The AIX Group

The API Project

Trading Peacefully:

How to Increase Trade in MENA

After a Comprehensive Arab-Israeli Peace

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1. Introduction

This paper reviews the current state of international trade in the Middle East and North Africa (MENA) region. It also attempts to make some recommendations on how to increase international trade in our region after a comprehensive Arab-Israeli peace agreement. We assume that such a peace agreement will follow the basic outline of the Arab Peace Initiative (API). The Arab Peace Initiative was first proposed by the Arab League in 2002. It offers Israel a comprehensive peace with all Arab states, with full normalization of relations, once Israel reaches peace agreements with Palestine and Syria, where those peace agreements would be based on the pre-June 1967 borders. The current AIX project, which this paper is part of, analyzes how the API can be utilized to increase economic development and economic coordination in MENA, and also what economic policies and measures can strengthen the comprehensive peace in the Middle East, making it more inclusive and more durable. Within this general project this paper focuses on the issue of international trade within MENA.

It must be clear from the outset that we do not attempt to predict how trade will develop once Israel and its Arab neighbors embark on the new road of peace and end their long historical conflict. Such a change in relations in the region is so dramatic and so revolutionary, that it is very difficult to imagine what its total impact might be. It is especially difficult to predict developments in international trade, since this area is extremely dynamic, constantly and rapidly changing due to increased globalization and

the rapid technological innovations of recent decades. We cannot try and guess ahead of time what types of innovations will be pursued by entrepreneurs in the area, and what type of trade initiatives will unfold once barriers are removed, once new relations are created, once armies shrink, once new industries emerge, and many other changes occur. Some might claim that trade and economic relations will not be affected significantly by a comprehensive peace. They might point at the poor state of trade between Israel and Egypt and Jordan, the two countries that have already signed peace agreements with Israel. But this argument is misleading. The peace agreements between Israel and these two countries have been quite limited in their effect, since they were not part of a comprehensive peace agreement. Hence, they were not viewed as signaling a profound shift in the Arab-Israeli relations. As a result these two agreements did not penetrate large social circles in these two countries and their economic effects have been fairly small.[1] We firmly believe that a comprehensive peace, which profoundly changes the mood in the Middle East, both in Israel and in the Arab countries, will have much deeper effects on the entire economic landscape in the region, including international trade.

Hence, if we do not want to indulge in attempts to foresee the future, we should instead outline a few possibilities for increasing and intensifying trade following a comprehensive peace agreement. We focus on proposals on infrastructure, education and R&D – areas that require strong involvement on the part of the public sectors. This paper therefore outlines what governments can do to foster important areas of international trade once peace is achieved. We focus on four main ideas. One is to build special territorial corridors for trade between Arab countries, which are on the two sides of Israel. These corridors will pass through Israeli territory, but will not require any tariff or tax for

[1] This is discussed in more detail below in Section 3.

passing through the country, but only some transportation fee. The second idea is to develop centers for undergraduate education within Palestine for students from other Arab countries. These centers will be based on the existing system of higher education in Palestine, after making the required changes and improvements, and will make use of the high quality of the human capital in the Palestinian society in general. The third idea is to develop centers of graduate education in Israel for students from the Arab countries. Again, the operation of such centers requires some serious changes in the system of Israeli higher education and the paper outlines them in detail. The fourth idea is to develop centers for high-tech R&D in Palestine in collaboration with Israeli firms and knowhow, which will supply high-tech services to the Arab countries.

We firmly believe, and this paper will demonstrate, that these initiatives have the potential to invigorate and increase trade in goods and services both between Palestine and the other MENA countries, between Israel and the MENA countries, and even among the MENA countries themselves. It is also clear that these initiatives, due to their strong public character, require some government involvement and investment, and that is why we focus on them. We assume that private sectors, once peace settles down, will find ample ways to exploit the new political situation and the opportunities within. We direct this paper to governments, who can plan ahead and put in place the conditions for increased trade in some well specified areas. This also reminds us that governments are responsible not only for taking advantage of these possibilities, which will be opened by a comprehensive peace, they are also responsible for reaching peace in the first place. Let us hope they will rise to the challenge they are presented with.

2. Current Patterns of International Trade of MENA

As already mentioned in the introductory paper of this project, the MENA region has some unifying characteristics, mostly religious, as it is almost entirely Muslim, and cultural, since most countries in the region, except for Israel, Turkey, and Iran, are Arab. Thus, for the most part they share a common language and a common culture. But despite these unifying similarities, we also observe great diversity and great disparities in the region. Some countries are densely populated, like Egypt, Turkey and Iran, while other countries are more sparsely populated. Some countries live in the temperate zone, while others (actually most countries in the region) are located in arid areas and even in deserts. There is also large economic diversity in the region.

GDP per capita differs significantly across countries in the region. The oil-rich Gulf countries have the highest GDP per capita. Israel trails somewhere behind, while the rest of the countries lag far behind, and some are even extremely poor. Thus for example, in 2007, GDP per capita (in PPP adjusted international dollars) was 56,228 in the UAE, 26,529 in Israel, 13,163 in Turkey, 10,987 in Iran, 5,057 in Egypt, 2345 in Yemen, 1,995 in Sudan, and 1,303 in the West Bank and Gaza. But the countries in MENA differ not only in their output per capita, but in the structure of their production as well. Interestingly the richest countries in the region are quite different in their structure from countries with similar levels of income. While the largest sector in most developed countries is services at around 60% of GDP, in the Gulf countries it is industry that racks up more than 60% of GDP. This is of course due to the oil industries. The poorer countries in the region are characterized by the relative size of their agricultural sectors, especially in Sudan, 28% of GDP, Syria, 18% of GDP, and Egypt, 14% of GDP.

One might expect that such large economic diversities should stimulate international trade in the region, to take advantage of the differences between the countries. Apparently, however, this is not the case at all. In general, the MENA countries engage in international trade quite significantly. In 2009 their share of global merchandise exports was 5.7%, while the share of these countries in global GDP was less than 2%. But the MENA countries do not trade much with one another; their trade is directed much more toward countries outside the region, mainly Europe. Tables 1 and 2 describe trade in merchandise (not including services) between MENA and the various regions of the world.[2] Table 1 focuses on exports from MENA to these various regions as shares of total exports from MENA.

Table 1: Exports of Merchandise from the MENA to Global Regions in 2009 (%)

MENA	11.2
EU	17.6
NAFTA (North America)	8.3
Rest of Western Hemisphere	0.9
Sub-Saharan Africa	2.2
APEC – Asia Pacific Economic Cooperation	47.7
(of which) China	8.5
World	100

[2] For more data on trade between regions of the world see the Appendix, Tables A.1-A.5.

From Table 1 we learn that Asia is the main export destination for the MENA countries. This of course reflects the large share of oil in the region's exports. Note that China is the recipient of 8.5% of MENA exports, which is quite significant for a single country. The exports to China have grown very rapidly in the last two decades. In 1990 China was the destination for only 0.3% of exports from the MENA. Since then these exports have grown by more than 5,000% in real terms. Note that 90% of these exports to China are oil. Interestingly the main relative reduction in exports during these 20 years was to Europe. In 1990 34% of the MENA exports went to the EU. This number has diminished to a mere 17% of the MENA exports. The relative share of exports to the EU has thus declined to half. Another interesting observation derived from Table 1 is that exports to America (the continent) are relatively quite small, less than 10% of MENA exports, of which 85% are oil. This could be an effect of distance, since Asia and Europe are much closer to MENA than America.[3] Table 1 also implies that the share of exports within MENA countries is small. This result is discussed below.

[3] Gravity studies, used below in this paper, indeed show that distance has a significant effect on trade.

Table 2: Imports of Merchandise to MENA from Global Regions in 2009 (%)

MENA	13.5
EU	32.1
NAFTA (North America)	8.5
Rest of Western Hemisphere	2.7
Sub-Saharan Africa	0.9
APEC – Asia Pacific Economic Cooperation	36.1
(of which) China	10.8
World	100

Table 2 describes merchandise imports to MENA from the various regions as shares of total merchandise imports to MENA, in percentages. From Table 2 we learn that MENA imports goods mainly from Europe and Asia, which together account for 68% of the goods imported. These trade patterns have seen significant changes over the last twenty years. In 1990 Europe was the source of almost half of the imports to MENA - 45.8% - and that share has declined to less than one third. The share of APEC has increased, from 28% in 1990 to 36% in 2009. But most dramatic of all is the increase of imports from China. From a share in imports of 1.6% in 1990, it now supplies more than 10 percent of the imports to the region. The share of America in imports to MENA is a bit more than one tenth, but is fairly low. Again, distance might explain this.

Before we discuss trade within MENA, we look at the balance of payments in the region. In 2009, export of merchandise to the world was 704 billion dollars, and import of

merchandise was 633 billion dollars. There is clearly a surplus of merchandise exports over imports, driven mainly by oil exports. Interestingly, MENA has a current account deficit of 11 billion dollars. This means that that MENA has a very large deficit of services, which turns the surplus in merchandise to an overall deficit.

We next turn to trade between the MENA countries. Tables 1 and 2 show that this trade is relatively small and amounts to only 10% of the trade of the MENA countries. This is rather surprising as distance is so important for trade, and we would expect trade within MENA to be larger due to the proximity of these countries one to the other. It is even more surprising as we know that the MENA countries are quite diverse and thus have a lot of comparative advantages to exploit through international trade. Clearly, it is far beyond the scope of this document to find a full explanation to this surprising fact, but we do three things. First, we briefly survey the literature for the main explanations for the low levels of intra-MENA trade. Second, we check some of these explanations by using statistical tests. Third, we focus on issues related to the Arab-Israeli conflict. This might be conducive to finding ways of promoting trade once a settlement for the conflict is reached.

3. Possible Explanations for Low Trade within MENA

Economists have considered many variables that affect the amount of trade between countries. Some of these explanations focus on policy, and especially on policy towards trade, namely on trade agreements. Other explanations focus on geography and mainly on physical obstacles to trade. Other explanations stress issues of income, or development. In this section we try to apply these general explanations to the trade between MENA

countries. Some of the following analysis is a summary of existing research, but some of it is based on our own estimation of a gravity regression. A gravity regression is a statistical test that examines how the volume of trade between each pair of countries depends on a number of explanatory variables. The main explanatory variables are the GDP of the respective trading countries and the physical distance between them.[4] The distance is used as a measure for transportation costs between the two countries. To these variables we add more variables, like whether the two countries have a trade agreement between them. The results of the gravity regression are presented in the Appendix in Table A.6 and they reflect a test of 173 countries and data on trade over more than fifty years (see footnote 5 below).

Regional Trade agreements: Tariffs and non-tariffs are considered to be major factors that explain the low intra-Arab trade. Numerous bilateral and multilateral trade agreements were signed among Arab countries since the 1940s. However, these agreements were not successful in reducing tariffs and non-tariff trade barriers, which allow greater regional trade. As was outlined earlier, the Great Arab Free Trade Area (GAFTA) was signed in 1997 and was expected to be fully operative by 2005. It is considered successful in reducing some of the trade barriers, especially, tariffs. It would be difficult to assess the effectiveness of GAFTA on trade among Arab countries based on comparing the Arab share in Arab worldwide trade before and after signing the agreement as other factors were also changing at the same time. To test for the net impact of GAFTA we added a dummy variable that takes the value 1 if the pair of countries are

[4] The resemblance to gravity, which depends positively on the masses of two bodies and inversely on the distance between them, is obvious.

GAFTA members and zero otherwise, in our gravity model. In addition to this variable, the model adds six more dummy variables to control for the effects of other trading blocs, among them the Association of Southeast Asian Nations (ASEAN), the Caribbean Community (CAR), the European community (ECD), and the South Pacific Regional Trade and Economic Co-operation Agreement (SPR). This enables us to compare the impact of GAFTA on bilateral trade relative to that of other agreements for countries with similar characteristics. As the results in Table A.6 show, GAFTA has a highly significant impact on trade compared to countries that are not part of any of the other trade blocks in the regression. Hence, GAFTA clearly improved trade in MENA since its inception. However, its impact is far below that of other regional agreements. The reason for that could be that GAFTA is a continuation of numerous bilateral and multilateral trade agreements among Arab countries since the mid-1940s. Thus, the limited impact of GAFTA could be a manifestation of the very modest effectiveness of those agreements rather than of GAFTA itself.[5] Therefore, this result proves that trade agreements within the MENA region were less successful in enhancing intra-regional trade than other regional agreements worldwide. For example, the Association of Southeast Asian Nations (ASEAN) was formed in 1967 with five nations and it includes ten members today. The objectives of the association are to accelerate regional economic, social and cultural development and to establish peace and stability amongst its member states. ASEAN has made significant progress in developing intra-regional economic relationships. The Preferential Trading Arrangement (PTA), the Enhanced PTA Program and the ASEAN

[5] In our gravity analysis we utilized the dataset of Rose (2004) data which covers 173 countries over the period 1948-1999. As such, the data covers only the first two years of GAFTA, therefore, our results regarding the effectiveness of GAFTA on enhancing the bilateral Arab trade should be taken cautiously. One advantage of our analysis relative to other gravity studies that analyzed the determinants of bilateral trade in MENA, is the extensive data base used here.

Free Trade Area (AFTA) are examples of such economic cooperation. AFTA was introduced in 1992 with the objective of developing a regional competitive advantage, in order to utilize the economic efficiency and productivity of its member countries. AFTA removed tariff and non-tariff barriers within the region. As a result, exports among ASEAN countries increased from 43.26 billion USD in 1993 to almost 80 billion USD in 1996, with an annual average growth rate of 28.3%.

Researchers have learned that to a large extent GAFTA has been successful in removing many trade barriers, as shown by Hoekman & Sekkat (2010), Romagnoli & Mengoni (2009), and Hertog (2007). It is considered to be the most central and comprehensive trade agreement signed so far between Arab countries. According to Abedini & Péridy (2008), its importance is manifested in several aspects. First, all countries in the Arab region have joined the agreement. Second, it is supported by central intra-regional political institutions (Arab League, GCC), and third, its content is relatively comprehensive. It contains tariff removal on intra-GAFTA manufactures trade (which was officially completed by the beginning of 2005), a removal of several non-tariff barriers to manufactures trade (monetary, administrative and quota barriers) and a partial liberalization of intra-Arab agricultural trade.

Abedini & Péridy (2008) analyze the impact of GAFTA implementation during the 1997-2005 period, during which 15 Arab countries implemented the agreement, while six other countries have not yet signed or implemented it.[6] They find the effect of the agreement to be significant. Using a gravity model, they examined the determinants of trade performance during the 1988-2005 period within all GAFTA countries (both those

[6] The non-implementing countries were Algeria, Sudan, Somalia, Mauritania, Comoros and Djibouti. These countries contribute only 11 percent of Arab intra-regional trade.

who have implemented it and those who haven't yet), as well as within 35 other reference countries. They concluded that the GAFTA agreement has increased intra-regional Arab trade by about 16-24% during the period 1997-2005, depending on the econometric method used. However, their results should be regarded with caution, as the fact that GAFTA has been implemented only gradually during this period may create an identification problem (Hoekman & Sekkat, 2010).

A survey conducted in 2008 by Hoekman & Zarrouk (2009) among 300 exporting and importing firms (across nine GAFTA members) revealed that the GAFTA agreement has had a positive impact on more than 90 percent of responding firms. According to them, this is mainly due to the fact that, by and large, tariffs on intra-regional trade have indeed been removed, eliminating almost completely a very central barrier to intra-regional trade in the past (in a similar survey conducted in 2001, tariffs were ranked first in a list of the most important barriers to intra-Arab trade).

In contrast, other trade barriers tackled by the GAFTA agreement continue to limit intra-Arab trade, reflecting inappropriate address and/or implementation. Although the GAFTA agreement officially contains a precise set of rules of origin (ROOs), coordination among Arab countries continues to be partial, as ROOs are still considered to have a statistically significant impact in restricting trade, having the effect of a 3-4% tariff (Hoekman & Sekkat, 2010; Hertog, 2007). Lack of coordination in product standards' policies, another trade barrier tackled by the GAFTA agreement, still restricts intra-Arab trade (Hoekman & Sekkat, 2010). As for custom procedures' barriers, Hoekman & Zarrouk (2009) find some improvements, but Hertog (2007) and Dennis (2006) note that, by and large, these barriers are still heavy and sometimes unpredictable.

A recent study by PALTRADE has found that these barriers are more due to implementation than to policy.

Moreover, several major impediments to Intra-Arab trade have not been addressed concretely by the GAFTA agreement. Hoekman & Sekkat (2010) find that the agreement has not been harnessed to pursue service sector reforms, although the bottlenecks in the service sectors (transportation, communication, etc.) are considered today to be a main barrier to intra-Arab trade. Lack of coordination between Arab countries in trade, labor and investment policies and regulations is also assumed to be a substantial impediment to intra-Arab trade, which the GAFTA consolidation process has not yet dealt with.

Lastly, GAFTA process characteristics also reflect substantial political barriers which are limiting greater intra-Arab trade. These reflect the reluctance of Arab regimes to transfer sovereignty to supranational bodies for managing and enforcing the Arab intra-trade policies. Indeed, GAFTA is an intergovernmental body launched under Arab League auspices. As such, it explicitly assures the precedence of member states, concerning sovereign autonomy. Moreover, it does not contain a binding dispute settlement mechanism, which is a very substantial element in any regional trade agreement. Hence, the system lacks the necessary credibility, which can ensure effective implementation of GAFTA (Hoekman & Sekkat, 2010).

Geography: Shared borders, distance between countries and land area are considered to be major factors explaining bilateral trade between countries. Common borders, short distance and smaller land areas reduce shipping costs of merchandise goods and therefore are expected to increase the bilateral trade between countries. This is especially

significant when the other transport facilities such as maritime and air transport services are lacking or inadequate. In the MENA, physical barriers to transport are perceived in recent years to be one of the major obstacles to Arab intra-regional trade (Romagnoli & Mengoni, 2009; Dennis, 2006; and Hoekman & Sekkat, 2010). Transport sector bottlenecks are explained partly by the dominance of public monopolies in the sector. Air transport is concentrated in a few key airports and suffers in most cases from restrictive regimes. Only Jordan, Morocco and Lebanon have gradually moved towards more open regimes. Maritime transport suffers from weak competitiveness of the mainly state-owned port systems and from poor infrastructure for loading and storing goods. The same concerns can be applied to land transport services, namely the road and rail networks. The inadequate maritime and air transport infrastructures can explain why 80%-100% of the intra-Arab trade uses land transportation compared with less than 10% of world trade (Abdel-Kader Lasheen, 2000). These obstacles dramatically increase the shipping costs of merchandise goods between Arab countries. This can also explain the relatively high trade within sub-regions, between countries sharing common borders such as Syria, Jordan and Lebanon in the Mashreq sub-region, and among the GCC countries.

The results of the gravity model show clearly, as can been seen from Table A.6, how these geographical factors are important determinants of bilateral trade among MENA countries. The coefficients of these variables are highly significant. Moreover, the impact of a common border and the land areas of a pair of MENA countries have larger impacts on their bilateral trade when compared to pairs of countries in other regions in the world with common characteristics. For example, the expected bilateral trade between two neighboring MENA countries is higher by 38%-57%, depending on model specification,

which is a higher increment than between pairs of non-MENA countries sharing the same characteristics.

The finding that geographical factors are more critical for intra-MENA trade than for countries with common characteristics can be explained, at least in part, by the low performing transport infrastructure and services in many MENA countries, relative to non-MENA countries. A recent report by the World Bank names the inadequate transport infrastructure as one of the major reasons for the recent decline in the regional and international trade flows, together with higher costs, delays, and uncertainty. To address this situation, the report stresses the need for transport infrastructure with broader geographic coverage, better inter-modal connectivity, higher quality, and sufficient capacity to accommodate traffic flows, as well as more efficient logistical services.

The Arab-Israeli Conflict: The conflict also contributes to the reduction of intra Arab trade, through its interaction with the geography. The reason is that as long as the conflict continues, Israel operates as a territorial barrier between the two parts of MENA, namely the Middle East and North Africa. Arab Countries, who happen to be on opposite sides of Israel, cannot transport goods over land and thus suffer from increased trading costs. This leads to reduction of trade between them. To see this we look at data on trade between pairs of Arab countries from the opposite sides of Israel. The data for 2009 are in percentages of GDP and are presented in Table 3. The data include countries that are rather close to one another, so that overland transportation is a preferred option for them. Morocco and Turkey, for example, would prefer to trade by sea than by land and thus will not be significantly affected by the inability to pass through Israel.

Table 3: Shares of Trade in GDP for Pairs of Countries, 2009 (%)

	EGYPT	TUNISIA	LYBIA	SYRIA	LEBANON
EGYPT					
TUNISIA	0.28				
LYBIA	0.98	3.60			
SYRIA	1.04	0.09	1.09		
LEBANON	0.49	0.06	0.12	6.95	
JORDAN	0.94	0.19	0.11	1.90	1.13

Table 3 shows that countries on the same side of Israel trade with one another much more than countries on opposite sides of Israel, who do not have a territorial link for overland transportation of trade. If we calculate the averages we find that the average trade share in GDP for pairs of countries on one side of Israel is 2.47%, while the average trade share in GDP for pairs of countries that are located on opposite sides of Israel is 0.45%. This is a significant difference. This negative effect of Israel as a territorial barrier is not new and has been there even when trade was less prominent. In 1995 the average trade share in GDP for pairs of countries on one side of Israel was 1.08%, while the average trade share for pairs of countries that are located on opposite sides of Israel was 0.20%.[7] Hence, in both periods trade between countries on the same side of Israel was higher by a factor of 5 than trade between countries separated by Israel. Of course, one can question it by saying that countries which are on opposite sides of Israel are usually more distant from one another than pairs of countries that are on the same side of Israel.

[7] See Table A.7 in the Appendix.

In Section 5 we deal with this argument in more detail and control for distance. We find that the fact that Israel is located between two Arab countries has a strong negative effect on trade between these two countries, in addition to pure distance. Section 5 also discusses the possibility of reducing this effect, once the conflict is over.

Levels of Development: This variable has also been cited as an explanation for low intra-Arab trade. Fischer (1993) argues that richer countries prefer to import higher quality goods which are more likely to be produced by industrialized countries. The related low diversity of production and of the export base can also explain the lower intra-Arab trade. In our gravity model, the estimate of the coefficient of the interaction between the GDP per capita and the dummy variable for MENA countries is significantly negative. The absolute value of this coefficient is smaller than the coefficient of the GDP per capita, which indicates that the impact of per capita income in MENA is still positive but is less than half of its impact for non-Arab countries.

Insufficient Human Capital: Related to the low level of development is the shortage of human capital, namely of skilled workers, in the Arab countries. Bhattacharya & Wolde (2010) consider the lack of skilled workers in Arab countries to be an important factor impeding Arab manufacturing competitiveness. They claim that it particularly limits export diversification into more sophisticated industries, as recent technologies require more skills and education, thus limiting intra-regional trade.

As Nabli (2004) and Yousef (2004) indicate, access to education has improved considerably among Arab countries through the years, for men and also for women, so

that the level of education of the Arab labor force has improved substantially. Nevertheless, it is still low by comparison to international levels. The MENA region has an average of 5.3 years of schooling per adult, while most developed countries have close to 10 years of schooling.

Moreover, the poor quality of the education and training systems in the Arab world is perceived (Nabli, 2004, Bhattacharya & Wolde, 2010 and Yousef, 2004) to be a major impediment to improved competitiveness, as well as to higher economic returns to education. The education systems in many Arab states are too narrowly geared toward employment in the public sectors, and have not sufficiently developed other professional skills, which are more applicable to the manufacturing sectors. One example for this is the weakness of vocational education. Another example for this is lack of sufficient coordination between academic institutions and the manufacturing sectors. Such shortcomings create a mismatch between the skills they provide and those required by a competitive market economy.

Nabli (2004) and Yousef (2004) perceive the poor quality of the Arab education systems as a symptom of a wider lacuna: the limited progress Arab states have achieved in shifting away from their old economic model of closed and centralized, public sector-led and oil-dominated economies to open and liberalized private sector-driven economies. Indeed, education systems in Arab states are characterized by poor governance, which is manifested by high rigidity and centralization, isolation from the main current economic environments and lack of quality and performance measurements. Nabli (2004) attributes this poor quality also to an inadequate economic openness, which

could have encouraged firms to adopt more modern technologies and increase demand for skilled workers.

The lack of sufficient human capital, both in quantity and in quality, can also be significantly improved following a comprehensive peace agreement. We discuss these issues in Sections 6, 7 and 8 in this paper. The reason is that both Israel and Palestine have relatively good systems of education, but they are currently disconnected to a large extent from the Arab world. There is significant chance that once the overall political situation will be changed, the two countries will be able to develop a significant system of exporting human capital to nearby Arab countries.

4. The Trade Fruits of Current Peace Agreements: Egypt and Jordan

When we want to study potential effects of comprehensive peace in the Middle East on international trade in the region, we should naturally look at trade between Israel and the two Arab countries that already signed peace agreements with Israel, namely Egypt and Jordan. Egypt signed its peace agreement with Israel in 1979 and its implementation ended for the most part in 1982, with the withdrawal from Sinai, and finally in 1985, with the final withdrawal from Taba. Hence the two countries have been at peace for 30 years, which is as long as the period the two countries had been at war (1948-1978). Jordan signed its peace agreement with Israel in 1994. Israel has strong political ties with the two countries, but these are mainly with the ruling political and military elites.[8] The following data, in Table 4, show that the economic ties between Israel and these two countries have been much weaker than the political and military ties. Namely, there has been trade

[8] The ties between Israel and Egypt have suffered a severe blow by the revolution that ousted Mubarak from power.

between Israel and the two countries, but the volume of trade has been quite low and it has been quite variable over time, which indicates vulnerability to various shocks. Table 4 describes the trade between Israel and the two countries during the ten years 2000-2009.

Table 4: Trade between Israel and Egypt and Jordan in 2000-2009

(US$M, 2000 prices)

Year	Egypt's Imports from Israel	Egypt's Exports to Israel	Jordan's Imports from Israel	Jordan's Exports to Israel
2000	41.4	103.3	52.8	64.5
2001	32.1	140.0	79.7	74.9
2002	17.1	101.0	93.3	88.3
2003	15.5	31.0	103.2	71.4
2004	18.2	16.0	135.6	76.3
2005	82.8	43.3	120.2	79.0
2006	107.9	65.9	117.9	72.9
2007	127.6	78.4	165.7	86.6
2008	81.1	37.8	197.6	108.9
2009	108.0	217.4	145.3	175.1

We can learn a number of lessons from Table 4. First, trade with Egypt and Jordan is fairly limited, despite the many years of peace with the two countries. With a GDP of more than 150 billion dollars in Israel, these amounts of trade are marginal. But

we should be careful in drawing economic conclusions from these low figures of trade. The main reason is that despite the peace between these two countries the lack of comprehensive peace is key in limiting trade between Israel and these two countries. As long as the conflict with the Palestinians continues, it is very hard to convince people on both sides to buy and sell one to another. A clear indication of this are the years 2001-2004 of the Intifada. The amount of Israeli exports to Egypt declined precipitously and began to increase again only after it. A similar and even a longer decline was observed for Egypt's exports to Israel. The effect of the Intifada on Jordan is not so manifest in the data, but it could be that it has delayed the increase in trade, which came later.

The effect of the Israeli-Palestinian conflict on trade between Israel and these two Arab countries can also be deduced from another fact, that most of this trade is in intermediate goods and not in final goods. The value of trade in final goods between Israel and Egypt is less than 10 million dollars and the value of trade in final goods between Israel and Jordan is less than 40 million dollars in both directions. It is important to note that countries of origin of intermediate goods are usually not identified as they do not reach stores and the general public. This shows that the level of hostility due to the continuing conflict is still high and creates a significant barrier to trade.[9]

Our conclusion is therefore that we should be careful in drawing too many conclusions from the experience of international trade between Israel and these two countries. A comprehensive peace will present a real change in all MENA countries, including Egypt and Jordan. Once the conflict is over, it will open many new opportunities to trade and to exploit the vast differences between Israel and its neighbors

[9] For more detailed data on the composition of trade between Israel and Egypt and Jordan, see Tables A.8-A.10 in the Appendix.

and even among the Arab countries. We shall next describe some of these opportunities and confine ourselves to areas that are within the control of governments, leaving private sectors to form their own initiatives and innovations. We first discuss the ways in which the API can increase trade in merchandise among Arab countries.

5. Territorial Corridors between Arab Countries through Israel

Section 2 shows that trade between pairs of Arab countries, which are on opposite sides of Israel, is much lower, by a factor of 5, than trade between Arab countries that are on the same side of Israel. This finding led us to deduce that currently Israel constitutes a territorial barrier to trade between such Arab countries. In this section we examine this issue more thoroughly and we also offer an idea on how to overcome this barrier once comprehensive peace is achieved.

The main claim against this hypothesis can be that this finding reflects greater distance between countries on opposite sides of Israel than between countries on one side of Israel. To examine the issue more thoroughly we conducted a gravity test to trade among all pairs of Arab countries. Such a gravity test is a regression analysis which examines how the volume of trade between each pair of countries depends on the distance between this pair of countries and other regional and economic variables. We expect the coefficient of distance in the regression to be negative, namely greater distance should lead to less trade. Indeed this has been the result of many empirical tests and this is the case with respect to MENA as well. But at this point we add another explanatory variable to distance. This is a dummy variable that gets the value 0 if the pair of countries is on one side of Israel and the value 1 if Israel is in between the two countries in the pair.

The full results of the regression tests are presented in Table A.11 in the Appendix. We shall only highlight the main results here.

The regression results are indeed impressive and fully corroborate our hypothesis. The variable 'in between' has a significant negative effect on trade, even when the distance between the two countries in the pair is controlled for. Quantitatively, putting Israel between two Arab countries reduces trade between these two countries by 20%. Furthermore, a regression that also tests the interaction between the two variables, distance and 'in between' shows that the effect of 'in between' increases the closer the two countries of the pair are. Namely if the two countries are closer, the decline in trade due to the territorial barrier that Israel poses for these countries is larger. Table 5 presents our estimates following the gravity regression analysis of how much removing this territorial barrier will increase trade for all relevant pairs of Arab countries.

Table 5: Increase in Trade as a Result of Removing the In-Between Variable for Pairs of Countries

Country	Syria	Lebanon	Jordan
Egypt	77%	103%	136%
Libya	12%	13%	24%
Tunisia	1%	6%	3%

The results of this analysis, which are described in Table 5, are dramatic. They show that removing the barrier to transportation created by the conflict with Israel can more than double the trade between Egypt and Arab countries on the other side of Israel.

This is a huge increase. These results lead to our first proposal, which deals with merchandise trade in MENA.

Proposal

Once the Arab-Israeli conflict will be over, Israel and Palestine will be able to open special territorial passages through Israeli territory, which will significantly reduce the costs of trade between Arab countries, which lie on opposite sides of Israel. These territorial passages will enable transport of goods across Israel and Palestine, and thus will promote trade between the two parts of the Arab world. In the first stage these territorial passages are planned as highways, for trucks, buses and similar freight vehicles, but trains can be considered as well at later stages. Following are brief explanations of this initiative, which can significantly benefit both the Arab countries and Israel and Palestine.

Location of Highways

In principle we suggest three main routes, two go through Israel and one goes through Palestine. The first route will connect Egypt and Jordan through a passage north of Eilat, close to Yotvata. Such a passage makes it possible to connect the road that crosses the Sinai Peninsula through E' Tamad, with the Jordanian road that goes along the valley north of Aqaba. This connection will enable traffic from Egypt to move overland to South Jordan, and through it to Saudi Arabia and the Gulf countries. It may serve even land traffic from North Africa to Iraq. The second passage through Israel can be arranged by use of the Israeli Route 6. It will connect Egypt from Ketziot to the Israel's Northern border with Lebanon. An extension of this highway to Syria can be considered as well. In this case the passing freight can use Route 6, and only short connecting segments to the

borders need to be constructed, as Route 6 goes from the South of Israel, close to Egypt, to the North, close to Lebanon. Thus both highways do not require sizable initial investment, as one will be quite short, and the other will use an existing highway for almost its entire length. The third route will go through Palestine. The road will go from Egypt to Gaza and then using the "territorial link" from Gaza to the West Bank and from there on to Jordan. These three roads will be able to connect Egypt, or North Africa, to three different points in the Arab countries that are to the east of Israel and Palestine.

Operation of Highways

The Southern highway will be isolated from Israel and be dedicated exclusively to merchandise passing through Israel. Thus, it will be open to passing vehicles from the Arab countries only and will be closed to Israeli vehicles. The second and third highways will be used both by Israeli and Palestinian vehicles and by Arab thru freight, but the foreign vehicles will be monitored closely. One way to do it is to attach to each entering vehicle an electronic device which will continuously identify its location. The foreign merchandise which passes along the two highways will be tariff free, but will incur a certain user fee payable to the Israeli or Palestinian check points at the entrance to a highway or at the exit from it. An interesting question is whether payment should be per vehicle or per merchandise. Vehicles will not be allowed to stop along the highway except for service and will not be allowed to unload merchandise, unless in case of emergency. All this can be done according to standards of "Trade in Transit." Clearly such passages within Israel and Palestine will significantly benefit both their users, as they will enable a territorial connection between the two parts of the Arab world, and also Israel and Palestine, which will benefit from the user fees paid on these roads.

Financial Implications

Roughly calculated, the territorial passages have a potential to increase international trade between Arab countries by at least 2.5 billion dollars, according to table 5. This is a huge increase. As international trade in the region is growing rapidly, it is anticipated that these figures will grow over time. This improvement in trade will of course benefit not only the trading Arab countries, but Israel and Palestine as well, which will be collecting passage fees. Although the exact sum of these fees is still hard to estimate, it could be more than 25 million dollars annually (1% of the value of merchandise). It seems that such levels of income can quite quickly cover the required investment in infrastructure. Note that Israel's benefits will be not only financial, but also political. One important benefit should be increased national security, since such passages become important to the countries that use them, who will have a vested interest in keeping the passage operating smoothly and continuously.

6. A Proposal for Exports of Higher Education from Palestine

Palestine is a rather small country and its population is small relative to the Arab world. But Palestinians are rich with Human Capital and they have a relatively high number of institutions of higher education. There are at least 10 universities and colleges in Palestine and the main ones are (the numbers of students are from 2009-2010):

1. Al-Quds University in Jerusalem: 11,424 students.[10]
2. Al-Najah National University in Nablus: 19,761 students.
3. Arab-American University in Jenin: 4,382 students.

[10] This university teaches the largest variety of disciplines and is considered the best university in Palestine.

4. Bir-Zeit University: 8,599 students.
5. Bethlehem University: 2,966 students.
6. Hebron University: 6,804 students.
7. Islamic University of Gaza: 20,300 students.
8. Al-Aqsa University of Gaza: 15,900 students.
9. Al-Azhar University of Gaza: 13,357 students.
10. Palestine Polytechnic University: 3,079 students.
11. Palestine Technical University in Tulkarm: 2,171 students.
12. University of Palestine (an open university): 107,925 students.
13. Various Colleges (5): 1,500 students.

The geographical dispersion of universities over Palestine and the wide variety of disciplines, which these universities offer to students, imply that Palestine can position itself as one of the centers of higher education in the Arab world and attract students from all Arab countries. In other words, we suggest that Palestine make an effort in developing higher education as a significant export industry. This of course requires a significant investment. The universities need to increase their student capacities, to develop academic personnel that will be able to attract students from other countries, and to invest in the infrastructure required for incoming students in large numbers. That includes dormitories, communications and similar investments.

In the beginning these universities can specialize in undergraduate studies, as the research abilities of the Palestinian universities are still in need of improvement. In later stages the Palestinian universities can increase their supply and offer graduate studies as well. A more careful analysis of the potential of Palestinian universities can be done in

order to focus on specific areas of higher education, like medicine, communication and media studies, computer science, education, economics, business administration, or public policy. These areas do not require large investments for laboratories, or similar expensive infrastructure, and can thus develop well within the limited territory of Palestine and within a short period of time. Hosting a large number of students during their college studies will have additional economic effects, as it will increase the demand for housing and for other services around the colleges and universities.

7. A Proposal for Exporting Higher Education from Israel

Israel has an extensive system of higher education, which consists of seven research universities and of many colleges. While the colleges offer mostly undergraduate education, the research universities provide graduate education as well, which is divided into a second degree and to a Ph.D. In 2008 the number of Ph.D. students in Israel was around 10,000. If the average time to a Ph.D. is 5 years, this number implies that around 2,000 Ph.D.'s graduate every year. Since this number seems to be larger than the steady state demand in Israel for Ph.D.'s, it seems that Israel can export higher education at the graduate level in significant numbers.

The ability of Israeli research universities is not only quantitative but also qualitative, since the research universities in Israel are quite famous for their research achievements. One of the most prestigious rankings of universities is the Shanghai ranking (http://www.arwu.org/). This ranking puts the seven Israeli research universities in 2009 in the following places:

1. The Hebrew University – 72 (5^{th} in Asia/Pacific).

2. Tel-Aviv University – 101-150.
3. Technion (Israel Institute of Technology) – 101-150.
4. Weizmann Institute of Science – 101-150.
5. Ben-Gurion University – 301-400.
6. Bar-Ilan University – 301-400.
7. Haifa University – 401-500.

Hence, the four top research universities are ranked among the top 150 universities in the world. This is of course a general ranking, while in specific areas some of these universities rank much higher. Thus, Mathematics in Tel-Aviv University is ranked 26, Economics in the Hebrew University is ranked 44, and Social Sciences in the Hebrew University is ranked 46 globally.

These findings indicate that Israeli universities have the capacity to provide a high quality, close to home and relatively inexpensive graduate education to students from all over MENA. But the system of graduate studies in the Israeli universities is not yet ready for the challenge and needs to be significantly reformed before it can provide graduate studies to students from the region. Such a reform is required also for internal reasons and should therefore begin as soon as possible. Reform is required in three main areas: organization of graduate studies, language of instruction (English instead of Hebrew) and financial support for graduate students.

The system of graduate studies in Israeli universities is not unified but rather, it is divided to Master studies and a following Ph.D. instruction. Such a system is very different from the American system of a unified graduate program, where students begin with two years of research courses, and then continue to do research. The American

system of graduate programs has proven to be very successful and is now followed in all leading European universities. The split in Israeli universities between the courses, which constitute the Master studies, and the research stage, which constitutes the Ph.D. instruction, is due to historical reasons, but mainly due to the fact that there is vast demand to Master studies without continuing to Ph.D., since a Master degree entitles to a higher wage in the Israeli labor market. As a result most of the Master students in the universities are not research oriented and thus the quality of Master programs has declined significantly and they are not sufficient for supplying a good base for a research career. Hence, Israeli universities need to specialize more in research studies and follow the American example of graduate schools. Such a change requires significant reorganization, but more than that, it requires a change in finance by the government, since the universities might lose a significant source of income.

Once the leading research universities will develop graduate schools, they will have to change the language of instruction to English, in order to attract students from abroad. Right now the language of instruction in all Israeli universities is Hebrew. This is due to ideological reasons, but also due to opposition by the student unions to changing to English. The change is required not only in order to accommodate for foreign students, but also because the scientific language today is English, and it is quite useless to develop scientific terms in Hebrew in many research areas, where the community of researchers that might use them is extremely small, due to growing specialization in the sciences. Of course, some of the graduate programs will remain in Hebrew, mostly those programs that focus on areas like the Bible and Jewish studies, which are an obvious specialty of some Israeli universities.

The third issue that needs to be dealt with is the financing of graduate students. Study in a graduate program is highly intensive and time consuming. A student cannot take a graduate program and work at the same time, as is today the case for many Ph.D. students in Israel. In order to enable students to complete such intense studies they need to be financed, even moderately. The Israeli universities have a financing system of sorts for research students, but it is partial, it is not uniform, it is not well organized, and it does not cover the initial stage of the graduate studies, which consists mostly of courses. This requires not only reorganization by the universities, but also some budgeting from the government. There is a need to understand that the top research universities should specialize in graduate education, and that this specialization should be financially supported. Not only will it benefit research students within Israel, but it will also enable Israel to export graduate studies to people from other countries. Naturally the first candidates should be students from the neighborhood, namely MENA.

8. A Proposal for Development of a High-Tech Sector in Palestine

Israel has achieved significant capabilities in high-tech and in information technology over the last 25 years. It has high levels of human capital in these areas and large supporting institutions, like university programs in engineering and computer sciences, large financial intermediaries which supply venture capital and also government agencies that subsidize high-tech enterprises. Furthermore, since high-tech and innovation industries have significant returns to scale, the existence of a large high-tech industry itself increases the productivity of this industry and its ability to further develop and expand its activity.

In view of the high quality of the human capital in Palestine, we can assume that a high-tech sector can develop there rather quickly. Such a sector can combine the demand for information technology services in the Arabic language from the Arabic countries and the accumulated know-how from the Israeli high-tech sector. What is needed is initial public support for this sector, which is justified by the returns to scale in high-tech, with the involvement of high-tech companies and individuals from the Israeli high-tech sector, to start an industry with very promising growth potential in Palestine. It is hard to estimate the possibilities that such an initiative may open before it has got off the ground, since much of the demand is triggered by the supply and by previous demand for alternative services, but the potential seems to be significant. A few such cooperative initiatives are already under way, initiated by high-tech firms, to open businesses within the Israeli Arab community, such as TSOFEN for example. International software and hardware companies such as Oracle, Microsoft and others have also embarked on their own initiatives to integrate their work into Palestinian universities and to work with IT companies in Palestine to tap into this market. Similar initiatives could become much more successful and much more profitable when conducted within the larger society in Palestine, and directed toward a much larger market in the Arab MENA.

9. Summary

This document outlines a number of proposals that can boost international trade in the region following a comprehensive peace agreement. These proposals relate both to trade in merchandise and in services, which have both increased vastly in recent decades. The proposal for territorial passages through Israel and Palestine is intended to increase trade

in merchandise among Arab countries, which are quite close to one another, but are physically separated by Israel. As long as the Arab-Israeli conflict persists this separation creates a formidable barrier to trade. Comprehensive peace can remove this barrier and stimulate trade in the region. Israel and Palestine will also benefit from it due to income generated by these territorial passages. The other proposals outlined in the paper are to increase trade in services, mostly in education and in high-tech. Such services can be provided by Palestine, by Israel, or even by some form of partnership between the two countries and these services can be exported to the broader MENA region.

We would like to clarify here that we are painfully aware that such initiatives involving territorial passages through Israel and Palestine, of Arab students coming to study in Palestine or in Israel, and of cooperation between Israelis and Palestinians in providing high-tech to the region, seem highly unrealistic in these times of hardship and suspicion. However, we wish to make a few points with respect to such criticism. First and foremost, such an analysis as we conduct in this paper is intended to shine a light on the vast potential that peace has to improve our lives and to increase prosperity. We want to examine ways in which peace can change life in the Middle East in general and in Israel and Palestine specifically, since we are a group of Israelis and Palestinians. What we find is that there is broad scope for potential projects that can be developed, which are not possible today because of the conflict, but will be possible once comprehensive peace is achieved. We strongly believe that such an analysis is important for challenging the status-quo. But we also believe firmly that things can change very rapidly, sometimes even from today to tomorrow. Recently we have all witnessed the huge changes in Tunisia and Egypt. Similar changes can occur in other Arab countries. We have seen a

summer of mass social protests in Israel. Such changes might have a dramatic effect on the Arab-Israeli conflict.

Here is where our work and research can be very helpful. We show in our analysis that in order to promote peace and to reap its benefits we need to prepare ahead of time. In our previous project we showed for example that one of the important elements of the Israeli-Palestinian peace agreement, the territorial link, should be built already today, even before we reach a peace agreement.[11] The reason is that it takes a long time to build and also that there is a clear understanding how to build it, if we want to achieve peace and not continue the occupation. Similarly, the projects proposed in this paper should be started already today. Building territorial passages is a long process, so planning and preparations should begin today. Improving the systems of higher education in order to be able to export higher education to students from the region is a difficult, time-consuming and costly task. Now is the time to start. Building bridges between the Israeli high-tech sector and the Palestinian human capital is also a lengthy process. It should be initiated as soon as possible. All these are of course initiatives that governments should embark upon, as these are areas where the private sector plays a secondary role. We believe that the private sector will play an important role in realizing the potential benefits from comprehensive peace, but we do not have much to say about that. The private sectors in the region will respond to the challenges in ways that are hard to anticipate today, but we believe that private enterprise will seize the opportunities they will be presented with as a result of the dramatic change. But governments can also make a significant contribution to trade, by investing in infrastructure and by supporting the

[11] See the fourth stage of AIX, "Economic Dimensions of a Two State Agreement: Supplementary Papers (vol. II)," Ch. 2 “The Territorial Link.”

upgrading of human capital. But before all that, governments must make the first step in this long road to prosperity, namely a peace agreement. Right now, with the Arab Peace Initiative on the table, coupled with the Palestinian peace proposals, most of the burden of response lies on the government of Israel. We hope that it will respond positively soon, since too much is at stake - not only economic benefits, but human life on both sides as well.

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Appendix

Table A.1

Intra and Inter-Regional Global Merchandise Trade, 2009 (Million $)[12]								
	Destination							
Origin	**SSA**	**EU**	**MENA**	**WEST-H**	**D-ASIA**	**APEC**	**NAFTA**	**World**
SSA	28656	56030	4419	8687	429749	91376	45940	213551
EU	71163	3055000	192877	94564	207570	781650	340280	4596370
MENA	15393	124175	78604	6423	162136	335649	58617	703608
WEST-H	7952	91654	15936	135268	67966	**3719930**	301264	692710
D-ASIA	51679	354096	124626	70590	312011	1213670	351800	1962370
APEC	82911	927839	212232	421126	1225220	3719930	1356114	5613790
NAFTA	16238	185429	49684	260933	141729	1071586	751370	1580984
WORLD	221878	4600120	588302	660065	1762110	8638170	1982011	12335400b

Table A.2

Share of Regional Trade in each Region's Total Merchandise Exports (%) Destination								
Origin	**SSA**	**EU**	**MENA**	**WEST-H**	**D-ASIA**	**APEC**	**NAFTA**	**World**
SSA	13.4	26.2	2.1	4.1	20.1	42.8	21.5	100
EU	1.5	66.5	4.2	2.1	4.5	17.0	7.4	100
MENA	2.2	17.6	11.2	0.9	23.0	47.7	8.3	100
WEST-H	1.1	13.2	2.3	19.5	9.8	**537.0**	43.5	100
D-ASIA	2.6	18.0	6.4	3.6	15.9	61.8	17.9	100
APEC	1.5	16.5	3.8	7.5	21.8	66.3	24.2	100
NAFTA	**1.0**	**11.7**	**3.1**	**16.5**	**9.0**	**67.8**	**47.5**	100
WORLD	**1.8**	**37.3**	**4.8**	**5.4**	**14.3**	**70.0**	**16.1**	**100**

[12] Key: SSA= Sub-Saharan Africa
WEST-H = Western Hemisphere
D-Asia = Developing Asia
APEC = Asia-Pacific Economic Cooperation

Table A.3

Share of Regional Trade In World Merchandise Exports (%)								
	SSA	EU	MENA	WEST-H	D-ASIA	APEC	NAFTA	World
SSA	0.23	0.45	0.04	0.07	3.45	0.74	0.37	1.73
EU		24.77	1.56	0.77	1.68	6.34	2.76	37.26
MENA		1.00	0.64	0.05	1.31	2.72	0.48	5.70
WEST-H	0.06	0.74	0.13	1.10	0.55		2.44	5.62
D-ASIA	0.42	2.87	1.01	0.57	2.53	9.84	2.85	15.91
APEC	0.67	7.52	1.72	3.41	9.93	30.16	11.00	45.51
NAFTA	0.13	1.50	0.40	2.16	1.15	8.69	6.09	12.82
WORLD	1.8	37.3	4.8	5.4	14.3	70.0	16.1	100

Table A.4

MENA Regional Merchandise Exports, Change over Time								
Destination								
	SSA	EU	MENA	WEST-H	China	APEC	NAFTA	World
1990	1333	54345	15356	4403	420	61276	19227	160162
1995	2303	44893	15783	2046	2026	65076	13327	161166
2000	6354	72466	19352	3814	9778	139658	31063	273776
2005	8902	130136	53848	6224	32007	281629	62776	554734
2009	15393	124175	78604	6423	59617	335649	58617	703608
90-09 change	1155%	128%	412%	46%	8180%	448%	205%	339%
Figures are in current US$M								
Partner's Share in MENA's Total Merchandise Exports (%), Change over Time								
	SSA	EU	MENA	WEST-H	China	APEC	NAFTA	World
1990	0.8	33.9	9.6	2.7	0.3	38.3	12.0	100
1995	1.4	27.9	9.8	1.3	1.3	40.4	8.3	100
2000	2.3	26.5	7.1	1.4	3.6	51.0	11.3	100
2005	1.6	23.5	9.7	1.1	5.8	50.8	11.3	100
2009	2.2	17.6	11.2	0.9	8.5	47.7	8.3	100
90-09 change	175%	-49%	17%	-67%	2733%	24.5%	-31%	0

Table A.5

MENA Regional Merchandise Imports, Change over Time								
Origin								
	SSA	**EU**	**MENA**	**WEST-H**	**China**	**APEC**	**NAFTA**	**World**
1990	1009	56714	11793	2428	1927	35089	12872.5	123897
1995	1467	61686	14261	3665	4347	46982	18477.7	143673
2000	1644	69114	19140	5136	7302	58714	19389.7	169890
2005	3559	137295	59083	10607	26957	126823	33006.6	384775
2009	5625	203113	85278	17385	68152	228697	53944.8	632917
90-09 change	**457%**	**258%**	**623%**	**616%**	***3436%***	**552%**	**319%**	**411%**
Partner's Share in MENA's Total Merchandise Imports (%), Change over Time								
Origin	**SSA**	**EU**	**MENA**	**WEST-H**	**China**	**APEC**	**NAFTA**	**World**
1990	0.8	45.8	9.5	2.0	1.6	28.3	10.4	100
1995	1.0	42.9	9.9	2.6	3.0	32.7	12.9	100
2000	1.0	40.7	11.3	3.0	4.3	34.6	11.4	100
2005	0.9	35.7	15.4	2.8	7.0	33.0	8.6	100
2009	0.9	32.1	13.5	2.7	10.8	36.1	8.5	100
	9%	**-30%**	**42%**	**40%**	**592%**	**28%**	-18%	**0%**

Table A.6

Dependent Variable: lnTrade						
	All Countries				MENA Countries	
	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
LDIST	-1.137***	-1.118***	-1.163***	-1.132***	-1.603***	-1.554***
LRGDP	0.882***	0.923***	0.880***	0.921***	0.635***	0.699***
LRGDPPC	0.317***	0.326***	0.332***	0.335***	-0.104***	-0.027
CUnion	1.40***	1.147***	1.346***	1.120***		
Border	0.473***	0.544***	0.483***	0.557***	0.355***	0.3423***
LArea	-0.049***	-0.100***	-0.045***	-0. 100***	-0.088***	-0.118***
LRGDP*MENA			0.173***	0.190***		
LRGDPPC*MENA			-0.352***	-0.293***		
BORDER*MENA			0.453***	0.321***		
LAREA*MENA			-0.159***	-0.204***		
CAC	1.333***	1.1664***	1.153***	1.558***		
CAR	1.233***	1.676***	1.149***	1.632***		
ECD	-0.010	0.125**	-0.09**	0.081		
SPR	2.129***	2.771***	2.11***	2.757***		
ASE	1.27***	1.691***	1.233***	1.668***		
MER	0.952***	1.563***	0.867***	1.504***		
GAFTA	0.389***	0.619***	1.016***	0.804***	0.773***	0.615***
Time FE	NO	YES	NO	YES	NO	YES
R^2	0.5912	0.6486	0.5932	0.6494	0.3856	0.4016
N	234597	234597	234597	234597	2707	2707

All regressions include constants and the following variables: ONEIN a dummy variable that takes the value 1 if one of the two countries is a member of GATT/WTO and 0 otherwise, BOTHIN, a dummy variable that takes the value 1 if both countries are members of GATT/WTO in the specific year and 0 otherwise; GSP, a dummy variable that takes the value 1 if country *i* was a GSP beneficiary of country *j* or vice versa in the specific year and 0 otherwise ; COMLANG, a dummy variable if the two countries have a common language; COLONY, a dummy variable that takes the value 1 if country *i* ever colonized country *j* or vice versa and 0 otherwise. The estimated coefficients of these variables were not reported to save space.

Table A.7

Trade Share in GDP of Pair Countries (1995)					
	EGYPT	TUNISIA	LYBIA	SYRIA	LEBANON
EGYPT					
TUNISIA	0.12				
LYBIA	0.33	2.01			
SYRIA	0.20	0.33	0.42		
LEBANON	0.17	0.09	0.15	1.76	
JORDAN	0.14	0.07	0.21	1.46	0.83

Average Trade Share for pair of countries on one side of Israel is 1.08%
Average Trade Share for pair of countries on opposite sides of Israel is 0.20%

Table A.8

Jordan's Trade with Israel by Category						
	Imports (US$M, 2000 prices)			Exports (US$M, 2000 prices)		
Year	**Total**	**Intermediate**	**Consumption**	**Total**	**Intermediate**	**Consumption**
1998	25.1	17.4	4.8	26.6	18.5	5.5
1999	32.9	19.2	10.0	64.0	30.9	28.5
2000	52.8	40.5	6.8	64.5	35.2	19.6
2001	79.7	64.9	9.8	74.9	47.0	17.6
2002	93.3	73.2	15.8	88.3	64.0	14.4
2003	103.2	81.5	14.7	71.4	50.5	11.7
2004	135.6	98.5	22.1	76.3	52.0	11.3
2005	120.2	70.4	33.2	79.0	50.2	15.8
2006	117.9	64.6	29.0	72.9	52.6	16.9
2007	165.7	87.8	37.6	86.6	55.3	20.3

Table A.9

Egypt's Trade with Israel by Category						
	Imports (US$M, 2000 prices)			Exports (US$M, 2000 prices)		
Year	**Total**	**Intermediate**	**Consumption**	**Total**	**Intermediate**	**Consumption**
1998	38.5	28.6	0.9			
1999	39.7	31.1	5.8	81.8	74.5	6.3
2000	41.4	32.0	5.6	103.6	96.9	5.8
2001	32.1	27.6	1.1	140.0	134.0	5.4
2002	17.1	12.9	1.2	101.0	95.8	4.7
2003	15.5	12.6	1.0	31.0	25.3	5.3
2004	18.2	13.8	1.0	16.0	11.3	4.2
2005	82.8	53.4	7.2	43.3	35.3	7.9
2006	107.9	68.2	8.5	65.9	56.0	9.6

2007	127.6	68.9	5.3	78.4	65.5	12.7

Table A.10

Israel's Share in Egypt's and Jordan's Total Trade (%)				
Year	In Egypt's Imports	In Egypt's Exports	In Jordan's Imports	In Jordan's Exports
1997	0.3	4.2	0.3	1.9
1998	0.1	5.3	0.6	2.8
1999	0.1	0.3	0.8	4.3
2000	0.3	4.6	1.5	6.1
2001	0.1	1.0	2.3	4.9
2002	0.1	0.2	2.5	4.9
2003	0.1	0.1	2.3	3.5
2004	0.1	0.2	2.0	3.1
2005	0.1	0.1	1.5	2.8
2006	0.0	0.1	1.2	2.5
2007	0.0	0.2	1.1	2.9
2008	0.1	0.3	1.2	2.2
2009	0.1	4.2	0.9	2.0

Table A.11

Gravity Model Results			
Dependent Variable= lnTrade			
Independent Variables	Pannel-Time-FE (without ILbetween)	Pannel-Time- FE (with ILbetween and Linear Interaction)	Pannel-Time- FE (with ILbetween and Quadratic Interaction)
C	-25.238***	-23.313***	-23.293
LDIST	-1.411***	-1.603***	-1.609
ILBETWEEN		-4.743***	-2.694
LDIST*ILBETWEEN		0.645***	
LDIST^2*ILBETWEEN			0.049
LAREA	0.001	0.011	0.012
LRGDP	0.788***	0.763***	0.763
LRGDPPC	-0.019	0.005	0.005
COMLANG	0.461***	0.403***	0.410
BORDER	0.117**	0.114**	0.105
D_MASH	0.463***		
D_MAGH	0.381***		
D_GCC	0.477***		
D_GAFTA	-0.175		

Variables Keys:
lnTrade$_{ij}$= ln(X(country i to country j)+M(country i from country j)/2)
ILBETWEEN: a dummy variable that takes the value 1 if both countries are in two sides of (but close to) Israel and 0 otherwise.
LDIST: ln of the distance between the two countries (adopted from Rose 2004).
LRGDP: ln of the multiplication of the real GDPs of the two countries)
LAREA: ln of the multiplication of areas of the two countries)
LRGDPPC: ln of the multiplication of the real GDPpc of the two countries,
BORDER= a dummy variable that takes the value 1 if both countries share a border.
COMLANG=a dummy variable that takes the values 1 if both countries share the same language and 0 otherwise.
D_GAFTA: a dummy variable that takes the value 1 if both countries are GAFTA members and 0 otherwise.
D_MASH: a dummy variable that takes the value 1 if both countries are Mashriq members and 0 otherwise.
D_MAGH: a dummy variable that takes the value 1 if both countries are Maghrib members and 0 otherwise.
D_GCC: a dummy variable that takes the value 1 if both countries are GCC members and 0 otherwise.
*,**,*** denote significance at the 10%, 5%, and 1% level, respectively.