

# MERIA

## TRADE POTENTIAL IN THE MIDDLE EAST: SOME OPTIMISTIC FINDINGS

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*There has been much speculation about the economic opportunities that would be available in the Middle East after a resolution of the Arab-Israeli conflict. This article measures potential trade and defines the main sectors for commercial interchange. It finds that even though the potential is limited, it may be more extensive than previously estimated.*

The lack of regional trade is often cited as a reason why Middle East economies are so weak. While the Arab-Israeli conflict and political tension among other Middle Eastern states are partly to blame for low trade levels, the main economic explanation is that countries of the region have little to sell each other.

When countries industrialize, their patterns of production become

more specialized and trade between them increases. Consider the success of the European Economic Community in the 1960s: six industrialized countries with similar economic structures removed trade barriers and regional trade blossomed. Table 1 [ed: All tables located after Author's notes] shows how important intra-regional trade has become in Western Europe.

The Middle East, however, has

Area	Total Exports	Intra-regional exports	Intra-regional trade as percent of total
Western Europe	2,276	1,524	67.0
Asia	1,379	699	50.7
North America	903	327	36.2
Latin America	279	57	20.5
Central, Eastern Europe, Baltics and CIS	179	33	18.6
Africa**	123	32	9.4
Middle East***	164	11	6.6
** including Egypt, Libya, Morocco and Tunisia			
*** Bahrain, Cyprus, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, UAE, Yemen			
Source: World Trade Organization, Annual Report 1998 (Geneva: WTO, 1998)			

been slow to industrialize and has suffered the consequences. Between 1990 and 1997, for example, world exports grew by an annual average rate of 6.8 percent. At the same time, Middle East exports increased by only 2.9 percent, largely because of declining oil prices. Indeed, oil is the region's prime commodity, accounting for 72 percent of exports in 1997. (1)

A 1995 World Bank study on the Middle East and North Africa (MENA) concluded:

"MENA countries have attempted to form more FTAs [Free Trade Areas] than any other developing region...but the share of trade within these groups has shown only modest, if any, increase and relative to successful FTAs remains minimal. These have failed, in part because of the low complementarity in member countries' trade (when countries' production structures are similar and their exports match the imports of their trading partners only poorly). In such a setting countries have little to gain from regional arrangement and should focus on unilateral or multilateral trade liberalization."(2)

In the specific case of Israel, it has been argued that even if political problems are solved, the country will still have few opportunities to trade in the Middle East because its economy and products are not suited for local markets. Israel's production is largely orientated towards the sophisticated economies of the West which use advanced technology. Middle East countries lacking that technology will only have limited needs for Israeli goods. It should, however, be added that when they do need high-tech

products that Israel can supply, then having a local (and even Arabic-speaking) supplier can be an advantage. Servicing can be carried out much more quickly by someone from Israel than by a firm that has to fly a technician in from Europe or farther.

In this regard, high-technology products are different from consumer durables. Hi-tech items are service-intensive, not necessarily because they break down but because of their complexity, involving a constant need for instruction and adaptation to new situations and improvements of the technology itself. Moreover, while there is a great potential in the Middle East for the sale of high-technology items, this market has been developed only to a very small degree. Consequently, it is more open to new suppliers and products.

This article presents theoretical and empirical evidence to suggest that the the assertions based on conventional analysis are too pessimistic, at least as far as trade in goods is concerned.

#### ANALYZING TRADE

Traditional trade theory is static in that it does not look at developments over time and does not allow for the effects of trade on development. It asks the following question: What share of country A's import market could country B capture and what share of country B's market could country A capture, if trade relations were established? That is, if Israel were country A, and an Arab state (or the Arab states), were country B, what percentages of each other's market could each side claim? (3) The same question could apply to trade between countries other than Israel in the region.

Three different types of categories of "new trade"--not existing at present--could develop among

Middle Eastern countries: products sensitive to economies of scale; products sensitive to input-sharing; and distance-sensitive products. An example would be the import of oil into Israel directly from Kuwait because transport costs are lower. The lower costs benefit Israeli importers who thereby increase their competitiveness, profitability, production, employment. This, in turn, can lead to an expansion of exports and imports, which is new trade.

#### SCALE SENSITIVE TRADE

Economies of scale in production can either augment or neutralize a country's comparative advantage in a particular field. They can also provide the basis for creating new comparative advantages and thus change a production pattern that, at least in the early stages of development, is largely determined by nature. (4) A plant may be set up to manufacture a product if the product's intended market is big enough to meet a minimum efficient scale (MES). The minimum is set according to the product, the producer, and the costs of factors of production in the proposed plant location. Israel, for example, did not produce certain products because the high transport costs for shipping them to markets outside the Middle East made such projects unprofitable.

The smaller the country, the less likely that its market will surpass the MES level. In the Middle East, small domestic markets do not justify producing goods that could substitute for items being imported. But a joint market of two or more states might justify constructing a plant in one of the countries, especially if the MES market for a given good is five to ten million people. Such an option would be especially attractive if the two economies had high per capita incomes.

Arab states, including those in the Arab monarchies of the Persian Gulf (organized in the Gulf Cooperation Council, GCC), have very politicized economic systems. This means that governments intervene extensively in the investment process. As they are often unwilling to allow what they call dependency to develop, they block joint projects that rely on Arab sources of supply. They may be willing to rely on sources of supply from outside the region but do not trust their neighbors. For scale-sensitive trade to develop, investment will have to be depoliticized. If governments are involved in regulation or funding investment, they will have to use economic criteria alone.

#### NEW SOURCES OF INPUTS

The second type of new trade involves sources of inputs, which can be final products, raw materials, or intermediate goods. Cheaper inputs, for example, can enhance the competitiveness of a firm, industry, or economy, and can be the basis for trade. Trade in inputs makes it possible to develop or expand manufacturing and other economic activities, in one or both of the potential trading partners and also enables industries to improve their competitiveness in local and export markets. Purchases of competitive inputs from neighboring countries can either substitute for locally produced inputs or for more expensive imported inputs. For example, the Gulf states could import more iron and steel from Egypt's large Helwan plant and Egypt could import aluminium from Bahrain, which is a major producer.

Note that it is often easier to replace expensive imports than local inputs because domestic suppliers generally have more political clout than foreign suppliers in influencing import policy. (5)

#### DISTANCE-SENSITIVE PRODUCTS

The third and final category of new trade is distance-sensitive trade. There are many types of products sensitive to geographic distance including items sold on the basis of their freshness such as dairy products, fresh fruits, and vegetables. Airfreight is one way in which the area in which these products can be sold may be expanded. Israel has sold high-quality flowers and fruit to Europe on this basis. This has only been possible because per capita incomes in Europe are high enough to cover the costs of transport.

Similarly, heavy or bulky goods incur high transport costs, for example mining products such as stones, sand coal, or ores. A third type of product which faces this transport problem is goods that require intensive servicing which must be provided at the point of use. Exported products will require services that would be provided either by a local agent or the manufacturer.

Economic distance refers to differences in tastes and consumption patterns between countries. (6) These are especially important when incomes vary significantly between two states.

It should be noted that these three types of new trade can be combined to meet widened opportunities, using diminished distance, larger-scale production; bigger markets; and new sources of inputs in various combinations. (7)

#### A HISTORY OF "NEW TRADE" IN THE MIDDLE EAST

The first study on new trade in the Middle East was authored by Zeev Hirsch, Igal Ayal, and Gideon Fishelson in 1995. It included an analysis of the three types of new trade discussed above. It concluded that in conditions of peace between Israel and

its neighbors, new trade would be generated which did not exist before the opening of the borders and which would not be predicted on the basis of traditional analysis. (8)

In 1996, Hirsch, Ayal, Niron Hashai, and Regina Khesin published another study which went into much more detail about the role of input-sharing and attempted to quantify potential trade in inputs between Israel on the one hand and Egypt, Jordan, and Syria respectively. (9) They concluded that Jordan, Syria, and Egypt were potential suppliers of food products, textiles, and clothing. Jordan also had the potential to supply ceramic goods, non-metallic minerals, and metal for construction to Israel. As input-output studies for the Arab states were not available, a crucial assumption was made: that the internal structure of the different activities did not vary between the countries under consideration. (10)

A third study by Paul Rivlin and Niron Hashai, published in 1999, examined the potential for Israel-Saudi Arabia and Israel-Kuwait trade in inputs. It used input-output data for an Arab state--Kuwait--for the first time. (11) This study assumed that Israel and the Arab states would grant each other at least "Most Favored Nation" (MFN) status--that is, normal, non-discriminatory trade status in terms of import duties or quotas--as specified in Article 1 of the General Agreement on Trade and Tariffs (1947). This assumption is used here with regard to trade between Israel and Kuwait and Saudi Arabia, and also with the other four GCC members--Bahrain, Oman, Qatar, and the United Arab Emirates.

It should also be noted that Israel would not necessarily import the same products from both Kuwait and Saudi Arabia. The import of oil from Kuwait might reduce the relative competitiveness of Saudi oil imports

(or vice-versa). This is a limitation of the methodology used, which examines bilateral trade only.

#### THE INPUT-SHARING MODEL

Estimating the potential for trade in inputs between countries involves three stages. First, identifying internationally competitive suppliers for the input in country A; Second, using input-output tables to identify buyers in country B for country A's output; Third, to match potential producers and customers in order to obtain an estimate of the bilateral trade potential.

Trade data on country A (the exporter) is needed in order to identify which inputs may be sold to country B (the importer). Information on the structure of country B's economy, particularly its industry, is needed in order to identify those sectors which use a high proportion of Country A's competitively produced inputs.

The index of Revealed Comparative Advantage (RCA) is used in order to calculate which industries are competitive input suppliers in A. The RCA index, developed by Bela Balassa in the 1960s, (12) helps researchers to identify a nation's comparative advantage.(13) The index neutralizes the effect of the size of a country's economy or industry, thereby making it possible to make meaningful comparisons between countries and the international performance of different industries. The value of the index varies between zero, indicating that a country has no exports in the industry being considered, and infinity, meaning that the industry is a major exporter relative to other industries of the economy. A branch with an RCA index of over one has a share in the world market share which exceeds the average share of the country in world exports. This means that it is relatively competitive, compared to the rest of its

home economy. Such a branch has therefore a comparative advantage, or in Balassa's terminology, a revealed comparative advantage.

In this study, when Israel is the exporter (Country A) then Kuwait is the importer (Country B). When Israel is the importer Kuwait is the exporter

While the RCA index is used to identify potential suppliers, potential importers of those products are identified using the input-output tables for Israel and Kuwait. The input-output tables provide information on purchases of inputs by producers of final products. The Israeli tables were used to identify the products manufactured by Kuwaiti and Saudi Arabian sectors that have high RCA indices. Kuwaiti tables were used to identify those sectors in Kuwait that would buy Israeli products that have a high RCA. The Kuwaiti data was broken down into 33 sectors--a high level of aggregation that limited the value of the results.

We do not have any information on changes in the structures of the economies' input-output since then. Technological developments and changes in relative prices cause changes in input-output relationships over time, and so the results may give an incorrect estimate of the potential. In fact, the period since 1988 has been marked by the development of a large high technology sector in Israel and the decline of traditional industries such as textiles. This is, therefore, a limitation of our model

Another factor is whether or not domestic competition exists for importing a given product. If potential imports from Country A are also being made by domestic suppliers, there will be resistance from local manufacturers wanting to protect their market share against a presumably cheaper import. But if the merchandise is already being

supplied by a third country this problem does not exist. For example, domestic producers in Israel are less likely to oppose the introduction of a new potential import supplier such as Kuwait or Saudi Arabia if the local market already imports goods from a third country, for instance, oil from Nigeria or Venezuela oil.

Had trade taken off between Israel and Kuwait in 1993, Israel would have potentially imported about \$1.075 billion worth of goods from Kuwait. This figure is based on the Israeli input-output table and includes imports from the only sector of Kuwait's economy with an RCA value higher than one--energy. Further, only \$3 million worth of imports, a tiny proportion of this new trade, would have replaced domestically produced inputs. In short, there would be virtually no competitive opposition in Israel to maximum imports from Kuwait.

The overwhelming bulk of potential Israeli imports from Kuwait would have been crude petroleum and natural gas products. In 1997, Israel imported \$1.89 billion worth of oil and oil products. [14] It has an oil supply contract with Egypt and may import oil from Norway, Mexico, Nigeria, the United Kingdom and Venezuela: Much of the oil from unnamed countries comes through the spot market in the Netherlands. Kuwait would have a cost advantage over any of these states, other than Egypt, in that transport costs would be lower.

Changes in Israel's economy, while substantial, would not reduce the attractiveness of energy imports from Kuwait or Saudi Arabia. Indeed, the growth of the economy has increased Israel's energy needs while the sources of supply have remained roughly the same.

Between 1988 and 1997, Israel's Gross Domestic Product (GDP)

rose by 52 percent in real terms, resulting in an increase in total Israeli imports and thus, in potential Israeli imports from GCC countries. During these years, the volume of civilian imports, excluding diamonds, increased by 135 percent. This implies an increasing propensity to import. But, assuming that new sources of imports increased only as much as GDP (52 percent), then estimated potential Israeli imports from Kuwait in 1998 could have reached \$1.64 billion. (This figure is based on potential Israeli imports from Kuwait in 1988 of \$1.08 billion, multiplied by a factor of 1.52 to allow for the growth of Israeli demand.)

#### POTENTIAL KUWAITI IMPORTS FROM ISRAEL

Using Kuwaiti input-output data for 1992, which is only available at a very aggregated level (of about 30 sub-industries), it was possible to calculate potential imports from Israel. Potential imports from Israeli industries with an RCA of over one would be about \$320 million in value. Kuwait's economy grew by 78 percent between 1992 and 1997 and, using this growth rate as a proxy for the growth of imports, potential imports from Israel could have reached \$570 million in 1997.

The actual pattern of import growth would depend on the nature of structural development in the Israeli and Kuwaiti economies: the pattern of relative growth of different sectors and the way in which each sector, industry, or branch developed in terms of its choice of technology, efficiency, and products.

As a result of the very high level of aggregation of the Kuwaiti input-output tables in which many sectors are placed in one category, only two Israeli industries (agriculture and livestock and chemical products) were

identified as having RCA indices of over one. In a less aggregate analysis, in which there were more industries, it is likely that Israeli industries such as electronics and telecommunications would be identified as internationally competitive.

#### POTENTIAL ISRAELI IMPORTS FROM SAUDI ARABIA

The potential for Israeli imports from Saudi Arabia as substitutes for imports from other countries was estimated for 1992 at \$1.47 billion. Potential Israeli purchases of Saudi alternatives, mainly refined petroleum products, to domestically produced goods equaled \$1.16 billion. The great majority of these items would be oil and products made from that substance.

Adjusting for the 52 percent growth of Israel's economy in the 1988-1997 period, and again assuming that the propensity to acquire new sources of imports increased only as much as GDP, then potential Israeli imports from Saudi Arabia in 1997 would have equaled \$3.99 billion. This assumes that Israel would allow all, or much, of its oil to come from Saudi Arabia, which is not realistic from a political/strategic viewpoint.

#### DISTANCE SENSITIVE TRADE

The opening of borders between Israel and its neighbors can be expected to result in trade in some distance-sensitive goods. Because trade as been prevented by political fiat, Israel has had to import materials from outside the Middle East that it may be able to import from Arab countries at lower transport costs. Aside from oil, this could include building materials, iron, and steel.

There is also a prime facie reason for believing that income differences will deter or limit trade between some countries in the region.

Income differences result in differences in spending priorities and opportunities, therefore limiting the possibility of selling one country's products in another. The gaps in per capita income between Israel and its immediate neighbors are as large as are those between the GCC states and their poorer relations in North Africa, for example, and this may limit trade between them.

The best way to estimate the potential value of distance-sensitive trade between Israel and Arab states, given the little trade that exists between them, is by using another country as a model. Austria makes a good comparison because like Israel, it is a small, industrialized country reliant on international trade. Distance sensitive goods are likely to account for a larger share of the international trade of small countries than that of big ones. Smaller economies are less likely to be self sufficient than larger ones and usually have larger foreign trade sectors as a result.

Using an econometric model, Zeev Hirsch and Niron Hashai demonstrate the role geographic distance plays in Austria's imports (the proxy was the distance between Vienna and the capitals of Austria's trading partners.) (15) Examining the imports of 66 industries showed that those products with low unit values (i.e., those that are sold in bulk) such as perishable goods, were relatively geographically distance-sensitive while those products with high unit values, such as high-tech goods, were relatively insensitive to geographic distance. Tests were also conducted for sensitivity to economic distance (the proxy used was relative difference in per capita income between Austria and its trading partners.) Finally, the combined effect of economic and geographic distance was examined.

Using the Austrian date, Hirsch and Hashai generated a list of industrial sectors with high sensitivity to geographic distance and low sensitivity to economic distance. These sectors were identified as candidates for new trade between Israel and its Arab neighbors. Given Israel's comparative advantage in skill-intensive labor, these industries were ranked by the share of skilled workers in total employment. The Israeli sectors with the highest skill intensity (among geographically and economically sensitive industries) were commercial machinery and electrical appliances. Egypt's imports of commercial machinery in 1996 totaled \$110 million and, given Israel's proximity relative to Egypt's existing suppliers (mainly in Europe, East and Southeast Asia, and the United States, it could be expected to win a share of this market. Arab countries may be able to sell wood and carpentry products to Israel according to this analysis.

make use of a combination of pipelines and tankers, resulting in savings for Jerusalem.

The cost of transporting a barrel of oil through a pipeline ranges from \$0.50 to \$2.75 for distances ranging from 850 km to 1,950 km (16). The cost depends on the length of the pipeline, the number of pumping stations (needed to push the contents uphill), and the capacity of the pipeline (its diameter). The cost of transporting a barrel of oil by tanker also varies and depends on the distances involved and the size of the tanker, among other factors. For example, the cost of transporting oil between Sidi Keir, Egypt and southern Italy (a distance of 1,600 km) has been estimated at \$0.45 per barrel. If the distance between Yanbu, Saudi Arabia and Eilat, Israel is 850 km--or 53 percent of the distance between Egypt and Italy--then the estimated cost of transporting one barrel of oil by tanker from Yanbu to Eilat is \$0.2385 (\$0.45 x 53 percent).

Using these and other figures

<b>Table 2</b>	
Approximate Distances between Israel and Actual and Potential Oil Sources (kms)	
Actual Sources	Distances
Ashdod-Mexico	11,500
Ashdod-North Sea	4,000
Potential Sources in the Middle East	
Eilat-Yanbu	850
Ashdod-Yanbu (via Saudi/Eilat-Ashdod pipeline)	1,050

**AN EXAMPLE OF GEOGRAPHIC-DISTANCE SENSITIVE TRADE: OIL**

One product for which transport costs can be easily quantified is oil. Oil is transported either on tankers or through pipelines. Currently, Israel imports oil on tankers, but purchases from Gulf countries could

we can calculate the cost of Israeli oil imports from Mexico, a current supplier. The cost of transporting oil from Mexico to Israel was estimated in 1999 at \$1.53 per barrel. (17) Assuming that half of the 85.4 million barrels, (mb) of oil that Israel imported in 1998 came from Mexico, transport costs (of 42.7 mb at \$1.53 per barrel) would have totaled \$65.25 million. If

the average cost of Mexican oil in 1998 was \$10.45 per barrel, then transport fees cost Israel an estimated additional 15 percent per barrel. (18) The cost of transporting the other half of Israel's oil imports, on the assumption that they came from the North Sea (at a cost of \$1.02 per barrel) came to \$43 million. (19) The total cost of transporting Israel's oil imports in 1998 was therefore \$108.25 million. (20)

If Israel imported all of its oil from Saudi Arabia, via Yanbu on the Red Sea coast, then the transport costs would cover:

1. Use of the Saudi pipeline from the eastern oil fields to Yanbu (1213 km) at \$0.50 per barrel (the lowest figure for pipeline charges given above),
2. Tanker costs from Yanbu to Eilat (distance: 850 km at \$0.2385/barrel)
3. Total cost:  $85.4 \text{ mb} \times (\$0.50 + \$0.2385) = \$63 \text{ million}$

The foreign currency saving is therefore \$42.25 million (\$108.25 million, the assumed existing cost of transporting oil from Mexico and the North Sea, minus \$63 million, the estimated cost of importing all of Israel's oil from Saudi Arabia. This figure ignores the cost of transporting oil from Eilat to Haifa, site of Israel's main petrochemical industry, but this saving is an example of the gains from direct trade with Arab countries.

## CONCLUSIONS

The study of geographic and economic sensitivity is still at an early stage and must be refined. Furthermore, this study excluded services and service-intensive products (such as computer software and telecommunication equipment) that usually require interactions between customers and suppliers and thus are

likely to be highly affected by distance. Between 1990 and 1997, world exports of goods rose by an annual average rate of 7 percent; that of commercial services rose by 8 percent. Meanwhile, exports of office and telecommunication equipment rose by 12 percent, forming the largest single sector of international trade in goods (12.7 percent of exports and imports). In the Middle East, however, they accounted for only 1.8 percent of exports and 5.9 percent of imports. (21) Recent studies of new trade show the potential savings of encouraging regional trade in the Middle East in goods that are currently imported from outside the region. These purchases will lower costs and as a result increase welfare. That, in itself, will stimulate new trade.

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## NOTES

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6) Israel, Foreign Trade Statistics Quarterly, Import-Export, July-September 1999, Vol. 50, No. 3 (Central Bureau of Statistics, Jerusalem, 1999). On the general question of distance sensitivity, Hirsch and Hashai say: "...Service-intensive products tend to be sensitive to distance. This is so since the provision of services often requires direct, or even face to face communications between service provider and service user. When this is the case, the cost of the time required for the interaction between provider and user can constitute an important element of total costs. Geographic distance affects this cost, when face to face communication is required and even more so, when travel is involved. Consequently, service-intensive products tend to be sensitive to distance. To ameliorate the negative effects of distance on the cost of services they are often provided by organizations that are relatively close to the customer," (p.4).

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