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AGRICULTURAL TRADE POTENTIAL FOLLOWING PEACE IN THE MIDDLE EAST: THE CASE OF SYRIA AND ISRAEL

by

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ABSTRACT

The protracted Arab-Israeli conflict has adversely affected the economic, social, and political development in the Middle East. In spite of the centrality of political considerations, it is important to look at the potential for trade and other transactions between the countries from a purely economic point of view. In this thesis candidates for trade in agricultural commodities between Syria and Israel are identified, assuming a normalization of relations between these two countries.

The history of trade in the region, from the Roman Empire to the present time is described and analyzed with an emphasis on Israel and Syria. This is followed by an examination of relative resource endowments, and political, economic, and social development, with special attention to the agricultural and food sectors.

Border trade analysis is used as a method for identifying commodities that are candidates for trade between Israel and Syria. In general, the method presumes that commodities that are sensitive to distance will be candidates for trade between neighboring countries. This sensitivity is assessed by an examination of border trade in a commodity compared to total trade in the same commodity, using data from a sample of countries. Commodities that tend to be traded between neighbors compared to between distant partners are assumed to have potential for trade between Israel and Syria.

The results of the analysis yielded 10 agricultural commodities (SITC three digit level) that are likely to be traded between Israel and Syria. Moreover, the possible direction of trade in these commodities could also be identified.

Resumé

L'éternel conflit Israelo-Arabe a négativement affecté le développement économique social et politique au Moyen Orient. Bien que les considérations politiques soient de première importance, il est essentiel d'examiner le potentiel d'échanges commerciaux et autres d'un point de vue strictement économique. Dans cette thèse, les candidats au commerce agricole entre la Syrie et Israël sont identifiés, dans la situation hypothétique d'une normalisation des relations entre ces deux pays. L'histoire du commerce dans cette région, de l'Empire Romain à nos jours est décrite et analysée, avec un accent particulier sur la Syrie et Israël. La thèse est suivie d'une étude des ressources respectives, du développement politique, social et économique, avec une attention spéciale aux secteurs agricoles et alimentaires.

L'analyse des échanges frontaliers est utilisée comme méthode d'identification des denrées candidates aux échanges commerciaux entre Israël et la Syrie. Ca méthode présume que les échanges entre les pays frontaliers favorisent les produits sensibles aux distances. Cette sensibilité est a son tour évaluée par le biais du rapport des échanges frontaliers pour un produit donné en comparaison avec son échange total, en référence aux données d'un pays-type. Les denrées à tendance d'échanges entre pays voisins plutôt qu'entre pays distants, sont considérées comme ayant un potentiel commercial entre la Syrie et Israël.

Les résultats de l'analyse ont fait ressortir 10 produits agricoles (SITC 3-digits level) qui pourraient être échangées entre la Syrie et Israël. Par ailleurs, la direction de cet échange a pu être identifiée.

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The Economist Intelligence Unit. Country Profile. Syria. 1996.

Map of Israel and the Occupied Territories.



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CHAPTER ONE

INTRODUCTION

1.1. Background

The 1993 Oslo peace agreement between the Palestinians and Israel has opened the path for a new era in the Middle East laying the groundwork for the possibility of cooperation and development. Peace in the Middle East is not only a demand of the countries involved, but is also an international necessity. (Al Torodi, 1995).

In the absence of a peace treaty and still technically at odds with Israel, Syria naturally does not trade with that nation. On the other hand, Israel trades extensively with the Occupied Territories¹ with which it has a large trade surplus in goods. The economic and political relations between Israel and Palestine are very important to peace in the Middle-East. It is widely believed that an overall comprehensive peace is only possible if real peace takes place between Israel and Palestine where Palestinian national rights are restored. In this event, peace between Syria and Israel will be a more realistic idea, and as a result Syrian-Israeli trade would be possible.

Implementing the peace agreement between Israel and Palestine and renewing the talks with Syria is what is now needed to reactivate the peace process and to lead to a peace treaty. The likely components of the treaty are: (1) the character of peace; (2) the character of territorial withdrawal; (3) the recognition of international borders; (4) the management and distribution of water resources; (5) the schedule of the withdrawal of Israeli and Syrian forces from Lebanon; (6) the future of the Israeli settlements in the Golan Heights; and (7) the package of security arrangements (Mandell, 1996). Moreover, speeches of the former prime minister of Israel, Shimon Peres, emphasized the importance of

¹ West Bank, Gaza, Jericho, and Eastern Jerusalem.

embedding the Syria-Israel peace in a regional economic package, where trade would be the major element.

Learning from the experience of its peace with Egypt, and according to Uri Savir, the director-general of the Israeli foreign ministry and part of the negotiating team, Israel does not want a normalization with Syria of a kind where the two sides "sign several agreements that decorate archives". Israel's announced aim is to entwine Israel and Syria at every level of a peace deal – especially regional economic development – to create a strategic and economic dependency by both sides as a guarantor of a long-term peace (Middle East Reporter, December 23, 1995). However, it is understood that Syria's president, Hafez Al Assad, has another view of peace with Israel. Assad views that peace with Israel should not go beyond the land-for-peace formula, and that normal diplomatic and economic relations with Israel are not part of Syria's desires.

Given the shared borders of both economies, there would normally be extensive trade and investment between them. Politics have destroyed these patterns, and trade between Syria and Israel has been prohibited (Fischer et al. 1993).

Comprehensive peace, which the Syrians and the Israelis want, means the normalization of relations between both countries which will include normalization of relations with Lebanon. An automatic outcome of this new reality, with the support of the USA and the EU, would be economic cooperation and trade.

For the foreseeable future the volume and composition of trade and other economic transactions between Syria and Israel will undoubtedly be influenced to a significant degree by political considerations. Progress in the negotiations concerning the future of Jerusalem, the implementation of UN resolutions concerning south Lebanon, inter-Arab relations, North-South relations as well as domestic political, social and economic developments will all affect the readiness of the two governments to allow and encourage economic intercourse between their citizens. In this context, it will be helpful to know something of the potential for trade between these two countries, even for a limited number of commodities.

1.2. Objectives

The objectives of this thesis are: (i) to describe and analyze the history of trade between the territories now known as Syria and Israel. (ii) study the potential for trade between them in case of peace, and (iii) forecast the agricultural products that have the greatest potential for trade after the removal of barriers.

1.3. Outline of Thesis

Chapter 2 discusses trade history of Palestine and Syria from the time of the Roman Empire until 1948, the date of the creation of the state of Israel. Then, a general overview of the political economies of Israel and Syria will be discussed and compared and their barriers to trade will be analyzed in Chapter 3.

Chapter 4 discusses trade theory in general. Some trade models will be explained. The data used and the methodology to find the candidate agricultural commodities to be traded between Israel and Syria in the future is discussed in Chapter 5.

Chapter 6 deals with the results and discusses the border trade analysis. The summary and the conclusion are presented in Chapter 7.

Figures 1.1 and 1.2 show maps of Syria, and of Israel and the Occupied Territories.

CHAPTER TWO

HISTORY OF TRADE BETWEEN 'ISRAEL' AND SYRIA

Throughout history, and before the creation of the state of Israel on Palestinian land in 1948, trade between Syria and Palestine was a very natural phenomenon. The study of the nature of this trade from the time of the Roman Empire through modern times², might provide an indication as to how trade relations could develop in the future if the current political, and social barriers are eliminated.

2.1. Trade in the Roman Empire: (63 BCE – Mid 4th century)

Going back to the Roman Empire, trade routes through Syria by land followed their ancient course. Caravans converged on Aleppo in Syria from Mesopotamia, Armenia, and Anatolia (in Turkey), and thence to Alexandretta, a Mediterranean region in Turkey considered by Syrian nationalists as part of 'Greater Syria'. Another major artery of trade was along the famous pilgrim route from Damascus (Syria) to Mecca (Saudi Arabia). A third channel was the caravan route from Egypt to Palestine which diverges at Gaza to join the pilgrim route at Ma'an (Jordan). This third route is of importance to the study since it joins Palestine with Syria and was considered one of the most important routes of trade at that time (Safrai, 1994).

Syria's central position in the old world made it an important junction for overland and sea routes from further Asia and India to the Mediterranean, Africa, and Europe as well as for exchanges between its neighbors, Mesopotamia, Egypt, and Anatolia. By 3000BC caravan trade was so well established that its methods were standardized and commercial exchanges regularized. Desert routes could

² Information revealed in this section was possible due to literary documents, inscriptions, archaeological remains, Talmudic texts, and other literature from the Christian church (Particularly that of the Syrian, Armenian and Egyptian church).(Safrai, P1).

not have been used before the domestication of the camel towards the end of the second millennium BC and the arrival in the Syrian desert early in the first millennium BC of the single humped camel and the swifter single humped dromedary from Arabia (Petran, 1972).

During the Roman Empire, Syrians in great numbers invaded the West carrying their goods, gods, ideas, manners, and enterprising spirit to the furthest reaches of the empire. Syria was exporting agricultural products such as wine, fish, garlic, onion, pistachio, and plums to Palestine, and textiles such as linen and dyed wool, in addition to blown glass, silk, metal, leather, and jewelry to many parts of the world. Palestine was importing wheat and silver from Babylonia (Iraq), dates, lichen and mustard from Egypt, wood, sandals, and silk from Lebanon, and marble from Marmara, Turkey, and exporting textiles, wine, and oil to Egypt, and linen, wool, glassware, dates, onion, wine, and slaves to the rest of the world (Safrai, Petran).

Syria was second only to Egypt as a supplier to Palestine – "...trade with Syria was simple and natural and the political boundary between the two provinces might not have been a clear cut economic one. Trade with Egypt, however, was dependent on boats and ships" (Safrai. p398).

Moreover, pilgrims from all around the world, especially Christians, visited Jerusalem in Palestine. The route they took was mainly through Syria. Thus, Christians from eastern Asia and from the Arabian Gulf region used to travel through Syria to Jerusalem. The pilgrimage was a source of income to the city, its merchants, as well as to the cities through which the caravans passed (Safrai).

2.2. Trade during the Ottoman Empire

Through the Ottoman conquests of the sixteenth century, Syria and Palestine passed from the hands of one Turkish master to another and became part of the powerful and wealthy world empire (1517 - 1917) which faded at the beginning of the first world war (Hitti, 1951. Petran. Castle, 1948).

Statistics about products traded between Syria and Palestine during the Ottoman Empire period are not available. The period of the Ottoman decline (beginning with their defeat by Vienna in 1683) was one of 'social regression, during which economic development was arrested and then reversed, and the transformation of the country into a market for the industrializing West began' (Petran).

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Ottoman "maladministration", in addition to the changes in the international trade routes, left the region's economy in bad shape. The foundation of the prosperity of those lands rested on trade, especially India-to-Europe trade. The discovery in 1497 of the sea route from Europe to India around the Cape of Good Hope by the Portuguese navigator Vasco da Gama, the rounding of the southern tip of South America in 1520 by another Portuguese, Ferdinand Magellan, the 1492 voyage of Christopher Columbus which discovered America – these and related events changed the course of the great trade routes. The Mediterranean, 'hitherto a middle sea, was no longer filling that position; it had to wait three and a half centuries, till the opening of the Suez Canal, before it could resume its place as a highway and a battlefield' (Hitti, 1951).

The principle instrument for the decline of the Ottoman period was known as the "capitulation". During this decline, European goods were easily transported into the Ottoman Empire, whereas Syrian, Palestinian and other Ottoman goods seeking to enter Europe were subject to several trade barriers. This commercial capitulation by the frail Ottomans resulted in the decline of Syrian and Palestinian exports to Europe (Petran.).

By the eighteenth century, Syria and Palestine were completely decadent. The Ottoman government could no longer maintain security. Tribes moving to the Syrian desert from Arabia successfully challenged its control. Devastating Bedouin raids carried off harvests, laid waste cultivated fields, and pushed back the frontiers of cultivation. Trade and pilgrimage caravans, towns and villages were also ravaged. 'Military forces revolted and fought each other for power. Extortion, violence, and fanaticism were the order of the day' (Petran). However, in 1860, and under the pretext of defending the victims of the Lebanese communal wars, the French military intervened, resulting in the granting of autonomy to the mountain under a Christian governor-general. The mountain became Mount Lebanon. The presence of France and the other five great European powers of the time left its cultural and social marks in the Middle East. Then the opening of the Suez Canal to world traffic in 1869, helped to end the isolation of this region and to revive its traditional role as the link connecting the three historic continents (Hitti, 1959).

In 1876, with the awakening of Arab nationalism against Turkish rule, the Turks, started reviving the Islamic religion in an attempt to absorb Arab resentment. They appointed Syrians to high positions in the Empire and, most important, constructing the Hijaz railroad from Damascus to Medina in Saudi Arabia, which could have the effect of restoring to Damascus its former role as the principal 'staging-post for pilgrimage' (Petran).

2.3. Trade before and after World War II

2.3.1. World War I

World War I brought great suffering to the the Middle East, as elsewhere. The British blockade, arbitrary Turkish requisition of food and animals, destruction of fruit and olive trees, and widespread corruption all but ruined the economy. Famine and disease claimed 300,000 lives (Petran). Plagues of locusts served only to make a bad situation worse.

Following World War I, the region was divided between Great Britain and France. In response to Zionist demands, Britain extended the borders of Palestine to include both banks of the Upper Jordan River, the eastern shores of lake Huleh and lake Tiberias, and a strip of the land running into southern Lebanon. This region became a British Mandate while the State of Syria and the State of Greater Lebanon became a French Mandate. Clashes started and seeds for future wars were planted. In this atmosphere, trade was minimal (Petran).

2.3.2. World War II (1939-1945)

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Most of the Arab countries imposed import, export, and exchange controls shortly after the outbreak of the World War II, but their trade with each other was not significantly affected until 1940. The decrease of trade between Syria and Lebanon with other Arab countries was especially noticeable. Commercial activities were complicated by the uncertainty of the Syrian-Lebanese pound, which was tied to the French franc, and emergency restrictions rendered it virtually impossible to obtain import licenses and foreign exchange for "non-indispensable" goods. The British economic blockade and the lack of transportation facilities also contributed to the drop in trade between Syria and Lebanon with the rest of the Arab world, including Palestine (Petran).

2.4. Trade Agreements between Syria and Palestine before 1948:

Comparing trade relations between Egypt and what is now Israel in the Roman era to current commercial ties between them can give us a glimpse on the prospects for trade relations between Syria and Israel after a peace treaty is signed.

Before 1948, the year Israel was established, separate customs territories with different units of currency had been established in the region. The mandatory powers and other members of the League of Nations recognized the existence of economic ties between certain Arab territories and made provision for maintaining them (Musrey, 1969).

In accordance with these provisions, agreements were concluded by the mandatory powers providing for free trade between Syria, Palestine, and Trans-Jordan. Trade provisions between Palestine and Syria provided that goods- other than tobacco and tombac (a nicotine-containing plant similar to tobacco and mainly smoked using a "nargile" or 'water pipe') in all their forms, pure alcohol, spiritual liquors, salt, matches, and any other goods which may be agreed upon by the contracting parties- which:

(a) were wholly produced in Palestine or Syria; or

(b) were manufactured from local produce and had not undergone any process of manufacture outside the country of origin; or

(c) were wholly manufactured in Palestine or Syria from foreign materials; or(d) were wholly manufactured in Palestine or Syria in part from foreign materials and in part from local products should be admitted to the other territory free of import duty (Musrey).

During the 1920s, the economies and trade of Arab countries had, over a rather long period, become geared to and oriented toward the economies of the mandatory and occupying European powers – Britain and France. The formal framework for such trade continued to be non-preferential, although there were many other factors, including tied currencies, foreign investments, and foreign control, that channeled trade to and from these European countries (Musrey).

France was the leading exporter to and a good customer for Syria, accounting for about one-sixth of Syria's imports and exports. And Britain, in addition to being the supplier of a substantial amount of the imports of Palestine and Trans-Jordan, was the leading customer for Palestinian products, purchasing over one third of the exports of that country (Musrey).

CHAPTER THREE

THE POLITICAL ECONOMIES OF SYRIA AND ISRAEL

The transformation of Syrian and Israeli relations from war to peace has not yet been completed, and the process will probably continue for years to come.

Understanding the transformation of the political economies of these two countries during the past three decades will help us understand the present situation and what might happen after a sustainable peace is achieved. In other words, it is important to examine the economic policies of these two countries, their economic status, resource endowments, and their disposition toward trade as the context in which to explore the economic incentives for trade. In the following sections, the evolution of the political and economic systems of the two countries are explained, in turn, followed by a profile of the existing trade pattern of Syria and Israel with the rest of the world, and finally an analysis of social indicators and of some agricultural production figures.

3.1. The Political Economy of Syria Under Assad:

Syria's political structure and regional position, its economy, and its social structure have undergone enormous changes since 1963, when a military coup brought the Ba'ath, the main Arab nationalist party of the Arab world, to power, and in particular since the assumption of power by Hafez al-Assad in 1970. Ba'ath and Assad have moved the weak and vulnerable Syria from a rural and agricultural economy, ruled by the representatives of 100 or so wealthy, landed families, to a strong player in regional and international politics (Perthes, 1995). Moreover, after many years of heavy state involvement in the economy, the country has been prepared for more commercial activity through a deregulation of foreign trade, a reduction in state intervention and encouragement of the private sector.

Syria gained formal independence from 23 years of French control in 1943 and full sovereignty in 1946, when the last French soldier left the country. According to its constitution, Syria is a parliamentary democracy. Power, however, was concentrated in the hands of landlords and merchant classes, and increasingly, of the military establishment (Perthes).

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Even before the greater influx of external resources in the 1970s due to Syria's improved relations with the conservative and rich Arab states, the weak Syrian economy experienced a fairly steady self-contained growth. The underexploitation of the country's resources during the mandate period allowed, after independence, an economic expansion in both agriculture and industry. Land under cultivation increased one and a half times between 1943 and 1953 alone, an expansion pioneered by an agro-business sector and stimulated by the profits generated from export-oriented cotton production, which amounts to more than 600,000 tonnes per year. The output of modern factory production in the manufacturing of basic light consumer goods, already established during the war period, was also doubled in nearly a decade under the protective measures provided by the post-independence state. Despite this important growth, the economy's development still lagged behind other countries in the region, the infrastructure was still poor, and, the inequality of income distribution still appalling (Choueiri, 1994).

To stimulate economic development, public sector investment was increased through projects such as the Homs oil refinery, which was constructed in 1955. Land reform soon followed and irrigation projects accelerated, which increased the proportion of arable land that was irrigated from 9.5% in 1980 to 19.6% in 1994 (table 3.4). Incentives given to industry resulted in the expansion of the industrial base in the two main traditional sectors of textiles and food processing (Choueiri).

During the period after 1943, the Zionist community in Palestine was determined to create its own state in part of Palestine and to secure American and British support for this policy. Syria, however, was excluded as a possible partner

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in Arab-Jewish understanding. With its outspoken pan-Arab and pro-Palestinian leader, al-Quwwatli at one side, and Israel's Ben Gurion at the other, the first Arab-Israeli war erupted in 1948 (Ma'oz, 1995).

The traumatic experience of the 1948 war still lingers among both Israelis and Syrians, and is compounded by mutual fear, distrust, and prejudice. While Syrians are afraid of Israeli military aggression and territorial expansionism. Israeli Jews still feel threatened by Syria's old declared intention to eradicate Israel, (Mao'z) a threat which was often used by Syrian and other pan-Arab leaders to distract the attention of their own people from the domestic political, economic, and social problems.

After 1949, Syria experienced a series of military takeovers and attempted coups. In November 1970, following some two years of open conflict within the power elite about both internal and foreign policy directions, General Hafez al-Assad took power in a new military coup, or "Correctional Movement". Socialism was turned into state capitalism, restrictions on the private sector were relaxed, and rapid economic growth, largely through public expenditure, became the main economic and development policy (Perthes).

Israel, meanwhile, still occupying the Golan Heights, refused to implement the UN Resolution 242 that calls for the complete withdrawal of its army from that region. Enjoying American diplomatic and military support and backed by the majority of the Jewish population, Israeli leaders considered the Golan as part of Israel and continued to encourage the establishment of more Jewish settlements there (Ma'oz). In October 1973, Syria attacked Israel. Though not a military victory, it was considered by Arab nationalists as a political one. The combination of a national success and tangible economic development allowed Assad to enjoy a high degree of popularity and legitimacy for several years (Perthes).

Assad had been known to favor abandoning the regime's strategy of socialist transformation, reducing Syria's reliance on the socialist bloc and opening up to the "West", the conservative Arab states and, internally, to the

private sector. Syria's economic policies moved towards what has commonly become known in the Arab context as *infitah* – economic opening (Perthes).

The state-led *infitah* gave priority to the industrial sector and new contracts were, for the most part, won by "Western" companies instead of those from the "Socialist bloc". However, between 1971 and 1985, the government ordered mostly capital- rather than labor-intensive industrial projects. Such investment decisions proved to be inappropriate. Large and increasing losses were a common characteristic (Perthes).

Syria's public and private sectors' dependence, to a large extent, on imports has contributed to the growing deficit in the balance of trade which took until 1998 to show a surplus (see table 3.1). Furthermore, agricultural development and production remained below expectations, thus, burdening Syria with a mounting bill for imported food (Perthes).

In 1983, austerity measures were undertaken declaring the start of a second phase of *infitah*. The title of this *infitah* was "cutting back the state", and it continued until the end of 1994. This stage of opening up started by a cautious move to relax foreign exchange regimes and thereby rid the state of a responsibility which it could no longer fulfill. In 1986, a new "encouragement" rate for the Syrian pound was introduced. Step by step, the free-market rate was accepted, and the state was stripped of its legal monopoly and control over the private foreign exchange dealings. In 1991, the neighboring country's rate (the exchange rate in Lebanon and Jordan) of exchange was officially applied. An effective, gradual currency devaluation took place, which was accompanied by a deregulation of foreign trade. The private-sector was allowed to import raw material for the public-sector which was unable to earn its own foreign currencies to import by itself (Perthes).

Following the mixed public-private ownership model already used by tourism and transport industry, the establishment of a joint public and private ownership of agricultural companies was permitted. The state maintained a

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monopoly over the trade in agricultural products regarded as strategic, such as cotton, wheat, and sugar-beet (Perthes).

These liberalization efforts were possible with the decrease in oil imports, and an increase in Syrian crude oil exports. A surplus in the balance of payment appeared after 1989. Moreover, the resumption of Arab aid after the Gulf war in 1991 as a reward to Syria's military and political supportive role against Iraq, as well as some other loans from Japan and Germany, permitted work to resume on large infrastructure and suspended development projects (Choueiri, 1994).

When overall economic indicators, particularly Syria's foreign exchange situation, improved, the private sector's demands became satisfied to a large extent and, as major high-policy decisions had to be prepared in the context of the "Middle East Peace Process", economic reform was not the most urgent issue on the leadership's agenda (Perthes).

It is widely believed that with the fall of the Soviet Union and under the "new world order", Syria will have to come to terms with Western policy in the region and with economic 'liberalism' internally. At the same time, good relations with the Islamic Republic of Iran and with the conservative Arab regimes, particularly Saudi Arabia, will be important for Syria's strong military profile which will help in Syria's future negotiations to reach a sustainable and comprehensive peace agreement. (Middle East Reporter, 19 July, 1997).

3.2. The Political Economy of Israel

In the early 1880s, the Jewish-Zionist 'national movement' launched its activities on Palestine. In 1917, the British Government, the mandatory power over Palestine, gave the Zionist leader, Haim Weizmann the Balfour Declaration – favoring the establishment in Palestine of a national home for the Jews (Ma'oz).

After the establishment of the state of Israel, the Labor party, as well as the Histadrut (the general Federation of Hebrew workers in Israel) and even most private sector enterprises were mainly headed by the Zionist European socialist leaders of the Mandate era (1920-1948) (Shalev, 1992). The economy of Israel in its first 30 years was linked to the Labor party (which was called *Mapai* before 1969) and its socialist agenda. It was not until the 1980s that Israel was able to reform the economy and start the liberalization process (Niblock and Murphy, 1993). Until then, Mapai's principle social and economic agenda namely; full employment, generous state subsidy of both producers and consumers, and the mixed private public economy – were widely regarded, by Jewish people, as appropriate to the newly established country (Shalev).

The Histadrut was an important part of Mapai's political dominance. It had a leading entrepreneurial role in the growing economy of Israel characterized by its innovative introduction of frameworks for collective self-employment, such as the kibbutz, as well as corporations managed by paid executives and owned by the party. The Histadrut's emergence as a political movement nurtured the continuation of Mapai's control by bringing the masses into the realm of the Labor movement. (Shalev).

Although *Mapai* might have been expected to bring about the transition to socialism, in reality, after taking power the party preferred to continue its longstanding co-operation with clerical and bourgeois parties, while the significantly private entrepreneurs were silenced politically by economic concessions. Here it is important to point out that the party/state had the power to allocate all of the most important resources for capital accumulation, such as land, private savings, and a stream of loans as gifts from abroad. It was on this basis that the political elite chose to provide heavily subsidized finance for the lion's share of the investments made by large enterprises in all sectors of Israel's economy (Shalev).

Nevertheless, according to Kubursi (1981), these crippled policies by the Israeli "elite" and the public economic mismanagement, in addition to the 1973 war, caused a serious deterioration in the balance of payments deficit, a considerable escalation in the rate of inflation, a rise in the unemployment rate, a sharp decline in net immigration, and a significant upswing in industrial disputes.

A large import surplus has always been part of the economic experience in Israel. In 1995, for example, exports amounted to 19.046 billion US dollars and imports amounted to 29.579 billion US dollars (see table 3.1). Unilateral grants have always been part of the Israeli economic mechanism. The importance of foreign capital to the growth and performance of the Israeli economy made it very necessary for Israel to maintain a steady and stable flow of these funds. The American Jewry and other Zionist lobby groups were able to secure foreign funding as reparations from Germany, US government grants and loans, transfer payments, development grants, institutional remittances, personal restitution (lately from Swiss banks), IMF, IBRD, 'Independence and development bonds', and others (Kubursi, 1981).

Liberalizing the economy in Israel has always been a very sensitive issue. The blend of Zionism with socialist ideology, the attention to the absorption and settlement of Jewish immigrants, in addition to the "particular institutional formation" like the Histadrut, were vital to safeguard the intervention of the state in the economy. Even after the ascendance of the Likud – "champion of freemarket policies"- to power following the 1977 elections, state intervention in the economy remained enormous. (Niblock and Murphy, 1993).

However, the combined results of the character of the political system, limited natural resources (land, water, and oil supplies) and distant markets have emphasized the need for economic reform where new policies towards banks, privatization, the private sector, state relations, and relations with the region around it, could salvage the Israeli economy (Niblock T. and Murphy E. 1993).

In September 1984, a new economic policy was implemented, based on a series of 'package deals' between the government, the Histadrut, and the Manufacturers Association, designed to restrict wage increases and freeze prices. This package deal orchestrated by the Labor-Likud coalition government produced the desired result of slowing the inflation (Barkey, 1992).

Second and third package deals adopted by the government, which aimed at controlling rather than freezing prices, failed to deliver satisfactory results. Eventually, the Labor and Likud parties deemed it vital to increase competition in the economy and to reduce the size of the public sector by privatization. Moreover, the United States of America usually ties its financial aid to Israel to liberalization. This gives the economic reform a forward push. (Niblock and Murphy, 1993).

After 1986, the Likud party headed by Yitzhak Shamir launched a radical economic reform program that slashed personal taxes, opened up domestic capital markets, and promised cuts in government spending. These policies were the greatest challenge so far to Israel's socialist-oriented structures. However, when the Likud government introduced its reform package in 1987, it had to make considerable concessions to the Histadrut. These concessions drained the promised reform plan of its value (Niblock and Murphy, 1993).

Two significant exogenous factors that contributed to the success of the measures were (1) the US emergency aid package that provided Israel with the foreign currency reserves necessary to implement the devaluation and to stem the outflow of foreign currency, and (2) the worldwide decline in the price of oil. During the austerity measures period, bank credits were reduced, the private sector felt the brunt of increased interest rates, layoffs began, and two years later the *intifada* – civil uprising – in the Occupied Territories started, adding to Israel's military expenditure (Barkey, 1992).

Since the Madrid peace process in 1993, and during the peace negotiations with Syria, the PLO, Lebanon and Jordan, the Israeli government argued that efforts should be concentrated on security and peace which are the concern of public and the private sectors together. The government felt less pressured to further liberalize the economy. As a result, the trade deficit has stayed high in the past two years. In 1996, the trade deficit was 10.3 billion US dollars, decreasing to 7.8 billion US \$ in 1997. (Government of Israel, 1998).



Income, Production and Employment Israel Syria <u>~ 20000</u> Area (in km²) 185180 Population (1996) 5.8 15.3 Real GDP 1980 22656 13062 1985 25818 16403 1990 55044 12309 1995 91972 16783 Current GNP Per Capita (US \$) 1980 5740 1540 1985 6370 1680 1990 11540 900 1995 15920 1120 Current Military Expenditure (1997) 6600 1700 Unemployment Rate (Percent) 9.6 7 (1996) Exchange Rate (1993) USD/Isrl USD/Syr Sheqalim Pound 2.63 Israel Syria Official 11.20 Syria Neighboring Country Rate 42 **Trade Balance** Total Exports (FOB) 5540 2110 1980 1985 6260 1640 1990 11600 4250 1995 19046 3970 Total Imports (CIF) 1980 9780 4120 3970 1985 9870 1990 16800 2400 1995 29579 4616 Balance of Trade 1980 (2010) (4240)

Table 3.1: Key Economic Indicators of Syria and Israel in Millions of U.S.

Halbach (1995), US Dept. of State (1995). Collelo (1988), World Bank (1977).

(3610)

(5200)

(10533)

2439

(2330)

1850

(646)

18700

1985

1990

1995

External Public Debt (1996)

3.3. Comparison of the Syrian and the Israeli Economies:

Comparing the political economies of Syria and Israel, one notices many similarities. Both countries have a socialist background with a socialist platform that supported the regime. In Syria, it is the *Ba'ath* socialist party and its labor, students, and farmers' co-operatives that lobbies for the government's policies. In Israel, it is the *Mapai* socialist movement with its Histadrut, kibutzim, moshav, and other organizations that lobbies for the regime. Because of petro-dollar aid from Saudi Arabia, Syria can afford to introduce liberalization slowly. Israel can survive without the liberalization of its economy due to the US financial aid (Barkey). It is, dramatically, conceived that Syria builds its military power to liberate the Golan and to protect the Arab peninsula from the "Zionist expansion". And Israel, on the other hand, builds its military power to protect itself and the West from "militant Islam" and from the "terrorist Arabs and their leaders who vowed to destroy Israel".

In comparing the economies of both countries, it is important to look at the resource endowment differences between them. This can be achieved in comparing the agricultural sectors, land, natural resources, area, climate, population, industry, tourism, education, military expenditure and trade.

Looking at some major economic indicators in table 3.1, we notice that Israel's population is around one third that of Syria, and its geographic area is much smaller, however, the Israeli economy is obviously stronger than that of Syria. Since the 1980s the Syrian economy has grown very slowly. Meanwhile, Israeli GDP has grown continually and is now almost six times larger than Syria's. Consequently, the GDP per capita in Syria is much lower than that in Israel.

Although the agricultural sector is ideologically very significant, considering the Zionist movement's call for the "return to the land", it is the manufacturing industry, with its high tech and export-oriented policy, and the construction sector that are helping in the absorption of immigrants and

contributing to this comparatively high GDP (Halbach). Yet, it is also this same influx of new Jewish immigrants that contributed to an unemployment rate of 9.6%.

Prior to 1978, all foreign exchange transactions in Israel were subject to administrative controls, such as licensing and quantitative restrictions.

Nowadays, only some transactions are still subject to quantitative limits, especially 'outward private transfers and tourist spending overseas'. Moreover, corporations are not allowed to invest in foreign securities, unlike private citizens who are allowed to do so under specific conditions. On the other hand, the Israeli government, in an attempt to forestall the large speculative currency movements and to be responsive to the swings in reserves and interest rates, has linked the shekel to a basket of foreign currencies which it can float only five percent above or below on a daily basis (US Dept. of State).

The Syrian government continues to maintain a double exchange rate system despite pressures to unify it (see table 3.1). The official exchange rate remains fixed at Syrian pounds 11.20 to USD 1 for the government, and for certain public sector transactions. A second exchange rate, the "neighboring country" rate, SP 42 to USD 1 is operated in Lebanon and Jordan (US Dept. of State).

As a small economy with a relatively limited domestic market, Israel is highly dependent on foreign trade which puts it structurally in high deficit. Syria on the other hand, due to its oil exports and the comparatively big domestic market has a low deficit. Its external debt, however, is high mainly due to old arms purchases from the USSR (US Dept. of State).

Until the mid-1970s, agriculture had been Syria's primary economic activity. At independence in 1946, agriculture (including minor forestry and fishing) was the most important sector of the economy. After a short decline, this sector started regaining its importance in the 1980s due to the government's renewed commitment to agricultural development by expanding cultivation and extending irrigation. Agricultural production increased gradually from a 98 index in 1980 (1989-1991=100 as an agricultural production index), to 127 in 1995. (Hinnebusch, 1989. World Bank, 1997).

In Israel, on the other hand, agriculture has played a more important role in Israeli national life than its economic contribution would indicate. It has had a central place in Zionist ideology and has been a major factor in the settlement of the country and the absorption of new immigrants, although its income-producing importance has been minimal. Agricultural production index of Israel was 89 in 1980 (1989-1991=100 as an agricultural production index), and it increased to 114 in 1995 (Abarbanel, 1974. World Bank, 1997).

Syria has a vast area of non-exploited land that could be used for agricultural production. The total land area of 185,180 square kilometers constitutes of deserts, plains, and mountains. It is divided into a coastal zone – with a narrow, double mountain belt enclosing a depression in the west – and a much larger eastern plateau. The climate is predominantly dry with about three-fifths of the country having less than 25 centimeters of rain a year. More fertile land, the nation's most important natural resource, is coming under cultivation, both around the Orontes valley and in the northeast along the Euphrates river. Existing land is cultivated more intensely and efforts have been made, and are continuing, to increase the amount of arable land through dams and other irrigation projects (Collelo, 1988).

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Israel with an area of around 20,000 km^2 , distributed into fertile fields, mountains, plains, and desert, still suffers from water shortages. The influx of the Jewish immigrants from the former USSR has increased the pressure on water resources where in 1995 there were 398 m³ of fresh water per capita as compared to 2516 m³ in Syria (see table 3.4. Drury and Winn, 1992).

The climate in Israel ranges from temperate to tropical, with plenty of sunshine and rainfall that ranges from 700mm in Safad at the North to 25mm in Eilat on the Red Sea. This imbalance in water distribution has been regulated through the 'National Water Carrier', that has been able to deliver 79% of the fresh water to the farming industry (see table 3.4).
Syria has a limited amount of oil, nevertheless, it is able to get oil from Iran and Saudi Arabia for its energy needs as a compensation for Syria's political and military policies towards Israel and towards Iraq in the "Desert Storm" war.

Israel has no oil, and it has spent \$2.2 billion/ year over the past three years to import it. When the peace process was moving ahead, Israel was able to negotiate deals to import gas and oil from Gulf states. (Government of Israel).

The Syrian economy suffers from a lack of skilled workers and trained professionals in a wide variety of fields. Skilled workers and professionals head to the oil-rich, labor-starved states of the Arabian Peninsula for higher wages (Collelo). With a relative abundance of unskilled labor, Syria specializes in low end processing industries such as textiles and food. Israel, on the other hand, and due to reasons stated before, specializes in advanced industries, electronics, computers, and medicine.

Israel, however, by attracting Jewish researchers and skilled Jewish workers from all around the world has maintained a high level of achievement in the fields of science and technology. (Israel Information Center).

Regarding tourism, in spite of its very rich historic and religious sites, Syria still lags behind in attracting the potential tourists, mainly due to the absence of proper advertising. As for Israel, tourism has a significant role in the economy, due to the advertisement and promotion. The presence of the holy sites of Judaism, Christianity and Islam has further boosted this sector (Kubursi).

Despite the expenditure of 4.9% of the GDP each year, between 1980 and 1985, on education, the Syrian system has a long way to go to get stronger and advanced in this sector. In the 1980s, the Syrian government attempted to expand enrollment in its university faculties of science. In 1984, Syrian universities graduated 948 medical doctors and 1,693 engineers. However, more than 3,100 students graduated from the faculties of arts and literature.(Collelo).

A second major thrust of Syrian educational planning was to eliminate illiteracy. In 1981, an estimated 2 million Syrians – 42 percent of the population over 12 years of age – were illiterate. In the mid-1980s, however, the educational system was still inadequately funded, and, even within its funding restrictions, was viewed by impartial observers as failing to achieve its limited objectives and goals, specially that the percentage of GDP spent on education decreased towards the 1990s to reach 3.4% of the GDP (see table 3.5. Collelo).

Education in Israel has been characterized historically by the same social and cultural cleavages separating the Orthodox from the secular and Arabs from Jews. However, it is still greatly advanced and the government has been investing in education more than 4.0% of GDP annually since the 1970s.

With respect to military expenditure, Syria's military expenditure is insignificant as compared to that of Israel. Syria's military expenditure for the year 1997 was around 1.7 billion U.S. dollars, that is, around 5.19% of GDP. There is very little room for cuts in that domain in Syria, because the country has an excess of labor. Additionally the skills of the labor used in the Syrian army are no higher than those of the average worker in the civilian sector (Kubursi).

On the other hand, Israel's military expenditure for the year 1997 is very significant, 6.6 billion dollars (more than 7% of the GDP) and thus the ability to cut military expenditure and reallocate the resources to civilian production at a minimal opportunity cost would be a strength to the Israeli economy. The reason for this is the nature of the military industry in Israel and the highly skilled labor that could benefit civilian industry. However, according to Kubursi and Shalev, Israeli policymakers consider that some of the military burden is endowed by Israel's territorial expansion through land occupation and annexation, and through its strong identification with the United States (Kubursi).

Concerning the trade policies and the weaknesses in both countries, it is apparent that Syria's trade weaknesses are reflected in price distortions, politically motivated controls, and a rigid bureaucracy. Even though the Syrian tariff system was simplified in 1989 and tariffs since then have been generally lowered, import duties are still high and amounted, for example, to 250% for cars in 1997. Discussions are underway to remove export taxes and other restrictions on agricultural produce (e.g. cotton, vegetable oil and some other agro-exports except for fruits and vegetables) (US Dept. of State, 1995).

Given the centralized structure of the Syrian economy, specific 'buy national' laws do not exist. Strategic goods, military equipment, wheat, sugar, and items not produced locally or in sufficient quantities are procured by public sector importing agencies from the international market. Despite the new legislation, poor infrastructure, complex foreign exchange regulations, government monopolies in banking, insurance, telecommunications, and other public sector service industries, continue to pose serious barriers and preclude foreign investment, thus, weakening the economy (US Dept. of State, 1995).

Finally, it is worth mentioning that Syria is also pushing to implement the Arab Common Market Agreement. This agreement aims at liberalizing Arab trade and buttressing investment, to widen the base of production and employment. It is also believed that the agreement would benefit and strengthen the economies of the member states: Egypt, Iraq, Jordan, Libya, Mauritania, Syria, and Yemen. According to the Arab Economic Unity Council's (AEUC) Secretary-General, Dr. Hassan Ibrahim, the Arab common market should be considered an economic bloc capable of achieving Arab economic integration able to enter negotiations and face international competition (Arab Republic of Egypt, 1997).

Israel's foreign trade regime, which has been protectionist, became tarifffree for EU, US, and Canadian imports within the framework of free trade agreements. More recently, Israel has also completed trade agreements with Canada, Turkey, Jordan, Egypt, and individual Central and Eastern European States. However, some tariff substitutes that were introduced, such as purchase tax, variable levies, quotas, uplifts, standards and quantitative restrictions, continue to impede many imports, especially in sensitive sectors like agriculture and processed food products, and are considered economic weaknesses in the minds of free trade lobbyists. Of these barriers, the most important is in specifications related to product standards, labeling (Hebrew is a must) and packaging. Therefore, time-consuming and costly examinations of imports still create a cost wedge in favor of domestic producers (US Dept. of State, 1995).

In addition to these restrictions, the Government of Israel has two unique forms of protection for locally produced goods. The first is Harama⁸ or uplift, applied at the pre-duty stage of import, and the second is TAMA⁴, a Hebrew acronym standing for additional quota percentage, which is applied after imposition of duty, but before any assessment of purchase taxes (US Dept. of State).

Israel has one free trade zone, the Red Sea port city of Eilat, and three free ports: Haifa (including Kishon), Ashdod, and Eilat. Enterprises in these areas may qualify for special tax benefits, and are exempt from indirect taxation (US Dept. of State).

3.4. Current Trade Patterns of Syria and Israel

The regional isolation of Israel, the cost of a nearly permanent state of war, in addition to the differences and mistrust among the Arab countries themselves have strongly hindered an exchange of goods and further reaching cooperation in the Middle East.

As a small economy with a limited domestic market, Israel depends on foreign trade. Exports in manufactured goods are expanding whereas traditional agricultural exports are stagnating (State of Israel, 1995).

Syria's foreign trade, on the other hand, is highly dependent on oil which contributes to around two thirds of the country's exports.

³Harama is a pre-duty uplift applied to the CIF value of goods to bring the value of the products to an acceptable level for customs valuation. Israel calculates import value according to the Brussels Definition of Value (BDV), a method which tolerates uplifts of invoice prices. For purposes of calculating duty and other taxes, the Israeli Customs Service arbitrarily uplifts by two to five percent the value of most products which exclusive agents import, and by 10 percent or more the value of other products. Israel has agreed to use only actual wholesale price for large importers after 1995. Israel is not a signatory to the GATT Valuation Code.

⁴ TAMA is a post-duty uplift designed to convert the CIF value plus duty to an equivalent wholesale price for purposes of imposing purchase tax. Coefficients for calculation of the TAMA vary from industry to industry and from product to product.

Table 3.2 shows that both Israel's and Syria's external trade is concentrated to a very large extent on the "Western World", especially the European Union, European Free Trade Association (EFTA) countries, and the United States.

Israel's trade with Egypt, despite the peace deal, is still minimal as compared to its trade with the other neighboring countries like Turkey and Cyprus. However, Israel's trade with North America is very high compared to that of Syria who is still on the USA's black list of countries "supporting terrorism".

In 1992-1993 nearly 80% of all Syrian exports to the Middle East went to, and 50% of its imports from the Middle East came from Lebanon (Central Bureau of Statistics, Syria, 1994).

Israeli exports only cover about 70% of imports (see table 3.3). To reduce the huge trade deficit, Israel is restructuring its import policy to favor cheaper procurement from Far Eastern countries (State of Israel Ministry of Industry and Trade, 1995).

The external trade of Syria, on the other hand, has seen drastic changes in the past few years. After the collapse of the Soviet bloc, Syria's exports to 'Russia' decreased from one third of all exports to around only 3%. The European market absorbed some of this decline, especially in oil exports. Syria's trade in the Middle East is mainly with Saudi Arabia, then with Lebanon. Exports to Lebanon and the Gulf are mainly agricultural products and textile. (Arab Monetary Fund, 1994).

Although Syria has taken measures to promote the exports of fruits, vegetables and processed food, the catering of this sector primarily to the local market has rendered it not competitive internationally (Halbach. 1995).

	% of total exports			% of total imports				•••••			• •	<u> </u>
Sy	ria	Israel		Syria	1	Israel						
<u></u>	1992	1993	1994	1992	1993	1994	1992	1993	1994	1992	1993	1994
European Union	62.8	58.4	53.6	34.5	29.6	29.2	36.2	40.2	37.1	50.2	60.9	53.7
of which:												
UK	•	-	-	7.7	5.4	6.3	-	-	-	8.0	8.6	8.7
Belgium Luxembourg	2 -	-	-	5.0	5.4	5.5	•	-	-	13.0	12.2	12.7
Germany	2.5	4.9	18.2	5.8	5.3	5.4	10.2	10.6	10.5	11.9	10.4	10.4
France	18.6	13.6	10.8	4.7	3.9	3.8	6.3	7.2	5.3	4.5	4.2	4.5
Netherlands	-	-	-	4.2	3.7	4.2	-	•	-	3.3	3.4	3.3
Italy	35.0	27.2	13.8	-	-	-	8.2	9.3	10.8	7.0	7.3	7.8
Switzerland	-	-	-	-	-	-	-	-	-	7.2	7.5	6.5
Spain	n/a	6.8	3.6	-	-	-	6.2	5.3	3.7	-	-	-
USSR and China	5.6	n/a	n/a	-	-	•	17.3	n/a	n/a	n/a	-	-
Hong Kong	-	-	-	5.1	4.8	5.2	-	-	-	-	-	-
Japan	-	-	-	5.3	5.1	6.9	9.9	8.1	9.4	5.3	5.1	4.1
Middle East												
Lebanon	13.0	10.8	13.0	-	•	-	1.34	n/a	n/a	0.05	-	-
Jordan	1.5	n/a	n/a	-	-	-	0.64	n/a	n/a	0.45	-	-
Egypt	0.5	n/a	n/a	0.06	-	-	1.22	n/a	n/a	0.14	-	-
Turkey	-	n/a	n/a	0.91	•	-	6.2	5.2	3.7	-	-	-
Cyprus	-	n/a	n/a	0.23	-	-	-	-	-	-	-	-
USA & Canada	•	-	-	31.5	30.9	30.6	6.1	6.1	4.1	17.2	17.7	17.9

Table 3.2: Syria's and Israel's Direction of Trade for 1992, 1993, and 1994.

(The Economist Intelligence Unit. Country Profile. 1994, 1995, 1996. UNCTAD, 1993. Economist Intelligence Unit, Country Report Israel, 4th quarter 1996).

Note that the dash signifies not significant trade, and n/a means data not available.

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Table 3.3: Israel's Principle Trade

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Israel's Principal exp	orts	Israel's Principal imports				
1995	<u>\$m</u>	1995	<u>\$m</u>			
Industrial	12,322	Investment goods	4,653			
Diamonds (worked)	3,940	Diamond (net)	4,430			
Diamonds (unworked	i)685	Consumer goods	3,657			
Agricultural goods	740	Fuel	1,999			
•		Other production	13,018			
Total Exports	17,687	Total Imports	25,758			

(EIU Country report, Israel, 4th quarter 1996).

Agricultural production 1980 976 2642 Value added \$ millions in agriculture 1980 976 2642 1995 - - - Agricultural production index, 1989-1991=100 1980 89 98 1995 114 127 Food production index, 1989-1991=100 1980 84 103 Livestock production index, 1989-1991=100 1980 78 72 Livestock production index, 1989-1991=100 1980 78 72 Livestock production index, 1989-1991=100 1980 78 72 Livestock code production index, 1989-1991=100 1980 78 72 Livestock production index, 1989-1991=100 1995 115 94 Food Crops 1980 131 2702							
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Food CropsArea under cereal production, 000's hectares19801312702							
Area under cereal production, 000's hectares 1980 131 2702							
1995 115 3686							
Careal vield ka/hertare 1080 2313 1437							
1980 2515 1457 1985 2200 1665							
Careal production 000's metric tons 1090 303 3884							
Loos 253 6136							
Posts and types production 000's metric tone							
1980 [73 292							
Cerear inputs, 000's metric ton 1980 1001 720							
1995 2311 952							
Key Agricultural inputs							
Arable land, nectares/capita 1980 0.11 0.65							
Irrigated land, % of arable land 1980 49.2 9.5							
[994 ++.+ 19.6							
Fertilizer consumption, 100 grams of plant nutrient							
per hectare of arable land 1980-81 1919 224							
1994-95 2391 636							
Farm machinery, tractors 1980 26800 27544							
1994 25630 78150							
Share of labor force in agriculture 1980 6 39							
1994 4 34							
Fresh Water							
Fresh water resources, cubic meter /capita 1995 398 2516							
Annual fresh water withdrawal % for agriculture 79 83							
% for industry 5 10							
% for domestic 16 7							
Access to safe water Urban % of population							
1985 - 77							
1993 - 95							
Rural % o f population							
1985 - 65							
1993 - 77							

Table 3.4: Agriculture and Food Indicators for Syria and Israel, 1980-1995

World Development Indicators CD-ROM, World Bank, February 1997

	Year					Same region/ income			
······································				group					
	israei	Syria	israel	Syria	Israel	Syria			
	1970-75		1980-85		1990-95		High- income	Mid-East & North Africa	Lower- middle- income ³
POVERTY									
GNP per capita 1995					15920	1120	24930	1780	1670
GNP 1995 (billions US \$)					87.9	15.8	22508	484	1930
POPULATION									
Total population, mid-year (millions)	3.5	7.4	4.2	10,4	5.5	14.1	902.2	272.4	1,152.6
Growth rate (% annual average)	2.3	3.4	1.8	3.6	2.6	2.9	0.6	2.4	1.3
Urban population (% of population)	86.6	45.1	90.3	48.4	91.6	53.1	77.8	56.4	55.6
Total fertility rate (births per woman)	3.8	7.7	3.1	7.4	2.4	4.8	1.7	4.2	3.0
SOCIAL INDICATORS Public expenditure									
(% of GDP)									
Health					4.1				
Education	4.8	2.9	4.8	4.9	4.2	3.4			
Social security and welfare	10.6	24	10.3	3.2	10.6	0.5			
Net primary school enrollment rate									
(% of age group)									
Total		87		98		95	98	87	92
Male				100		100	97	91	
Female				92		91	98	81	••
Access to safe water									
(% of population)									
Total		71.0	98.0	71.0	99.0	87.0	94.0	85.0	
Urban		98.0		77.0		95.0		96.3	
Rurai		50.0		65.0		77.0		70.3	
immunization rate									
(% under 12 months)									
Measles		30	85	98	94	89	83	89	87
DPT		26	92	100	92	91	89	91	89
Child malnutrition (% under 5 years)		25						••	
Life expectancy at birth									
(years)									
Total	72	57	74	63	77	68	77	66	67
Male	70	55	73	61	75	66	74	65	64
Female	74	59	76	64	79	71	81	68	70
Mortality									
Infant (per thousand live births)	23	88	12	49	8	32	7	54	41
Under 5 (per thousand live births)			••		9	40	9	72	56
Adult (15-59)									
Male (per 1,000 population)					114	217	131	212	253
Female (per 1,000 population)					72	154	62	176	148
Maternal (per 100,000 live births)			5			179			

Table 3.5: Social Indicators of Israel and Syria.

World Development Indicators CD-ROM, World Bank, February 1997

⁵ Belarus, Bulgaria, Guatemela, Kazxakhistan, Liberia, Maldives, Marshall Islands, Micronesia, Morocco, Nigeria, Philipines, Romania, Swaziland, Tonga, Yugoslavia (Based on Per capita gross National product in US dollars. United Nations Secretariat. Geneva. 1998).

3.5. Other Economic and Social Indicators of Syria and Israel

An important aspect to this thesis is the agricultural sector of Israel and Syria, thus a closer look at these sectors and at food production is warranted.

Looking at table 3.4, one sees the area under cereal production in Syria is more than 20 times that of Israel whose dedicated land for this kind of production has decreased from 131000 hectares in 1980 to 115000 hectares in1995. However, the Israeli yield of cereals in kg per hectare is much more than that of Syria. In 1980, Israel cereal yield was 1.6 times more than that of Syria. In 1995, this rate decreased to reach 1.3 times. Therefore, although Syria is advancing in this sector it still lags behind Israel, especially given that the inputs in cereal production are much lower than that of Israel. Table 3.4 above shows that in 1995, Israel's inputs for cereal production were 2.31 million metric tons as compared to 0.95 million metric tons in Syria.

Moreover, the percentage of arable land that is irrigated has decreased in Israel from 49.2 in 1985 to 44.4 in 1995, but it is still much more than that of Syria which reached a level of 19.6% in 1995.

Concerning other inputs, Israel uses much more fertilizer per hectare of arable land than Syria whose fertilizer input is low, about one third the amount used in Israel. This could be due to the lower percentage of irrigated land.

Although Syria is using more and more tractors and agricultural machinery, its dependence on the labor force is still very high as compared to Israel. Around 34% of the Syrian labor force works in the agricultural sector as compared to 4% in Israel.

Table 3.5 provides a broad picture of the Syrian and Israeli economies in terms of education, health, and population, among others.

The GNP in Israel in 1995 is more than 5.5 times that of Syria. The GNP per capita for the same year is more than fourteen times that of Syria. Therefore, the people in Syria are much poorer than those of Israel who are much richer than those in the Middle East and North Africa region.

The population growth rate of Syria is more than that of Israel, and also higher than the population growth rate of countries of similar income in Africa and the Middle East. The population growth rate in Israel, however, is not normal for a developed country and is far in excess of other high-income countries. This is basically due to the flow of Jewish immigrants from all around the world, and basically from the ex USSR.

The high population growth rate in Syria could be attributed to the high percentage of rural population, around 50%, which depends on family members for agricultural labor.

As explained before, public expenditure by Syria on education is low as compared to Israel, and the percentage expenditure of the GDP on health and welfare is also lower than that of Israel. This could be a reason why the child mortality rate in Syria is high and the life expectancy is low.

The access to safe water in Syria is less than that of Israel. Syria, which is downstream, can not do more than protest Turkey's vast irrigation projects on the Euphrates which has reduced Syria's water share by 60%. Whereas Israel, "through dissuasion, threat or military occupation has seen to it that upstream Jordan leaves the flow of the water alone" (The Economist. December 23, 1996). Therefore, for Syria to reach the level of Israel where 98% of the population have access to safe water, it has to improve its relations with Iraq, another country affected by Turkey's water policies, and then negotiate together with Turkey on water accessibility (The Economist. December 23, 1996).

This subject of water and its distribution in the Middle East is thought to be a cause of many of the wars in the region.

Having information on the two countries in terms of political and economic development, and analyzing their agricultural production and their social indicators, gives a clear idea on the endowments in each of them which would help visualizing the nature of their trade in the future.

CHAPTER FOUR

REVIEW OF LITERATURE

Analyzing the potential for trade between states such as Syria and Israel requires an understanding of the theory of trade and the role played by economic variables and other factors. This chapter outlines the principal features of trade theory which have relevance to the problem at hand and reports the findings of other studies of similar problems. The discussion proceeds through the theory of free trade, barriers to trade, trade diversion, expansion and creation and various approaches to modeling trade analysis.

4.1 Theory of Free Trade

The pure theory of international trade has come a long way from Ricardo's comparative cost doctrine, especially with the Equalization Region theory of Heckscher-Ohlin (Travis, 1964).

In 1776 Adam Smith argued that if a country could produce an item more cheaply than a second country, and if the second country could produce a different item more cheaply than the first, it would be to the advantage of both countries if they specialized in the items they could produce most cheaply (absolute advantage), and traded. But, what if a country produces both items in greater amounts with the same labor as the second country – will trade cease under these circumstances? Ricardo argued that, under these conditions, it would be to the advantage of both countries if they specialized in the good in which they had a comparative advantage. The Ricardian theory, based on the labor theory of value, considers labor to be the only means of production, the value and output being determined by the labor content required in the production of each item. Thus, the comparative advantage arises from international differences in labor productivity (Shone, 1972).

The Ricardian model assumes (i) factors of production are mobile domestically but are immobile internationally, (ii) one factor of production (labour), (iii) there are only two countries and two commodities, and (iv) unit costs are constant (Shone).

After Ricardo, economists showed that differences in labour productivity is not the only factor that gives rise to comparative advantage. Saudi Arabia, for example, exports petroleum not because its workers are more productive in producing oil relative to those of other countries, but because it has huge oil reserves. In replacing the labour cost doctrine by that of opportunity cost, Haberler (1936) demonstrated that there is an increasing cost in giving up more and more of one commodity in order to produce another.

The Ricardian theory did not give an account as to why comparative cost ratios differ between countries. One answer to this question was supplied by Heckscher (Eli F.) and elaborated by his pupil Ohlin (Bertil) who argued that international trade is largely driven by differences in countries' resources, and that comparative advantage is influenced by the interaction between the resources of nations ("relative abundance") and the technology of production ("relative intensity"). Their approach has been formally worked out by later economists, and the Heckscher-Ohlin model has become one of the foundations of modern pure trade theory (Shone. Heckscher and Ohlin, 1991).

The Heckscher-Ohlin (H-O) theorem can be stated as follows: A country will export those commodities in which it has a comparative advantage in producing and imports those which incorporate the factors with which it is least endowed (Shone). In its simplest form this theory embodies several assumptions: (i) there are two countries, two commodities, and two factors of production, (ii) world trade is free from any impediments, such as tariffs, quotas, voluntary export restraints, and exchange controls, (iii) transportation costs are zero, (iv) perfect competition and full employment of all factors of production, in both product and factor markets, (v) each country produces both goods, (vi) factors are perfectly mobile within the same country, but not across national borders, (vii) production functions exhibit constant returns to scale (CRS), (viii) identical technologies in both countries (Vousden, 1990).

One implication of Heckscher-Ohlin's assumptions (no trade barriers and zero transport cost) is that commodity trade equalizes commodity prices between countries. Moreover, with identical technologies, commodity price equalization results in factor price equalization even though factors of production do not enter trade. On the other hand, where technologies are not identical, the answer regarding price effects can be found with the pre-and post- trade equalization models described by Vousden (1990).

4.1.1 Pre-trade and Post-trade Equilibrium

Given that differences in factor prices and technologies give rise to trade, and that Syria and Israel exhibit such differences, it is helpful to consider a model that can illustrate equilibrium before and after trade is allowed between two countries. Fig <u>4.1</u>, represents the choice between two commodities, food and cloth, on the vertical and horizontal axis respectively. The curve FC represents the production possibilities with a given resource endowment, and Ua is the highest level utility curve attainable within that country in the absence of trade.

According to Vousden, 'In a situation of autarky in which the economy does not trade with the rest of the world, equilibrium prices are those at which consumer demand equals producer supply for each good (assuming that these equilibrium prices exist and are unique). The equilibrium price ratio for a twoitem economy is given by the slope of the price line Pa, which is tangential to both the production frontier and the community indifference curve Ua at point A". A is the equilibrium point of the country in question. The quantity of food produced is Xf and cloth is Xc.

When the economy is opened to trade with the rest of the world, the equilibrium price is no longer determined through clearing of markets in the domestic economy alone. Instead, domestic relative prices adjust to world prices Figure 4.1: The Autarky Equilibrium and the After Trade Equilibrium for an Economy or a Country:



(Vousden, 1990)

(p*) for each good, and a free-trade equilibrium is established at C. At this point the economy produces Xc' and Xf' units of cloth anr'. food, and consumes Cc and Cf. It exports its excess supply of cloth (Xc'- Cc) in return for imports equal to its excess demand for food (Cf- Xf').

The utility level of the community associated with free trade is Uf, which is higher than that under autarky Ua, which means the economy has gained from trade. The change in slope of the price line from Pa to P* indicates that cloth has become relatively more expensive, leading country A to produce more cloth and consume less while exporting the difference (Vousden).

At the free trade equilibrium: "Commodities requiring for their production much of [abundant factor of production] and little of [scarce factors] are exported in exchange for goods that call for factors in the opposite proportions. Thus indirectly, factors in abundant supply are exported and factors in scarce supply are imported" (Ohlin, 1933. P.92).

4.1.2. Factor Intensities, Factor Prices and Product Prices

We now consider the relationships between product prices, factor prices and factor intensities in the HO model. For a constant-returns-to-scale production function, a rise in the relative price of a factor causes that factor to be used less intensively in both sectors. Moreover, a given factor price ratio implies the same factor input ratio at all scales of output, so the result is true at all levels of output (Vousden).

Suppose both goods are produced in equilibrium, then, the way in which changes in product prices feed through to factor rewards is of particular relevance when considering the income-distribution implications of protection. Given that both sectors, food and cloth, are perfectly competitive, equilibrium entails zero profits in both sectors. It is these zero-profit conditions which determine the relationship between product and factor prices. A drop in the relative price of food due to, say, removal of a tariff on food, creates negative profits in the food sector. This drives some firms out of the sector, which is more capital intensive than the cloth sector. As food production declines and cloth production increases, relatively less capital is demanded by the food sector than is being absorbed by the cloth sector (equivalently, the cloth sector is absorbing relatively more labor than the food sector is releasing). This implies an excess supply of capital and an excess demand for labor. To clear the factor markets, the real return for labor must rise, and the real return on capital must fall. In other words, a rise in the relative prices of some commodities leads to an increase in the real return to the factor used most intensively in the production of that commodity (Vousden).

From the foregoing, it is apparent that analysis of potential trade between Syria and Israel should take amount of differences in commodity and factor prices in both countries and how these may be expected to change as trade volumes increase. The case of these two countries is complicated, however, by the fact that they are both trading, presently, with the rest of the world. The potential outcomes for Syria and Israel may be seen more clearly in the discussion of trade diversion, expansion and creation which follows.

4.2. Trade Diversion, Expansion, and Creation:

There are different effects of opening up trade between two countries. A distinction is made between the following trade categories: export diversion, import expansion, export expansion, export creation and output creation.

The following are theoretical explanations of trade considering the scenarios of diversion, expansion, and creation. Israel and Syria are used in these scenarios as an example.

Estimates of trade between Israel and Syria that might develop within a short time after the establishment of peace, are expected to represent only that part of the existing trade between these countries and the rest of the world which might be diverted to trade between themselves in consequence of the special advantage inherent in their geographical proximity (Ben Shahar, 1989).

4.2.1 Trade Diversion:

In Figure 4.2, the rising marginal cost case is shown for both the domestic market in Syria and for the world market. Domestic demand and supply schedules in Syria are shown on the left hand side, where the quantity axis increases in value from right to left. Ss is Syria's supply curve. Sx is Syria's excess supply curve. It represents Syria's offer of exports and is obtained by deducting, for different prices, the quantity demanded domestically from the quantity supplied. Pr stands for the price in the rest of the world. International demand is infinitely elastic from the perspective of a small country like Syria (Vousden).

Export diversion takes place when transfer costs between Syria and Israel are assumed to be zero. As long as Syria is barred from supplying Israel (and vice versa) it produces S1 and exports X1 to the rest of the world (R), selling the difference D1 (D1 = S1 - X1) in the domestic market (Vousden).

Israel's excess demand curve (DI1) is shown to the right of the price axis. At world market price Pr, Israel imports M1 from R. When imports from Syria are admitted into Israel, they can vary from zero to M1, assuming Syria has no other proximity trading partner. Syria's exporters, however, are likely to have an edge over R because of the physical proximity between the two countries (zero transfer cost). If this edge allows them to shed their prices even by an infinitesimal amount, Syria's exporters could capture a large share of Israel's import market. In that case, Syria's exports to R decline. At the margin, Syria's exports to R decline from X1 to X1- M1. The amount X1 - M1 represents export diversion from R to Israel. If Israel's excess demand intersects Sx to the right of X1, like DI2, and Syria sells all its exports to Israel, the price remains Pr, Israel imports X1 from Syria and M2 - X1 from R. In this case, export diversion is equal to Syria's total exports (Vousden).



Figure 4.2.: Export Diversion, Increasing Costs:

4.2.2 Trade Expansion

For import expansion to take place, transfer costs must be positive. For simplicity, assume that unit transfer costs are constant. The following notation is used:

Pr = world price.

Ps = domestic market price in Syria

t = unit transfer costs

Pr - t = price received per unit exported to R from Syria.

Pr + t = cost per unit exported from R

Consider the case where marginal costs rise. The effects of introducing trade between Syria and Israel in this case is shown in Figure 4.3.

In the following analysis we assume i) zero costs for moving goods from Syria to Israel, and ii) that Syria has no other proximity trade partner.

With reference to Figure 4.3, transfer costs (t), although positive, do not prevent Syria from exporting to R. Syria's exporters receive Pr - t, which equals the domestic price in Syria (Ps). The quantity exported is X1. If Syria's exports are admitted into Israel, whose excess demand is DI1, exports will be diverted from R to Israel. Total exports will remain at X1, although the share of R in Syria's exports declines from 100% to $(X1 - M1^*)/X1$. The situation from Israel's point of view, however, has changed. Instead of importing M1 from R at the price of Pr + t, Israel now imports M1* at a lower price, Pr - t, assuming zero cost in moving goods from Syria to Israel. This case, where export prices and receipts remain unchanged in Syria, in spite of the increase in Israel's imports, is called import expansion (Arad et al, 1983).

This situation is different if Israel's excess demand is large enough to divert all Syria's exports from R. This is the case when Israel's demand schedule is DI2. Here, Israel's imports increase from M2 to M2* and Syria's exports increase from X1 to M2*. Prices received by Syria's exporters rise from Pr - t to Ps+I and prices paid by Israel's consumers increase from Pr - t to Ps+I.



Figure 4.3: Import Expansion and Export Expansion, Increasing Costs.

To distinguish the last case from the previous one where Syria's export prices and quantities remain unchanged, this case is labeled export expansion (Arad et al).

4.2.3 Trade Creation

Export creation is the decreasing cost equivalent of export expansion. The reason for the difference in terms is demonstrated in Figure 4.4.

Here, the minimum cost point of the long run average cost of Syria (LACs) is above Pr-t. Therefore, Syria cannot export to R. Whether production takes place depends on whether domestic demand intersects with LACs to the right or to the left of Q1. If the curves intersect to the right of Q1 at D1, for example, Syria's consumers can be charged a price Ps1 (Ps1<Pr+t, where Pr+t is the import price). Syria's costs will move along the declining LACs curve. The cost of producing for both markets at $D_1 + i1$ will be Ps1+i1. The opening of Israel's market, under a free trade agreement, transforms Syria from domestic into an international producer. This is why this case is labeled export creation (Arad et al, 1983).

Now consider output creation, which is also illustrated in the same figure. Here, domestic demand (curve not shown) and LACs intersect to the left of Q1 at D2 (Ps2 > Pr+t). Imports are less costly than domestic production. If demand of Syria plus Israel intersects LACs to the right of Q1 at D2+I2, then the opening of Israel's market is a condition not only for exports but also for production in Syria – hence the label output creation (Arad et al. Vousden).

The potential for trade between Syria and Israel depends, of course, on the nature and source of existing trade barriers between them. These are discussed in the section that follows.



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4.3 Sources of Trade Barriers

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4.3.1 Natural Trade Impediments

Transfer costs, refers to the cost incurred in moving goods between producers located in one country and their foreign customers. Transfer costs include transportation costs and the excess of export over domestic marketing costs. Transfer costs between Syria and Israel would be small, partly because of their physical proximity. The proximity of the markets of the two countries can decrease costs associated with storage facilities and inventories. In addition customers may be served directly by the manufacturer, rather than by separate service organizations.

Physical proximity between trading partners is also likely to help reduce the cultural distance – another trade barrier. Cultural, like physical distance, gives rise to costs due to differences in languages, in customs, in the ways of doing business and in consumer tastes. The costs involved in overcoming cultural distance may constitute a formidable trade barrier that could, in many cases, overwhelm the cost advantage due to the traditional comparative advantage. Between Israel and Syria, these costs might decline over time, depending on the type of experience accumulated and the way the population along the borders of the two countries get to know each other (Hilan, 1993).

Transport links between Syria and Israel could follow the historical trade routes across the Golan Heights, or across the Beqa'a valley in Lebanon, or by water from Jaffa port in Palestine, to the Latikia port in Syria and vice versa.

4.3.2 Artificial Trade Impediments:

Artificial obstacles to trade arise when goods are not allowed to cross a country's frontiers freely. These obstacles are created, maintained, or removed, only by government action. Besides tariffs, quantitative restrictions, and exchange controls, political hostility or distrust may have led to a partial or complete embargo on trade with nation or nations categorized as enemies. In current times

this is most dramatically demonstrated by the difficulties surrounding the world trade with Iraq, and the trade between the USA and each of Cuba, Libya, Sudan, Iran, and North Korea. Another obvious case of unusual artificial trade impediment is the boycott of the Arabs to any trade with Israel. The trade of Syria with Israel is nil due to this boycott which appears, however, to be subject to gradual erosion (See appendix, A).

4.4 Empirical Trade Models

In this section, several models that have been used to determine the impact of a free trade agreement on the economies of the countries in question and on the constituents of future trade after such agreements are discussed. The first section discusses the free trade agreement between Canada and the USA, the second section examines the Linnemann trade model, the third section discusses the Revealed Comparative Advantage (RCA) model, and the final discusses the Border-trade analysis method.

4.4.1 The General Equilibrium Model

In a paper prepared for the Economic Council of Canada, Andrew Muller, and James Williams used the general equilibrium approach to model the impact of trade policy changes (changes in trade barriers) on the detailed structures of the economy of Canada, especially on output, exports, imports, employment, and costs (Muller and Williams, 1989).

In the general equilibrium approach, prices and output are explicitly calculated from the supply and demand conditions in each industry. This approach is well suited to analyze the changes in relative costs and prices that result from changing trade barriers because it "fully accounts for the interdependence of all industries" (Muller and Williams).

One important aspect of such a model is the price elasticity of supply and demand. Countries other than the exporting country express their behavior by demand curves for the goods of the exporting country. The major parameter in these equations is the elasticity of demand, which expresses the changes of the foreign demand as a reaction to a change in the cost of the imported goods (Muller and Williams).

The approach Muller and Williams took in their study was guided by the Real Theory of International Trade (as compared to the Monetary Theory of International Trade). This theory explains how changes in prices and costs affect the nation's output, employment, import and export patterns.

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Beside basing the model on the Real Theory of International Trade, other important considerations were the following: 1) Separating imports for intermediate use from imports for final consumption, 2) having detailed information on the commodity and making use of it when dealing with the inputoutput accounts, 3) accounting correctly for margins, and 4) taking account of the effects of economies of scale inspired by exposure to the international competition (Muller and Williams).

In brief, the model distinguishes seven kinds of economic activity: final consumption of commodities (domestically produced or imported); export of commodities; provision of intermediate commodities; production of commodities; supply of labor, supply of capital; and collection of indirect taxes. In the model there are 94 commodities and five world regions: Canada, the United States, Japan, the (then) European Economic Community and the Rest of the World. According to Muller and Williams (1989), "an equilibrium is defined as a set of activity levels and corresponding prices which satisfy the following conditions: i) Market clearing: The supply of each commodity and factor of production equals the demand. ii) External Balance: The foreign exchange earned by exports is sufficient to pay for the commodities imported and to compensate foreigners for the Canadian net use of their capital. iii) Zero Profits: No activity is done unless the revenue from the activity covers costs without any profits".

In a market economy, certain factors need to be satisfied to reach the market clearing conditions. These factors are: 1) equilibrium prices should equate the supply and demand for goods and factors, 2) total demand for domestically produced commodities equals the supply, 3) commodities produced in the

country are demanded for final consumption, for export and for intermediate use, 4) 'some intermediate commodities are also consumed as "margins" in the consumption of the various consumer commodities', and 5) wages and capital are also based on the equality of supply and demand. (Muller and Williams).

While such a model would have been useful to study the effect of the removal of trade barriers between Syria and Israel on the economies of the two countries, including the effect on the exports and the imports of agricultural commodities, the ultimate objective of estimating a full market equilibrium is beyond the scope of this study. Moreover, there are other reasons why a general equilibrium model is not suitable.

Most data needed in such a model is not available in Syria, and not easy to get for Israel. The elasticities of substitution used in the welfare function are not available. Other data-like prices are generally not available for both countries, neither of which is a truly free market economy in any case.

Data is available on trade volumes of aggregated commodities of SITC 3 and 4 digits. With such data, the border-trade analysis method is able to predict agricultural commodities candidates for future trade. Another trade model by Linnemann was used in several studies such as that by Were (1974), Arad. et al (1983), and Ben Shahar (1989), to find the volume of trade between countries. Linnemann's model, although it deviates from the basics of the economic theory of trade by not including prices and certain other economic variables will be the subject of the following section.

4.4.2 The Linnemann Model

Heckscher-Ohlin's factor proportions theory of trade maintains that the more capital and labor proportions differ – hence per capita incomes and, consequently, demand structures – the more widely will commodity price structures differ and the greater will be the scope for trade (Burenstam-Linder, 1961).

In an alternative model for trade, Burenstam-Linder argues that the factor proportions model does not make it possible for economists to explain intraregional trade in manufactures because factor proportions, by Ohlin's definition, do not differ within a region. A region, however, may comprise a large area, possibly including several countries with the same factor proportions. Trade within such an area thus needs its own explanation stressing economies of scale, transport costs, per capita incomes, etc (Burenstam-Linder).

Production, in any country of the world, takes place to meet both domestic and foreign markets. Following Burenstam-Linder, Linnemann argued that the potential supply of different countries may be measured by comparing national products with domestic-market/foreign-market ratios. He observed that DM/FM production ratios corresponding to a given population size are virtually the same for different levels of per capita income. Linnemann explains that any given country will not be fully specialized, but produce part of its needs domestically due to limitations such as the size of the domestic market, the raw material, the environment, etc. This leads to importing from and producing for the international market. Therefore, the country concerned will be characterized by a certain domestic-market/foreign-market (DM/FM) production ratio (Linnemann).

Compare a particular country with another country having a higher income (national product) but the same population. This higher per capita income will certainly lead to an increased demand for commodities already produced domestically, and may create additional demand for products so far not produced domestically that home production becomes feasible. Burenstam-Linder points out that people with more income tend to consume more, first from the products familiar at home, and then they start investigating for other products and they start knowing more about commodities intended for the foreign market, and thus, demanding it. Then, it seems justifiable to state that the two tendencies will probably largely offset each other, so that the DM/FM production ratio corresponding with a given population size is virtually the same (Linnemann). Compare now two countries with population differences and with the same per capita income. The bigger country will "surpass the minimum market size for efficient domestic production in more lines of production than the smaller country does" (Linnemann. 1966. P 14). The DM/FM ratio is higher for the country with a larger population. It follows, therefore, that the DM/FM production ratio is systematically linked to the population size of a country (Linnemann).

Therefore, a country's potential supply to the world market is linked systematically to the following:

(i) the size of the country's national or domestic product,

(ii) the size of the country's population (the factor that determines the DM/FM ratio).

(iii) the level of a country's per capita income (Linnemann).

The above analysis of the Domestic Market/Foreign Market ratio has assumed a static state. That is, Linnemann assumed that every country is in equilibrium corresponding to its production conditions and population size, and instantaneously that it will adapt itself to changing conditions (without any time lag). However, reality is different. In the short run, DM/FM production ratio may deviate from its long-run equilibrium value. Suppose, for instance, that initially an increase in production for the foreign market takes place, either because of the discovery of natural resources, improved technology, or a shift in foreign demand schedule. It will take some time before the increase production for domestic needs commensurate with the original increase in income resulting from the expansion of exports leads to an increase in production for foreign markets (Linnemann). On the other hand, an increase in income could simply lead to more imports.

According to Linnemann, comparative advantage is a result of trade and not the contrary. He argues that comparative advantage is an endogenous factor, and can hardly contribute to an understanding of the size of trade flows or the magnitude of potential foreign supply (Linnemann).

The Price Level

Given a fixed exchange rate that reflects the relative scarcity of the country's currency in the world market, in an equilibrium, potential supply (potential exports of a country to the world market) and potential demand from the world market have to be equal. The equality of supply and demand in the world market requires that, in the long-run, no country have "too low" or "too high" a price level. In both cases, there would be a disequilibrium in the balance of payments. Adjustment through a change in the exchange rate will necessarily take place. Except in the short run, therefore, the general price level will not influence a country's future foreign supply and demand. According to Linnemann, this short-run price level effect could be neglected in the analysis (Linnemann's empirical study is based on five-year-average trade flows, which mitigated possible short-term price level effects) (Linnemann).

Linnemann's Model

Linnemann used the following model to explain why the size of international trade flows differs so much between different pairs of countries. What factors determine the size of the trade flow? What is the relative importance of the various factors, and what is their combined effect?

In Linnemann's analysis, a major part is played by well known economic variables such as national income and population size. Other variables such as geographic distance, and commodity composition of exports and imports are also analyzed (Linnemann).

In this model three categories of explanatory variables are used:

(a) factors indicating total supply of the exporting country, as measured by its total exports of the product and by its GNP;

(b) factors indicating total demand of the importing country, as measured by total imports of the product from all countries and by the GNP of the importing country; and

(c) geographic and economic distances (absolute value of the difference in the GNPs of two countries) between the trading partners – variables measuring resistance to trade.

The model includes the following elements:

Mh(i,j) = f[GNP(j), (GNP(i), DGNP(i,j), DIST(i,j), TMh(j), TXh(i)]where,

Mh(i,j) = imports of product h by country j from country i

i = index of exporting country

j = index of importing country

h = product index

GNP(i) = GNP of exporting country

TXh(i) = total exports of product h by exporting country

GNP(j) = GNP of importing country

TMh(j) = total imports of product h by importing country j from all trade partners.

The last two variables are:

DIST(i,j) = geographic distance between exporting and importing countries DGNP(i,j) = absolute value of difference between gross national product of importing and exporting countries (measures the economic distance between the two countries)

A linear regression equation was used to estimate the effects of the above factors in different products with a view to comparing the varying effects of the factors in (c) among the products. The regression equation estimated for each product, h, has the form: Log[Mh(i,j)] = Ah + Bh Log[GNP(i)]

> + Ch Log[GNP(j)]+ Dh Log[TXh(i)] +Eh Log[TMh(j)]+ Fh Log[DGNP(i,j)] + Gh Log[DIST(i,j)]+ Ut.

The coefficients Bh to Eh are expected to be positive for every h, (both supply and demand of the exporting and importing countries, respectively, are positively correlated with their GNPs and total exports and imports of the product). Fh can be either positive or negative, depending on whether the Burenstam Linder effect overwhelms the Heckscher-Ohlin effect or *vice versa*. The coefficient of Gh is expected to be negative (trade declines with distance) (Arad et al, 1983).

4.4.3 Revealed Comparative Advantages (RCA) and Future Export Potentials

Axel Halbach (1995) used another model to forecast potential trade between countries in the Middle East. He followed Bela Balassa (1965) who developed the idea of revealing comparative advantage through the examination of actual trade flows because actual exchange indicates the differences in nonprice factors and the relative costs (Balassa, 1965). Alternative indicators derived from real-world post-trade observations, called Revealed Comparative Advantage – Index (RCA), have been developed.

Halbach, relied on the RCA-index to forecast future export potentials of various Middle East countries. He assumes that exports to countries outside the region reflect the existing comparative advantages and that these should also hold in the future for exports to the region provided that political and economic barriers to trade are overcome.

The RCA-index is defined as follows:

 $RCA_{ia} = (X_{ia}/X_{it})/(X_{wa}/X_{wt}),$

where, X_{ia} = country i's exports of commodity a

 X_{it} = country i's total exports X_{wa} = world exports of commodity a X_{wt} = world total exports.

An index value higher than 1 indicates a comparative advantage in the production of the product vis-à-vis the rest of the world. The higher the value, the larger the comparative advantage. On the other hand, an RCA-value smaller than 1 indicates comparative disadvantages.

Halbach compared the comparative advantages of the different countries in question and was able to conclude the relative competitiveness.

An important prerequisite for the revealed comparative advantage to equal real comparative advantage is that there are no distortions to trade.

Halbach first calculated the RCA-values of each country and for each product group for the years for which data was available (1984-1993), except for Syria for which data was available only until 1989 (Halbach). Next, he calculated the arithmetic averages in order to neutralize the effect of strong fluctuations in the annual values. In a further step, Halbach ran simple linear regressions to find out if certain trends, i.e. improvement and deterioration in the competitiveness for a certain product during the period of years studied, could be identified.

Halbach ended up with product groups for which the competitive advantage improved or deteriorated during the years 1984 to 1993. Comparing trade in each of the product groups for each country with the other and analyzing the trade trends, Halbach was able to conclude the potential trade between the countries in the Middle East.

The results of the Halbach Revealed Comparative Advantage study are shown in table 4.1.

The table shows Israel's and Syria's potential exports for a number of agricultural commodities.

Israel is expected, according to Halbach's results, to export preserved fruits, edible products, other crude minerals, and crude vegetarian material to the Middle Eastern countries, including Syria. Syria, on the other hand, is expected to export live animals, barley unmilled, chocolate, and spices to the same markets.

One important aspect that should be noted in using this model is that high RCA values of certain products which under free market conditions indicate a high level of competitiveness may be the result of massive export subsidies or preferential trade agreements for those particular products. This is especially true in the case of Syria. Until 1989 Syria's main trading partners were the socialist countries and an important part of external trade was effected on the basis of barter trade. This means that specialization patterns did not necessarily reflect comparative cost advantages and the RCA-values resulting from the analysis of export flows might be highly distorted. However, since 1989, Syria has opened up its economy to the "West".

4.4.4 The Border-Trade Analysis Method

The border-trade method was used by Arad et al (1983) to assess trade between Israel and Egypt. Arad et al considered that Israel's neighbors do not trade with her, and Egypt's trade with her neighbors Sudan and Libya is very limited. So Arad established a list of potential border-trade goods on the basis of the experience of other countries. The actual analysis was performed on data pertaining to three small European countries: the Netherlands, Switzerland and Ireland. The border-trade data comprised a total of six categories (exports and imports for three countries). Each category displayed different characteristics from the point of view of a commodity's affinity to border trade. To facilitate the analysis it was necessary to represent the commodity's characteristics by means of a single normalized border-trade index, as will be explained later. Arad et al were able to reach a list of 10 commodities with a high border-trade index and 10 with a low border-trade index. Agricultural products, in the top 10 list were: 1) live animals, 2) animal oils and fats, 3) animal and vegetable oils and fats (processed).

The analysis of border trade is based on two factors: proximity and economies of scale. Proximity pertains to the fact that distances between neighboring countries are considerably smaller than distances with other extraregional countries (Fishelson, 1989).

Israel	Commodity	Syria	Commodity
058	Preserved & Prepared fruits	001	Live animals
098	Edible products	043	Barley unmilled
278	Other crude minerals	073	Chocolate
292	Crude vegetarian materials	075	Spices

Table 4.1: Agriculture Product Groups for Which Export Potential Into the Middle East Region is More Evident.

(Halbach 1995, pages 137 and 141).imports for three countries).

The proximity factor (largely ignored by integration theorists who assume zero transport cost) increases the profitability of trade between neighbors as compared to more widely separated trading partners. This factor appears to be responsible for the empirical importance of border trade between adjacent countries that maintain low trade barriers (Fishelson). In those cases where transfer charges account for a very high proportion of delivered costs, international trade is often limited to countries with common borders. Our concern is goods that are mainly traded between neighbors (Arad et al. 1983). These goods when identified are obviously candidates for trade between Syria and Israel.

To find out the commodities in which trade could be expanded or created by Syria and Israel, the border-trade analysis method is explained and used in the following chapter.
CHAPTER FIVE

DATA & METHODOLOGY

This chapter consists of three main parts. The first deals with potential opportunities for trade between Israel and Syria. The second deals with trade diversion between the two countries. The third part considers the application of the border-trade method to identify the commodities that have the highest potential for trade between Syria and Israel.

5.1 Potential Areas of Economic Cooperation between Israel and Syria

Economic effects of transition from war to peace are not confined to the gains that can be derived from reducing the defense burden, and to the costs involved in scaling down the defense industries and re-allocation of employment and investment in the economy. Substantial gains may be derived from bilateral transactions between the belligerents and from the reorientation of their economies that could result from trade (Loony and Winterfold, 1995).

Economic relations and the potential for trade transactions between neighboring countries are likely to be more varied than other pairs of countries that are distant from each other. To identify areas for economic cooperation and commodities that are potential candidates for trade between Israel and Syria, it is inherently important to start looking at both countries' existing trade. Those items that are prominent in both countries' trade are identified as potential candidates for bilateral trade.

The reasoning behind this method is straightforward. If Syria (or Israel) exports an item to the rest of the world and if Israel (or Syria) buys it from the rest of the world, Syria, which is Israel's neighbor, ought to have some advantage over those other suppliers who are located further away from Israel. This reasoning is legitimate, but it has only limited applicability because it focuses on the economically least interesting potential category of goods, trade diversion as

compared to trade creation and possibly trade expansion. Transactions involving export creation cannot, by definition, be found in Syria's (or Israel's) existing exports. Goods belonging to the output-creation category cannot be found even among Syria's existing manufacturing.

Commodities considered potentially important candidates for trade transactions between the two countries must be sought by other methods, such as the border-trade analysis which is simple and does not require much data.

5.2 Trade Diversion

Assuming that: 1) international demand is infinitely elastic from the perspective of a small country like Syria or Israel, 2) transfer costs are constant, 3) there is no other proximity trade partner, 4) borders are open and free trade allowed, then commodities exported by Israel (Israel has a comparative advantage in the production of these commodities) to the rest of the world, and the same commodities imported by Syria from the rest of the world, are candidates for trade diversion between Israel and Syria (Arad et al). In this case Israel and Syria would import from each other as well as from the rest of the world. In other words, trade diversion implies displacing existing trade between Syria and Israel with other markets by bilateral trade (see figure 5.1).

Theoretically, comparing the arithmetic average trade figures of Israeli exports and of Syria's imports, and doing the same for Israeli imports and Syria's exports will provide an idea of the maximum potential trade diversion between these countries.

In other words, commodities exported by Israel to the world and the same commodities imported by Syria from the world, have a potential to be traded between Syria and Israel. The detailed explanation of trade diversion is in chapter four.

The results of a preliminary analysis of the potential areas of trade diversion are shown in tables 5.1 and 5.2.

SITC	Commodity Syria's Average Imports per year for the years 1989, 1990, 1992 (million)\$ US		Israel's Average Exports per year for the years 1990-1993 (million)\$ US
057	Fruits, nuts, fresh, dried	9.7	248.1
222	Seeds for soft fixed oil	5.9	31.7
292	Crude vegetable material	8.9	207.4
513	Carboxylic acids	8.6	46.7
541	Medical pharm. products	37.8	122.1
562	Fertilizers, manufacture	51.3	260.4
625	Rubber tires	22.3	67.7
651	Textile yarn	161.5	72.8

Table 5.1.: Candidates for Trade Diversion Based on Matching Syrian Imports and Israeli Exports.

Handbook of International Trade and Development Statistics. UNCTAD, 1993.

Due to the matching of similar commodities traded in both countries, only commodities that are traded in both countries are included in the table. Commodities that show in Syria's trade data and not in Israel's, and vice versa are not present in the tables.

Table 5.1 shows that except for textile yarn, the Israeli exports of all the included commodities can satisfy Syria's imports without the need for Syria to resort to other exporters.

The same approach can be applied to Israel's imports and Syria's exports.

Table 5.2 shows Syria's average exports of various commodities that are also imported by Israel.

Tables 5.1 and 5.2, indicate that several agricultural commodity groups are candidates for trade diversion as summarized in table 5.3.

Import and export diversion categories need not represent a major proportion of trade between recent belligerents – that is between countries about to establish trade relations de novo. In theory, the reason is that consumers do not pay lower prices and producers do not receive higher revenues in the small country case (as explained in the export diversion section). Moreover, if Israel, for example, diverts exports from Europe to Syria in such a way that the f.o.b. prices which Israel charges Syria are the same as those she charges a European country, and these equal the c.i.f. prices Syria had previously paid for the same product, then both Israel and Syria are essentially indifferent to the possibilities of trading with each other. It is possible, on the other hand, that even modest transfer-cost savings will result in substantial trade diversion between two neighboring countries. Moreover, similarities in mentalities and cultures between many Israeli and Syrian merchants (many Israeli citizens are Arabs and many Israeli Jews have Arabic origins) might help in furthering this potential trade.

The other possible trade categories namely, trade expansion, export creation and output creation, can be very important. Seeking to identify products belonging to these groups, it is important to examine the experience of each of

Table 5.2:	Candidates	for	Trade	Based	on	Matching	Syrian	Exports	and
Israeli Imports:									

SITC	Good or Industry	Syria's Avg. Exports/year	Israel's Avg. Imports/year
		(1989, 1990, 1992)	(1990-1993)
		(10 00 \$ US)	(1000 \$ US)
043	Cereals and preparations	59255	46009
048	Cereals etc, preparations	19370	55342
057	Fruits, nuts, fresh, dried	56985	50643 ^(b)
12	Tobacco & manufactures	8713	68543
245	Charcoal	95	327
26	Textile fibers & waste	148304	74700
269	Waste of textile fabrics	2523	315
27	Crude fertilizers, minerals	130968	81609
33	Petroleum and products	1744166	1413931
333	Crude petroleum	1378240	1198 88 1
334	Petroleum products refined	357515	188593
335	Residual petroleum products	8411	26457
554	Scap, cleansing, etc preps	12245	54910
65	Textile, yarn, fabrics, etc	428184	584881
651	Textile yarn	15381 ^(a)	215010
6513	Cotton yarn	15269	84286
652	Cotton fabrics, woven	32279	47864
653	Woven manmade fib fabrics	256867	118980
655	Knitting Fabrics	92964	58484
661	Lime cement, bldg products	18395	105260
6612	Cement	17701	63344
84	Clothing & accessories	231585	103896
893	Articles of plastic	16373	153661

(Handbook of International Trade and Development Statistics. UNCTAD. 1993).

a) Syria is a net importer of Textile yarn.

b) Israel is a large net exporter of fruits and nuts.

Table 5.3: Agricultural product groups candidates for trade diversion

101 88		
SITC	Good Or Industry	
043	Cereals and preparations	
048	Cereals etc, preparations	
057	Fruits, nuts, fresh, dried	
012	Tobacco & manufactures	
222	Seeds for soft fixed oil	
245	Charcoal	
269	Waste of textile fabrics	
027	Crude fertilizers, Minerals	
292	Crude vegetable material	
562	Fertilizers, manufacture	
651	Textile yarn	

the countries in question with regard to bilateral trade with neighboring countries.

To simplify the analysis, the above categories will be combined under the heading of trade expansion. This category includes those product groups whose tradability is hampered by high transfer costs and which are, consequently, unlikely to figure prominently in Syria's or Israel's current trade, since most of the former and all of the latter international trade (except for some trade now with Egypt, Palestinian Authority, and Jordan) is conducted with overseas countries (table 3.2).

5.3 Application of The Linnemann Model

To identify the other goods whose trade could bring welfare gains to both countries, the Linnemann (1966) model was initially used.

In trying Linnemann's model, for each product h, a function which relates bilateral trade figures of around 70 trade transactions between various pairs of countries to the variables explained in section 4.4.2 was fitted. Bilateral trade figures for nine agricultural commodities, at the SITC 4 digit level (wool, fruits, hay, oil seeds, molasses, fuel wood, butter-other fat or milk, sheep and goats, and cotton linters) were studied. The choice of the SITC 4 digit level is due to the availability of data at this level in the 'UNCTAD, Personal Computer Trade Analysis System' (PC-TAS) CD ROM. The choice of the agricultural commodities is based on the prominence of these commodities in the international trade of the countries in question, and they were used to check the model and the significance of its results.

Using the SPSS software for linear regression, the results in table 5.4 were obtained.

Note that the reason that n varies from one commodity to the other, is that only n countries traded in the commodities in question. For example, only 49 countries traded in cotton linters between 1989 and 1993 (UNCTAD). Although the Linnemann approach was able in 1983 to predict 86% of the commodities traded in 1993 between Egypt and Israel (based on the comparison of commodities traded in 1993 and Arad's forecast), the approach was not satisfactory due to its divergence from the Heckscher-Ohlin trade theory and due to the low significance of most of the results achieved.

Despite the fact that the elasticity of the distance factor exceeded 0.3 in five out of the nine commodities studied (the coefficient of distance was less than -0.3) and that the coefficients were negative, the model failed to give us a list of commodities that are sensitive to distance.

To be able to reach the goal of this thesis using Linnemann's model, it would have been necessary to have, for all agricultural commodities, the bilateral trade data between the countries that trade in these commodities, and then check the commodity's trade sensitivity to distance using Linnemann's linear regression equation. This procedure requires a lot of time and data. However, it could provide a ranking of all agricultural commodities with respect to their sensitivity to distance for their trade.

Sensing the difficulties with the Linnemann model, another approach had to be utilized. This approach is simple and straightforward, and is based on the analysis of border trade and was used by Arad et al in 1983.

5.4 Arad's Border Trade Approach

The first step in identifying the agricultural products that are candidates for trade expansion between Israel and Syria is to find those that are mostly traded at the borders of these countries respectively versus those traded with the rest of the world. Then agricultural products from those that are mostly traded at the border are matched with those in table 5.1 and 5.2 to identify those that have potential for trade expansion. That is, commodities mostly traded at the border and not present in tables 5.1 and 5.2 are candidates for trade expansion. The other commodities are candidates for both trade expansion and trade diversion.

SITC (Constant	GNPi	GNPj	TXhi	TMhj	DGNPij	Distij	\mathbb{R}^2	Adj.R ²	F	n
0579	310	.009	.407	.482(3)	.358 ⁽³⁾	059	483	ⁿ .332	2 .271	5.472	73
0230	.257	.031	.172	.297 ⁽³⁾	.558 ⁽³⁾	004	472 ^C	⁹ .45	9 .413	10.04	78
2682	-2.342 ⁽³	⁰ 112	.059	.769 ⁽³⁾	.817 ⁽³⁾	196	331	.649	.616	19.455	70
0811	.220	.071	035	.387 ⁽³⁾	.591 ⁽³⁾	225	321	.413	.355	7.148	68
0012	.828	054	10	.496 ⁽³⁾	.317 ⁽³⁾	.014	313	.391	.319	5.457	58
2632	-1.24	.328 ⁽²⁾	.309	.292	.369	068	.023	.403	.318	4.738	49
2450	.141	041	.015	.221	.494 ⁽³⁾	.081	126	446	.387	7.524	63
2237	.411	121	.263	.307	.326	119	111	235	.162	3.226	70
0615	589	328 ⁽³⁾	214 ⁽³⁾	.3 <i>57</i> ⁽³⁾	.642 ⁽³⁾	.199 ⁽²⁾	.1	.671	.634	18.35	61

Table 5.4: Regression Results of the Linnemann Model.

Where:

SITC	Commodity
0579	Fruit fresh or dried
0230	Butter, other fat of milk
2682	Other wool unprocessed
0811	Fodder roots, forage, etc
0012	Sheep and goats live
2632	Cotton linters
2450	Fuel woo, wood charcoal
2237	Oil seeds, etc. nes
0615	Molasses

Levels of Significance based on the t-test:

(1) Means significance at 10%

(2) Means significance at 5%

(3) Means significance at 1%

Commodity groups which are more sensitive to distance have a higher potential for trade between Israel and Syria. The 10 commodities that have the highest normalized border trade index are considered to be those with the highest potential to be traded between both countries, and are candidates for trade expansion. The ten commodities with the lowest normalized border trade index are considered to have the least potential for trade between Israel and Syria.

To start the analysis of the border trade between Israel and Syria, it should be considered that Syria's border trade is mainly with Lebanon, Turkey, and Jordan. Syria's relations with Iraq are insignificant due to political reasons, and its recent economic relations only started in July 1998 with \$ 231.2 million worth of contracts for food and medicine signed between Iraq and Syria under Baghdad's United Nations oil-for-food deal (Future Television).

In the case of Israel it started to trade with Egypt after the Camp David Peace Accord, and is beginning to trade with Jordan. Its trade with Palestine goes back to 1948, when Israel was created. Therefore Israel's border trade is limited to trade with Egypt, Jordan, Palestine, and, illegally, with Lebanon. However, the data that is available covers only Egypt for 1993. Trade with Palestine is not included in the database of the UNCTAD, although Palestine achieved some political autonomy after the Oslo peace accord. With Lebanon, the trade which takes place with occupied South Lebanon is expected to stop the minute Israel withdraws its troops from that region. No trade is going on with Syria.

The nearest countries other than Egypt with whom Israel has trade relations are Cyprus and Turkey. Although these countries do not border Israel by land, they are very close by sea. In the calculations, trade with Cyprus and Turkey was considered as if it were border trade. Therefore the countries that are considered bordering Israel are Turkey, Cyprus, and Egypt.

66

5.5 Data for the Border Trade Analysis

Published trade data pertains to bundles of goods which are grouped under a single heading or statistical category. The goods listed in a specific category may or may not conform to the notion of a homogeneous product. Some products contained in a single category may have high transfer costs and others belonging to the same classification may have very low transfer costs. For example, under the three digit group of SITC 058 which stands for fruits preserved, or prepared, there are SITC 05851 sub-group which represents orange juice, and 05899 sub-group which stands for fruit or nuts, preserved. The transfer cost of orange juice is probably different from that of preserved fruits or nuts. Therefore, the results will not make it possible to predict trade at the single commodity subgroups, such as trade in single items like cucumbers, or apples.

In this exercise, 3-digit groups in the Standard International Trade Classification (SITC) were used. This is a broad classification, and it may bias some results by obscuring some relevant characteristic of sub-groups and individual products.

Data used for Syria is extracted from the COMTRAD data bank of the United Nations Committee for Trade and Development. The COMTRAD data bank's report of 1996 contains import and export data for Syria from 1988 to 1992. Data used for Israel are extracted from the PC-TAS CD ROM of the International Trade Center. The 1996 CD has data at the SITC 1, 4, and 5 digit levels only. Data at the SITC 3 digit level had to be calculated by adding the subgroups of the SITC 4 digit level to get the corresponding SITC 3 digit level Data from the CD was available for the years 1990 to 1993 only.

To avoid inconsistency in export and import data from one year to the other, it was important to use the average trade data in the model. For example, if Syria's exports of cotton to Turkey dropped to a low level in one year, and then came back to its normal level in the second, third and fourth, an average of the four years trade data would give a better and more realistic idea of what the trade looks like, and would be more appropriate for the research.

Table 5.5 shows the data used in the model. Note that the data for Syria is averages of the years 1989-1992 and that for Israel is averages for the years 1990-1993.

Looking at table 5.5, we notice that meat fresh or frozen (SITC 011) is mostly traded at the border of Syria while it is not the case with Israel. The trade of Israel at the border is, in general, less than that of Syria due to the political situation with the countries at the border. The only exception is the trade with seeds for oil (SITC 222 and 223) where Israel's trade is mainly at the "border" with Turkey.

The border trade "B" data (Table 5.5) comprises a total of four categories, denoted by j = 1....4, such that Bj could have four forms as follows: B1= all exports of Syria to neighboring countries, B2= all exports of Israel to neighboring countries, B3= all imports of Syria from neighboring countries, and B4= all imports of Israel from neighboring countries. Each category naturally displays somewhat different characteristics from the point of view of the commodity group's affinity to border trade. To facilitate the analysis, the commodity groups' characteristics will be represented by means of a single normalized measure (Arad et al. 1983). For each industry a normalized border-trade index will be computed according to the following steps:

(1) For each commodity and each category (import or export), Sij, the percentage share of border trade in total trade, is computed as follows:

Sij = (BTij /TTij)*100

where

i is the commodity index, i = 1....G.

j is the category index, j = 1...4, where category signifies imports and exports of Israel and of Syria, respectively.

(2) For each category, percentage border trade Bj is computed:

 $Bj = \sum_{i=1}^{G} (BTij) / \sum_{i=1}^{G} (TTij) \cdot 100$, where TTij is total trade in commodity i for category j, and BTij is the border trade in commodity i for category j.

Also variance of border trade within a category is computed:

 $VARj = \sum_{i=1} {Sij - \mu S_{ij}}^2/G$, where G is the number of commodities, and μS_{ij} is the mean of the Sij.

(3) Normalized border trade index, NBij, are obtained by subtracting Bj from Sij and dividing by the standard deviation of Sij

$$NBij = (Sij - Bj) / (VARj)^{1/2}$$

(4) The average normalized border trade index for each commodity, NBi, is finally arrived at by computing the average of NBij over all values of j:

$$NBi = \sum_{j=1}^{n} NBij / 4$$

G

The index provides a means to rank the potential of commodities for border trade relative to total trade in the Israeli-Syrian region. Commodities with higher indexes are considered to have more potential for trade expansion and trade creation. (Arad et al, 1983).

Note that in the case where border trade in a specific category is zero, then Sij is zero too. Thus the normalized border trade index for that trade category is expected to be negative. However, the final value of the border trade index is calculated based on the total normalized border trade indexes of the four categories. Thus, a negative value for a certain trade category doesn't necessarily mean the commodity has a low possibility for border trade.

		Sy	ria	Isr	ael	Sy	ria	isr	ael
		Total							
		Exports	Border	Exports	Border	Imports	Border	Imports	Border
			Exports		Exports		Imports		Imports
SITC	Good	(000's \$)							
001	Live animals	169233.6	1307.16	1437.37	425.25	62276.66	34499.50	1078.13	0
011	Meat fresh, frozen	173.00	154.66	0	0	0	0	89203.25	0
022	Milk and cream	2219.30	916.43	1435.08	0	0	0	2513.75	80.75
023	Butter	427.00	151.00	642.00	204.50	0	0	734.25	0
024	Cheese and curd	1576.60	1298.50	2911.75	72.60	0	0	161.94	0
025	Eggs, firds,frsh, prvd	3183.00	1363.80	3673.92	0	0	0	992.00	0
034	Fish frsh chilled frzn	0	0	1625.44	0	0	0	21173.83	122.00
041	Wheat unmilled	5118.66	3289.00	0	0	97991.30	3320.00	62633.75	1103.50
042	Rice	0	0	186.00	0	36873.33	4454.00	9368.50	912.25
043	Barley unmilled	11344.50	4003.33	0	0	8183.33	2987.50	46009.25	871.00
046	Wheat meal or flour	0	0	0	0	88947.33	3003.50	0	0
048	Cereals preparation	19389.68	567.40	5269.17	0	0	0	20273.87	93.50
054	Veg. frsh smply prsv	112783.70	25273.11	0	0	0	0	5491.05	319.58
056	Veg. prsv prepd	4050.33	1782.00	0	0	0	0	8373.87	367.30
057	Fruits nuts frsh, dry	56984.66	37704.83	0	0	9723.00	2108.00	23576.25	2594.50
058	Fruits prsvd, preprd	24604.00	810.55	0	0	0	0	4469.75	352.00
059	Grape fruit juice	0	0	0	0	0	0	6595.68	1267.00
081	Sugar and honey	0	0	0	0	117476.70	3914.75	25340.16	660.75
062	Sugar preps	5307.66	438.33	0	0	0	0	17602.00	197.75
073	Chocolate & prdcts	10718.33	405.66	0	0	0	0	3606.75	178.00
075	Spices	6931.00	263.73	1211.62	0	0	0	2687.50	295.12
081	Feed for animals	742.00	517.75	751.60	0	38000.33	80.00	8247.45	337.33
091	Margarine & shrtning	0	0	0	0	23234.00	14205.25	0	0
098	Edible prdcs, preps	0	0	19896.13	171.50	4431.00	803.00	9911.35	199.66
111	Non-alcoholic byges	1581.33	155.33	5735.25	593.00	0	0	1100.50	0
121	Tobacco unminfetrd	0	0	0	0	0	0	21517.75	0
		-	-	-					

Table 5.5: Data Showing Average Israeli Trade Per Year based on the Years 1990-1993 and Average Syria' Trade Data based on the Years 1989-1992.

122	Tobacco manufactrd	3851.66	2805.00	985.50	0	0	0	15675.17	0
211	Hides skins exc furs	0	0	449.25	0	4003.00	1037.33	533.75	0
222	Seeds for soft fxd oil	1248.33	1175.00	7914.50	141.50	0	0	24007.90	393.75
223	Seeds for othr fxd oil	578.00	340.00	160.25	0	0	0	384.00	370.25
245	Fuel wood, charcoal	71.00	52.60	0	0	0	0	447.00	107.50
263	Cotton	145512.70	5283.00	19220.25	6169.25	0	0	5721.50	6 12.04
268	Wool & animal hair	2277.33	649.50	5895.50	6 25.83	0	0	5492.25	0
269	Waste of textile fbrcs	124.00	75	0	0	0	0	0	0
272	Anml veg fertilizer	0	0	4202.50	214.82	0	0	0	0
291	Crude anml material	1638.33	121.6 6	0	0	0	0	0	0
292	Crude veg material	6836.00	622.33	0	0	0	0	0	0
411	Animal oils and fats	0	0	80.50	0	0	0	759.00	412.50
421	Seeds for oll soya	0	0	0	0	0	0	3203.08	683.83
423	Fixed veg oils, soft	0	0	0	0	8632.33	2835.00	0	0
424	Fxd veg olls, non soft	0	0	0	0	2678.00	1471.50	0	0
431	Prcsd anml veg oil,	0	0	223.75	0	26063.66	1140.00	5766.93	203.50
611	Leather	0	0	0	0	294.66	92.00	0	0
Total		598485.70	91525.21	83877.33	8618.05	535808.60	75951.33	454655.20	12735.37

(COMTRADE data bank, UNCTAD, Geneva, 1996)

Where a certain commodity is not traded at all, that is, the total trade of that commodity and its border trade are both equal to zero, then the ratio of border trade over total trade is unidentified. In such a case, the normalized border trade index cannot be calculated and is given a neutral value of zero. This means that this commodity cannot be considered to have either a high potential for border trade, or a low potential. Therefore, zero added to the other values and divided by four, gives a fair idea of the commodity's tendency for border trade.

Following the border-trade method, and doing the calculations of the normalized border trade indexes as shown in tables B2, B3, B4, and B5 in appendix B, a list of commodities with a high potential for border trade was reached. The results of the border-trade method that specify these commodities and other findings are presented in the following chapter.

Note that in the tables of the normalized border trade index calculations, the number of commodities seems to vary from some criteria to others because in certain trade criteria, some commodities are not traded at all, thus they are not present in the tables. However, their zero values are accounted for in the calculations of the appendices.

CHAPTER SIX

RESULTS AND DISCUSSION OF THE BORDER-TRADE ANALYSIS

The results of the border-trade analysis are presented in table 6.1 which shows the normalized border exports and the normalized border imports of 43 commodities at the SITC 3 digit level for both Syria and Israel. Ranks 1-10 in the table are for commodities with the highest border-trade indices, and ranks i-x are for industries with the lowest border-trade indices.

Table 6.2 lists the 10 industries with the highest and the 10 with the lowest border-trade indices. A positive index indicates that the industry's border trade was, on average, higher than the total border trade. The upper part of the table shows products that are more likely to be traded locally compared to goods in general. Although some of the commodities belonging to this group are being transported long distances, a high proportion of trade appears to be limited to short distances, possibly because of high transportation costs.

The bottom part of the table contains commodities that have low normalized border-trade indexes, and thus tend to be traded over long distances and are unlikely prospects for border trade between Syria and Israel.

Further implications of these findings are based on those commodities belonging to the top 10 border-trade indices.

Comparing table 6.2 with both tables 5.1 and 5.2, shows that commodities of SITC 043, 057, 245, and 269 (barley unmilled, fruits nuts, fresh and dried, charcoal, and waste of textile fabrics) are prominent in Israeli and/or Syrian border trade and are also present in tables 5.1 or 5.2. Therefore, commodities belonging to these groups are candidates for trade diversion and have the potential for trade expansion. They are commodities that both countries currently trade and tend to be traded over relatively short distances.

1401	Table 0.1. Results of the calculations of the normalized border trade indexes.						
		Exports	Imports	Fyports	Imports		
SITC	Good	NBiiXS	NBiiMS	NBiiXI	NBiiMI	NBi	Ranks
001	Live animals	-0.48	1.83	-1.01	-0.15	0.05	
011	Meat fresh, frozen	2.44	0	0	-0.15	0.57	4
022	Milk and cream	0.85	Ō	-0.96	0.02	-0.02	
023	Butter	0.66	Ō	-0.85	-0.15	-0.08	
024	Cheese and curd	2.20	0	-1.01	-0.15	0.26	10
025	Eggs, firds, frsh, prvd	0.90	0	-0.92	-0.15	-0.04	
034	Fish fish chilled fizh	Ū	Ũ	-1.01	-0.12	-0.28	ili
041	Wheat unmilled	1.61	-0.55	0	-0.06	0.25	
042	Rice	0	-0.11	-1.02	0.38	-0.19	vii
043	barley unmilled	0.66	1.14	0	-0.05	0.44	7
046	Wheat meal or flour	0	-0.55	0	0	-0.14	
048	Cereals preparation	-0.41	0	-0.73	-0.13	-0.32	ii
054	Veg. frsh smply prsv	0.23	0	0	0.16	0.10	
056	Veg. prsv prepd	0.94	0	0	0.08	0.26	
057	Fruits nuts frsh, dry	1.67	0.38	-0.94	0.44	0.391	8
058	Fruits prsvd, preprd	-0.39	0	0	0.27	-0.03	
059	Grape fruit juice	0	0	0	0.89	0.22	
061	Sugar and honey	0	-0.56	0	-0.01	-0.14	x
062	Sugar preps	-0.23	0	0	-0.09	-0.08	
073	Chocolate & prdcts	-0.38	0	0	0.12	-0.07	
075	Spices	-0.38	0	0	0.44	0.02	
081	Feed for animals	1.80	-0.72	-0.90	0.07	0.06	
091	Margarine & shrtning	0	2.41	0	0	0.60	3
098	Edible prdcs, preps	0	0.20	-0.86	-0.04	-0.18	viii
111	Non-alcoholic byrgs	-0.18	0	-0.76	-0.15	-0.27	iv
121	Tobacco unmnfctrd	0	0	0	-0.15	-0.04	
122	Tobacco manufactrd	1.90	0	-1.00	-0.15	0.18	
211	Hides skins exc furs	0	0.60	-0.87	-0.15	-0.11	
222	Seeds for soft fxd oil	2.60	0	-0.95	-0.06	0.394	9
223	Seeds for othr fxd oil	1.43	0	-0.95	5.07	1.39	1
245	Fuel wood, charcoal	1.93	0	0	1.15	0.77	2
263	Cotton	-0.38	0	-0.95	0.43	-0.23	vi
268	Wool & animal hair	0.43	0	-0.95	-0.15	-0.17	ix
269	Waste of textile fbrcs	1.48	0	0	0	0.37	9
272	Anml veg fertilizer	0	0	-0.95	0	-0.24	V
291	Crude anml material	-0.26	0	0	0	-0.06	
292	Crude veg material	-0.20	0	0	0	-0.05	
411	Animal oils and fats	0	0	-0.95	2.79	0.46	6
421	Seeds for oil soya	0	0	0	1.00	0.25	
423	Fixed veg oils, soft	0	0.96	0	0	0.24	_
424	Fxd veg oils, non soft	0	2.09	0	0	0.52	5
431	Prcsd anml veg oil,	0	-0.50	-0.95	0.04	-0.35	I
611	Leather	0	0.87	00	0	0.22	

Table 6.1: Results of the calculations of the normalized border trade indexes:

SITC	Commodity	Border-Trade
нісн	······································	
223	Seeds for other fxd oil, maize, sova	1.39
245*	Fuel wood and charcoal	0.77
091	Margarine & shortening	0.60
011	Meat fresh, chilled, frozen	0.57
424	Fixed vegetable oil non-soft	0.52
411	Animal oil, fat, grease	0.46
043*	Barley unmilled	0.44
057*	Fruits nuts, fresh and dried	0.39
269*	Waste of textile fabrics	0.37
024	Cheese and curd	0.26
LOW		
431	Processed animal, vegetable oil	-0.35
048	Cereal etc. preparation	-0.32
034	Fish, fresh and frozen	-0.28
111	Non-alcoholic beverages	-0.27
272	Animal, vegetable fertilizer	-0.24
263	Cotton	-0.23
042	Rice	-0.19
098	Edible products, preparations	-0.18
268	Wool and animal hair	-0.16
061	Sugar and honey	-0.14

Table 6.2: Agricultural Product Groups with the Highest and Lowest Border-Trade Indexes

* Commodities belonging to the groups are candidates for trade diversion and expansion as explained in this section.

(Calculations of border trade indexes and ranking are found in Annex B).

To determine what the direction of trade could be, data at the SITC 5 digit levels could help. First, consider the commodities in the top 10 list of table 6.2, and compare the trade of both countries for the year 1993 (the only year where data at the SITC 5 could be found for Syria). This data is shown in table 6.3.

Table 6.3 provides indications of the direction of trade. In a few of the commodities, Syria could be a net exporter to Israel especially at the SITC 057. For example, Syria's exports of pistachios (SITC 05778) was 34,643,000 US\$, and Israel's imports of pistachios for the same year was 12,042,000 US\$. Therefore, if trade is to take place, we expect the direction of this trade in pistachios to be from Syria to Israel. On the other hand, the trade direction of grapefruit (SITC 05729) is expected to be from Israel, which exported 2,350,000 US\$ in 1993, to Syria which imported 120,600 US\$ in the same year.

Moreover, table 6.3 shows that in 1993, both Israel and Syria exported apples, oranges, mandarins, melons, stone fruits, and other fresh and dried fruits and nuts, to their neighbors in the Middle East. The removal of barriers could cause this competition to increase or it could push both countries to benefit from each other's research in ameliorating their crops. In both cases, these product groups are candidates for trade expansion as explained in section 4.2.2.

Looking back at the history of trade between both countries and the expected trade after peace, we can see some interesting comparisons with the future potential for trade. Syrian exports of pistachios (SITC 05778) to Palestine goes back to 63 BC, during the Roman Republic, and Syria is expected to export pistachios to Israel in the future. Palestine exported citrus fruits to Syria in the 16th century, and Israel is expected to export grapefruits (SITC 05729) in the future. Moreover, Palestine exported edible oil (not specified) to Syria in the 1920s. Animal oil, fat, and grease (SITC 411) is expected to be traded between Israel and Syria in the future because this commodity group shows a comparatively high normalized border trade index (see table 6.2).

SITC	Commodity	Exports (0	00S)	Imports (000S)
HIGH		Syria	Israel	Syria	Israel
223	Seeds for fxd oil, maize,	•			
	soya				
2232	Palm nuts & palm kernels	25.0			
2237	Oil seeds etc				682.0 ¹
2239	Flour, meal from oil seeds				241.0
245*	Fuel wood and charcoal				
24502*	Charcoal	166.3			503.0 ²
091	Margarine & shortening				
011	Meat fresh, chilled, frozen				
424	Fixed vegetable oil non-soft				
411	Animal oil, fat, grease				
41111	Fish liver oil & their			254.7	206.0
	fractions				
+112	Lard other pig & poultry fat			28927.0	
4113	Animal oils, fats & greases			64.7	1495.0
043*	Barley unmilled	13846.0			52098.0
057*	Fruits nuts, fresh and dried				
05711	Oranges fresh or dried	438.4	44833.0		
05712	Mandarins (fresh or dried)	381.0	18712.0		
05729*	Grapefruit		2350.0	120.6	
0574	Apples	3220.0	69.0		
05752*	Grapes dried (raisins)	138.0			1352.0
0576*	Figs fresh or dried	7301.0			³ 2127.0
05774*	Almonds	35974.0			9207.0
05775	Hazelnuts			238.4	346.0
05776	Wainuts			4927.3	11916.0
05778*	Pistachios	34643.0			12042.0
05779	Edible nuts (excl. mixtures)			854.0	3175.0
05791	Melons	13023.0	23144.0		
05793	Stone fruit	20383.0	2350.0		
05798	Other fresh fruit	46 13.0	7803.0		
05799	Other frts dry & mix of nuts	67.2	131.0		
269*	Waste of textile fabrics				
26901*	Clothing & clothing	139.0			103.0
	accessories				
26902	Used or new rags scrap			849.2	375.0
	twine				
024	Cheese and curd	1241.1	3522.0		

Table 6.3: Possible Direction of Trade Between Israel and Syria. (1993 data).

(Central Bureau of Statistics. Syrian Arab Republic 1993, and UNCTAD, Personal Computer Trade Analysis System (PC-TAS) CD ROM. ITC/UNSTAT, 11/1995).

1) 83% of imports are from Turkey.

2) 40% of imports are from Egypt.

3) 98% of imports are from Turkey.

As for the trade in dates (dates, palm kernels, and palm nuts are the same fruit) (SITC 223), Syria imported dates from Palestine during the Roman Empire. Now, looking at table 6.2, we note that the SITC 223 group has the highest potential for border trade between Syria and Israel in the future. If we look at table 6.3, the data shows that Syria is an exporter of palm nuts (SITC 2232), whereas dates are not part of Israei's trade. Opening the borders for trade between Syria and Israel is expected, as explained in section 4.2.2, to help Syria's exports of date kernels to expand to Israel despite the 1993 low volume of exports (25000 tons worth 25000 US\$).

Finally, Syria exported textile to Palestine during the Roman Empire, and is expected to export the clothing (SITC 26901) in the future.

Syria is a major exporter of cotton. In 1992 alone, Syria exported 176.97 million US\$ of cotton (SITC 2631) to the world. Italy was the largest importer of Syrian cotton. Israel imported 22.52 million US\$ of cotton in the same year, most of it from the USA. Although cotton doesn't show prominently in the border trades of Syria and Israel, and is present in the 10 products with a low border trade index in table 6.2, Syria's abundance of land and of the labor force needed for the highly labor-intensive cotton production has given it an advantage in comparison to other countries in the region. Moreover, the history of Syrian exports of this product to Palestine is expected to proceed with exports to Israel, in the future.

CHAPTER SEVEN

SUMMARY AND CONCLUSIONS

Great differences prevail in the level of economic development of Syria and Israel. With a per capita income more than 10 times that of Syria, Israel stands out as a more advanced industrial country. Both countries have preferential trade agreements with the EU, the more extensive accord being with Israel with a reciprocal trade agreement for industrial goods.

Apart from the history of trade between Syria and Palestine prior to 1948, Israel has no trade relations with Syria. It was the objective of this thesis to explore the recent possibilities of future trade, and to identify the commodities that are candidates for trade. The method used to reach this objective was an analysis of border trade that assigns agricultural commodities a ranking based on their sensitivity to distance. Comparing the ranks of these commodities gives a list of potential commodities with high sensitivity to distance, and thus with a high potential to be traded at the borders of neighboring countries. The analysis for future trade potential under the assumption of trade liberalization on both sides lead to the conclusion that Israel and Syria will trade in a number of agricultural goods.

The only study with similar objectives for the Middle East including Syria and Israel, is the one by Halbach (1995). Halbach was commissioned by the "IFO institute für wirtschftsforschung münchen" to do research on the new potentials for co-operation and trade in the Middle East. His Revealed Comparative Advantage method and results are explained in section 4.4.3.

The results of the border-trade analysis do not compare well to those of Halbach. The reason is that Halbach's study not only did not focus on agricultural trade, but also depended on data that goes back to 1984. As explained in chapter four, until 1989 Syria's main trading partners were the socialist countries and an important part of the external trade was carried out on the basis of barter trade.