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Economic Cooperation Potential between the Mashrek Countries, Turkey and Israel

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Progress Report

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The research team is composed by **Alfred Tovias** of the Hebrew University (Research Director), **Sema Kalaycioglu** (Senior Researcher) of I_ik University, **Inon Dafni** (Junior researcher) of the Hebrew University, **Ester Ruben** (Junior researcher) of Yildiz Technical University and **Lior Herman** (Junior Researcher) of the Hebrew University. It started actual work in the project in May 2003 when the team convened in Jerusalem for a two-days meeting in which both analytical and practical matters such as the distribution of tasks and data requirements were discussed.

As explained in the project proposal, the research focuses on four fields of economic cooperation: trade in goods and services, international investment, labour migration and infrastructure. In each of these fields, the research focuses on estimating the cooperation and integration potential both separately and across-field. The research efforts in the four fields are being coordinated by **Alfred Tovias**, who will draft the final report. Countries under exploration are Turkey, Israel, Jordan, Palestine, Egypt, Lebanon and Syria. Although the main focus is on intra-Mashrek cooperation, cooperation potential with other MENA and Gulf countries is being explored as well, as side references.

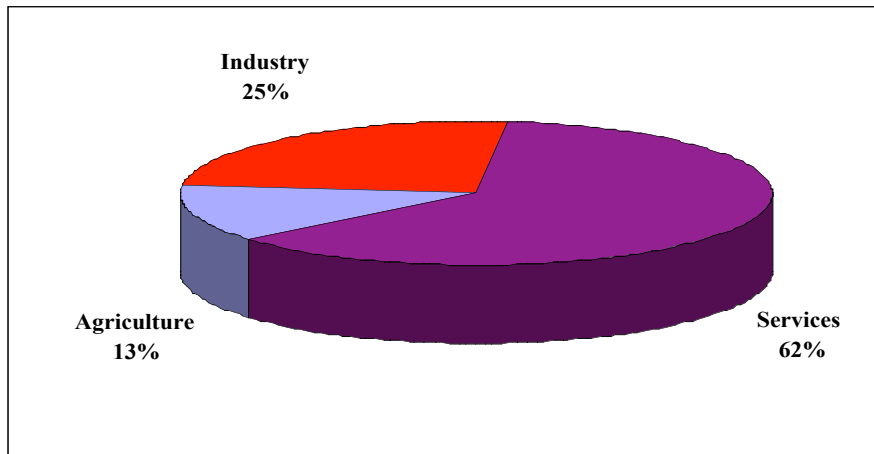
I. Macro-economic Features of the Mashrek:

In order to estimate the cooperation potential between the Mashrek countries, one should look first at the main features of the Mashrek countries' economy as a whole, as well as the economies of each one of the Mashrek countries separately. This analysis will provide us the basis for the estimation of the economic cooperation potential between the Mashrek countries in the different sectors that will be examined in the following chapters.

The Mashrek countries' economies are characterized by their relatively small size, and low income. In 2000, the aggregate gross domestic product (GDP) of the Mashrek countries was \$455 billion while the average GDP was \$65 billion. The total population of the Mashrek was 164 million and the average population in the Mashrek countries was 23 million. The weighed average GDP per capita was \$2,777 which was similar to a typical medium income economy. The Mashrek's economy is also

characterized by a large services and agriculture sectors (equal to 62% and 13% of its total GDP respectively in 2000) and a relatively small industrial sector (equal to 25% of its total GDP in 2000). This is a result of the large tourism sector and the fact that no real, European style industrial revolution has ever taken place in the Mashrek.

Figure 1: Distribution of Production in the Mashrek in 2002
(Added value of GDP)



Source: World Bank, World Development Indicators (2002)

Although substantial efforts have been done in recent years, the Mashrek economies are relatively closed to foreign trade. A good indicator for the level of openness of an economy to world trade is the ratio between its total foreign trade (exports and imports) and its GDP. In 2000 merchandise foreign trade to GDP ratio was 42% and the overall foreign trade to GDP was 58%. These figures can be considered low since small countries tend to trade more than average. Indeed, the EU member countries' merchandise foreign trade to GDP ratio was 56% in 2000.

The Mashrek countries suffer from a significant merchandise trade deficit that reached \$51 billion in 2000 – equal to 11% of the Mashrek countries' GDP that year. Yet, the merchandise trade balance deficit is partial offset by a surplus in the commercial service balance and the overall trade deficit in 2000 was \$34 billion.¹ Merchandise exports amounted to \$69.5 billion in 2000. The largest merchandise export sector is manufactures which accounted for 79% of the Mashrek total merchandise exports. 9% of the manufactured exports are hi-tech goods. The second and third largest sectors are fuels and food, each accounted for 8% of total merchandise exports in 2000. The share of agricultural raw materials and ores and metals sectors in 2000 was only 2%. The largest merchandise imports are manufactured goods, accounting for 77% of total merchandise imports, followed by Food Fuels equal to 9% and 8% respectively.² The exports of commercial services reach \$46 billion in 2000, of which Travel services accounted for 38%. This figure reflects the importance of tourism sector in the Mashrek countries, especially as a source of foreign currency. Imports of commercial services reach \$30 billion in 2000 (World Bank, 2002).

The level of education in the Mashrek is relatively low. This is reflected by the low

¹ No data is available as to Lebanon commercial services trade balance.

² Data includes intra Mashrek trade.

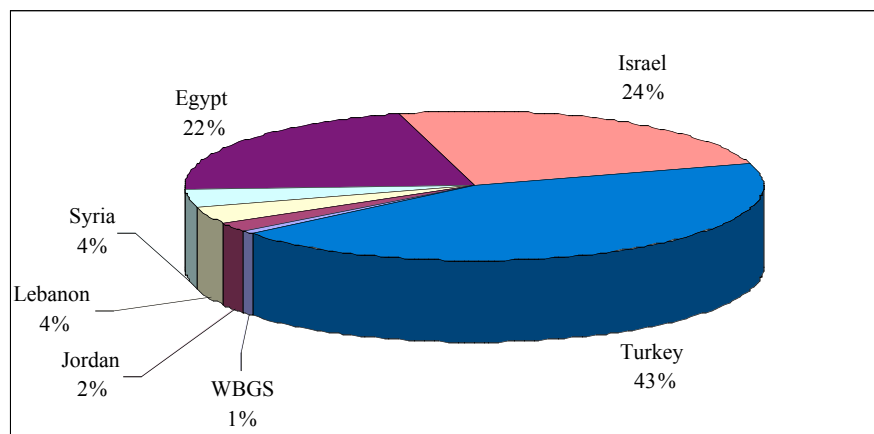
level of schooling that averaged 5.4 years and a high rate of illiteracy that ranged from 3% to 33% for females and 8% to 56% for males in 2000. In the late 1990s secondary gross enrolment in the Mashrek countries was similar to middle income countries' average and tertiary gross enrolment in the Mashrek countries was substantially higher of even high middle income countries' average. Nevertheless, the average number of scientists and engineers in R&D Per million people was only 406. The low human capital endowment is reflected by the relatively low share of hi-tech exports of the overall merchandise exports that accounted for 14% in 2000, equal to the share of lower middle income countries.

The Mashrek countries are characterized by the large rural population accounting for 38% of the total population in 2000. Nevertheless, since large areas in the Mashrek are deserts, arable lands are scarce and hectares per capita arable land was no more than 0.22 in 1997-1999. Fresh water is also rare in large parts of the Mashrek and the average cubic meters per capita fresh water was 2,021 in 2000.

The level of industrialization of the Mashrek is relatively low. This is reflected by the small number of motor vehicles per 1000 people that averaged 69, in 2000 as in middle income countries and as compared to 536 in high income countries. This is also reflected by the low level of commercial energy use, although some Mashrek countries are petroleum exporters. In 1999, the average per capita kg of oil equivalent energy use in the Mashrek countries was 1,023, as in middle income countries and as compared to 5,448 in high income countries. The low level of industrialization is also reflected by the low share of the industrial sector in GDP, which accounted for 25% in 2000, lower even than low income countries, average. In fact, one can argue that the Mashrek countries have never experienced a Western-type industrial revolution and have directly evolved from a rural economy to a service economy.

Yet, the most notable feature of the Mashrek area is the large heterogeneity among its countries reflected by most of their macroeconomic data. Although the average size of the Mashrek countries' economies and population is small, if we look at the disaggregated data of these countries we see that while Turkey's GDP was around \$200 billion and Israel's and Egypt's GDP was around \$100 billion, the GDP of the other Mashrek countries was less the \$20 billion in 2002.

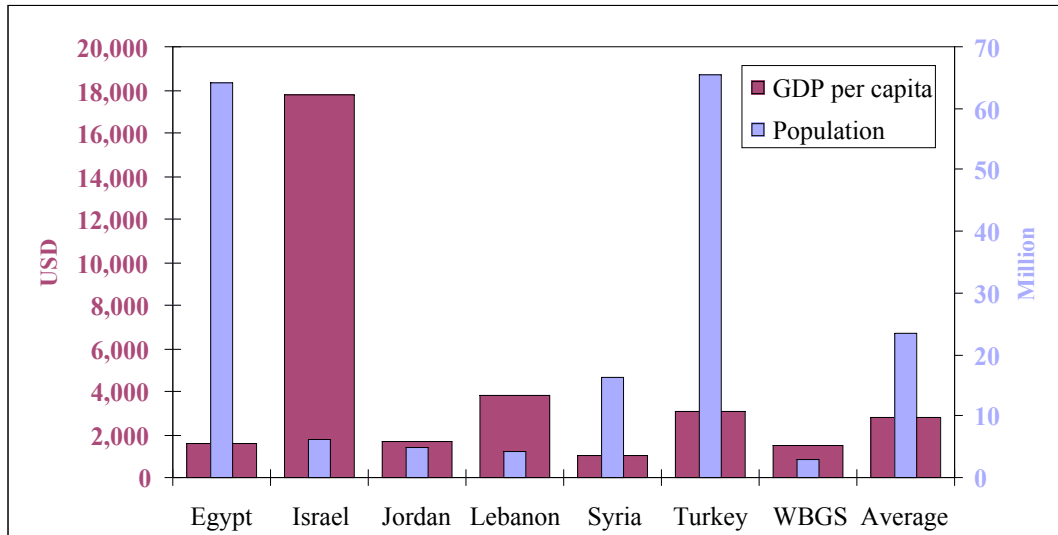
Figure 2: Breakdown of Mashrek's GDP in 2002



Source: IMF (2003)

This heterogeneity characterizes also the Mashrek countries' population. While the average population in the Mashrek was 23 million, Turkey's and Egypt's population was approximately 65 million, Syria's population was around 16 million while the other countries' population was less than 6.5 million.

Figure 3: GDP Per Capita and Population in the Mashrek Countries in 2002



Source: IMF (2003)

Large differences can also be found among the Mashrek countries regarding the structure of production. The share of the agricultural sector in the Mashrek countries total GDP was 13% in 2000. Nevertheless, the share of agriculture in Egypt and Syria was 17% and 24% respectively. At the same time, the share of agriculture in the West Bank and Gaza was 8% and in Israel and Jordan only 2%. Services accounted for 62% the Mashrek countries' total GDP in 2000. Yet, while the share of services in Israel reached 81% it was 49% in Syria.

The level of integration to the world trade also differs among the Mashrek countries. Although the Mashrek merchandise trade to GDP is small and accounted in 2000 to 42% respectively, Jordan's and Israel's ratios were 72% and 63% respectively while Egypt's ratio was 19%. At the same time, Jordan's and Israel's overall foreign trade (merchandise and services trade) to GDP ratios was 72% and 63% (respectively) compared to 58% of the total Mashrek countries and 36% of Egypt.

As seen in Table 1, in manufactured goods is the largest and major export sector in almost all reporting Mashrek countries. This is not the case for Syria, whose major export sector is fuel (76% of merchandise exports), and Egypt, for which fuel and manufactured goods sectors both equal to 37% of merchandise exports. Manufacture goods is the major import sector for all reporting Mashrek countries. Yet, while food was around 20% of all merchandise imports of Egypt Jordan and Syria it is only 5% and 4% in Israel and Turkey respectively.

Table 1: Merchandise Exports and Imports of Mashrek Countries in 2000

	Merchandise exports	Food	Agricultural raw materials	Fuels	Ores and metals	Manufactured goods
	(Million)	(Percents of total)				
Egypt	4,689	9	8	37	4	37
Israel	31,338	3	1	1	1	94
Jordan	1,897	16	0	0	15	69
Lebanon	714	--	--	--	--	--
Syria	4,250	9	5	76	1	8
Turkey	26,572	13	1	1	3	81
West Bank and Gaza	--	--	--	--	--	--
Mashrek (total)	69,460	8	2	8	2	79
	Merchandise imports	Food	Agricultural raw materials	Fuels	Ores and metals	Manufactured goods
	(Million, 2000)	(Percents of total)				
Egypt	14,010	23	4	6	3	59
Israel	38,130	5	1	10	2	81
Jordan	4,539	21	2	5	2	66
Lebanon	6,228	--	--	--	--	--
Syria	3,860	19	3	4	2	65
Turkey	53,499	4	4	14	4	70
West Bank and Gaza	--	--	--	--	--	--
Mashrek (total)	120,266	9	2	8	3	77

Source: World Bank, World Development Indicators (2002)

The level of education is an additional aspect reflecting heterogeneity among Mashrek countries. While the Mashrek countries' average years schooling in 2000 was 5.4, it ranged from 5.3 up to 9.6. At the same time, adults' illiteracy rate for male ranged from 3% to 33% and adults illiteracy rate for female ranged from 8% to 56%. This is reflected by the large differences regarding secondary and tertiary gross enrolment, which ranged from 42% to 81% and from 6% to 49% respectively in 1998. The large

Table 2: Level of Education in the Mashrek Countries

	Adult illiteracy rate (female)	Adult illiteracy rate (male)	Average years of schooling	Secondary gross enrollment ratio (% of relevant age group, 1998)	Tertiary gross enrollment ratio (% of relevant age group, 1998)
	(% ages 15 and over, 2000)	(% ages 15 and over, 2000)	2000		
Egypt	33	56	5.5	81	39
Israel	3	8	9.6	89	49
Jordan	5	16	6.9	66	--
Lebanon	8	20	--	89	38
Syria	12	40	5.8	42	6
Turkey	7	23	5.3	70	--
WBGS	--	--	--	--	--

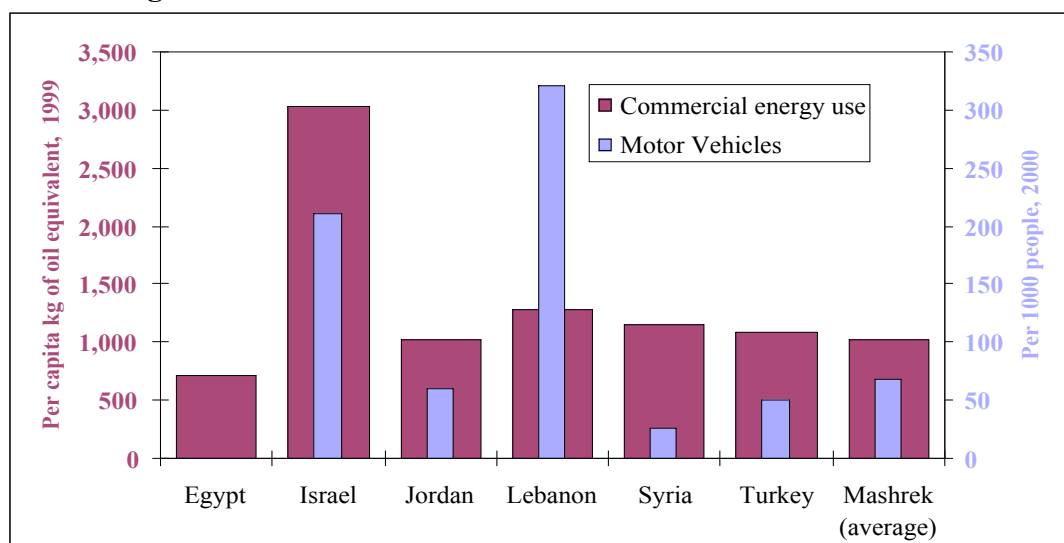
Source: World Bank, World Development Indicators (2002)

variety as to the level of education caused substantial inequality in the Mashrek countries' human capital endowment, reflected by the number of scientists and engineers in R&D per million, which ranged from 29 to 1,570 in 2000. The differences in human capital are expressed by the share of hi-tech exports in the overall merchandise exports. This share ranged from 0% to 25% in 2000.

The Mashrek countries also differ in their agricultural sectors. The share of the rural population ranged from 9% to 55% in 2000, arable land ranged in the late 1990s from 0.04 to 0.31 hectares per capita. Some Mashrek countries enjoy plenty of fresh water while other suffers from a lack of water. Indeed, in 2000 cubic meters per capita fresh water ranged from 143 to 3,118.

The level of industrialization is also diverse between the Mashrek countries. This is reflected by the small number of motor vehicles per 1000 people that ranged from 26 to 321 and the per capita kg of oil equivalent energy use that ranged from 709 to 3,039 in 2000. This is also reflected by the share of the industry in GDP ranged from 17% to 34% in 2000.

Figure 4: Level of Industrialization in the Mashrek Countries in 2002



Source: World Bank, World Development Indicators (2002)

In summation, the Mashrek economy has the features of a medium income economy with large agriculture and services sectors and relatively small industrial sector.

The economy is relatively close to the world economy in terms of foreign trade and foreign investments. The Mashrek's merchandise exports accounted for \$69.5 billion in 2000. The merchandise exports largest sector is manufactures (79%). Merchandise imports accounted for \$120.3 billion in 2000. The largest merchandise imports are manufactured goods (77%). Therefore, The Mashrek countries suffer from a significant merchandise trade deficit. Yet, the merchandise trade balance deficit is partially offset by a surplus in the commercial service sector. The exports of commercial services reached \$46 billion in 2000. Imports of commercial services reached \$30 billion in 2000. Tourism is the largest commercial services exporter

(accountant 38% of commercial services exports).

The Mashrek is also characterized by low level of education and human capital, a large rural population but on the other hand lack of arable land and fresh water, and a low level of industrialization.

Since the larger the diversity the higher the potential for economic cooperation between two countries, from a macro economic view there is a substantial room for economic cooperation among the Mashrek countries.

II. Trade in Goods

1. The Existing Trade Situation in the Region

The region in question is composed of countries with similar levels of economic development, although they differ importantly in their factor endowments since some of them are relatively oil rich, while others are not. Regarding the level of development two exceptions are Turkey and Israel. Also, because of political reasons, there are not any trade relations between Israel and Lebanon or Syria and only very modest trade relations have been realized with Egypt and with Jordan. The trade relation between Turkey and Israel substantially increased after a free trade agreement was signed between the two countries in 1996. It can also be observed that trade relations between all other countries in the region are not notorious. This section tries to give a broad picture of their trade situation.

2. Intra-regional Trade

Table 3: Intra-regional trade (% of total trade)

	1995	1996	1997	1998	1999
Exports	8.2	7.6	7.4	8.8	7.3
Imports	7.8	7.8	7.7	7.2	7.6

Source: IMF; 2000

The first row of table 3 show the exports of the Mashrek region to the region itself, as a percentage of total exports of the region, while the second row shows the imports of the region from the region itself as a percentage of its total imports. The table shows that a ratio between 7.2% and 8.8% of total trade is realized inside the region.

Table 4: Exports of the region to the countries of the region (% of total exports)

	1995	1996	1997	1998	1999
Egypt	0.42	0.49	0.63	0.56	0.67
Israel	0.12	0.25	0.23	0.10	0.14
Jordan	0.47	0.45	0.18	0.30	0.20
Lebanon	0.33	0.25	0.33	0.31	0.25
Syria	0.18	0.15	0.11	0.20	0.15
Turkey	9.2	9.5	7.4	5.8	6.3

Source: Calculated from IMF, 2000

Table 5: Imports of the region from the countries of the region (% of total imports)

	1995	1996	1997	1998	1999
Egypt	0.47	0.50	0.40	0.50	0.35
Israel	0.01	0.02	0.04	0.03	0.03
Jordan	0.47	0.42	0.26	0.26	0.27
Lebanon	0.24	0.24	0.17	0.20	0.19
Syria	0.36	0.47	0.44	0.44	0.53
Turkey	12.1	12.1	10.7	10.1	10.1

Source: Calculated from IMF, 2000.

Table 6: Intra-regional exports by country (%)

	Jordan	Lebanon	Egypt	Syria	Israel	Turkey
Jordan	X	=	0.59	1.29	0.08	0.33
Lebanon	1.96	X	0.64	7.56	=	0.61
Egypt	1.14	2.36	X	0.63	0.2	1.75
Syria	0.92	7.23	1.18	X	=	0.87
Israel	1.03	=	5.25	=	X	2.20
Turkey	0.93	1.63	3.11	9.05	1.15	X

Source: Calculated from IMF, 2000

Table 7: Intra-regional imports by country

	Jordan	Lebanon	Egypt	Syria	Israel	Turkey
Jordan	X	=	0.15	0.54	0.06	0.04
Lebanon	0.80	X	0.11	1.70	=	0.02
Egypt	0.64	0.40	X	1.40	0.06	0.26
Syria	1.32	4.39	0.15	X	=	0.75
Israel	0.61	=	0.13	=	X	0.73
Turkey	2.39	2.63	2.83	6.42	1.88	X

Source: Calculated from IMF, 2000

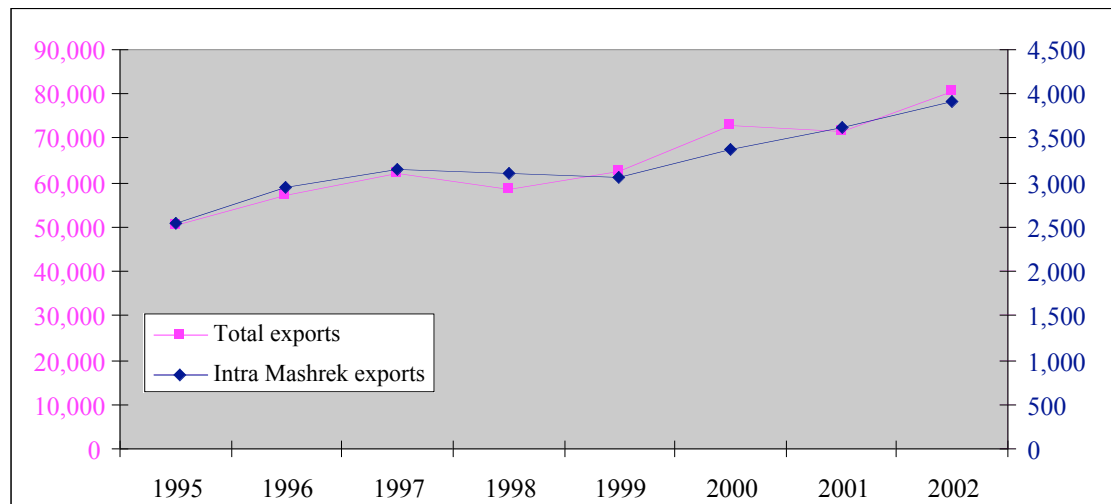
Table 4 shows the exports of the region to each single country of the region. Almost all export ratios are below 1 %. Turkey is an exception to this fact since its imports from the region are significantly higher than each other country in the region. Israel and Syria are the countries that received the lowest ratios of export products from the region. A very similar situation exists for the imports received by the region from each single country in the region. Very modest percentages of total imports (below 1%) are received from the countries in the region, again with the exception of Turkey. The lowest ratio of imports received are, as expected, from Israel. Turkey's trade with this region is notably higher than the trade within the region itself.

Tables 6 and 7 show the export and import ratios of each country to and from each country in question. For example the ratio of 1.96 in Jordan's column of table 6 demonstrates that Jordan sells 1.96% of its total exports to Lebanon. The ratio of 0.80 in Jordan's column of table 7, demonstrates that Jordan buys 0.80 % of its total

imports from Lebanon. A two way trade partnership between Lebanon and Syria, and between Turkey and Syria is to be noted. As what regards Israel, she has very modest trade relations with Egypt and Jordan. A notable feature is that Egypt exported 5.25% of its total exports to Israel and this is the highest ratio of Egyptian exports in the region. It is also found that Jordan exported 1.03% of its total exports to Israel, a ratio which is halfway between, in Jordanian exports to the region. The export and import ratios between Turkey and Israel are also notable. Israel sells 1.15% of its total exports to Turkey, while Turkey sells 2.20% of its total exports to Israel. Trade relations between other countries in the region are found to be very weak.

According to IMF data (based on the Mashrek countries reports), in 2002 intra-Mashrek exports accounted for \$2.0 billion, equal to 2.4 percent of total Mashrek countries' exports. At the same time, intra- Mashrek imports accounted for \$1.2 billion, equal to 1.0 percent of total Mashrek countries' imports.³

Figure 5: Mashrek countries' total and intra- Mashrek exports 1995-2000
(\$million)



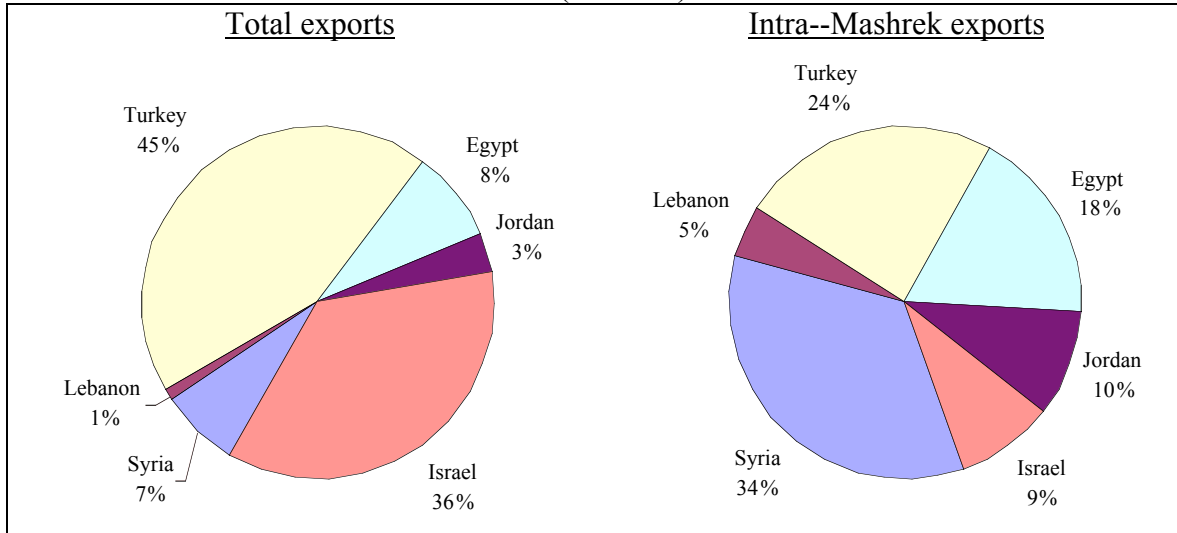
Source: IMF (2002)

From mid-1990s, Mashrek countries' total exports have substantially increased. Indeed, from 1995 to 2002 total Mashrek exports increased by 60.5% from \$50.2 billion to \$80.6 billion respectively. This increase did not elude intra- Mashrek trade. In fact, Mashrek countries' exports to other countries in the region increased by 54.3% during that time reaching \$3.9 billion in 2002. Yet, the share of intra--Mashrek exports of the Mashrek countries' overall exports remained limited, accounting only for 4.9% in 2002.

Figure 6 shows the geographical breakdown of the Mashrek countries intra- region exports. Main intra- Mashrek exporters are Syria (34 percent), Turkey (24 percent) and Egypt (18 percent). Figure 6 also shows the geographical breakdown of the Mashrek countries total exports. What is most notable in comparing the two is the fact that Israel and Turkey hold 81 percent of the Mashrek countries total exports while no

³ IMF data does not include data as to the Palestinian Authority's geographical distribution of trade.

Figure 6: Geographical breakdown of Intra--Mashrek merchandise exports in 2002
(Percents)



Source: IMF (2003)

more than 33 percent of the intra--Mashrek exports. This can be explained (among other things) by easy access of these two countries have to world markets (Turkey is a party to a custom union agreement with the EU and Israel has a large number of FTAs, including with the EU and the US). Another reason is of course the lack of direct access of Israeli exporters to Syrian and Lebanese markets and substantial difficulties to access the Egyptian, Jordanian and Palestinian markets as a result of the Israeli-Palestinian conflict.

Table 8: Intra- Mashrek trade by country and its share in total exports by country

	Exports		Imports	
	Intra- Mashrek (\$ million)	Share of country's total (Percent)	Intra- Mashrek (\$ million)	Share of country's total (Percent)
Egypt	459	6.7%	385	2.1%
Jordan	252	9.2%	453	8.7%
Israel	226	0.8%	261	0.7%
P. A.	n.a.	n.a.	n.a.	n.a.
Syria	893	15.3%	485	7.1%
Lebanon	121	14.4%	672	10.5%
Turkey	627	1.8%	1221	1.9%
Mashrek total	1,960	2.4%	3,477	1.0%

Table 8 shows intra- Mashrek exports and imports and their shares for each Mashrek

country. The latter figures reflect the dependency of the different Mashrek countries on the region in merchandise trade terms. As table 8 shows, this share substantially differs among countries. Syria Lebanon and Jordan are highly dependent on intra-Mashrek trade. The exports of Jordan, Syria and Lebanon to the region accounted for 9.2, 15.3 and 14.4 percent of their total exports respectively in 2002. At the same time, their imports from the Mashrek accounted for 8.7, 7.1 and 10.5 percent respectively. On the other hand, Israel and Turkey dependence on intra- regional trade was limited with no more than 0.8 and 1.8 percent of their total exports respectively going to the Mashrek and 0.7 and 1.9 percent of their imports respectively coming from the Mashrek.

3. Direction of Trade

Table 9: Principal Trade Partners of Mashrek Countries*

	EU	USA	S.East Asia	Middle East
Jordan	M	M	XM	XM
Syria	XM		M	X
Egypt	XM	XM		M
Lebanon	M	XM		X
Israel	XM	XM		
Turkey	XM	XM		XM

* The data is organized by the author based on the data of IMF, Direction of Trade Statistics, 2000.

In table 6 the letters M and X show imports and exports respectively. The letter M in the cell where EU and Jordan intersects means that EU is one of the principal source of imports for Jordan. Similarly the letter X at the intersection, for example, of Israel and EU means that Israel exports principally to EU.

In the analysis of table 9 we realize again the weak trade relations between Mashrek countries. For example, we cannot find a Mashrek country in the first five countries to which Egypt exports. A stronger relationship is valid for imports. We cannot find a Mashrek country in the first five trade partners regarding imports of Syria and Lebanon. Mashrek countries generally import from EU, USA, and South East Asia. They export to EU, South East Asia, and USA. Israel's strongest trade partner is EU followed by USA. Turkey's first trade partner is EU, followed by USA and Middle East countries.

The weak trade relation between the countries in the region is explained partly by political factors and partly by economic factors. The absence of a viable regional security environment in the region has constituted the major impediment for economic cooperation. The political conflicts that existed and still exist among the countries of the region lead these countries to neglect bilateral economic relations. Another barrier to regional economic cooperation in the region is inefficient economic policies.⁴ The low degree of openness and strong protectionist trade policies causes inefficiency and lack of diversification. These policies are relaxed to some extent only in recent years. The attempts to form economic unions did not help a lot to strengthen the intra-regional trade relations. Because of the undiversified character of their productive activities they kept their export ties limited to extra-regional arrangements

⁴ Ali Çarko_lu, Mine Eder and Kemal Kiri_çi, *The Political economy of the Regional Cooperation in the Middle East* (London: Routledge Publications 1998), p. 31-32.

with EU and the USA rather than diversifying their export markets and improving trade among themselves.⁵

4. Factor Endowments and the Commodity Composition of Potential Regional Trade

Macro-economic analysis, which takes into account not only the current trade structure, but also the basic features of the MNMCs' economies that determine a country's comparative advantage, might lead us to different conclusions. According to international trade theory (Heckscher-Ohlin model), a country's comparative advantage is determined by its *factor endowment*, meaning how abundant/scarse a production factors is *relative* to the other production factors (Markusen, 1995, 100). For example, country X has comparative advantage in textiles, if textiles are labor intensive and all means of production in country X are scarce, compared to labor. Therefore, if we find two countries similar in their factor endowment, we may conclude that these economies are competitive rather than complementary and the trade potential between these countries is limited. On the other hand, if two countries are highly different in terms of their relative factor supplies, we may conclude that that there exists a large trade potential between them.

Tables 11 to 16 compare the factor endowment of each Mashrek country vis-à-vis the other countries in the region, based on selected macroeconomic indicators shown in table 10. Labor force to total population ratio reflects the country's comparative advantage in labor intensive industries; the number of scientists and engineers in R&D reflects the country comparative advantage in hi-tech industries; commercial energy use and motor vehicles reflect the country level of industrialization whereas the first can indicate the country's comparative advantage in energy intensive goods and the second its comparative advantage in capital intensive goods; Arable land and fresh water are two major inputs of agriculture and their relative abundance indicates the country comparative advantage in agricultural products.

Table 10: Selected macroeconomic indicators of the Mashrek countries

	Labor force (Labor force to population ratio, 2000)	Scientists and engineers in R&D (Per million people)	Commercial energy use** (Per capita kg of oil equivalent, 1999)	Motor Vehicles*** (Per 1000 people, 2000)	Arable land** (Hectares per capita, 97-99)	Fresh water** (Cu. Meters per capita, 2000)
Egypt	3	493	709	29	0.05	1,071
Israel	2	1,570	3,029	210	0.06	449
Jordan	3	--	1,028	60	0.05	143
Lebanon	3	--	1,280	321	0.04	1,109
Syria	3	29	1,143	26	0.31	2,761
Turkey	2	303	1,093	50	0.4	3,118

Source: World Bank, World Development Indicators (2002)

⁵ Sema Kalaycıoğlu, "Regional Economic Cooperation in the Middle East", *Perceptions*, (September – November 1996), p 91.

At the first stage we have calculated the ratio between each pair of indicators for each country. At the second stage we have compared the corresponding ratios of each pair of countries. If four (or more) out of five or three (or more) out of four ratios related to indicator X have been found higher in one country compared to the other, we have concluded that the factor of production is more abundant in the first country and therefore the latter enjoys a comparative advantage in the relevant industry. The results are presented in tables 11 to 16. The sign "+" represent comparative advantage of the country at the upper left cell of the table, compared to the country on the left cell of the relevant row. The sign "=" means that there is no significant comparative advantage according to our calculation. The number of scientists and engineers in R&D data is not available for Jordan and Lebanon and no comparison could have been made in this aspect. These cases are represented by the sign "?".

As table 11 shows, Egypt enjoys a comparative advantage in agricultural products vis-a-vis Israel Jordan and Lebanon. Therefore we can expect an Egyptian agricultural net export to these countries. Egypt also enjoys comparative abundance vis-à-vis Israel and Turkey of labor force. Therefore, we can also expect Egyptian exports of labor intensive products to these countries. On the other hand, Egypt suffers from comparative disadvantage vis-à-vis Israel, Jordan and Lebanon in energy and physical capital intensive goods because of lesser use of commercial energy and motor vehicles. Therefore we could expect net imports of energy and capital intensive goods by Egypt from these countries. This finding is apparently surprising since Egypt is an exporter of gas and oil. Yet, an energy good abundant country can have a comparative advantage in energy intensive goods only if it has the facility needed to transform energy goods to energy intensive goods.

Table 11: Egypt's comparative advantage vis-à-vis other Mashrek countries

Egypt	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Israel	+	=	-	-	=	+
Jordan	=	?	-	-	+	+
Lebanon	=	?	-	-	+	+
Syria	=	+	=	+	-	-
Turkey	+	+	=	=	-	-

As table 12 shows, Israel enjoys a comparative advantage in capital intensive goods vis-à-vis all Mashrek countries except Lebanon. It also enjoys comparative advantage in hi-tech goods vis-a-vis Syria and Turkey (no data is available as to Jordan and Lebanon). On the other hand since Israel suffers from comparative disadvantage in agricultural goods it is expected to be a net importer of these goods. It is also expected to be a net importer of labor intensive goods from Egypt and Jordan.

Table 12: Israel's comparative advantage vis-à-vis other Mashrek countries

Israel	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Egypt	-	=	+	+	=	-
Jordan	-	?	=	+	-	+
Lebanon	=	?	+	-	+	-
Syria	=	+	=	+	-	-
Turkey	=	+	=	+	-	-

Jordan enjoys a comparative advantage vis-à-vis all countries except Egypt and is expected to be a net exporter on labor intensive goods to these countries. It also enjoys comparative advantage in capital intensive goods vis-à-vis Egypt, Syria and Turkey and therefore it is expected to be a net exporter of this kind of goods to these countries. On the other hand, Jordan suffers from a lack of fresh water and is expected to be a net importer of agricultural goods.

Table 13: Jordan's comparative advantage vis-à-vis other Mashrek countries

Jordan	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Egypt	=	?	+	+	-	-
Israel	+	?	=	-	+	-
Lebanon	+	?	=	-	+	-
Syria	+	?	=	+	-	-
Turkey	+	?	=	+	-	-

Lebanon enjoys a comparative advantage vis-à-vis all countries of the Mashrek in capital intensive goods and is expected to become a net exporter of these goods. It also enjoys a comparative advantage in energy intensive goods vis-à-vis Syria and Egypt and one can expect a Lebanese exports of such goods to the abovementioned countries. On the other hand, Lebanon suffers from a lack of arable land and although it has plenty of water we can expect it to be a net importer of agricultural goods.

Table 14: Lebanon's comparative advantage vis-à-vis the other Mashrek countries

Lebanon	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Egypt	=	?	+	+	-	-
Israel	=	?	-	+	-	+
Jordan	-	?	=	+	-	+
Syria	=	?	+	+	-	-
Turkey	+	?	=	+	-	-

Syria has a comparative advantage in arable land and fresh water compared to all other Mashrek countries aside from Turkey and therefore is expected to be a net exporter of agricultural goods to all these countries. On the other hand Syria capital endowment is low and Syria is expected to be a net importer of capital intensive goods. Syria also suffers from a relative small endowment comparative disadvantage in R&D compared to Egypt, Israel and Turkey and can become a net importer of high-tech goods from these countries.

Table 15: Syria's comparative advantage vis-à-vis other Mashrek countries

Syria	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Egypt	=	-	=	-	+	+
Israel	=	-	=	-	+	+
Jordan	-	?	=	-	+	+
Lebanon	=	?	-	-	+	+
Turkey	+	-	+	-	=	=

Finally, Turkey has a comparative advantage in arable land and fresh water compared to all other Mashrek countries besides Syria and therefore is expected to be a net exporter of agricultural goods to all these countries. On the other hand, Turkey has a relatively low labor force endowment compared to all countries except Israel and is expected to be a net importer of labor intensive goods from them. It also suffers from comparative disadvantage vis-a-via Israel, Jordan and Lebanon in capital intensive industries and can become a net importer of their goods. Lastly, Turkey has a relative low R&D factor endowment compared to Egypt and Israel and is expected to become a net importer of hi-tech products from these countries.

Table 16: Turkey's comparative advantage vis-à-vis other Mashrek countries

Turkey	Labor force	Scientists and engineers in R&D	Commercial energy use	Motor Vehicles	Arable land	Fresh water
Egypt	-	-	=	=	+	+
Israel	=	-	=	-	+	+
Jordan	-	?	=	-	+	+
Lebanon	-	?	=	-	+	+
Syria	-	+	-	+	=	=

5. Revealed Comparative Advantage as a Measure of Export Performance

The concept of revealed comparative advantage (RCA) developed by Balassa (1965), is practically used to determine the measure of the export performance of a country for a given product category. Table 17 indicates the export performance of the countries in consideration by commodity groups. The export performance is determined by using the above cited Balassa's RCA index for 3-digit SITC product categories. The formula used to measure the RCA index will be as follows:

$$RCA_{ij} = (X_{ij} / X_{it}) : (X_{wj} / X_{wt})$$

X_{ij} : Export of good j in country i

X_{it} : Total exports of manufactures in country i

X_{wj} : World exports of good j

X_{wt} : World total export of manufactures

According to this approach, a country's relative export performance in the individual product categories is calculated as the ratio of a country's share in world exports of all manufactured goods. If the index is higher than unity, the country's export performance is said to be strong in the product category in consideration.

Table 17: RCA indices of selected countries

		Egypt	Jordan	Lebanon	Syria	Israel	Turkey
001	Live animals	0	1.29	0	15.73	0	0
041	Wheat and meslin	0	0	0	0	0	3.23
042	Rice	21.37	0	0	0	0	0
048	Cereal preparations	0	0	2.38	0	0	1.98
054	Frozen and fresh vegetables	6.72	22.15	7.61	9.91	1.69	4.49
056	Prepared or preserved vegetables	3.06	0	6.44	0	0	3.51
057	Fruits and nuts	1.58	3.7	8.87	5.18	1.70	9.48
058	Fruit preparations	0	0	6.51	0	4.03	12.54
061	Sugar	0	0	0	0	0	3.90
075	Spices	0	0	0	21.57	0	0
081	Feeding stuff for	0	0.22	0	0	0	0

	animals						
098	Edible products	0	0	4.73	0	0	0
112	Alcoholic drinks	0	0	2.17	0	0	0
121	Tobacco unmanufactured	0	0	35.45	0	0	17.63
122	Tobacco manufactured	0	4.44	0	0	0	0
263	Cotton	83.48	0	0	50.89	0	0
269	Worn clothing	0	0	21.59	0	0	0
271	Fertilizers	0	449.42	0	32.85	0	0
273	Stone, sand and gravel	11.6	0	0	0	0	0
278	Other crude minerals	0	0	0	0	0	3.84
282	Ferrous waste and scrap	0	0	13.53	0	0	0
288	Non-ferrous base metal waste	0	0	16.14	0	0	0
292	Crude vegetable materials	2.77	0	0	0	4.24	0
323	Briquettes, lignite and peat	72.39	0	0	0	0	0
333	Crude petroleum	0	0	0	14.70	0	0
334	Petroleum oils	16.60	0	0	3.08	0.31	0.38
335	Residual petroleum products	1.73	0	0	0	0	0
423	Fixed vegetable fats and oils	0	0	7.09	0	0	2.10
431	Processed fats and oils	12.61	18.84	0	0	0	0
511	Hydrocarbons	0	0	0	0	2.42	0
512	Alcohols, phenols	0	0	0	0	2.93	0
514	Nitrogen function compounds	0	0	0	0	1.92	0
515	Organic – inorganic compounds	0	0	0	0	1.05	0
522	Inorganic chemicals	6.58	3.68	17.06	0	3.22	0
523	Metallic salts	0	15.34	0	0	5.92	0
533	Pigments and paints	0	3.07	0	0	0	0
541	Medicinal and pharmaceutical products	2.5	17.86	1.12	0	2.82	1.11
554	Soap, cleansing and polishing prep.	1.82	2.78	10.75	0	0	4.16
562	Fertilizers	6.67	13.83	10.60	0	6.22	0
582	Plastic plates and sheets	0	1.11	1.47	0	0	0
583	Monofilaments	32.06	38.89	16.33	0	37.24	23.32
598	Miscellaneous chemical products	1.04	0.99	0	0	3.60	0
611	Leather	0	0	2.79	0	0	0
625	Rubber materials	1.41	0	0	0	0	2.57
641	Paper	0	1.70	1.71	0	0	0
642	Paperboard	0	6.63	4.65	0	0	0
651	Textile yarn	8.05	1.73	0	5.12	0	6.80
652	Cotton fabrics	3.15	0	0	0	0	5.51
653	Woven fabrics	0	1.65	0	1.61	0	5.42
655	Knitted fabrics	0	0	0	2.34	0	0
657	Special yarns	0	2.21	0	0	0	1.89
658	Made-up articles	11.71	0	2.02	0	0	15.75
659	Carpets	10.84	4.84	3.67	0	0	8.58
661	Lime, cement	4.01	14.89	13.33	0	0	8.61
662	Clay construction materials	3.55	0	0	0	0	5.06
664	Glass	0	0	0	0	0	2.04
665	Glassware	2.14	0	4.58	0	0	5.49
667	Pearles, precious stones	0	0	0	0	51.72	0

671	Pig iron	3.69	0	0	0	0	0
672	Ingots of iron and steel	0	0	0	0	0	6.45
673	Flat rolled products of iron and steel	1.94	1.25	0	0	0	8.98
674	Clad or coated products of iron and steel	0	0	0	0	0	2.93
678	Wire of iron and steel	0	0	0	0	0	17.07
682	Copper	0	0	0	0	0	1.27
684	Alluminium	4.62	1.06	7.02	0	0	1.03
691	Structures of iron and steel	0	2.53	2.54	0	0	0
692	Metal containers	0	7.97	0	0	0	0
695	Tools for use in machines	0	0	0	0	4.78	0
697	Household equipment of base metal	0	0	3.39	0	0	3.61
699	Manufactures of base metal	0	0	0.99	0	0	0
713	Internal combustion piston engines	0	0	0.59	0	0	0.89
714	Non electrical engines	0	0	0	0	0.40	0
716	Electrical engines	0	0	1.77	0	0	0
723	Civil engineering equipment	0	2.14	0	0	0	0
726	Printing machinery	0	0	0	0	6.02	0
728	Other machinery for particular industries	0	0	0.91	0	0.65	0
741	Heating and cooling equipment	0	2.41	2.24	0	0.83	0
742	Pumps for liquids	0	4.22	0	0	0	0
743	Gas compressors	0	1.08	0	0	0	0
749	Non electric parts of machinery	0	3.76	0	0	3.5	0
752	Automatic data processing machines	0	0.23	0	0	0.40	0
759	Parts of machines	0	0	0	0	0.76	0
761	TV receivers	0	1.51	0	0	0	7.21
762	Radio broadcast receivers	0	0	0	0	2.91	0
764	Telecommunication equipments	0	0.24	0.32	0	4.04	0
772	Electrical apparatus	0	0.56	0	0	1.16	0
773	Electric distributing equipmet	0	0.94	2.74	0	0	2.23
774	Electro-medical apparatus	0	0	0	0	7.26	0
775	Household type equipment	0	1.53	0	0	0	2.81
776	Thermionic valves and tubes	0	0.13	0	0	1.37	0
778	Electrical machinery	0	0	0	0	1.38	0
782	Motor vehicles for transport of goods	0	1.66	0	0	0	0
783	Road motor vehicles n.e.s	0	0.95	0	0	0	3.95
784	Parts of motor vehicles	0	0.41	0	0	0	0.76
792	Aircraft	0	0.29	0	0	1.75	1.44
793	Ships and boats	0	0	0.08	0	0	0.71
812	Sanitary, plumbing and heating fixtures	11.71	0	5.34	0	0	6.14
821	Furniture	0	1.74	1.75	0	0	0.72
842	Women's clothing	2.51	3.78	2.38	0	0	4.50

	accessories not knited						
843	Men's clothing accessories knited	9.45	36.93	9.12	2.54	0	43.06
844	Women's clothing accessories knited	6.26	0	0	0	0	4.14
845	Clothing accessories n.e.s	0	0.69	1.74	0.47	0.69	7.74
846	Articles of apparel	0	6.31	5.04	1.49	6	36.50
851	Footwear	0	0	2.17	0.62	0	0
874	Measuring and controlling equipments	0	0.62	0	0	1.92	0
892	Printed matter	0	2.59	8.66	0	0	0
893	Plastic articles n.e.s	2.18	3.05	1.50	0	3.19	1.20
896	Works of art and antiques	0	0	0.25	0	0	0
897	Jewellery	0	2.30	23.55	0	3.78	0

Source: Calculated from UN, 2001.

Table 17 indicates the export performance indices of the cited countries in different product categories. In the food category Lebanon, Syria and Turkey are the countries having the highest export performance indices. The three countries' high indices are common in fruits and vegetables. Additionally, Lebanon and Turkey have very high RCA index in non-manufactured tobacco. In the field of crude materials, Jordan has the highest index in fertilizers, Lebanon has high indices in worn clothing, ferrous waste and non-ferrous base metal waste, while Syria has high indices in cotton and fertilizers and Egypt in cotton and in stone, sand and gravel. Egypt and Syria have high RCA indices in petroleum products. In the field of animal and vegetable oils Egypt, Jordan and Lebanon have high RCA indices in different subcategories. The chemical products category shows high RCA indices in almost all countries in consideration except in Syria. Inorganic chemicals have high RCA indices in Egypt, Jordan, Lebanon and Israel; metallic salts in Jordan and Israel, medicinal and pharmaceutical products in Jordan, Lebanon, Israel and Turkey; soap and polishing preparations in Egypt, Jordan, Lebanon and Turkey; fertilizers in Egypt, Jordan, Lebanon and Israel; plastics in Egypt, Jordan, Lebanon, Israel and Turkey. In the field of basic manufactures, Egypt and Turkey are the countries having high RCA indices in most products. Egypt shows high RCA indices for several textile products and aluminium. Turkey's export performance in textile products is the highest in the region both in terms of quantity of products and in terms of the value of the RCA index. Additionally Turkey is also highly performing in the export of iron and steel products. Other considerable points in the field of basic manufactures is the high export performance of Jordan and Lebanon in lime and cement, and that of Israel in pearls and precious stones.

Machinery and transport equipment category is the poorest category of the region. Israel has the most advantageous situation in this category, having high RCA indices in telecommunication equipments, electro-medical apparatus, aircraft and in some other electrical machinery. Turkey has high RCA indices for TV receivers, household type equipments, electric distributing apparatus and road vehicles and aircraft. Jordan and Lebanon have some comparative advantage for some special machinery and electrical equipment while Egypt and Syria have no comparative advantage at all in this category.

III. Trade in Services

Services play an important role in economic activity, and can have a positive and significant influence in promoting prosperous regional cooperation and integration. This section will analyse the trade in services potential between the Mashrek countries, Turkey and Israel. It will first develop a theoretical framework for trade in services, which will be followed by an overview of the services sector in the region. Drawing on existing theory and available macroeconomic data we will suggest several ways and approaches for the enhancement of regional trade and cooperation in services.

Despite the fact that international trade theory has developed almost three centuries ago, its prime corpus does not deal overtly with trade in services. The absence of services in trade theory was the outcome of several factors, among which are: services were largely considered as non-tradable due to the physical proximity needed between the service supplier and its consumers; services are characterised by intangibility which on the one hand, creates a visibility barrier on the recognition and realisation of the scope and extent of the services existing, and on the other hand, creates a quantitative barrier to the actual measurement of traded services; in addition, trade theory was considered as not limited to trade in goods per se.

Applying existing trade theory faces severe measurements problems derived from the problem of intangibility. This result in lack of information regarding the quantities, prices, origin and destination on traded services, which hamper data collection and accurate statistics formulation (Lindner et al., 2001).

For that reason, investigating comparative advantage by applying the Grubel-Lloyd Index, may on the one hand be accurate, but on the other hand, will prove counterproductive, as trade in services statistics provide little data on either services traded nor their destination or measurements of inflows and outflows.

A more effective approach for measuring comparative advantage and potential trade is to apply the Heckscher-Ohlin Model. According to the Heckscher-Ohlin Model, international trade is derived from the differences between the relative abundance of production factors and resources. Hence, a country will export the commodities that are intensive in the production factor (or resource) in which it has relative abundance. According to this model, international trade is the outcome of indirect trade in production factor services. Given a country's relative production factor abundance, it is possible to identify and predict its exports under international trade. Suppose that Jordan is labour abundant and that textiles are labour intensive. Assume also that Spain is land and water abundant and that oranges are land and water intensive. When both markets are opened for international trade, we can expect that since Jordan has a comparative advantage in textiles and that Spain has a comparative advantage in oranges, each country will specialise in producing the good in which it has comparative advantage and that Spain will export oranges to Jordan and will import textiles from the latter. The same principle can be also applied for international trade in services.

Measuring comparative advantage in the various services sectors can be calculated by identifying production processes and characteristics of specific services, following by

the measurement of relative abundance of corresponding production factors and resources. For example, if a country has a high ratio of doctors per its population, as well as a high proportion of hospitals, in compare to other countries, then it has better prospects of exporting health services to these countries.

1. Trade in Services in the Mashrek countries, Turkey and Israel: Some Case Studies

A. Trade in Health Services:

Despite its large share of GDP, health services contribute very little to international trade. Cross border provision of health and social services is mainly discouraged by institutional arrangements and monopoly rights, as well as regulatory restrictions (WTO, 2001: 369). At the start point of the WTO Doha Round negotiations, just a little more than 50 countries have bounded them self in health and social services (Adlung, 2002a).

GATS commitments taken by WTO Mashrek countries in health and social service remain very limited. Jordan and Turkey to a lesser extent are the only countries who committed themselves. Israel and Egypt have not yet listed commitments. In the case of Jordan, it had bounded almost fully to hospital and medical services and to services provided by midwives, nurses, physiotherapists (excluding mode 4). However, commitments to medical services exclude market access under mode 3 and 4 for physicians who are not Jordanians. Dental services are excluded as well. Limited commitments were taken in medical labs and social services that comprise nursing and convalescent homes, as well as rehabilitation centres. The possibility for the movement of natural persons is rather narrow, and there is a specific demand that at least 3/4 of the professional staff (physicians and nurses) will be of Jordanian nationality. Jordan had also taken two MFN exemptions demanding reciprocity for medical labs and pharmacists.

Turkey confined itself to hospital services, with the requirement that foreigners who wish to establish private hospitals need the permission of the Ministry of Health. No commitments were taken in regard to movement of natural persons in hospital services. Israel and Egypt, as mentioned above have not committed to health and social services.

Table 18

	Health expenditure (Public % of GDP 1995-99)	Health expenditure (Private % of GDP 1995-99)	Health expenditure (Total % of GDP 1995-99)	Health expenditure per capita (\$) 1995-99	Physicians (per 1000 people, 1990-99)	Hospital beds (per 1000 people, 1990-99)
Egypt	1.8	2	3.8	48	1.6	2.1
Israel	6	3.6	9.5	1607	3.9	6
Jordan	3.6	3.8	8	139	1.7	1.8
Lebanon	2.2	9.7	12.1	469	2.1	2.7
Palestine	-	-	-	-	-	-
Syria	0.9	1.6	2.5	116	1.3	1.4
Turkey	3.3	1.4	4.8	153	1.2	2.6

Source: The World Bank, World Development Indicators 2002

Table 18 reveals the missed potential of trade in health and social services among the Mashrek countries. Taking the number of physicians and hospital beds as production factors for health services, it is easy to note that Israel has a comparative advantage in producing health and social services. This can be attributed to the high level of technology and education in the country. On the other hand, it is also evident in regard to Israel that the public health expenditure as a share of GDP is almost twice as much from the second highest ranking expending country (Jordan). Lebanon, as well has a comparative advantage vis-à-vis the rest of the Mashrek countries in producing health and social services.

Given the geographical proximity in the region, removing trade barriers in health and social services can facilitate trade through reducing health costs and prices; cut government expenditure and enable resources shifting to other policy areas, by allowing cross border private entrepreneurship and movement of natural persons; improve the quality of the services provided; allow movement of patients, physicians and other professionals, and make basic and advance health services available where it is short of, thus allowing greater access to medical and health treatment, and the raising if the standard of living. Specifically, Israel and Lebanon can serve as regional medical centres, open for patients from the other Mashrek countries, which can also act as regional physicians training centres.

B. TO BE CONTINUED

IV. Infrastructure:

1.The Current Outlook of Infrastructure in Mashrek Countries, Israel and Turkey

The actual state of connecting roads, airline routes, dams, nuclear power plants, internet connections, pipeline constructions, harbor facilities, and sea cargo fleets must be determined to find out how much more needs to be done and to what extend cooperation in capacity building in transport and communication may promote integration among the MNMC. The following table (Table 19) shows transportation infrastructure of the MNMCs of the Masrek, Israel and Turkey. This chart does not give a detailed picture about the state of connecting routes between the seven countries in question; but it does give an idea about their availability and what condition they are in. Availability of connecting routes is an important factor, which facilitates passenger, and cargo traffic between neighboring countries and communities. However, beyond the availability of connecting routes, road conditions such as availability of divided highways, effective signaling and radar systems, harmonized passenger and haul traffic regulations, which ensure safety and security are also important factors, which facilitate and create opportunities for cooperation among the MNMCs. Therefore, transportation infrastructure is not only important for stimulating intra-regional trade and investment between neighbors, but it is also an important source of cooperation itself.

Table 19: The Transportation Infrastructure in Mashrek MNCs

Country	Roads	Railroads	Ports and Harbors	Airports	Pipelines
Egypt²	50000km paved roads mostly around the Nile Delta, to the coast and into the Sinai Peninsula. Also 14.016km unpaved roads. Egypt has 3500 km waterways including the Nile-Lake Nasser, Alexandria-Cairo and smaller canals in the delta.	Railroads around the Nile delta and Cairo are connected to Aswan and Salloum in the west.	Alexandria, Port Said and Suez. Suez is located at the canal, which is 193 km long. There are also Al Ghardaqa, Aswan, Asyut, Bur Safajah, Damletta, and Mars Matruh ports and harbors ⁷	66 Airports with permanent surface runways, 2 of which have runways over 3700 meters long.	For crude oil 1171km; petroleum products 596km, and for natural gas 460km.
Israel⁶	Total 15.965km. All of it is paved	906 km railway system running between Jaffa-Jerusalem, Haifa and North to Tel Aviv. Regular international lines between Israel Egypt, Syria and Lebanon	Ashdod, Ashqelon, Elat (Eilat), Hadera, Haifa, Tel Aviv-Yafo	58 Airports 33 of which have paved and 25 of which have unpaved runways. Also has 2 heliports as of 1999 (http://www.photius.com)	For crude oil: 708km For petroleum products: 290 km and for Natural gas 89km long pipelines (Israel Transportation 2000)
Jordan¹	Network links connecting Amman to the rest of the country and to neighbors.	A major link connecting Ma'an to Saudi Arabia and to Aqaba. Amman-Damascus express railway service was launched in 1999*.	The Port of Al-Aqabah	2 Major Airports. Queen Alia in Amman and King Abdullah in Marka. 13 permanent surface runways one of which is 3700 m long.	Trans-Arabian Pipeline (Tapline 209km long) carrying oil from Saudi Arabia, through Jordan to the Mediterranean coast in Lebanon and connecting link to Al-Zarqa refinery.
Lebanon⁴	7300km, 6200 of which are paved	399km long of which are damaged and unusable	Antlyas, Batroun, Beirut, Chekka, El Mina, Ez Zahrani, Jbail, Jounie, Naqoura, Sidon, Tripoli, Tyre.	7 paved and 2 unpaved airports.	72 crude oil pipeline currently not operating
Palestine					
Syria⁵	36.377km, the 26.299km of which is paved and this figure includes 877 km of expressways. Syria has 870km long waterways	2750km long railway route	Banias, Jabiah, Latakia and Tartus ports	According to the 1999 estimates there are 104 airports in Syria. 24 of them have paved runways. Syria also have 2 heliports	For crude oil 1304km; for petroleum products 515km
Turkey³	Total 382.397km, 95.599 km are paved, 1726 km are expressway	Total 8607km long and 1524 are electrified	9 ports in Gemlik, Hopa, _cel,Izmir, Istanbul, Samsun, Trabzon ,Alexandretta	118 Airports 82 of which are paved	1738 km crude oil; 2321km petroleum products; 708 km natural gas.

Source: This chart is constructed by the authors.

¹ <http://www.milnet.com/milnet/pentagon/centcom/Jordan/jorinf.htm>,

* <http://jordanembassyus.org/061599006.htm>

² <http://www.milnet.com/milnet/pentagon/centcom/egypt/egyinf.htm>

³ http://www.photius.com/wfb2000/countries/turkey/turkey_transportation.html

⁴ http://www.photius.com/wfb2000/countries/lebanon/lebanon_transportation.html

⁵ http://www.photius.com/wfb2000/countries/syria/syria_transportation

⁶ http://www.photius.com/wfb2000/countries/israel/israel_transportation.html

⁷ http://www.photius.com/wfb2000/countries/egypt/egypt_transportation.html

Current state of electricity generation is also important for the MNMCs of Mashrek, Israel, and Turkey, as electricity is an important source of secondary energy for all economic activities. It is also a means for civilized life standards. Therefore, the state of the electricity access of the population in the MNMCs of the Mashrek, Israel and Turkey is not only important for the life standards of people but also important for creating better business environments for investors and merchants, on the road to cooperation.

The following table (Table 20) shows the electrification rates in the countries of the MNMCs in detail. Table 21 indicates that the MNMCs are considerably fortunate in terms of electricity production and consumption.

Table 20: The Current Outlook of Electricity Access and Electric Power in MNMCs of Mashrek, Turkey and Israel

Country	Electrification Rate %	Population without Electricity million	Population with Electricity Million	Electricity Production Kwh	Electricity Consumption kwh per capita
Turkey	To be inserted	To be inserted	0.6	124.922.003.456	1.468
Egypt	93.8	4.0	60.0	75.727.000.000	976
Israel	100.0	0.0	6.2	42.967.998.460	6.188
Jordan	95.0	0.2	4.7	7.000.000.000	178
Syria	85.9	2.3	13.9	13.400.000.000	900*
Lebanon	95.0	0.2	4.1	6.500.000.000	1.814*

Source: World Energy Outlook, 2002: 42, and <http://devdata.worldbank.org/dataonline/>

* 2000 figures

Table 21: The Current Outlook of Telephones and Internet Conditions in the MNMCs of the Mashrek, Turkey and Israel (table in construction)

Installation of telephone lines has been considerably problematic in many of the MNMCs until recently. In Jordan, Lebanon, West Bank and Gaza for instance it used to take subscribers almost a decade to get connected. The situation was almost the same for Egypt until cellular phones eased the situation.⁶

2. Two Different Approaches to Capacity Building in Infrastructure

Physical capacity building in infrastructure among Mashrek states, Israel and Turkey must be scrutinized from two perspectives. First of all, it is important to review existing treaties concerning capacity building in infrastructure among the countries under investigation to determine whether legal and institutional fundamentals of capacity building exist or not. Existence of such treaties may indicate the goodwill exchange among the countries under investigation. However, most of the time treaties may be defunct or inoperable in hands of political elites who do not actually follow the guidelines of such treaties.

Secondly, cooperation in the area of physical capacity building in infrastructure as an example of sectoral cooperation must be investigated through the following three areas:

- . Building of connecting roads, harbors, railways, flight routes, and telecommunication;

⁶ Smith, Graham R , Nemat Shafik, Pierre Guislain, and James A. Reichert (1997) "Getting Connected Private Participation in Infrastructure in the Middle East and North Africa", World Bank Middle east and North Africa Economic Studies, The World Bank, Washington D.C:2

Production and transfer of energy upon joint projects, such as electricity; natural gas and petroleum must be investigated.

Effort of cooperation in the area of environmental protection in general and the rational use and sharing of water resources must be evaluated.

In this preliminary paper we only report about our results regarding the first approach. The second one will be tackled in the next progress report.

2.1. The Legal and Institutional Fundamentals of Capacity Building in Infrastructure: Major Bilateral Agreements

2.1.1. The Legal Background for Cooperation in Infrastructure

The legal fundamentals of capacity building in infrastructure concern treaties, which are signed and ratified at bilateral and multilateral levels between Mashrek countries, Israel and Turkey. Important treaties, which facilitate cooperation in capacity building in infrastructure, are taken into account in this part of the study. Most of the treaties, which have been signed and/or ratified among the MNMCs since 1950s on are bilateral. Furthermore with the exception of few they are either born defected or became defunct immediately after being signed, or if signed they have not been ratified to become operable. Nevertheless since they somehow indicate areas of common interest and give clue for which country pairs or trios may cooperate in what areas, it is important to review the treaties of the last decade or so.

Basic Treaties between Turkey and Israel to Facilitate or Establish Infrastructure

Turkish- Israeli economic cooperation efforts are not sufficiently exhausted even after the free trade agreement between the two countries was signed in 1996. However, two most diversified economies of the region have engaged in various agreements, which may be related to infrastructure- building since the second half of the 1990s. Israel as a regional country, which is well-endowed in high-technology in irrigation, education, and training in agricultural activities holds an invaluable source of opportunity for Turkey in the implementation of its ambitious South Eastern Anatolian Project (SEAP or GAP) energy and irrigation project. Nevertheless, the relationship between the two countries was confined to several committee meetings of both private sector representatives and public delegations and did not result in any treaty or agreement to establish the legal background of cooperation in Agro-industry. However the importance of mutual approach in that area was that it basically involved private companies and/or related associations. Purchases of know-how in irrigation technologies also concerned private parties, and results have been reported to be fruitful especially in Koc-Ata commercial farm establishments in Urfa- Harran area. In financial terms Israel granted a \$70.000 funding to the SEAP for irrigation technologies, and a \$60.000 funding for wastewater recycling.⁷

⁷ GAP(1997): Southeastern Anatolia Integrated Development Project: 3

One of the most important treaties signed between Turkey and Israel concerned water sales from Manavgat spring of southern Turkey to Israel. A project which went beyond the controversial “peace water” sales from the Euphrates-Tigris river basin to Syria and to Israel seemed to be a promising project. The legal document was signed between the respective foreign ministers of Turkey and Israel⁸, resulting in a multi-billion Dollar worth of investment to the Turkish government. The treaty was also linked to the Turkish-Israeli military cooperation treaty, which involved sales of military equipment to Turkey from Israel.

Basic Treaties Between Turkey and her Mashrek Neighbors to Facilitate or Establish Infrastructure

Turkey has bilateral legal documents, which regulate and ensure economic cooperation with Egypt, Jordan, Lebanon and Syria. There is one major multilateral treaty on the other hand, which was signed in 1989 between Turkey, Egypt, Syria, Iraq and Jordan to connect the electric systems and facilitate energy trade between those 5 countries. This treaty is a complementary part in the General Trade, Bilateral Establishment, and General Interconnection Treaties. All participants with the exception of Iraq signed those three treaties.⁹

Other than the trade agreements and the agreement on the avoidance of double taxation there are agreements to regulate and facilitate maritime (1988), air (1993) and land (1994) transportation and cargo hauling between two countries. Economic and Technical Cooperation Agreement (1994), Agreement on Establishment of High Commission (1994) and Mutual Promotion and Protection of Investments Agreement (1996) either directly or indirectly establish relationship between Egypt and Turkey to initiate or facilitate cooperation in infrastructure building.¹⁰ Most of the treaties and agreements were signed in 1980s and 1990s as a result of Egypt’s new infitah approach. Furthermore, relations with Egypt accelerated upon the Free Trade agreement Turkey had to sign with that country as a result of Turkey’s EU Customs Union commitment after 1996.

An important protocol of intention between Egypt and Turkey was signed in February 2000 for the construction of a natural gas pipeline under the Mediterranean to realize the exportation of 4 billion cubic meters of natural gas from Egypt to Turkey. The protocol has not been converted into a treaty yet.¹¹

In 1990s Turkey signed several treaties and protocols with Lebanon, which potentially enable two countries to cooperate in physical capacity building in infrastructure. In 1991 Commercial, Industrial, Technical and Scientific Cooperation Treaty was signed. In 1993 a Joint Economic Committee Protocol was signed. The Joint Transportation Commission Protocol, the Maritime Cargo and the International Cargo Treaties of 1994 followed this protocol. Additionally preparations of the Promotion and Protection of Mutual Investments were drafted between Lebanon and Turkey.¹² However, until today there has not been any development for the draft to become a

⁸ Turner, William (2003) “Water Exports from Manavgat, Turkey”, <http://www.waterbank.com/>

⁹ DE_K (2003): “Suriye Ekonomisi ve Türkiye-Suriye Ekonomik ve Ticari İlişkileri”: 12-13

¹⁰ Ibid.

¹¹ Ibid: 12

¹² DE_K, 2002: 8

protocol or a treaty. The first tour of the negotiations for the avoidance of double taxation treaty between Turkey and Lebanon was completed in Beirut in 1996. However, because the second tour of negotiations has not yet been started, the draft of the treaty is still pending.

Despite the tense political relations between Syria and Turkey a series of treaties were signed between the two countries in the 1970s and 1980s. Among the bilateral treaties, the trade agreement of 1974, the bilateral air transportation treaty of 1976, the international land transportation treaty of 1982, the treaty on establishment of a Joint Commission in 1982 and the Long-term Economic Cooperation of the same year are important. However, because the persistent distrust between two countries with the exception of the land transportation treaty of 1982 no other treaty became fully operational. Furthermore since the latest Economic Cooperation Protocol of 1987, no other treaty or protocol has been signed between Syria and Turkey.

The railroad transportation between the two countries on the other hand has been regulated according to the Joint Treaty of the Middle East Railway Conference, the signatories of which are Turkey, Iran, Syria, Jordan and Lebanon.

Jordan and Turkey have various treaties and protocols, which facilitate economic cooperation between two countries. Most of these are signed in the 1980s and 1990s. Economic, Industrial and Technical Cooperation Treaty of 1983, The Treaty of Avoidance of Double Taxation of 1985, International land Transportation Treaty of 1988, and The Promotion and Protection of Mutual Investments Treaty of 1993 all seem to promote cooperation between Jordan and Turkey.¹³

Basic Treaties between Israel and her Arab Neighbors to Facilitate or Establish Infrastructure

One of the most important treaties, which was signed between Israel and Egypt in 1979 rekindled hopes for sub-regional economic cooperation. What followed the Camp David, and its aftermath consisted of several elements for cooperation from diplomacy to culture and military, from trade to joint efforts for establishing infrastructure, and from industry to agriculture. The treaty, which was highly effective in nominal and real terms until the outbreak of the Palestinian violence in 2000, actually stimulated few projects like transferring Egyptian oil through pipe line to Ashdod.¹⁴

Although the Egyptian authorities sternly deny signing a treaty to facilitate gas exports worth \$3 billion to Israel, trade of gas between the two countries remain as a potential for the necessary infrastructure to be undertaken.¹⁵

On the other hand the Madrid Conference (1991) initiated cooperation between Israel and Jordan. The Madrid conference laid grounds for a series of 15 bilateral agreements between Jordan and Israel all signed and ratified to promote cooperation

¹³ DE_K 2000: 14

¹⁴ ArabicNews.com (10.1.02) "Israeli Pipeline to margin Suez Canal"

¹⁵ ArabicNews.com (2.15.2001) "Cairo Denies signing gas exports agreement with Israel"

in areas of transportation, water and agriculture. The Irbid industrial zone¹⁶ and the Hassan industrial Park in Irbid, the Eilat-Aqaba ones are among the cooperation initiatives between the two countries.¹⁷ A joint enterprise for marketing of agricultural products was established in the eastern Jordanian River Valley, to market agricultural products produced with the help of Israeli technology and know-how.

An environmental treaty was signed between Israel and Jordan in September 1995 particularly to protect the Gulf of Aqaba from pollution. The treaty was renewed between the two countries in 2000. It preserved the agenda of 1995 only adding a joint committee to give the treaty its final shape and to focus on the environmental impact of the projects around the Jordan River, as well as the impact of the Jordan Gateway industrial park and the Aqaba-Eilat airport projects.

Beyond these treaties, there is actually an Israel-Jordan Common Agenda, which defines the common interests of two countries on water security, facilitation of land and air transportation and communication.¹⁸

Jordan and Israel cooperate further to establish a qualifying industrial zone, namely the Irbid Qualifying Industrial Zone under the agreement, which was signed by the two countries in 1997. Although a qualifying zone may not be considered as an infrastructure project, the infrastructure such an industrial zone requires calls for recognition of the cooperative spirit that exists in the sub-region.

The two most important cooperative initiatives in the region between the Palestinian National Authority (PNA) and Israel were the Declaration of Principles (DOP) of 1993 and the Paris Protocol of 1994. The DOP aimed to bring economic growth, and upgrading of the Palestinian infrastructure like the connecting of roads between the West Bank and Gaza to ensure free flow of goods. As for the Paris Protocol, although the protocol itself did not make any reference to cooperation in infrastructure, it could have been utilized as a background agreement for cooperation in capacity building in infrastructure between Palestine and Israel. As a written document, the Paris Protocol seemed to give the PNA the authority to trade with Israel as well as with the rest of the world and to control all ports under its jurisdictions.¹⁹ However, the fragile political climate between Israel and the PNA at the time the protocol was signed, disappointed all efforts of shaping a road map for cooperation. In fact in the aftermath of the protocol the continuous military struggle between the two sides caused approximately \$6billion worth of damage on the Palestinian economy by destroying much of its infrastructure.²⁰ The Paris Protocol was actually a contractual agreement between Israel and the PNA to establish a **free trade** area to ensure free flow of goods and services between Israel- the West Bank and Gaza. The protocol meant more than just a free trade area when services were included, and it became more of an economic union treaty when the intention of developing the Palestinian trade

¹⁶ "Irbid Qualifying Zone" (Nov.16, 1997), Jewish Virtual Library, www.us-israel.org/jsource/Peace/Irbid.html

¹⁷ "The Israel-Jordan Negotiations" in Jewish Virtual Library, www.us-israel.org/jsource/Politics/Arabs.html#Jordan

¹⁸ "Israel-Jordan Peace Treaty" Annex IV in Jewish Virtual Library, www.us-israel.org/jsource/Peace/annex4.html and "Israel, Jordan Agree to Protect Gulf" *ibid*.

¹⁹ Sadaqa, 2001

²⁰ Sadaqa, *ibid*

infrastructure as well as transport and administrative infrastructure was also mentioned.²¹ As a part of the infrastructure, the creation of Industrial Zones at the dividing line of Israel and West Bank and Gaza was considered in the protocol in addition to the already existing industrial zone near Gaza.

Basic Treaties between Mashrek MNMCs to Facilitate or Establish Infrastructure

There is an attempt of forming a free trade area between Jordan and Egypt by 2004,²² and free trade between Jordan and Syria. A memorandum and a bilateral agreement were signed between Egypt, Lebanon in 2000 to construct a \$1billion - pipeline system between Egypt and Al - Arish city in Tripoli in Northern Lebanon. The pipeline will be passing through the Mediterranean then to Syria to make the Egyptian and the Syrian natural gas marketable in Turkey and Jordan.²³

Governments of Syria and Lebanon signed a treaty to construct a natural gas pipeline to transfer Syrian natural gas to be used in the Deir Ammar Power Plant in Lebanon in 2002. The same year in April another treaty was signed between Lebanon and Syria to construct a 30.000 mt -petrochemical plant in Damascus. The shareholders of this joint project are Syrian and Saudi companies. 20.000mt of what the plant will produce will be consumed in Syria while the rest is to be exported.²⁴

The Egyptian government made an announcement in 2000 about Egypt's determination to meet the requirements for maintaining the electricity station destroyed during the Israeli occupation in southern Lebanon. A team of Egyptian experts started their operations to maintain the Bsalin power station, which meets the electricity need of the Northern Lebanon.²⁵ When the Egyptian -Lebanese Higher Committee met in 2001, they decided to increase the volume of mutual investment among the two countries and form a technical committee to encourage investments under the auspices of the Egyptian International Cooperation and Lebanon's Finance Ministries. The bilateral higher committee recommended giving preference to Egyptian electricity companies, when international tender is to implement electricity works in Lebanon, and especially as regards the six-way power grid construction.²⁶

Among the agreements that concern infrastructure in Syria, one of the most important ones is the agreement between the Syria Telecom and the Investcom of Lebanon. The tender, which followed the agreement, is designed to construct a GSM network in Syria to bring GSM services to 1.7million local residents in the next 15 years.

Another bilateral treaty between Syria and Lebanon was signed in April 2002 to construct a dam on the Nahr al Kabir River, which runs between the two countries. Syria will use 60% of the waters of the dam while Lebanon will use the remaining

²¹ www.pna.org/nad/html/economy1.htm

²² Awwad,Rana (June 5 2001) "Jordanian -Egyptian Free Trade Area to Come into Being Earlier than Scheduled", Jordan Times, Amman, Tuesday: 1

²³ ArabicNews.com 2000

²⁴ DE_K 2003: "Suriye Ekonomisi ve Türkiye-Suriye Ekonomik ve Ticari _li_kileri": 9

²⁵ ArabicNews.com 2000

²⁶ ArabicNews.com 2001

40%. The projected cost of the dam is 100 \$million and Arab funds are being planned to finance the construction.²⁷

Three consecutive agreements were signed between Egypt and Lebanon in 1998 to unify standards to facilitate trade, to ensure cooperation in the field of marine transport and establish a joint free trade zone.²⁸

Most recently an agreement was signed between Syria and Jordan on the joint construction of the Al-Wahda dam project.²⁹ In order to pursue the project with the contribution of both sides, special pass cards are to be issued for workers and joint committee members to enter Jordan and Syria freely during the period of constructions.

The Al-wahda dam project is considered as an important channel for joint Arab cooperation in infrastructure. Jordanian- Syrian bilateral cooperation is promoted to include environmental projects in Wadi el Yarmouk, such as combating pollution, tourism and transport.

2.1.2. Institutional Fundamentals of Cooperation in Infrastructure

There are specifically designated public administrations in countries which are directly involved in cooperation such as the South Eastern Anatolian Project Administration (SEAPA) in Turkey. Since infrastructure expenses often require bulky expenses, private company involvement if at all takes place follows public decision-making and sponsoring processes. Bilateral treaties are always signed between governments anyhow. However, there are also multilateral institutional set-ups, which promote or promise to promote cooperation in infrastructure building between the countries under scrutiny.

These organizations work under The Arab Unity Council in the Arab ME. The establishment of such organizations goes as far back as early 1960s, and 1970s. The Arab Union for Cement and Building Materials (1977), and Arab General Union of Insurance (1964) are two examples of the early initiatives. Many manufacturing unions were established in 1980s and 1990s. However, as of today the activities of many of them are frozen. This is an indication of the fact that initiatives at regional level under Arab identity alone cannot guarantee sectoral integration either. The Arab Iron and Steel Union (AISU founded by 43 companies of 12 Arab countries), Arab Union of Railways (founded by 10 Arab states), the Arab Air Carriers Organization (AACO founded by Arab League states) set examples for the most notable specialized sectoral organizations. Nevertheless, again activities of some of those organizations are either frozen or they do not serve their goal. On the other hand the Arab Monetary Fund and the Islam Development Bank are two organizations, which are quite functional since their foundation. Activities of the Islam Conference and the Islam Development Bank (1975) do not automatically qualify as sectoral cooperation institutions. However, they are international funds, which are mostly financed by Arab countries, and mostly used for sector-specific purposes. The mission-specific financing facilities of those two establishments may be considered functional not only

²⁷ Ibid

²⁸ ArabicNews.com 1998

²⁹ ArabicNews.com 14.6.03

on an economic level, but also considering that the influence of those two exceeded the boundaries of the ME to embrace all Islamic countries.

The Arab Monetary Fund (AMF), which is the ME counterpart of the IMF has been acting as a well functioning regional authority for pooling and dispersing funds among its members, and extending credit facilities with low interest rates and extended repayment periods.³⁰

Arab Funds beyond the AMF and some Arab Banks are also institutionally designated to promote regional cooperation among the ME countries in general and the Mashrek Arab states in particular. Among these institutions funds do create finance for capacity building in infrastructure. They especially target the funding of inadequate infrastructure, enhancement of energy, transportation, and water sanitation and communication fields. Organization of Islamic Development, Arab Monetary Fund, Arab professional chambers of various kinds may and do act as either sponsors or organizers of cooperation among Mashrek countries.

Among the multilateral organizations, which also included Israel and Turkey into its cooperative prospects, the Arab Summits constitute the most important organization. Although Arab Summits also included the Gulf States and the states of the Maghreb, they particularly provided vision for what could be plausible. Therefore, cooperation between Jordan and Israel, Syria and Turkey, Turkey and Israel as well as Gulf States and Israel immediately entered into agenda of summits. The Casablanca, the Cairo, the Amman summits of three consecutive years between 1994 and 1997 were not only few steps forward for what was called the privatization of the peace process; they had also concrete goals and projects to take advantage of the potentials of non-Arab participants of events like Israel and Turkey for sub-regional as well as regional cooperation.

The World Bank, the International Finance Corporation, the European Union are also among the organizations, which often provide complete or partial funding, technical assistance for projects in the area to turn it into an economically self sufficient region or sub-region. The role of institutions will be revisited as the study progresses.

³⁰ Arab Monetary Fund Annual Report 2000