etc.)?

Questions on Related and Supporting Industries:

- Are there any other agreements between the organization and other supporting industries? (describe these agreements)

- Do you utilize any of the following complementary services? And, if so, please rate in terms of frequency (1 = always and 5 = not at all).

Logistical services	**Score**
Trucks	
Warehousing	
Packaging	
ICT	
Quarantine facilities	
Logistical support center	
Other (please specify)	

Questions on Infrastructure, Institutions, and Government Procedures:

- What are the registration procedures and how long do they take? Please provide a short description.

- Are there policy restrictions on new entry to the maritime sector?

- Are there restrictions on cross-border entry of foreign service providers?

- Do you feel the government is responsive to your needs (such as need for trained workers, etc.)? 1 = very and 5 = not at all.

- To what degree do the agreements that the government have with other countries influence your business?

- Are there any monopolistic practices in the sector by any entity/organization?

- Does the government or the regulatory agency provide pricing guidelines to shipping companies?

- Does the regulator, through licenses or otherwise, limit companies from growth?

- Generally, do you find customs tariffs to be higher than those in neighboring countries?

- How do you consider the level of inspections at the port in terms of the listed factors below? Please rate 1 = strong, 5 = weak.

Factor	**Score**
Frequency	
Timeliness	
Efficiency	
Other (please specify)	

- Do you have any recommendations to improve the current government policy and regulations?

Annex 4: Jordan Economic and Trade Liberalization Agreements

The following table illustrates an extensive list of the trade agreements Jordan has signed with other nations over the last few decades.

Table xx List of Economic and Trade Agreements

Country	Agreement	Date Signed	Date of Entry into Force
Argentina	Framework Cooperation Agreement with MERCOSUR Countries	30-Jun-08	
	Trade and Economic Cooperation Agreement	22-Oct-08	Not in effect yet
Azerbaijan	Non-Double Taxation Agreement	5-May-08	1 Jan. 2009
	Trade Agreement	7 Nov. 2006	1 Jun. 2007
	Investment Promotion Agreement	5-May-08	24 Dec. 2008
Australia	Trade Cooperation Agreement	1988	Valid
Austria	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	23 Jan. 2001	25 Nov. 2001
Belarus	Economic and Trade Cooperation Agreement	2002	2003
	Investment Promotion Agreement	16 Dec. 2002	Not in effect yet
Bosnia and Herzegovina	Investment Promotion and Protection Agreement	2-Jul-06	24-Jul-07
Brazil	Trade Cooperation Agreement	1989	Valid
	Framework Cooperation Agreement with MERCOSUR Countries	30-Jun-08	
	Trade and Economic Cooperation Agreement	23-Oct-08	22-Sep-10
Bulgaria	Non-Double Taxation Agreement	9 Nov. 2006	1 Jan. 2009
	Trade Agreement	2001	Valid
	Investment Promotion Agreement	7 Aug. 2002	27-May-03
Canada	Promotion and Protection of Investment Agreement	28-Jun-09	14 Dec. 2009
	Economic and Trade Cooperation Agreement	1986	Valid
	Non-Double Taxation and Tax Evasion Agreement on Income.	6 Sep. 1999	1 Jan. 2001
China	Trade Cooperation Agreement	1979	Valid
Congo	Economic, Scientific and Technical Cooperation Agreement	26 Sep. 2004	Congo
	Investment Promotion Agreement	23-Jun-04	Not in effect yet

Croatia	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
	Trade Cooperation Agreement	10 Oct. 1999	14-Apr-05
	Investment Promotion and Protection Agreement	10 Oct. 1999	27-Apr-00
Cyprus	Promotion and Protection of Investment Agreement	20 Dec. 2009	Cyprus
	Association Agreement with the European Union	24 Nov. 1997	1-May-02
Czech Republic	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	20 Sep. 1997	25-Apr-01
Ecuador	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
Ethiopia	Trade Cooperation Agreement	1984	Valid
EU	Eu Association Agreement	24 Nov. 1997	1-May-02
	Protocol between European Union & Jordan Establishing Dispute and Settlement Mechanism	11 Feb. 2011	1-Jul-11
Finland	Trade Cooperation Agreement	1988	Valid
	Association Agreement with the European Union	24 Nov. 1997	1-May-02
France	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	23 Feb. 1978	18 Oct. 1979
	Non-Double Taxation and Tax Evasion Agreement on Income.	28-May-84	1-Apr-85
Georgia	Economic and Trade Cooperation Agreement	26-Apr-10	29-Jul-10
	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
Germany	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment and Capital promotion and Protection Agreement	15-Jul-74	10 Oct. 1977
Greece	Association Agreement with the European Union	24 Nov. 1997	1-May-02
Guiana	Trade Cooperation Agreement	2003	Not in effect yet
Holland	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	17 Nov. 1997	1 Aug. 1998

Honduras	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
Hungary	Trade Cooperation Agreement	1976	Valid
	Association Agreement with the European Union	24 Nov. 1997	1-May-02
Iceland	EFTA Agreement	21-Jun-01	1 Sep. 2002
India	Economic and Trade Agreement	1976	Valid
Indonesia	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
	Trade and Economic Cooperation Agreement	3-Apr-86	Valid
	Investment Promotion and Protection Agreement	12 Nov. 1996	9 Feb. 1999
	Non-Double Taxation and Tax Evasion Agreement on Income.	12 Nov. 1996	1 Jan. 1999
Israel	Economic and Trade Cooperation Agreement	1995	Valid
Italy	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	21-Jul-96	9 Nov. 1999
Kazakhstan	Investment Promotion and Protection Agreement	29 Nov. 2006	1-Jul-08
Korea	Trade Cooperation Agreement	19 Nov. 1972	Valid
Iran	Non-Double Taxation Agreement	28-May-03	1 Jan. 2009
	Trade Cooperation Agreement	19-Jun-95	4 Aug. 1998
Liechtenstein	EFTA Agreement	21-Jun-01	1 Sep. 2002
	Non-Double Taxation and Tax Evasion Agreement on Income.	20-Apr-99	1 Jan. 2000
Lithuania	Investment Promotion Agreement	13 Oct. 2002	5-May-03
Malaysia	Trade Agreement	1994	Valid
	Investment Promotion and Protection Agreement	2 Oct. 1994	3-Mar-95
Mexico	Trade Cooperation Agreement	1975	Valid
North Korea	Trade Agreement	1979	Valid
	Investment Promotion Agreement	24-Jul-04	25 Dec. 2004
Norway	EFTA Agreement	21-Jun-01	1 Sep. 2002
Pakistan	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	

	Trade Cooperation Agreement	17 Feb. 2000	Valid
Paraguay	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
	Framework Cooperation Agreement with MERCOSUR Countries	30-Jun-08	
Philippines	Trade Cooperation Agreement	1996	Valid
Poland	Investment Promotion and Protection Agreement	4 Oct. 1997	14 Oct. 1999
	Association Agreement with the European Union	24 Nov. 1997	1-May-02
Portugal	Promotion and Protection of Investment Agreement	17-Mar-09	
	Economic Cooperation Agreement	12-Feb-08	11-Sep-08
	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Non-Double Taxation and Tax Evasion Agreement on Income.	4 Oct. 1997	1 Jan. 2000
Romania	Trade Agreement	1995	Valid
	Economic and Technical Cooperation Agreement	20 Nov. 1968	Valid
	Investment Promotion and Protection Agreement	2-Jul-92	16-Mar-99
	Non-Double Taxation and Tax Evasion Agreement on Income and Capital.	2 Oct. 1982	1 Jan. 1985
Russian Federation	Economic and Technical Cooperation Agreement	21 Jan. 1969	Valid
Singapore	Free Trade Agreement	16-May-04	22 Aug. 2005
	Investment Promotion Agreement	16-May-04	Valid
Spain	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	20 Oct. 1999	13 Dec. 2000
Sri Lanka	The (G-11) Framework Agreement on Economic, Trade and Cultural Cooperation	16-May-09	
	Trade Cooperation Agreement	1965	Valid
Switzerland	Trade and Economic Cooperation Agreement	11 Nov. 1976	1 Sep. 2002
	EFTA Agreement	21-Jun-01	1 Sep. 2002
	Investment Promotion and Protection Agreement	25 Feb. 2001	11 Dec. 2001
Tanzania	Promotion and Protection of Investment Agreement	8 Oct. 2009	
Uruguay	Framework Cooperation Agreement with MERCOSUR	30-Jun-08	

	Countries		
U.K.	Association Agreement with the European Union	24 Nov. 1997	1-May-02
	Investment Promotion and Protection Agreement	10 Oct. 1979	24-Apr-80
Ukraine	Non-Double Taxation Agreement	30 Nov. 2005	1 Jan. 2009
	Economic and Trade Cooperation Agreement	2002	Valid
	Investment Promotion and Protection Agreement	30 Nov. 2005	Not in effect yet
	Non-Double Taxation Agreement	30 Nov. 2005	Not in effect yet
U.S.A.	Free Trade Agreement	24 Oct. 2000	2001
	Investment Promotion and Protection Agreement	2-Jul-97	12-Jun-03
Uzbekistan	Economic and Trade Cooperation Agreement	1997	Valid
Vietnam	Trade Cooperation Agreement	1997	Valid